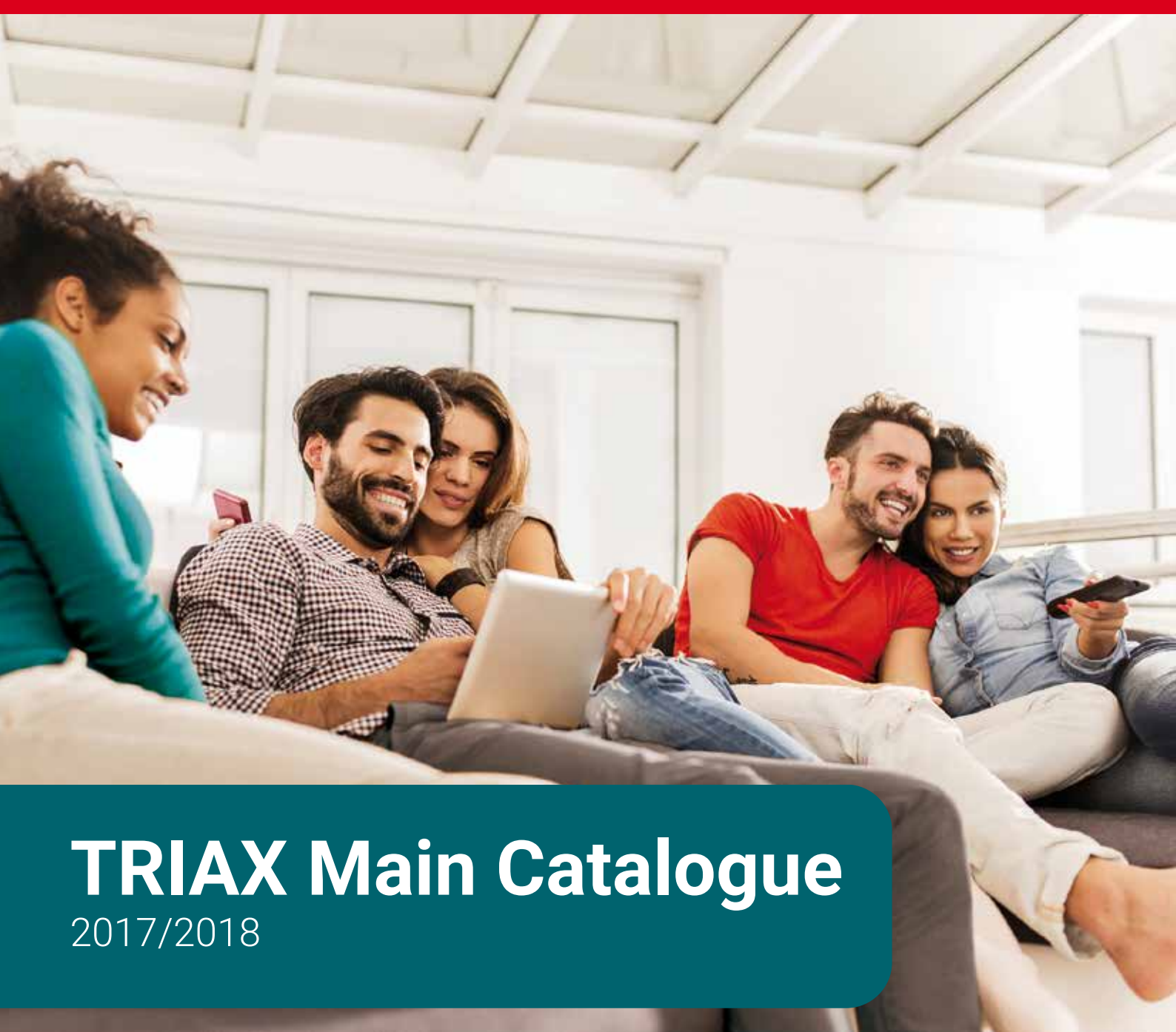




TRIAX

connecting the future



# TRIAX Main Catalogue

2017/2018



# TRIAX



## Reliability is our business. It's what we stand for.

For nearly 70 years, TRIAX has strived to be your preferred partner for all your connectivity needs. We're proud to provide reliable solutions for the present, while connecting our customers to the future.

At the forefront of technological trends and developments, we're with you each step of the way, from installing home connections and business critical hospitality solutions, to realising complex, large scale integrations.

Ready for any job at hand, our products are available individually or as part of tailor-made

solutions. From aerials and dishes, to headends, outlets, cables and beyond – we make connectivity easy, ensuring you live up to your own customer promises.

Rest assured that at TRIAX, reliability and innovation run through the core of everything we do, from product development to our friendly, efficient service and support.

So enjoy browsing through this catalogue for an overview of our full product range. And of course, we're always just a phone call away for more inspiration towards your next solution.

## Contact TRIAX

To place an order or consult one of our experts, contact us via:

Phone: +45 76 82 22 00

e-mail: [triax@triax.com](mailto:triax@triax.com)

Or pay us a visit online at [www.triax.com](http://www.triax.com), where you'll find a wealth of further material about our products and solutions.

Aerials - LTE aerials

Mast amplifiers, stop filters, combiner, LTE filters & power supplies

Indoor multiband amplifiers

Programmable amplifiers

TERRESTRIAL  
RECEPTION

TD satellite dishes, DAP fibreglass dishes

Fibre optic network components (Re-converter, multiswitches, couplers, cable & accessories)

Coax network components (LNB units, brackets, stand-alone and Cascadable multiswitches, DiSEqC switches)

Mounting accessories

SATELLITE  
& FIBRE  
RECEPTION

Hybrid Fibre Coax optical transmitter (HFC)

Hybrid Fibre Coax receiver and nodes (HFC)

Coax Broadband Distribution Amplifiers

Coax Apartment Amplifiers

catTV system

CABLE TV  
(CATV)

Headend - TDX

- TDH800

- CSE Compact

CAS system

Modulators

HEADENDS  
CAS SYSTEM  
MODULATORS

Coax cables - indoor, Outdoor, Fly leads, Connection, HDMI and CAT cables

F connectors

IEC connectors

Tools & accessories

Power cables and electricity articles

CABLES &  
CONNECTORS

Outlets - CATV modem multimedia outlets

- MATV/SMATV TV/radio, TV/radio/sat outlets

- SAT, SAT/TV/Data outlets

Taps & Splitters - Bonita, Platinum, Gold, Silver and Outdoorseries

- Accessories

OUTLETS  
TAPS & SPLITTER

Internet over TV cables

SAT>IP solution

INHOUSE  
CONNECTIVITY

Cameras - TVI 720 (1.3 MP) - Domes Fixed, Varifocal Dome, Fixed Bullet, Varifocal Bullet

- TVI 1080 (2.0 MP) - Domes Fixed, Varifocal Dome, Fixed Bullet, Varifocal Bullet

- IP (2.0 & 4.0 MP) - Fixed Turret, Varifocal Dome, Fixed Bullet, Varifocal Bullet

Video Recorders - DVR analogue, HD-TVI & IP, NVR network for IP cameras

Accessories

SURVEILLANCE  
(CCTV)

Satellite meters - MCT series & accessories

- SPM series & accessories

Satellite, TER, Cable - CPM 1700 series & accessories

- UPM 2300 and UPM 3500 series & accessories

Optical power metre - TOM & TSO

INSTRUMENTS  
TOOLS &  
CABINETS

Introduction to terrestrial aerials, basic technical requirements & data in the catalogue

Planning & installation, earthing

Frequency range of waves, TV standards, Frequency range & Channels

Carrier frequencies, colour and broadcasting

Signal level: mV to dBµV - dBµm to mW

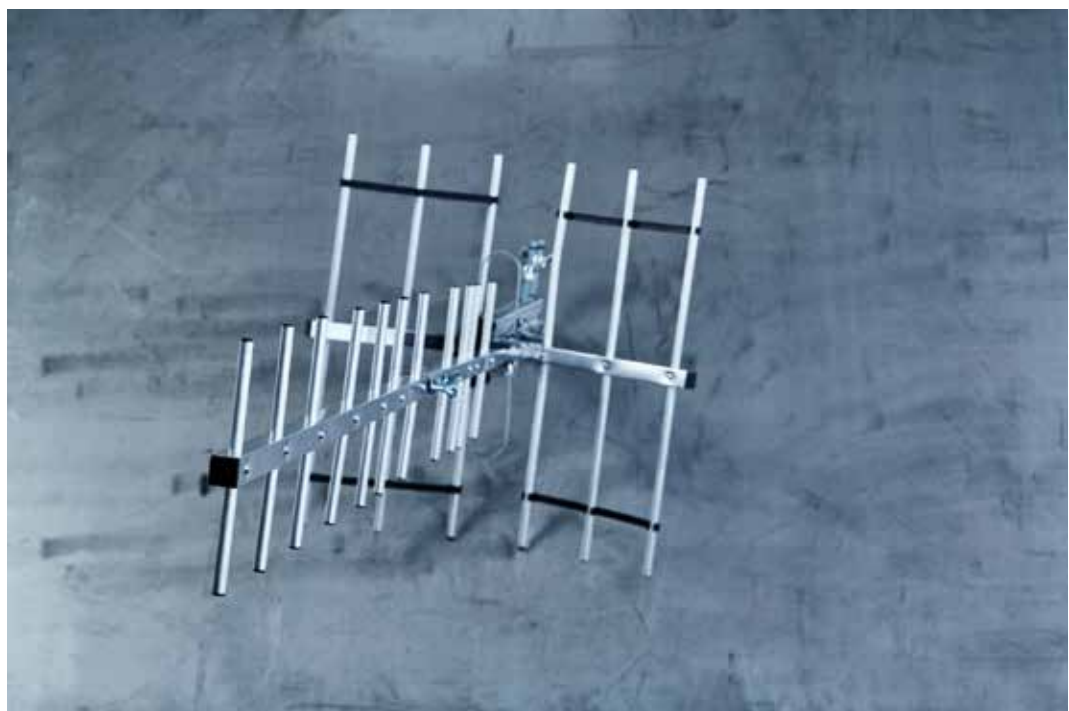
TECHNICAL  
APPENDIX



# TRIAX<sup>®</sup> Terrestrial reception

a complete range of components for TV reception

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TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Aerials and Mast electronics

a complete range of solutions for terrestrial TV reception



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

## Reliability from rooftop to outlet

Invest in a partner ready to grow your business. When installing aerials and electronics, you can rely on TRIAX solutions to perform exactly as you expect them to. Beware of cheaper components that might include surprises and instability.

## TRIAX solutions can help protect TV signals from 4G/LTE mobile broadband interference

The 4G/LTE technology operating in the 694-862 MHz frequency range may cause problems for installed DTT and CATV (cable TV) networks.

Worldwide frequency bands traditionally used for DTT (Digital Terrestrial TV) reception are gradually being discontinued for DTT use in favour of emerging high speed mobile broadband services such as LTE (Long Term Evolution) and/or LTE Advanced technology.

## Ensure the best picture quality

The single most important part of an installation is the quality of the incoming signals. We recommend you use an aerial that ensures the optimum signal levels depending upon the geographical location of the installation. It is not recommended to compromise on the size of the aerial, as the system is dependent on high quality signals from the outset.

The reception systems require the correct size of LTE aerial, such as the TRIAX UNIX or DIGI range, combined with the best low noise mast amplifier and filters.



The LTE-protected-by TRIAX icon is displayed on products that complies with 4G/LTE protection requirements.



# Selection of 5 ranges

aerials, amplifiers, filters, combiners and power supplies



## UHF aerials for 700 MHz & 800 MHz LTE

TRIAx aerials are manufactured to protect you from interference in the entire LTE mobile broadband spectrum. Our range of terrestrial aerials consist of FM, DAB, VHF, UHF, Combi and compact UFO aerial.

## Mast amplifiers for 700 MHz & 800 MHz LTE

Mast electronics including easy-to-mount high-performance range of mast amplifiers with F-connector. The MFA 611 - MFA 621 - MFA 656 mast amplifiers are wideband amplifiers featuring 1-2-3 inputs and 1-2 outputs and cut off channels E61-69 and E49-59.



## Power supplies with 700 MHz & 800 MHz LTE filter

TRIAx IFP Power supplies with LTE filter are indoor power supplies for masthead amplifiers, providing a 'last defence' filter function protecting against local 4G/LTE interference. Easy installation F-connectors for maximum shielding. LTE filter 6-23 dB, (694-862MHz).

## Stop filters for 700 MHz & 800 MHz LTE

TRIAx high performance stop 4G/LTE filters protect you from interference in the entire LTE mobile broadband spectrum on DVB-T signals, and also protect against overload from strong LTE signals (base station transmitters) on antenna amplifiers, TV tuners and set-top boxes.



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Digi 6 & 10 - Band IV/V aerials

designed for superior TV reception



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX



## Common features

- 6, 10 elements UHF antenna with 18 mm boom
- Semi-assembled – saves time during installation
- Unparalleled gain and rejection performance
- Designed to receive DTT (Digital Terrestrial TV) signals in 470-694 and 470-790 MHz range
- Rejects 4G/LTE signals in 694-790 and 790-862 MHz range using TRIAX's "Antenna Low Pass System"
- Improved weather proof dipole house with F-connector for optimal TV-signal performance
- Resistant to extreme weather conditions
- Adjustable rear mast brackets for masts up to 60 mm.

## DIGI 6 - LTE 800 MHz

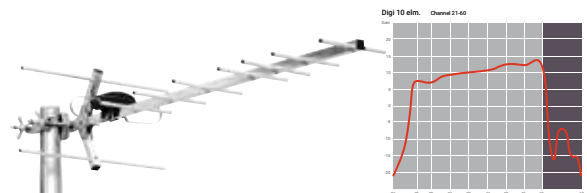


**DIGI 6, LTE 800, ch 21-60**  
(Color box)

Art. No. 105400  
EAN Number  
5702661054006



## DIGI 10 - LTE 800 MHz



**DIGI 10, LTE 800, ch 21-60**  
(Color box)

Art. No. 105410  
EAN Number  
5702661054105



**DIGI 6, LTE 800. ch 21-60**  
(Poly bag)

Art. No. 105401  
EAN Number  
5702661054013



**DIGI 10, LTE 800, ch 21-60**  
(Poly bag)

Art. No. 105411  
EAN Number  
5702661054112





# TRIAX® Digi 6 & 10 - Band IV/V aerials

designed for superior TV reception

## DIGI 6 - LTE 700 MHz

**DIGI 6, LTE 700, ch 21-48  
(Color box)**

Art. No. 105450

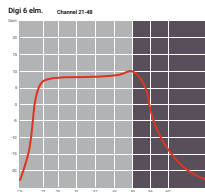
EAN Number  
5702661054501



**DIGI 6, LTE 700, ch 21-48  
(Poly bag)**

Art. No. 105451

EAN Number  
5702661054518



## DIGI 10 - LTE 700 MHz

**DIGI 10, LTE 700, ch 21-48  
(Color box)**

Art. No. 105460

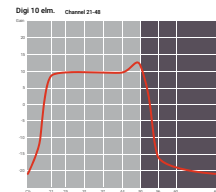
EAN Number  
5702661054600



**DIGI 10, LTE 700, ch 21-48  
(Poly bag)**

Art. No. 105461

EAN Number  
5702661054617



Type:	DIGI 6, LTE 800 Ch 21-60	DIGI 6, LTE 700 Ch 21-48	DIGI 10, LTE 800 Ch 21-60	DIGI 10, LTE 70 Ch 21-48
Art. no.	105400/105401	105450/105451	105410/105411	105460/105461
<b>FREQUENCY</b>				
Band (frequency)	BIV/V	BIV/V	BIV/V	BIV/V
Channels	21...60	21...48	21...60	21...48
Frequency range UHF	470...790MHz	470...694MHz	470...790MHz	470...694MHz
LTE protected	800	700	800	700
<b>GAIN</b>				
Gain @ 474 MHz (Ch. 21)	5,0dBi	7.8dBi	6.5dBi	9.5dBi
Gain @ 538 MHz (Ch. 29)	7dBi	dBi	7,5dBi	dBi
Gain @ 602 MHz (Ch. 45)	9,0dBi	8.7dBi	10,0dBi	9.2dBi
Gain @ 730 MHz (Ch. 53)	10,0dBi	dBi	12.5dBi	dBi
Gain @ 786 MHz (Ch. 60)	10,0dBi	dBi	13dBi	dBi
Gain	dBi	10 maxdBi	dBi	13 maxdBi
<b>LOSS</b>				
Rejection @ 758 MHz (Ch. 56)		7.8dB		4.3dB
Rejection @ 788 MHz (Ch. 60)		8.7dB		7.6dB
Rejection @ 811 MHz (LTE D1)	5,0dB		5,0dB	
Rejection @ 821 MHz (LTE D6)	10,0dB		11,0dB	
Rejection @ 832 MHz (LTE U1)	12,0dB		11,0dB	
Rejection @ 862 MHz (LTE U6)	10,0dB		8,0dB	
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
Front to back ratio - horizontal	17dB	14dB	21dB	15dB
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>				
Product Length	718mm	655mm	1015mm	1085mm
Product Width	260mm	330mm	350mm	480mm
Main Material	Aluminium	Aluminium	Aluminium	Aluminium
Packing QTY	10	1	10	10
Beamwidth horizontal	± 25°	±40°	± 23°	±30°
Elements	6	6	10	10
Windload (N)	14N	14N	22N	22N
Net Weight	0,510kg	0,520kg	0,710kg	0,730kg
Bracketry	Mast	Mast	Mast	Mast

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> Digi 14 & 18 - Band IV/V aerials

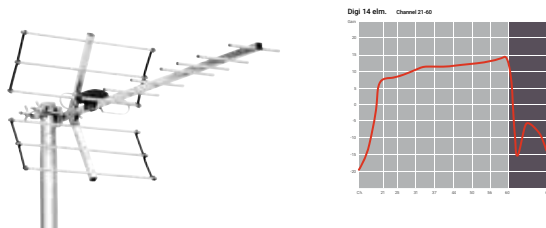
designed for superior TV reception



## Common features

- 14 and 18 elements UHF antenna with 18 mm boom
- Semi-assembled – saves time during installation
- Unparalleled gain and rejection performance
- Designed to receive DTT (Digital Terrestrial TV) signals in 470-694 and 470-790 MHz range
- Rejects 4G/LTE signals in 694-790 and 790-862 MHz range using TRIAX's "Antenna Low Pass System"
- Improved weather proof dipole house with F-connector for optimal TV-signal performance
- Resistant to extreme weather conditions
- Adjustable rear mast brackets for masts up to 60 mm.

## DIGI 14 - LTE 800 MHz



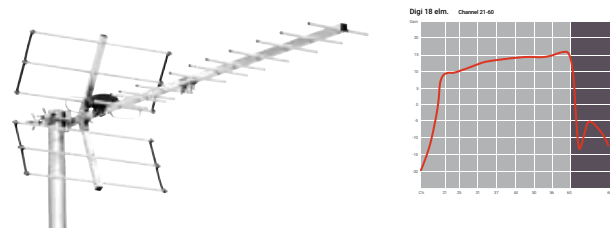
**DIGI 14, LTE 800, ch 21-60**  
(Color box)

Art. No. 105420

EAN Number  
5702661054204



## DIGI 18 - LTE 800 MHz



**DIGI 18, LTE 800, ch 21-60**  
(Color box)

Art. No. 105430

EAN Number  
5702661054303



**DIGI 14, LTE 800, ch 21-60**  
(Poly bag)

Art. No. 105421

EAN Number  
5702661054211



**DIGI 18, LTE 800, ch 21-60**  
(Poly bag)

Art. No. 105431

EAN Number  
5702661054310



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> Digi 14 & 18 - Band IV/V aerials

designed for superior TV reception

## DIGI 14 - LTE 700 MHz

### DIGI 14, LTE 700, ch 21-48 (Color box)

Art. No. 105470

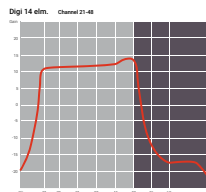
EAN Number  
5702661054709



### DIGI 14, LTE 700, ch 21-48 (Poly bag)

Art. No. 105471

EAN Number  
5702661054716



## DIGI 18 - LTE 700 MHz

### DIGI 18, LTE 700, ch 21-48 (Color box)

Art. No. 105480

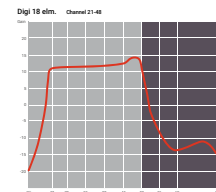
EAN Number  
5702661054808



### DIGI 18, LTE 700, ch 21-48 (Poly bag)

Art. No. 105481

EAN Number  
5702661054815



Type:	DIGI 14, LTE 800, Ch 21-60 (Color box)	DIGI 14, LTE 700, Ch 21-48 (Color box)	DIGI 18, LTE 800, Ch 21-60 (Color box)	DIGI 18, LTE 700, Ch 21-48 (Color box)
Art. no.	105420/105421	105470/105471	105430/105431	105480/105481
<b>FREQUENCY</b>				
Band (frequency)	BIV/V	BIV/V	BIV/V	BIV/V
Channels	21...60	21...48	21...60	21...48
Frequency range UHF	470...790MHz	470...694MHz	470...790MHz	470...694MHz
LTE protected	800	700	800	700
<b>GAIN</b>				
Gain @ 474 MHz (Ch. 21)	7,5dBi	10,9dBi	8,0dBi	11,3dBi
Gain @ 538 MHz (Ch. 29)	9,5dBi		10dBi	
Gain @ 602 MHz (Ch. 45)	12,0dBi	11,1dBi	13,0dBi	12,5dBi
Gain @ 730 MHz (Ch. 53)	13,0dBi		14,5dBi	
Gain @ 786 MHz (Ch. 60)	13,5dBi		12,5dBi	
Gain		13,5 maxdBi		14 maxdBi
<b>LOSS</b>				
Rejection @ 758 MHz (Ch. 56)		3,8dB		8,0dB
Rejection @ 788 MHz (Ch. 60)		8,3dB		8,9dB
Rejection @ 811 MHz (LTE D1)	5,0dB		4,0dB	
Rejection @ 821 MHz (LTE D6)	11,0dB		8,0dB	
Rejection @ 832 MHz (LTE U1)	11,0dB		10,0dB	
Rejection @ 862 MHz (LTE U6)	8,0dB		10,0dB	
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
Front to back ratio - horizontal	21dB	23dB	25dB	25dB
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>				
Product Length	1015mm	1085mm	1446mm	1414mm
Product Width	420mm	480mm	420mm	480mm
Main Material	Aluminium	Aluminium	Aluminium	Aluminium
Packing QTY	10	1	10	1
Beamwidth horizontal	± 21°	±30°	± 18°	±25°
Elements	14	14	18	17
Windload (N)	54N	54N	59N	59N
Net Weight	0,810kg	0,800kg	1,180kg	1,250kg
Bracketry	Mast	Mast	Mast	Cradle/support boom

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® UNIX 32 & 52 - Band IV/V aerials

the power gain aerial



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

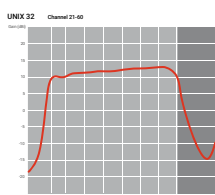
TECHNICAL  
APPENDIX



## Common features

- 32, 52 and 100 elem. UHF antenna with 18mm boom
- Semi-assembled – saves time during installation
- Unparalleled gain and rejection performance
- Designed to receive DTT (Digital Terrestrial TV) signals in 470-694 and 470-790 MHz range
- Rejects 4G/LTE signals in 694-790 and 790-862 MHz range using TRIAX's "Antenna Low Pass System"
- Improved weather proof dipole house with F-connector for optimal TV-signal performance
- Resistant to extreme weather conditions
- Adjustable rear mast brackets for masts up to 60 mm

## UNIX 32 - LTE 800 MHz



UNIX 32, LTE 800, ch 21-60  
(Color box)

Art. No. 105500

EAN Number  
5702661055003



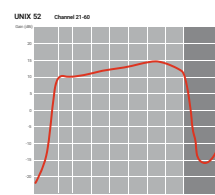
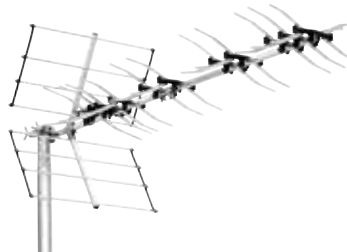
UNIX 32 LTE 800, ch 21-60  
(Poly bag)

Art. No. 105501

EAN Number  
5702661055010



## UNIX 52 - LTE 800 MHz



UNIX 52, LTE 800, ch 21-60  
(Color box)

Art. No. 105510

EAN Number  
5702661055102



UNIX 52, LTE 800, ch 21-60  
(Poly bag)

Art. No. 105511

EAN Number  
5702661055119



# TRIAX® UNIX 32 & 52 - Band IV/V aerials

the power gain aerial

## UNIX 32 - LTE 700 MHz



UNIX 32, LTE 700, ch 21-48  
(Color box)

Art. No. 105550

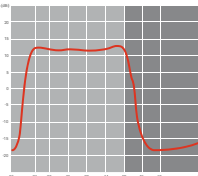
EAN Number  
5702661055508



UNIX 32, LTE 700, ch 21-48  
(Poly bag)

Art. No. 105551

EAN Number  
5702661055515



## UNIX 52 - LTE 700 MHz



UNIX 52, LTE 700, ch 21-48  
(Color box)

Art. No. 105560

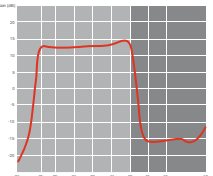
EAN Number  
5702661055607



UNIX 52, LTE 700, ch 21-48  
(Poly bag)

Art. No. 105561

EAN Number  
5702661055614



Type:	UNIX 32, LTE 800 Ch 21-60	UNIX 32, LTE 700 Ch 21-48	UNIX 52, LTE 800 Ch 21-60	UNIX 52, LTE 700 Ch 21-48
Art. no.	105500/105501	105550/105551	105510/105511	105560/105561
<b>FREQUENCY</b>				
Band (frequency)	BIV/V	BIV/V	BIV/V	BIV/V
Channels	21...60	21...48	21...60	21...48
Frequency range UHF	470...790MHz	470...694MHz	470...790MHz	470...694MHz
LTE protected	800	700	800	700
<b>GAIN</b>				
Gain @ 474 MHz (Ch. 21)	8,5dBi	12,4dBi	11dBi	12,3dBi
Gain @ 538 MHz (Ch. 29)	11,0dBi		11,0dBi	
Gain @ 602 MHz (Ch. 45)	12,5dBi	11,8dBi	13,0dBi	14,0dBi
Gain @ 730 MHz (Ch. 53)	12,5dBi		14,5dBi	
Gain @ 786 MHz (Ch. 60)	10,0dBi		11,5dBi	
Gain		12,5 maxdBi		14,5 maxdBi
<b>LOSS</b>				
Rejection @ 758 MHz (Ch. 56)		8,6dB		7,1dB
Rejection @ 788 MHz (Ch. 60)		9,2dB		8,1dB
Rejection @ 811 MHz (LTE D1)	0,0dB		8,0dB	
Rejection @ 821 MHz (LTE D6)	3,0dB		8,0dB	
Rejection @ 832 MHz (LTE U1)	6,0dB		10,0dB	
Rejection @ 862 MHz (LTE U6)	20,0dB		15,0dB	
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
Front to back ratio - horizontal	24dB	22dB	25dB	20dB
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>				
Product Length	791mm	777mm	1512mm	1394mm
Product Width	500mm	580mm	500mm	580mm
Main Material	Aluminium	Aluminium	Aluminium	Aluminium
Packing QTY	5	1	5	1
Beamwidth horizontal	± 20°	±35°	± 15°	±25°
Elements	32	32	52	52
Windload (N)	58N	58N	96N	96N
Net Weight	1,030kg	1,090kg	1,325kg	1,420kg
Bracketry	Mast - backmounting	Mast - backmounting	Mast - backmounting	Mast - backmounting

TERRESTRIAL  
RECEPTION

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CABLE TV  
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HEADENDS  
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INSTRUMENTS  
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# TRIAX® UNIX 100, DIGI Grid & DIGI 343

designed for superior TV reception



TERRESTRIAL  
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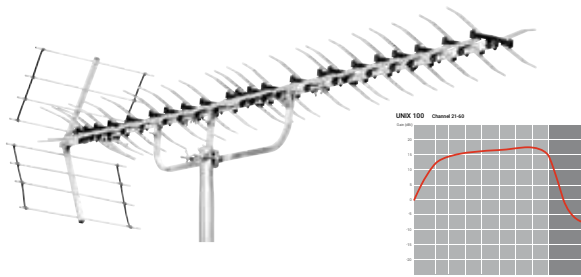


## UNIX 100 - LTE 800 MHz

- UNIX 100 - LTE 800 designed to receive DTT signals in the 470-790 MHz range (ch. 21-60).
- UNIX 100 - LTE 700 designed to receive DTT signals in the 470-694 MHz range (ch. 21-48).

## UNIX 100 - LTE 700 MHz

- Sealed dipole house with rear pointing F-connector for optimal TV-signal performance.
- Resistant to extreme weather conditions (made from aluminium, magnesium and manganese alloy).
- Adjustable brackets for masts up to 60 mm.



**UNIX 100, LTE 800, ch 21-60**  
(Color box)

Art. No. 105520

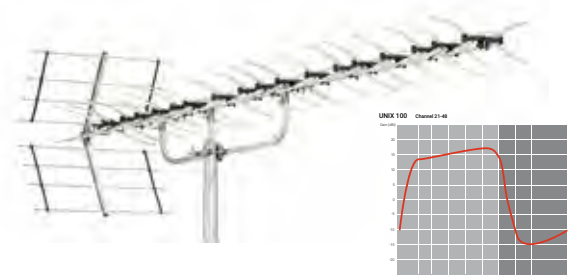
EAN Number  
5702661055201



**UNIX 100, LTE 800, ch 21-60**  
(Poly bag)

Art. No. 105521

EAN Number  
5702661055218



**UNIX 100, LTE 700, ch 21-48**  
(Color box)

Art. No. 105570

EAN Number  
5702661055706



**UNIX 100, LTE 700, ch 21-48**  
(Poly bag)

Art. No. 105571

EAN Number  
5702661055713



# TRIAX® UNIX 100, DIGI Grid & DIGI 343

designed for superior TV reception

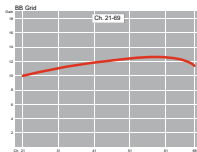
## DIGI GRID - LTE 800 MHz



### Digi Grid - ch. 21-69, LTE 800 Aerial

Art. No. 108015

EAN Number  
5702661080159



- UHF flat panel TV aerial.
- High gain, large beam width, excellent front/back ratio, ensuring perfect TV reception.
- Compact and easy to install.
- Galvanised reflector grid, ensuring a long life.
- Even gain curve, suitable for stacking.

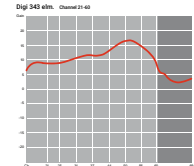
## DIGI 343 - LTE 800 MHz



### Digi 343 - LTE 800 Aerial ch. 21-60

Art. No. 108961

EAN Number  
5702661089619



The Digi 343 21-60 is optimised for maximum gain in the frequency area 470-790 MHz.

- Easy installation
- High performance antenna
- Stable and strong construction
- Specially designed for HDTV digital reception
- F-connector

Type:	UNIX 100, LTE 800 Ch 21-60	UNIX 100, LTE 700 Ch 21-48	Digi Gridflat panel Ch 21-69	Digi 343 LTE 800 Ch 21-60
Art. no.	105520/105221	105570/105571	108015	108961
<b>FREQUENCY</b>				
Band (frequency)	BIV/V	BIV/V	BIV/V	BIV/BV
Channels	21...60	21...48	21...69	21...60
Frequency range UHF	470...790MHz	470...694MHz	470...862MHz	470...790MHz
LTE protected	800	700		800
<b>GAIN</b>				
Gain @ 474 MHz (Ch. 21)	13dBi	13.3dBi		
Gain @ 538 MHz (Ch. 29)	16dBi			
Gain @ 602 MHz (Ch. 45)	16.5dBi	16.2dBi		
Gain @ 730 MHz (Ch. 53)	17dBi			
Gain @ 786 MHz (Ch. 60)	14.5dBi			
Gain		17 maxdBi	12.5dBi	15.5dBi
<b>LOSS</b>				
Rejection @ 758 MHz (Ch. 56)		18.3dB		
Rejection @ 788 MHz (Ch. 60)		14.6dB		
Rejection @ 821 MHz (LTE D6)	2.0dB			
Rejection @ 832 MHz (LTE U1)	5.0dB			
Rejection @ 862 MHz (LTE U6)	10.0dB			
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
Front to back ratio - horizontal	27dB	20dB	22dB	20dB
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>				
Product Length	2257mm	2343mm	805mm	1056mm
Product Width	500mm	580mm	545mm	540mm
Main Material	Aluminium	Aluminium	Aluminium	Aluminium
Packing QTY	3	1	2	1
Beamwidth horizontal	± 11°	±15°	± 25°	± 15°
Elements	100	80	4	43
Windload (N)	162N	162N	78N	150N
Net Weight	2,650kg	2,300kg	1,566kg	1,700kg
Beamwidth vertical			± 20°	
Bracketry	Cradle/support boom	Cradle/support boom	Mast	Mast

TERRESTRIAL  
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CABLE TV  
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# TRIAX<sup>®</sup> VHF/UHF Combi aerials

designed for superior TV reception



TERRESTRIAL RECEPTION

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CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

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INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

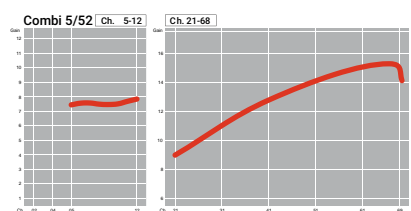
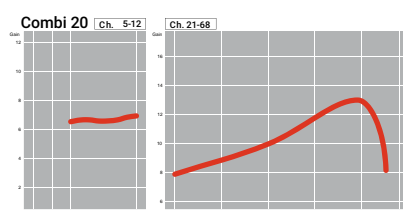
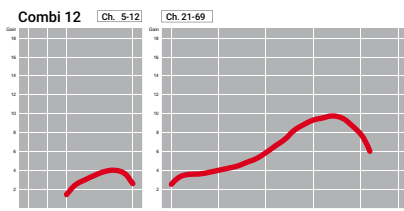
INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX



## Common features

- Combi 12, 20 and 57 elements VHF/UHF aerial with 18mm boom
- Semi-assembled – saves time during installation
- Designed to receive DTT (Digital Terrestrial TV) signals in 470-790 MHz ranges
- Unparalleled gain and rejection performance
- Improved weather proof dipole house with F-connector for optimal TV-signal performance
- Resistant to extreme weather conditions
- Adjustable rear mast brackets for masts up to 60 mm



### Combi 12 Aerial w. mast bracket

Art. No. 108936  
EAN Number 5702661089367



### Combi 20 Aerial

Art. No. 108694  
EAN Number 5702661086946



### Combi 12 Aerial w. window bracket

Art. No. 108937  
EAN Number 5702661089374



### Combi 57 Aerial

Art. No. 108696  
EAN Number 5702661086960





# TRIAX® VHF/UHF Combi aerials

designed for superior TV reception

## UFO 150 - LTE 800 MHz



**UFO 150 Digital 5-24V,  
LTE 800 Aerial**

Art. No. 109150

EAN Number  
5702661091506



## UFO 170 - LTE 700 MHz



**UFO 170 Digital 5-24V,  
LTE 700 Aerial**

Art. No. 109170

EAN Number  
5702661091704



## Common features

- Triax UFO, 1 element Omni digital aerial (VHF/UHF)
- Receives FM/VHF/DAB/UHF signals
- The antenna is surface-treated to withstand impact of salt water and poor weather conditions
- A small and discreet antenna
- The ideal flexible solution for home, indoor, caravan, boat, mobile home, bus and truck
- TETRA safe

Type:	Combi 12 Ch. 5-12/21-60	Combi 20 Ch. 5-12/21-60	Combi 57 Ch. 5-12/21-60	UFO 150 Digital LTE 800 Aerial	UFO 170 Digital LTE 700 Aerial
Art. no.	108936/108937	108694	108696	109150	109170
<b>CHARACTERISTICS</b>					
Max. output level				VHF:108 UHF: 104dBµV	VHF:108 UHF: 104dBµV
<b>FREQUENCY</b>					
Band	BIII/BIV-BV	BIII/BIV-V	BIII/BIV-V	FM/DAB/DAB+/ VHF/UHF	FM/DAB/DAB+/ VHF/UHF
Channels	5-12/21-60	5-12/21-69	5-12/21-69	FM / 5-12 / 21-60	FM / 5-12 / 21-48
Frequency range DAB	-	-	-	200...240MHz	200...240MHz
Frequency range FM	-	-	-	87,5...108MHz	87,5...108MHz
Frequency range UHF	470...790MHz	470-862MHz	470-790MHz	470...790MHz	470...694MHz
<b>GAIN</b>					
Gain - VHF	4.0 dB	6.0 dB	8.0 dB	27.0 dB	28.0 dB
Gain - UHF	4.0...9.0dB	11.5dB	14.5dB	27.0dB	27.0dB
Noise figure	-	-	-	3.0dB	3.0dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
Front to back ratio - horizontal	12.0dB	12.0dB	17.0dB	-	-
<b>OPERATIONAL</b>					
DC Operating voltage				12/85mA VDC	12/85mA VDC
Power Consumption (typ.)				< 1.2W	< 1.2W
<b>CONNECTORS</b>					
Connector Type	Saddle & Clamp (S&C)	Saddle & Clamp (S&C)	Saddle & Clamp (S&C)	F-female	F-female
<b>MECHANICAL</b>					
Design					
Material	Aluminum	Aluminum	Aluminum	Alu/Plast	Alu/Plast
Packing QTY	1	1	1	1	1
Beamwidth horizontal	± 32°	± 35°	± 31°	360°	360°
Construction type	MTH	MTH	MTH		
Elements	4/8	5/15	5/52	1	1
Windload	34N	56N	146N	5.5N	5.5N
Weight (kg)	0.75 kg	1.0 kg	2.90 kg	0.7 kg	0.7 kg
Length (mm)	866mm	815mm	1725mm	325mm	325mm
Width (mm)	855mm	760mm	880mm	255mm	255mm
Remarks:					
External PSU				339502 IFP 502	339502 IFP 502
External PSU/Inserter				339522 IFP 522	339522 IFP 522
Center bracket				Art. No. 133226	

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

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# TRIAX<sup>®</sup> FM & DAB aerials

designed for superior TV reception



TERRESTRIAL  
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## TRIAX FM and DAB Aerials

- Eliminate reflections and combines low weight with high gain and an excellent front to back ratio
- Supplied with an aluminium boom
- F-connector
- Mounting brackets for mast diameters up to 80mm

## TRIAX DAB (BIII) 1 el. Aerials

- DAB aerials cover the frequency range 200-240 MHz.
- Supplied with a light alloy metal boom made of 18x18 mm square tubes.
- Aerials are supplied with mounting brackets for mast diameter up to Ø60 mm.



### FM Zigma, 1 elem. BII (Color box)

Art. No. 105100

EAN Number  
5702661051005



### FM-3, 3 elem, BII (Color box)

Art. No. 105110

EAN Number  
5702661051104



### FM Zigma, 1 elem. BII (Polybag)

Art. No. 105101

EAN Number  
5702661051012



### FM-3, 3 elem, BII (Polybag)

Art. No. 105111

EAN Number  
5702661051111



### FM Omni, 1 elem, BII (Polybag)

Art. No. 100188

EAN Number  
5702661001888



# TRIAX® FM & DAB aerials

designed for superior TV reception

## TRIAX DAB (BIII) 1 el. Aerials



**DAB-1, 1 elem,  
BIII (Color box)**

Art. No. 105130

EAN Number  
5702661051302



**DAB-1, 1 elem,  
BIII (Polybag)**

Art. No. 105131

EAN Number  
5702661051319



Type:	FM Zigma, 1 elem. BII	BII - FM Omni 1 elem. BII	FM-3, 3 elem. BII	DAB-1, 1 elem. BIII
Art. no.	105100/105101	100188	105110/105111	105130/105131
<b>FREQUENCY</b>				
Band	BII	BII	BII	BIII
Channels				9...13
Frequency range DAB				200...240MHz
Frequency range FM	87,5...108MHz	87,5...108MHz	87,5...108MHz	
<b>GAIN</b>				
Gain	0dBi	-2.0dBi	6dBi	2.2 dBi
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
Front to back ratio	0dB	0dB	16dB	
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>				
Material	Aluminium	Aluminium	Aluminium	Aluminium
Packing QTY	1	1	1	1
Beamwidth horizontal	±45°	± 180°	±35°	± 180°
Construction type	MT	MTHV	MT	MTH
Elements	1	1	3	1
Windload	31N	16N	56N	20N
Length (mm)	550 mm	∅ 505 mm	119 mm	400mm
Width (mm)	1140 mm		158 mm	625mm

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# TRIAX<sup>®</sup> VHF (BIII) aerials

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TERRESTRIAL  
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## Common features

- Band III aerials are wideband, channel or channel group types for horizontal or vertical mounting.
- TRIAX band III aerials cover the frequency range 174-230 MHz (ch. 5-12).
- TRIAX aerials are supplied with a light alloy metal boom made of 18 x 18 mm square tubes.
- The aerials are provided with brackets for masts up to Ø60 mm or with window brackets.



**VHF BIII - ch. 5...12,  
6 elements (Polybag)**

Art. No. 103862  
EAN Number 5702661038624



**BIII - ch. 5...12, 10 elements  
(Polybag)**

Art. No. 104579  
EAN Number 5702661045790



**VHF BIII - ch. 5...12,  
9 elements (Colorbox)**

Art. No. 105200  
EAN Number 5702661052002


**BIII - ch. 5...12, 13 elements  
(Polybag)**

Art. No. 105211  
EAN Number 5702661052118

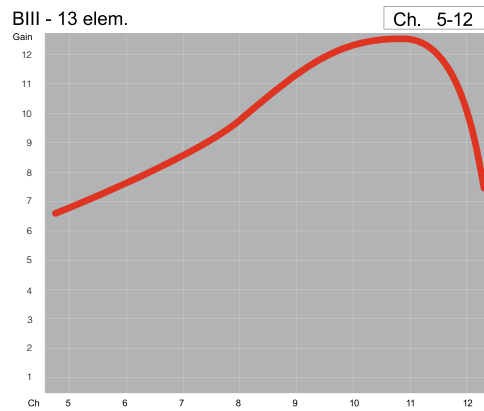
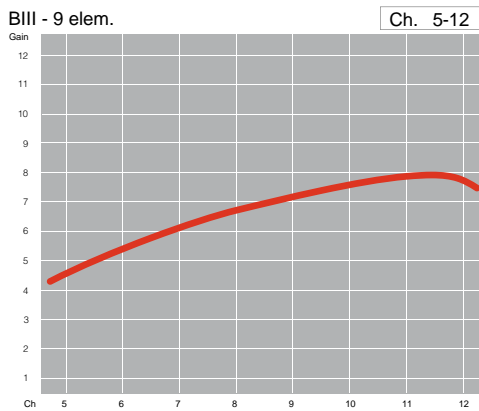
**VHF BIII - ch. 5...12,  
9 elements (Polybag)**

Art. No. 105201  
EAN Number 5702661052019



# TRIAx<sup>®</sup> VHF (BIII) aerials

designed for superior TV reception



Type:	VHF BIII ch. 5...12 6 elements	VHF BIII ch. 5...12 9 elements	VHF BIII ch. 5...12 10 elements	VHF BIII ch. 5...12 13 elements
Art. no.	103862	105200/105201	104579	105211
<b>FREQUENCY</b>				
Band (frequency)	BIII	BIII	BIII	BIII
Channels	5...12	5...12	5...12	5...12
Frequency range VHF	174...300MHz	174...230MHz	174...230MHz	174...230MHz
<b>GAIN</b>				
Gain	7.5dBi	8 maxdBi	9.5dBi	12.8 max dBi
Gain @ 174 MHz (Ch. 5)		4.2dBi		6.6 dBi
Gain @ 230 MHz (Ch. 12)		7.5dBi		10.6 dBi
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
Front to back ratio - horisontal	16dB	20dB	22dB	20dB
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	Saddle & Clamp (S&C)	F-female
<b>MECHANICAL</b>				
Product Width	800mm	870mm	880mm	920mm
Product Length	1410mm	880mm	1735mm	2080mm
Main Material	Aluminum	Aluminum	Aluminum	Aluminum
Packing QTY	1	1	1	1
Beamwidth horisontal	± 26°	± 40°	± 23°	± 40°
Construction type	MTH		MTHD	
Elements	6	9	10	13
Windload (N)	48N	58N	78N	58N

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
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- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® outdoor masthead amplifiers

for excellent terrestrial reception



- TERRESTRIAL RECEPTION
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## Common features

In most electronics it pays well to invest in quality. By choosing TRIAX products, you can be sure of many years of operation without difficulties. Our range of masthead amplifiers are designed to cut off channel 60-69/49-69 where 4G/LTE mobile broadband services are transmitted:

- Input/output: BIII (DAB/UHF up to 694-790 MHz) (E48 - E60)
- High quality weather proof mast housing
- Low noise figures
- Simple and easy mast mounting



**MFA 611 - 1 Input - UHF/BIII - Multiband mast amplifier**  
LTE 800 Protected

Art. No. 340611

EAN Number 5702663406117

No. of inputs 1

No. of outputs 2



**MFA 611 - 1 Input - UHF/BIII - Multiband mast amplifier**  
LTE 700 Protected

Art. No. 340911

EAN Number 5702663409118

No. of inputs 1

No. of outputs 2



**MFA 621 - 2 Input - UHF/BIII /FM - Multiband mast amplifier**  
LTE 800 Protected

Art. No. 340621

EAN Number 5702663406216

No. of inputs 2

No. of outputs 1



**MFA 621 - 2 Input - UHF/BIII /FM - Multiband mast amplifier**  
LTE 700 Protected

Art. No. 340921

EAN Number 5702663409217

No. of inputs 2

No. of outputs 1



**MFA 656 - 3 Input - UHF/BIII/ DAB/FM - Multiband mast amplifier**  
LTE 800 Protected

Art. No. 340656

EAN Number 5702663406568

No. of inputs 3

No. of outputs 1



**MFA 656 - 3 Input - UHF/BIII/ DAB/FM - Multiband mast amplifier**  
LTE 700 Protected

Art. No. 340956

EAN Number 5702663409569

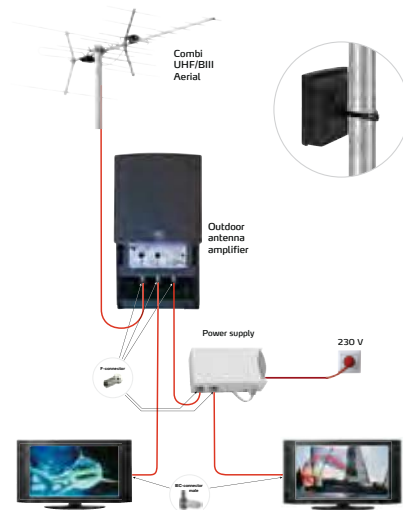
No. of inputs 3

No. of outputs 1



# TRIAX® outdoor masthead amplifiers

for excellent terrestrial reception



Type:	MFA 611 UHF/BIII LTE 800	MFA 611 UHF/BIII LTE 700	MFA 621 UHF/BIII/FM LTE 800	MFA 621 UHF/BIII/FM LTE 700	MFA 656 UHF/BIII/DAB/ FM - LTE 800	MFA 656 UHF/BIII/DAB/ FM - LTE 700
Art. no.	340611	340911	340621	340921	340656	340956
<b>CHARACTERISTICS</b>						
Max. output level	103 dBµV		103 dBµV		103 dBµV	
<b>FREQUENCY</b>						
Input 1 - band	BIII(DAB)+UHF	BIII(DAB)+UHF	BIII(DAB)+UHF	BIII(DAB)+UHF	UHF	UHF
Input 1 - channels	5...12/21...60	5...12/21...48	5...12/21...60	5...12/21...48	21...60	21...48
Input 1 - frequency	170...230 / 470...790MHz	170...230 / 470...694MHz	170...230 / 470...790MHz	170...230 / 470...694MHz	470...790MHz	470...694MHz
Input 2 - band			BII	BIII (DAB)		
Input 2 - channels			FM	5...12 + DAB		
Input 2 - frequency			87...108MHz	174...230MHz		
Input 3 - band					BII	
Input 3 - channels					FM	
Input 3 - frequency					87...108MHz	
<b>GAIN</b>						
Input 1 - gain	10...25 / 15...30dB		20...35dB		20...35dB	
Input 1 - noise figure	3.5dB		2.5dB		<2.5dB	
Input 2 - gain			5...15dB		10...22dB	
Input 2 - noise figure			2.5dB		< 2.5dB	
Input 3 - gain					5...15dB	
Input 3 - noise figure					< 2.5dB	
<b>RETURN LOSS</b>						
Return Loss	10/8dB		10/8dB		10/8dB	
<b>ELECTRICAL*</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
DC Operating voltage	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC
LED indicator	Yes - green	Yes - green	Yes - green	Yes - green	Yes - green	Yes - green
<b>CONNECTORS</b>						
Connector Type	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	2	2	3	3
Number of outputs	2	2	1	1	1	1
<b>MECHANICAL</b>						
Depth (mm)	60mm	60mm	60mm	60mm	60mm	60mm
Height (mm)	115mm	115mm	115mm	115mm	115mm	115mm

TERRESTRIAL  
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OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® outdoor masthead amplifiers

for excellent terrestrial reception

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX



## Common features

In most electronics it pays well to invest in quality. By choosing TRIAX products, you can be sure of many years of operation without difficulties. Our range of masthead amplifiers are designed to cut off channel 60-69/49-69 where 4G/LTE mobile broadband services are transmitted:

- Input/output: BIII (DAB/UHF up to 694-790 MHz) (E48 - E60)
- High quality weather proof mast housing
- Low noise figures
- Simple and easy mast mounting



**MFA 622 - 2 Input - UHF/UHF Wideband mast amplifier**

Art. No. 340622

EAN Number 5702663406223  
 No. of inputs 2  
 No. of outputs 2



**MFA 645 - 2 Input - UHF/BIII/DAB - Multiband mast amplifier**

Art. No. 340645

EAN Number 5702663406452  
 No. of inputs 2  
 No. of outputs 1



**MFA 641 - 2 Input - UHF/FM Multiband mast amplifier**

Art. No. 340641

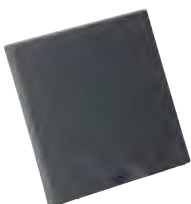
EAN Number 5702663406414  
 No. of inputs 2  
 No. of outputs 1



**MFA 652 - 2 Input - UHF/VHF Multiband mast amplifier**

Art. No. 340652

EAN Number 5702663406520  
 No. of inputs 2  
 No. of outputs 1



**MFA 642 - 2 Input - UHF/FM Multiband mast amplifier**

Art. No. 340642

EAN Number 5702663406421  
 No. of inputs 2  
 No. of outputs 1



**MFA 655 - 3 Input - UHF/BIII/DAB/FM Multiband mast amplifier**

Art. No. 340655

EAN Number 5702663406551  
 No. of inputs 3  
 No. of outputs 1





# TRIAx® outdoor masthead amplifiers

for excellent terrestrial reception



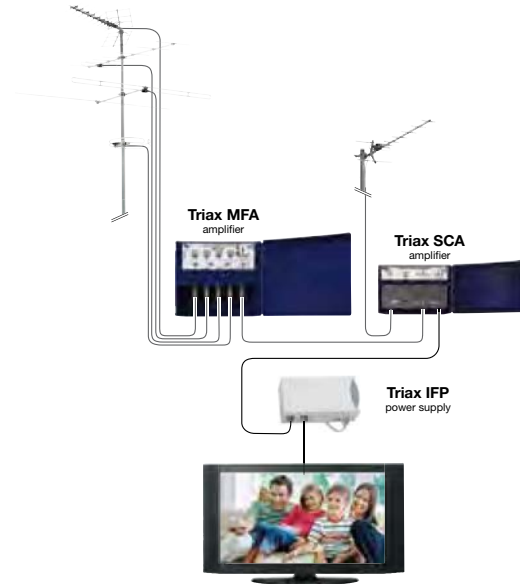
MFA 665 - 3 Input  
UHF/UHF/VHF  
Multiband mast amplifier

**Art. No. 340665**

EAN Number 5702663406650

Number of inputs 3

Number of outputs 1



Type:	MFA 622 UHF/UHF	MFA 641 UHF/FM	MFA 642 UHF/FM	MFA 645 UHF/BIII/DAB	MFA 652 UHF/VHF	MFA 655 UHF/BIII/ DAB/FM	MFA 665 UHF/UHF/ VHF
Art. no.	340622	340641	340642	340645	340652	340655	340665
<b>CHARACTERISTICS</b>							
Max. output level	105 dBµV	105 dBµV	105 dBµV	105 dBµV	102 dBµV	105 dBµV	109 dBµV
<b>FREQUENCY</b>							
Input 1 - band	UHF	UHF	UHF	UHF	UHF	UHF	UHF
Input 1 - channels	21...69	21...69	21...69	21...69	21...69	21...69	21...69
Input 1 - frequency	470...860 MHz						
Input 2 - band	UHF	BII	BII	BIII/DAB	VHF	BII	UHF
Input 2 - channels	21...69	FM	FM	5...12	2...12	FM	21...69
Input 2 - frequency	470...860MHz	87.5...108MHz	87.5...108MHz	174...230MHz	47...230MHz	87.5...108MHz	470...860MHz
Input 3 - band						BIII/DAB	VHF
Input 3 - channels						5...12	2...12
Input 3 - frequency						174...230MHz	47...230MHz
<b>GAIN</b>							
Input 1 - gain	20-30dB	24...34dB	24...34dB	24...34dB	13...23dB	13...23dB	19...29dB
Input 1 - noise figure	6.5dB	2.5dB	2.5dB	2.5dB	4.5dB	4.3dB	3,8dB
Input 2 - gain	20...30dB	14...24dB	- 2dB	14...24dB	13...23dB	2...12dB	12...22dB
Input 2 - noise figure	6.5dB	4.5dB		4.5dB	4.0dB	6.5dB	12dB
Input 3 - gain						13...23dB	13...23dB
Input 3 - noise figure						3.5dB	4.5dB
<b>RETURN LOSS</b>							
Return Loss	10/10dB		10/10dB	10/10dB	10/10dB	10/10dB	10/10dB
<b>ELECTRICAL*</b>							
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>							
DC Operating voltage	12...24VDC	12...24VDC	12...24VDC	12...24VDC	12...24VDC	12...24VDC	12...24VDC
LED indicator	Yes - green						
<b>CONNECTORS</b>							
Connector Type	F-female	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	2	2	2	2	2	3	3
Number of outputs	2	1	1	1	1	1	1
<b>MECHANICAL</b>							
Depth (mm)	60mm	60mm	60mm	60mm	60mm	60mm	60mm
Height (mm)	115mm	115mm	115mm	115mm	115mm	115mm	115mm

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> outdoor masthead amplifiers

for excellent terrestrial reception



TERRESTRIAL  
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TECHNICAL  
APPENDIX



## Common features

High performance range of mast amplifiers with F-connector

- F-connectors on all in- and outputs
- Simple and easy installation
- Unique mounting system
- Attractive design in a 4-terminal waterproof masting housing

- Wide range with 1, 2 or 3 inputs and 1 output
- High gain and output voltage
- Fixed or adjustable gain
- Low noise figures
- Power stabiliser enables use of 12V to 24V
- High output level
- RF shielded and CE compliant (EN 50083)



### MFA 302 - 1 Input - UHF/BIII Group mast amplifier

Art. No. 340302

EAN Number 5702663403024

No. of inputs 1

No. of outputs 1



### MFA 633 - 1 Input - UHF Group mast amplifier

Art. No. 340633

EAN Number 5702663406339

No. of inputs 1

No. of outputs 1



### MFA 612 - 1 Input - UHF Group mast amplifier

Art. No. 340612

EAN Number 5702663406124

No. of inputs 1

No. of outputs 1



### MFA 651 - 1 Input - UHF Multiband mast amplifier

Art. No. 340651

EAN Number 5702663406513

No. of inputs 1

No. of outputs 1



### MFA 624 - 1 Input - UHF Wideband mast amplifier

Art. No. 340624

EAN Number 5702663406247

No. of inputs 1

No. of outputs 1



### MFA 661 - 1 Input - UHF Wideband mast amplifier LTE 800 Protected

Art. No. 340661

EAN Number 5702663406612

No. of inputs 1

No. of outputs 1



# TRIAx<sup>®</sup> outdoor masthead amplifiers

for excellent terrestrial reception

## AFA Micro UHF amplifier

The active wideband micro amplifier can change your UHF-aerial with F-connector, to an active antenna. It works with 5 VDC from your digital Set Top Box, or with 5-12 VDC from any power supply.



AFA Micro - 1 Input - UHF  
Wideband mast amplifier

**Art. No. 340012**

EAN Number 5702663400122

No. of inputs 1

No. of outputs 1

Type:	AFA Micro UHF	MFA 302 UHF/BIII	MFA 612 UHF	MFA 624 UHF	MFA 633 UHF	MFA 651 UHF	MFA 661 UHF/LTE 800
Art. no.	340012	340302	340612	340624	340633	340651	340661
<b>CHARACTERISTICS</b>							
Max. output level	95 dBμV	103 dBμV	105 dBμV	105 dBμV	105 dBμV	105 dBμV	112 dBμV
<b>FREQUENCY</b>							
Input 1 - band	UHF	UHF+BIII	UHF	UHF	UHF	UHF	UHF
Input 1 - channels	21...69	21...69/5...12	21...69	21...69	21...69	21...69	21...60
Input 1 - frequency	470...860MHz	175...860MHz	470...860MHz	470...860MHz	470...860MHz	470...860MHz	470...790MHz
Input 2 - band					AM/BII		
Input 2 - channels					AM/FM		
Input 2 - frequency					2.5-108MHz		
<b>GAIN</b>							
Input 1 - gain	12dB	20dB	12dB	25.0dB	24...34dB	12dB	17dB
Input 1 - noise figure	2.3dB	3.0dB	1.9dB	2.5dB	2.5dB	1.8dB	<2.2dB
Input 2 - gain							
Input 2 - noise figure		3.0dB					
<b>RETURN LOSS</b>							
Return Loss	>10dB	dB	10dB	10dB	10dB	dB	>10dB
<b>ELECTRICAL*</b>							
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>							
DC Operating voltage	5...12VDC	12...24VDC	12...24VDC	12...24VDC	12...24VDC	5...12VDC	5...24VDC
LED indicator						Yes - green	Yes - green
<b>CONNECTORS</b>							
Connector Type	F-male/F-female	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1	1
<b>MECHANICAL</b>							
Depth (mm)		70mm	60mm	60mm	60mm	50mm	50mm
Height (mm)	45mm	150mm	115mm	115mm	115mm	108mm	108mm

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

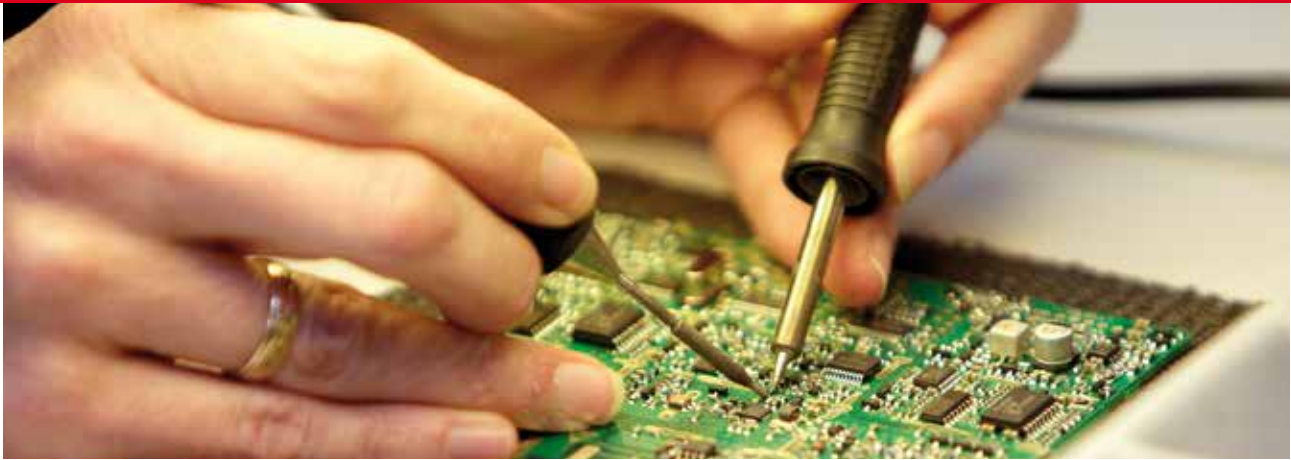
SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® outdoor-indoor stop filters

stop channel filter – LTE 800 protected



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
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(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

In most electronics it pays well to invest in quality. By choosing TRIAX products, you can be sure of many years of operation without difficulties. Our range of mast stop channel filters are designed to cut off channel 49-69 where 4G/LTE mobile broadband services are transmitted:

- Input/output: BI/BII/BIII (DAB)/UHF
- High rejection
- Low through loss
- Mast or wall mounting
- High quality weather proof mast housing
- Simple and easy mast mounting



**TBSO 257 outdoor Stop Ch. 57 - LTE 800 Protected**

Art. No. 314075

EAN Number 5702663140752

No. of inputs 1

No. of outputs 1



**TBSI 257 indoor Stop Ch. 57 - LTE 800 Protected**

Art. No. 314074

EAN Number 5702663140745

No. of inputs 1

No. of outputs 1



**TBSO 259 outdoor Stop Ch. 59 - LTE 800 Protected**

Art. No. 314071

EAN Number 5702663140714

No. of inputs 1

No. of outputs 1



**TBSI 259 indoor Stop Ch. 59 - LTE 800 Protected**

Art. No. 314070

EAN Number 5702663140707

No. of inputs 1

No. of outputs 1



**TBSO 260 outdoor Stop Ch. 60 - LTE 800 Protected**

Art. No. 314073

EAN Number 5702663140738

No. of inputs 1

No. of outputs 1



**TBSI 260 indoor Stop Ch. 60 - LTE 800 Protected**

Art. No. 314072

EAN Number 5702663140721

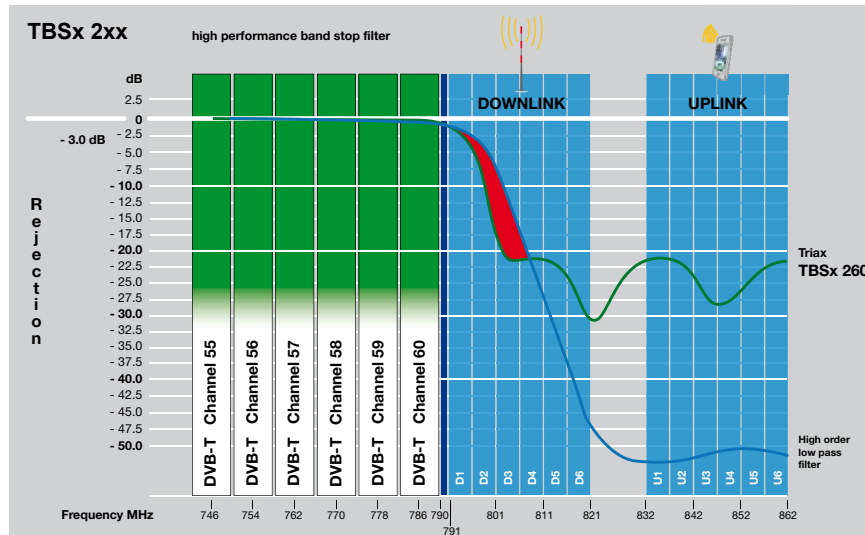
No. of inputs 1

No. of outputs 1



# TRIAx<sup>®</sup> outdoor-indoor stop filters

stop channel filter – LTE 800 protected



Type:	TBSO 257 Ch. 57 LTE 800	TBSO 259 Ch. 59 LTE 800	TBSO 260 Ch. 60 LTE 800	TBSI 257 Ch. 57 LTE 800	TBSI 259 Ch. 59 LTE 800	TBSI 260 Ch. 60 LTE 800
Art. no.	314075	314071	314073	314074	314070	314072

## CHARACTERISTICS

Type	Stop filter	Stop filter	Stop filter	Stop filter	Stop filter	Stop filter
FREQUENCY						
Input 1 - band	BI/BII/BIII (DAB)/UHF	BI/BII/BIII (DAB)/UHF	BI/BII/BIII (DAB)/UHF	BI/BII/BIII (DAB)/UHF	BI/BII/BIII (DAB)/UHF	BI/BII/BIII (DAB)/UHF
Input 1 - channels	2...57	2...59	2...60	2...57	2...59	2...60
Input 1 - frequency	47...766MHz	47...782MHz	47...790MHz	47...766MHz	47...782MHz	47...790MHz
LOSS						
Input 1 - Rejection	@791-862MHz: 28dB	@792-795MHz: 10dB / @795-862MHz: 20dB	@800-803MHz: 12dB / @803-862MHz: 20dB	@791-862MHz: 28dB	@792-795MHz: 10dB / @795-862MHz: 20dB	@800-803MHz: 12dB / @803-862MHz: 20dB
Input 1 - through loss	@47-766MHz: 2.0dB	@47-766MHz: 1.0dB / @766- 782MHz: 3.0dB	@47-774MHz: 1.0dB / @774- 790MHz: 3.0dB	@47-766MHz: 2.0dB	@47-766MHz: 1.0dB / @766- 782MHz: 3.0dB	@47-774MHz: 1.0dB / @774- 790MHz: 3.0dB

## CONNECTORS

Connector Type	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1

## MECHANICAL

Colour	RAL 7016	RAL 7016	RAL 7016	White	White	White
Height (mm)	108mm	145mm	108mm	75mm	75mm	75mm
Width (mm)	120mm	107mm	120mm	75mm	75mm	75mm

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® outdoor mast combiners

multiband mast combiners



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

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CABINETS

TECHNICAL  
APPENDIX



## Common features

In most electronics it pays well to invest in quality. By choosing TRIAX products, you can be sure of many years of operation without difficulties. Our range of mast combiners are designed to cut off channel 49-69 where 4G/LTE mobile broadband services are transmitted:

- Input/output: BI/BII/BIII (DAB)/UHF
- High Rejection
- Low through loss
- F-connector
- High quality weather proof mast housing
- Simple and easy mast mounting

### MFC 101 - SAT/TV combiner

Art. No. 340101

EAN Number 5702663401013

No. of inputs 2

No. of outputs 1



### MFC 105 - TV/TV combiner

Art. No. 340105

EAN Number 5702663401051

No. of inputs 2

No. of outputs 1



### MFC 102 - SAT/UHF/VHF combiner

Art. No. 340102

EAN Number 5702663401020

No. of inputs 3

No. of outputs 1



### MFC 106 - TV/FM combiner

Art. No. 340106

EAN Number 5702663401068

No. of inputs 2

No. of outputs 1



### MFC 104 - UHF/BIII/AM/FM combiner

Art. No. 340104

EAN Number 5702663401044

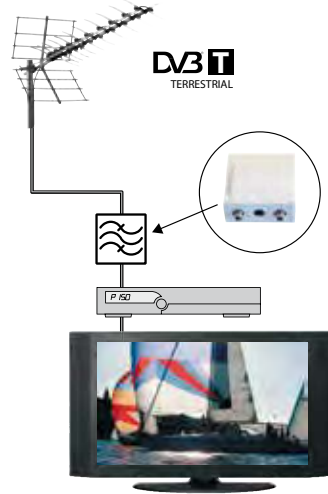
No. of inputs 3

No. of outputs 1



# TRIAX® outdoor mast combiners

## multiband mast combiners



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
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CABLES &  
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OUTLETS  
TAPS & SPLITTER

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TECHNICAL  
APPENDIX

Type:	MFC 101 SAT/TV	MFC 102 SAT/UHF/VHF	MFC 102 SAT/UHF/VHF (blister pack)	MFC 104 - UHF/ BIII/AM/FM	MFC 105 TV/TV	MFC 106 TV/FM
Art. no.	340101	340102	-	340104	340105	340106
<b>CHARACTERISTICS</b>						
Type	Combiner		Combiner	Combiner	Combiner	Combiner
<b>FREQUENCY</b>						
Input 1 - band	SAT	SAT		UHF	VHF/UHF	VHF/UHF
Input 1 - channels	IF	IF		21-69	2-69	2-69
Input 1 - frequency	950-2150MHz	950-2150MHz		470-862MHz	47-862MHz	47...68 / 139...862MHz
Input 1 - stop channel						
Input 2 - band	VHF/UHF	UHF		VHF	VHF/UHF	BII
Input 2 - channels	2-69	21...69		5-12	2-69	FM
Input 2 - frequency	47-862MHz	470-862MHz		175-230MHz	47-862MHz	87.5-108MHz
Input 3 - band		VHF		AM/FM		
Input 3 - channels		2-12		1-4		
Input 3 - frequency		47-230MHz		0.15-108MHz		
<b>LOSS</b>						
Input 1 - Stop Band Attenuation	50dB	50dB		20dB	20dB	20dB
Input 1 - through loss	3.0dB	3.0dB		2.0dB	4.0dB	1.0dB
Input 2 - Stop Band Attenuation	20dB	20dB		20dB	20dB	20dB
Input 2 - through loss	2.0dB	2.0dB		1.5dB	4.0dB	1.0dB
Input 3 - Stop Band Attenuation		20dB				
Input 3 - through loss		1.5dB		1.0dB		
Input 4 - through loss						
<b>OPERATIONAL</b>						
DC Passthrough	Yes SAT	Yes SAT		Yes UHF	Yes VHF/UHF	Yes VHF/UHF
<b>CONNECTORS</b>						
Connector Type	F-female	F-female		F-female	F-female	F-female
Number of inputs	2	3		3	2	2
Number of outputs	1	1		1	1	1
<b>MECHANICAL</b>						
Colour	RAL 7016	RAL 7016		RAL 7016	RAL 7016	RAL 7016
Height (mm)	117mm	117mm		117mm	117mm	117mm
Width (mm)	120mm	120mm		120mm	120mm	120mm
Remarks	DC through power SAT	DC through power SAT		DC through power UHF		DC through power VHF/UHF

# TRIAX<sup>®</sup> mast combiners

TV – TV/SAT combiners



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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CONNECTORS

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CONNECTIVITY

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(CCTV)

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TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

In mast electronics it pays well to invest in quality. By choosing TRIAX products, you can be sure of many years of operation without difficulties. Our range of TV and TV/SAT combiners perform whatever the environment:

- High Rejection
- Low through loss
- F-connector
- High quality weather proof mast housing
- Simple and easy mast mounting



**MFC 130**  
TV combiner

Art. No. 340130

EAN Number 5702663401303

No. of inputs 2

No. of outputs 1



**MFC 140**  
TV combiner

Art. No. 340140

EAN Number 5702663401402

No. of inputs 3

No. of outputs 1



**CTS 2400**  
TV/SAT combiner (diecast)

Art. No. 511102

EAN Number 3700113422078

No. of inputs 1

No. of outputs 1



**Triax 110**  
TV/SAT combiner (diecast)

Art. No. 340110

EAN Number 5702663401105

No. of inputs 2

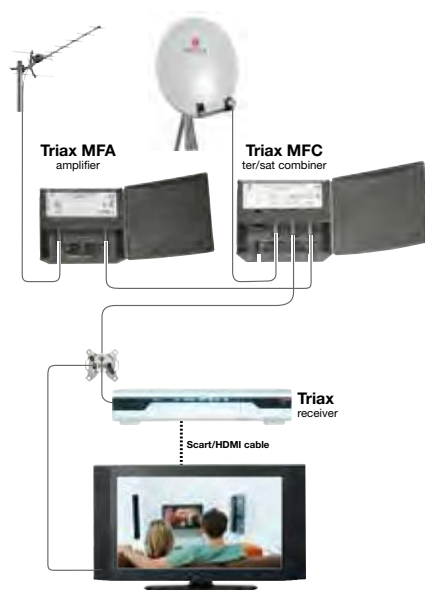
No. of outputs 1





# TRIAX<sup>®</sup> mast combiners

TV – TV/SAT combiners



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

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(CATV)

HEADENDS  
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CABLES &  
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TAPS & SPLITTER

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CABINETS

TECHNICAL  
APPENDIX

Type:	MFC 130 TV	MFC 140 TV	CTS 2400 TV/SAT (diecast)	Triax 110 TV/SAT (diecast)
Art. no.	340130	340140	511102	340110
<b>CHARACTERISTICS</b>				
Type	Combiner	Combiner	Combiner	Combiner
<b>FREQUENCY</b>				
Input 1 - band	UHF	UHF		SAT
Input 1 - channels	21-69	21-69	2...69	IF
Input 1 - frequency	470-862MHz	470-862MHz	5...862MHz	950-2400MHz
Input 1 - stop channel				
Input 2 - band	VHF	BIII		VHF/UHF
Input 2 - channels	2-12	5-12		2-69
Input 2 - frequency	47-230MHz	174-230MHz	950...2400MHz	47-862MHz
Input 3 - band		AM/BII		
Input 3 - channels				
Input 3 - frequency		2.5-108MHz		
<b>LOSS</b>				
Input 1 - Rejection				
Input 1 - Stop Band Attenuation	16dB	20dB		22/25dB
Input 1 - through loss	1.0dB	1.0dB	2.0dB	2.0/3.0dB
Input 2 - Stop Band Attenuation	16dB	20dB		20dB
Input 2 - through loss	1.0dB	1.0dB	2.5dB	2.0dB
Input 3 - Stop Band Attenuation		25dB		
Input 3 - through loss		3.5/1.0dB		
<b>OPERATIONAL</b>				
DC Passthrough	Yes	Yes UHF		Yes SAT
<b>CONNECTORS</b>				
Connector Type	F-female	F-female		F-female
Number of inputs	2	3		2
Number of outputs	1	1	1	1
<b>MECHANICAL</b>				
Colour	RAL 7016	RAL 7016		
Height (mm)	115mm	115mm		38mm
Width (mm)	117mm	117mm		75mm
Remarks	Mechanical throughpower on both inputs 5-24	DC throughpower UHF output 5-24		Diecast housing. DC throughpower to SAT input

# TRIAX® LTE filters

for indoor



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
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CABLES &  
CONNECTORS

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SURVEILLANCE  
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INSTRUMENTS  
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CABINETS

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APPENDIX



## Common features

Our high performance band stop LTE filters protect from interference on DVB-T signals, and protect from overload from strong LTE signals (base station transmitters) on antenna amplifiers, TV tuners, set top boxes, and TVs. The filters protect from the entire LTE mobile broadband

spectrum Ch 61-69 (791-862 MHz), and are customised to provide the highest protection in the LTE downlink frequency spectrum 791-821 MHz, where LTE transmission levels will be highest.



### 700MHz LTE LP filter - Ch.46

Art. No. 314178

EAN Number 5702663141780

No. of inputs

No. of outputs



### 800MHz LTE LP filter - Ch.58

Art. No. 360112

EAN Number 3700113429459

No. of inputs 1

No. of outputs 1



### 700MHz LTE LP filter - Ch.48

Art. No. 314176

EAN Number 5702663141766

No. of inputs

No. of outputs



### 800MHz LTE LP filter - Ch.59

Art. No. 360113

EAN Number 3700113429442

No. of inputs 1

No. of outputs 1



### 4G/LTE In-Line Filter Kit Ch. 59 - IEC conn. LTE 800 Protected

Art. No. 314080

EAN Number 5702663140806

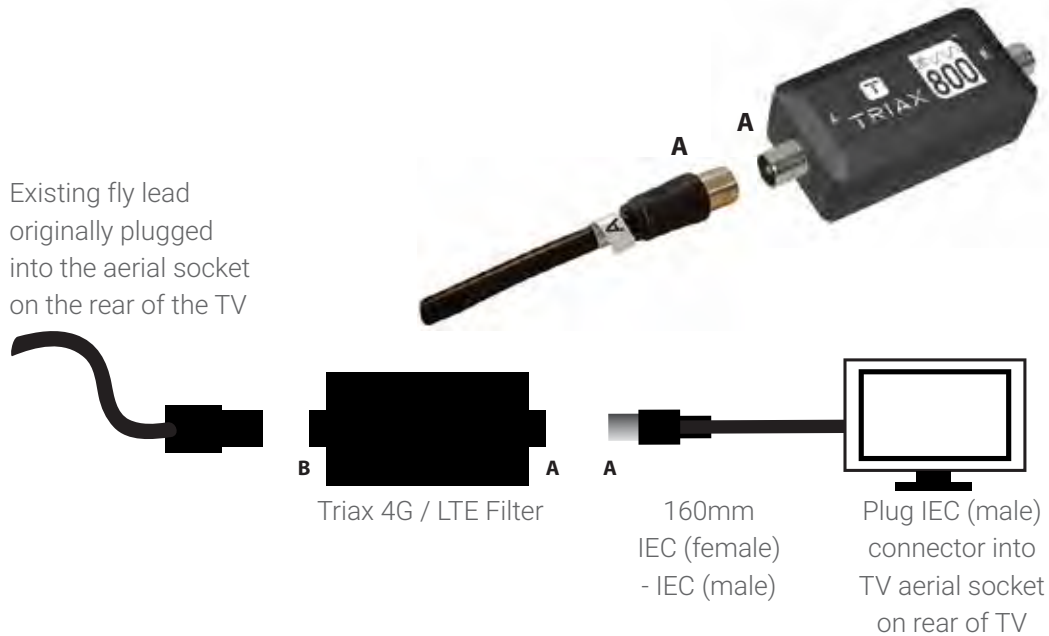
No. of inputs 1

No. of outputs 1



# TRIAX® LTE filters

for indoor



Type:	LTE 700 LP filter Ch. 46	LTE 700 LP filter Ch. 48	4G/LTE 800 Ch. 59	LTE 700 LP filter Ch. 58	LTE 700 LP filter Ch. 59
Art. no.	314178	314176	314080	360112	360113
Type	LTE filter	LTE filter	LTE filter	LTE filter	LTE filter
<b>FREQUENCY</b>					
Input 1 - frequency	5...678MHz	5...694MHz	5...782MHz	47...782MHz	47...782MHz
Input 1 - stop channel			59	58	59
<b>LOSS</b>					
Input 1 - Rejection	> 50.0dB	> 50.0dB		50.0 @791MhzdB	20.0 @791MhzdB
Input 1 - through loss	1.0dB	0.8...3.0dB	<4.0dB	≤ 6.5@774MHzdB	≤ 6.5@782MHzdB
DC Passthrough	Yes (30VDC / 1A)	Yes (30VDC / 1A)	Yes (12VDC/300mA)	Yes (max. 500mA)	Yes (max. 500mA)
<b>CONNECTORS</b>					
Connector Type	IEC-male / IEC-female	IEC-male / IEC-female	IEC-male / IEC-female	F-female	F-female
Number of inputs	1	1	1	1	1
Number of outputs	1	1	1	1	1
<b>MECHANICAL</b>					
Colour			Black		
Height (mm)	Ø 11 mm	Ø 11 mm	22 mm		
Length (mm)			82 mm		
Width (mm)	45 mm	45 mm	32mm		
Remarks			Kit contains: 4G Filter/Fly Lead Adhesive pad User Guide		

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> high quality power supplies

in an elegant design



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

**DVB-T**  
 Terrestrial

**EASY**  
 mounting

**Warranty**  
 2 Years

**LTE**  
 Protected

## Common features

TRIAX power supplies, some with LTE filters, are indoor power supplies for masthead amplifiers, providing a 'last defence' filter function against local LTE/4G interference. Easy to install, they plug into any EU VDE Mains wall outlet.

- F-connectors for maximum shielding.
- Green LED indication of Mains power.
- White indoor housing.
- LTE filter 6-23 dB, (790-821MHz).
- High current load possible, 12 VDC, 100mA.
- For mains power, 230 VAC, 50/60 Hz.



**IFP 101 LTE 800 PSU**  
 +12Vdc - 100mA  
 1 output

Art. No. 370102  
 EAN Number 5702663701021



**IFP 102 LTE 700 PSU**  
 +12Vdc - 100mA  
 2 outputs

Art. No. 370114  
 EAN Number 5702663701144



**IFP 101 LTE 700 PSU**  
 +12Vdc - 100mA  
 1 output

Art. No. 370113  
 EAN Number 5702663701137



**F 100/1 LTE 800 PSU**  
 +12Vdc - 100mA  
 1 output

Art. No. 370111  
 EAN Number 5702663701113



**IFP 102 LTE 800 PSU**  
 +12Vdc - 100mA  
 2 outputs

Art. No. 370109  
 EAN Number 5702663701090



**IEC 100/1 LTE 800 PSU**  
 +12Vdc - 100mA  
 1 output

Art. No. 370112  
 EAN Number 5702663701120



# TRIAX<sup>®</sup> high quality power supplies

in an elegant design



Type:	IFP 101 Power supply LTE 800	IFP 101 Power supply LTE 700	IFP 102 Power supply LTE 800	IFP 102 Power supply LTE 700	LTE F 100/1 Power supply LTE 800	LTE IEC 100/1 Power supply LTE 800
Art. no.	370102	370103	370109	370114	370111	370112
<b>CHARACTERISTICS</b>						
Type	PSU	PSU	PSU	PSU	PSU	PSU
<b>FREQUENCY</b>						
Band	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF
Frequency range	5-790MHz	5-694MHz	5-790MHz	5-790MHz	5-790 MHz	5-790 MHz
<b>LOSS</b>						
Through loss	<2.0dB	dB	6.0dB	6.0dB	dB	dB
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
AC Supply voltage	230VAC	230VAC	230VAC	230VAC	230Vac +/- 10%, 3VAVAC	230Vac +/- 10%, 3VAVAC
PSU out DC voltage	12VDC	12VDC	12VDC	12VDC	12VDC	12VDC
PSU out max. DC current	100mA	100mA	100mA	100mA	mA	mA
<b>CONNECTORS</b>						
Connector Type	F-female	F-female	F-female	F-female	F-female	IEC-female
Number of inputs	1	1	1	1	1	1
Number of outputs	1	1	2	2	1	1
<b>MECHANICAL</b>						
Colour	White	White	White	White	Antrazit	Antrazit
Height (mm)	70mm		70mm		200mm	200mm
Width (mm)	140mm		140mm		88mm	88mm
Remarks					Screened Housing, gold plated connectors, UK plug only	Screened Housing

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> high quality power supplies

in an elegant design



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

**DVB-T**  
Terrestrial

**EASY**  
mounting

**Warranty**  
2 Years

## Common features

TRIAX power supplies and power inserters are indoor power supplies for masthead amplifiers and UFO omnidirectional aerials:

- F-connectors for maximum shielding.
- Green LED indication of mains power.
- White indoor housing.
- LTE filter 6-23 dB, (790-821MHz).
- High current load possible, 12 VDC, 100mA.
- For Mains Power, 230 VAC, 50/60 Hz.



**IFP 501 Power supply**  
**+12Vdc - 1 output - 85mA**

**Art. No. 339501**

EAN Number 5702663395015

No. of inputs 1

No. of outputs 1



**IFP 504 Power Supply**  
**+24Vdc - 2 outputs - 45mA**

**Art. No. 339504**

EAN Number 5702663395046

No. of inputs 1

No. of outputs 2



**IFP 502 Power Supply**  
**+12Vdc - 2 outputs - 85mA**

**Art. No. 339502**

EAN Number 5702663395022

No. of inputs 1

No. of outputs 2



**IFP 505 Power supply +5Vdc**  
**1 output - 45mA**

**Art. No. 339505**

EAN Number 5702663395053

No. of inputs 1

No. of outputs 1



**IFP 503 Power supply**  
**+24Vdc - 1 output - 45mA**

**Art. No. 339503**

EAN Number 5702663395039

No. of inputs 1

No. of outputs 1



# TRIAX<sup>®</sup> high quality power supplies

in an elegant design

## IFP 522 Power Supply/Inserter +12Vdc - for UFO aerials

Art. No. 339522

EAN Number 5702663395220

No. of inputs 2

No. of outputs 2



## IFP 529 Power inserter 2 outputs - 12..24Vdc

Art. No. 339529

EAN Number 5702663395299

No. of inputs 1

No. of outputs 2



Type:	IFP 501	IFP 502	IFP 503	IFP 504	IFP 505	IFP 522	IFP 529
	Power supply	Power Supply	Power supply	Power Supply	Power supply	Power Supply /Inserter	Power Inserter
Art. no.	339501	339502	339503	339504	339505	339522	339529
<b>CHARACTERISTICS</b>							
Type	Power Supply				UFO Aerials		
<b>FREQUENCY</b>							
Band	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF
Frequency range	47-862MHz	47-862MHz	47-862MHz	47-862MHz	47-862MHz	47-862MHz	47-862MHz
<b>LOSS</b>							
Through loss	1.0dB	4.0dB	1.0dB	4.0dB	1.0dB	4dB	2 x 4.0dB
<b>ELECTRICAL*</b>							
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>							
AC Supply voltage	230VAC	230VAC	230VAC	230VAC	230VAC	230VAC	
PSU output							
DC voltage	12VDC	12VDC	24VDC	24VDC	5VDC	12VDC	
PSU output							
max. DC current	85mA	85mA	45mA	45mA	45mA	85mA	
<b>CONNECTORS</b>							
Connector Type	F-female	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1	2	1
Number of outputs	1	2	1	2	1	2	2
<b>MECHANICAL</b>							
Colour	white	white	white	white	white	white	white
Height (mm)	61mm	61mm	61mm	61mm	61mm	61mm	61mm
Width (mm)	118mm	118mm	118mm	118mm	118mm	118mm	118mm
Packing QTY	1	1	1	1	1	1	
Remarks						F-connector/ DC jack and red/black cable for battery	Red/black cable for battery

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> indoor multiband amplifiers

GNS multiband amplifiers with fix selective paths



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

High performance low-noise multi band amplifiers for both analogue and digital signals.

The amplifiers have up to four highly selective band inputs and one output, and are excellent for use in small and medium sized distribution systems where signals are received via terrestrial antennas.

They are also recommended for combining FM, DVB-T and DAB reception with SAT reception in a SMATV distribution network.



### GNS 20 - multiband amplifier - 3 input

Art. No. 339120

EAN Number  
5702663391208



### GNS 35 - multiband amplifier - 4 input

Art. No. 339135

EAN Number  
5702663391352



### GNS 30 - multiband amplifier - 4 input

Art. No. 339130

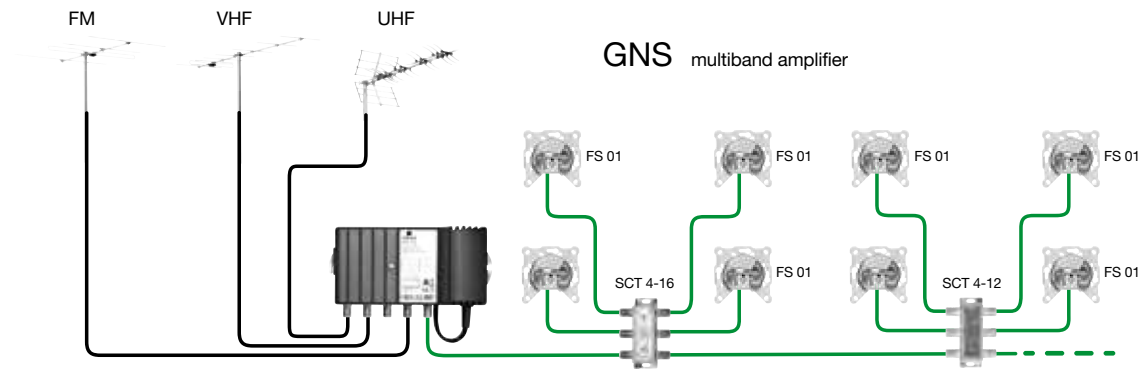
EAN Number  
5702663391307





# TRIAX<sup>®</sup> indoor multiband amplifiers

## GNS multiband amplifiers



Type:	GNS 20 m ultiband amplifier 3 input	GNS 30 multiband amplifier 4 input	GNS 35 multiband amplifie 4 input
Art. no.	339120	339130	339135
<b>CHARACTERISTICS</b>			
Output level @ IMD 2	102.0dBμV	105.0dBμV	110.0dBμV
Output level @ IMD 3	113.0dBμV	115.0dBμV	121.0dBμV
<b>FREQUENCY</b>			
Input 1 - band	UHF	UHF	UHF
Input 1 - frequency	470-862MHz	470-862MHz	470-862MHz
Input 2 - band	BIII	BIII	BIII
Input 2 - frequency	174-230MHz	174-230MHz	174-230MHz
Input 3 - band		BI	UHF
Input 3 - frequency		47-68MHz	470-860MHz
Input 4 - band	BI/FM	FM	BI/FM
Input 4 - frequency	47-68/ 87.5-108MHz	87.5-108MHz	47-68/ 87.5-108MHz
<b>GAIN</b>			
Input 1 - gain	22.0dB	31.0dB	35.0dB
Input 1 - noise figure	4.0dB	4.0dB	7.0dB
Input 2 - gain	20.0dB	30.0dB	34.0dB
Input 2 - noise figure	4.0dB	4.0dB	5.0dB
Input 3 - gain		30.0dB	35.0dB
Input 3 - noise figure		4.0dB	7.0dB
Input 4 - gain	20.0dB	30.0dB	34.0dB
Input 4 - noise figure	4.0dB	4.0dB	5.0dB
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
Level control at all inputs	0...-20dB	0...-20dB	0...-20dB
Operating temp. range	-25 ... + 55°C	-25 ... + 55°C	-25 ... + 55°C
AC Supply voltage	230 ±10%VAC	230 ±10%VAC	230 ±10%VAC
Power Consumption (typ.)	3.5W	6.0W	7.5W
Reference standards	EN 50083-3 - Class 2 / EN 50083-1; EN 60065 / EN 50083-2 / RoHS 2002/95/EG compliant		
<b>CONNECTORS</b>			
Number of inputs	3	4	4
Number of outputs	1	1	1
RF connector - input	F-female	F-female	F-female
RF connector - output	F-female	F-female	F-female
<b>MECHANICAL</b>			
Packing QTY	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> programmable amplifiers

TMB multi band amplifiers with programmable paths



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

Everything you need for amplifying and distributing a large number of signals into a network:

- 10 highly selective and adjustable filters in the UHF frequency range secure high flexibility. Each of these clusters can have 1-7 channels (56 MHz) bandwidth.
- High flexibility
- Switchable input amplifier stage
- 6 inputs: FM/DAB/VHF/UHF and 3 UHF inputs split over 10 UHF programmable clusters
- Automatic or manual levelling of the signal
- Easy programming – designed for both digital and analogue operation



**TMB 100**  
Prog. Multiband AMP.  
5 input - TER

Art. No. 360223

EAN Number  
5702663602236



**TMB 100S**  
Prog. Multiband AMP.  
6 input - TER + SAT

Art. No. 324580

EAN Number  
5702663245808



**TMB 100V**  
Prog. Multiband AMP.  
5 input - TER

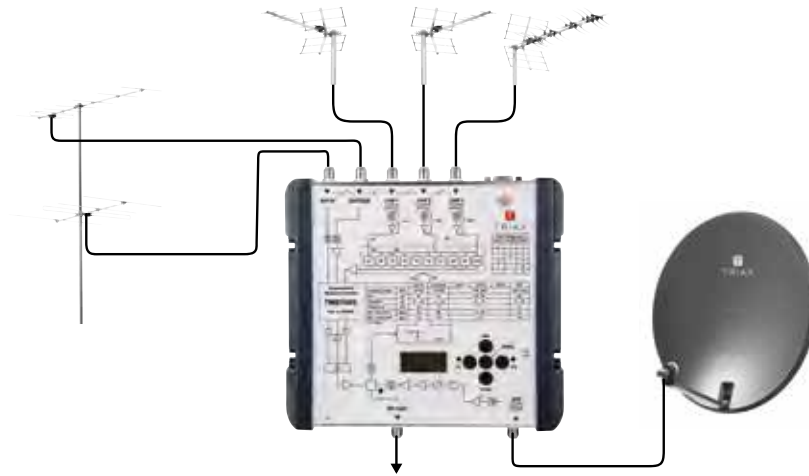
Art. No. 360224

EAN Number  
5702663602243



# TRIAx<sup>®</sup> programmable amplifiers

TMB with programmable paths



Type:	TMB 100 Prog. Multiband AMP. 5 input - TER	TMB 100V Prog. Multiband AMP 5 input - TER	TMB 100S Prog. Multiband AMP. 6 input - TER + SAT
Art. no.	360223	360224	324580
<b>CHARACTERISTICS</b>			
Max. input level - BIII/DAB	80dB $\mu$ V	80dB $\mu$ V	80dB $\mu$ V
Max. input level - FM	90dB $\mu$ V	90dB $\mu$ V	90dB $\mu$ V
Max. input level - UHF	95dB $\mu$ V	95dB $\mu$ V	95dB $\mu$ V
Output level @ 60dB IMD - UHF	117dB $\mu$ V	117dB $\mu$ V	115dB $\mu$ V
Output level @ 60dB IMD - VHF		118dB $\mu$ V	
Output level BIII/DAB - 170-230 MHz	120dB $\mu$ V	118dB $\mu$ V	120dB $\mu$ V
<b>FREQUENCY</b>			
Filter Bandwidth UHF	8-56 (1...7ch)MHz	8-56 (1...7ch)MHz	8-56 (1...7ch)MHz
Filter Bandwidth VHF	7 (1ch)MHz	7 (1ch)MHz	7 (1ch)MHz
Filter Selectivity @ 16 MHz	16dB	16dB	16dB
Frequency range BI/FM	47...108MHz	47-108MHz	47...108MHz
Frequency range BIII/DAB	174...240MHz	174...240MHz	174...240MHz
Frequency range UHF	470...862 (LTE on: 790)MHz	470...862 (LTE on: 790)MHz	470...862 (LTE on: 790)MHz
<b>GAIN</b>			
Gain - FM [47-108 MHz]	32dB	30dB	32dB
Gain - DAB [170-230 MHz]	48dB	45dB	48dB
Gain - Satellite 1 [950-2150 MHz]			40dB
Gain - UHF 1 [470-790 MHz]	55dB	55dB	55dB
Gain - UHF 3 [470-790 MHz]	55dB		55dB
Gain - UHF 2 [470-790 MHz]	55dB	55dB	55dB
<b>LOSS</b>			
Attenuation	0-20dB	0-20dB	0-20dB
<b>RETURN LOSS</b>			
Return Loss	>8dB	>10dB	>8dB
<b>ELECTRICAL</b>			
Impedance	75 $\Omega$	75 $\Omega$	75 $\Omega$
<b>OPERATIONAL</b>			
Certification	CE, RoHS2	CE, RoHS2	CE, RoHS2
Class	A	A	A
Operating temperature range	-5 - +40°C	-5 - +40°C	-5 - +40°C
AC Supply voltage	100...240VAC	100...240VAC	100...240VAC
Power Consumption (typ.)	9...16W	24W	12...18W
Remote Supply	12...24 / 80mAV/mA	12...24 / 80mAV/mA	12...24 / 80mAV/mA
<b>CONNECTORS</b>			
Number of inputs	5	5	6
Number of outputs	1	1	1
RF connector - input	F-female	F-female	F-female
RF connector - output	F-female	F-female	F-female
<b>MECHANICAL</b>			
Packing QTY	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® indoor multiband amplifiers

IFB indoor booster amplifiers



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

- DVB-C

Cable
- HD

TV
- EASY

Multi-room
- ECO

EASY mounting
- Warranty

2 Years

## Common features

The IFB amplifier series is in same elegant white design as the IFA distribution amplifiers, and are excellent for use in a household connected to a cable network with many channels.

- F-connector
- Wide range with 2 outputs
- Separate adjustable gain on VHF and UHF
- Click-on wall mounting



**IFB 402**  
Indoor booster amplifier

Art. No. 339402

EAN Number  
5702663394025



**IFB 404**  
Indoor booster amplifier

Art. No. 339404

EAN Number  
5702663394049



**IFB 403**  
Indoor booster amplifier

Art. No. 339403

EAN Number  
5702663394032



**IFB 406**  
2-way Terrestrial Amplifier

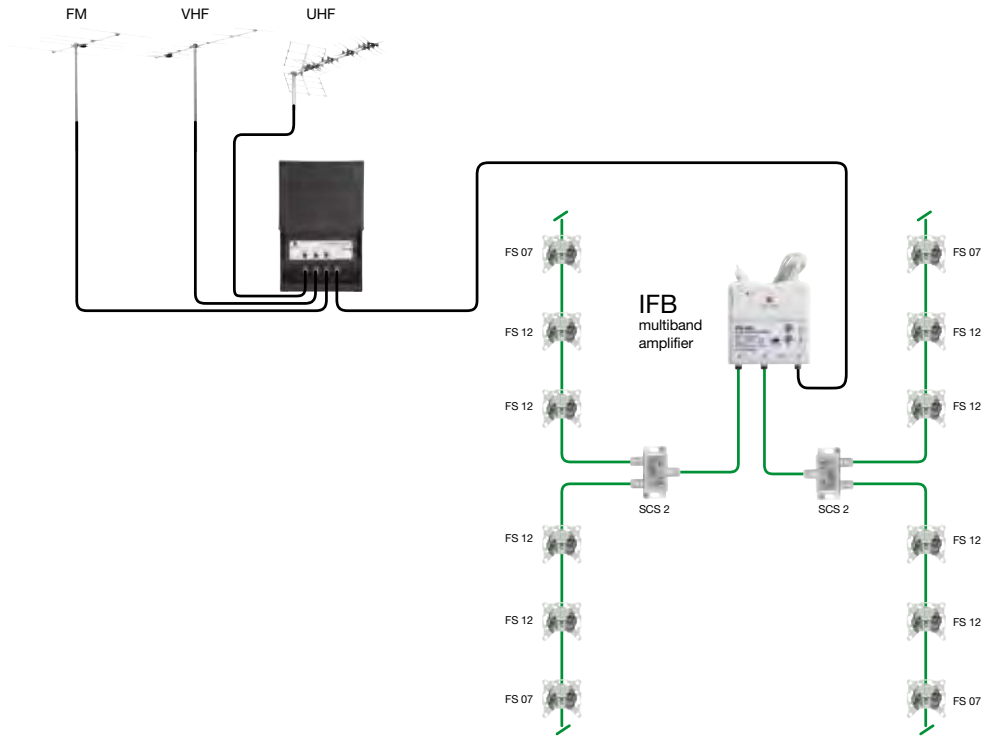
Art. No. 339406

EAN Number  
5702663394063



# TRIAX® indoor multiband amplifiers

## IFB booster amplifiers



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

Type:	IFB 402 Indoor booster amplifier	IFB 403 Indoor booster amplifier	IFB 404 Indoor booster amplifier	IFB 406 2-way Terr. Amplifier
Art. no.	339402	339403	339404	339406
CHARACTERISTICS				
Output level IMD 3, EN 50083-5	2 X 107.0dBμV	2 X 107.0dBμV	2 X 107.0dBμV	2 x 105dBμV
FREQUENCY				
Band (frequency)	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF
Frequency range	VHF/UHF	VHF/UHF	VHF/UHF	VHF/UHF
GAIN				
Gain	6-16/0-10dB	6-16/6-16dB	7-17dB	15-30/15-30dB
ELECTRICAL				
Impedance	75Ω	75Ω	75Ω	75 Ω
OPERATIONAL				
Certification	CE	CE	CE	CE
AC Supply voltage	230VAC	230VAC	230VAC	190-260VAC
Power Consumption (typ.)	3W	3W	3W	3W
CONNECTORS				
Input connector	F-con	F-con	F-con	F-con
Number of inputs	1	1	1	1
Number of outputs	2	2	2	2
Output connectors	F-con	F-con	F-con	F-con
MECHANICAL				
Packing QTY	1	1	1	1
Remarks	2 separat UHF and VHF attenuator	2 separat UHF and VHF attenuator	1 attenuator	2 separat UHF and VHF attenuator



# TRIAX<sup>®</sup> Dishes, LNB & SAT fibre

flexible solutions - easy installation

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TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

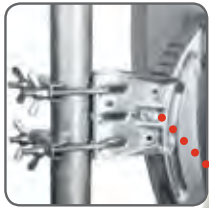
TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> high quality satellite dishes

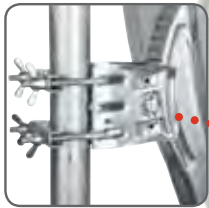
crystal clear signals to your TV

## Quick and easy installation

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX



Patented elevation brackets with accurate setting scales: Quick and easy installation and adjustment to your desired satellite.



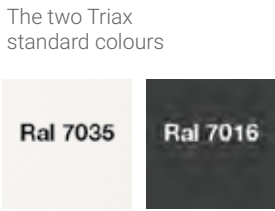
Secure fitting of the feed-arm: The coaxial cable runs through the feed-arm to the back of the dish. Here, an additional plastic locking device keeps everything in place.



Serrated, non-slip mast brackets ensure the stability of the dish.



The pre-mounted feed-arm just needs unfolding. The LNB holder is simply clicked on.



On the TD 110 the feed-arm is not pre-mounted. Instead, for stable mounting, it is secured with an additional wing-nut on the rear of the dish.



The UV-resistant plastic Ø40 mm LNB holder is quickly clicked on to the feed-arm. An adapter is provided for Ø23 mm LNBs.





# TRIAX® flexible dish solutions

standard or customised to your requirements

## Choose TD dishes

The most important part of an installation is the quality of the incoming signal.



TD64      TD78      TD88      TD110

## Standard assortment

Choose between:

- Size (height) 64, 78, 88 or 110 cm
- Colours - RAL 7016 or 7035
- Accessorie bags - Wing nut or 6-edge flange nut with 1 or 2 mastclamps depending on dishsize
- Packaging: Single pack or bulk single pack\*

All TRIAX dishes are manufactured in galvanised steel and are supplied with a mounting kit and the TRIAX logo on the reflector. All standard LNBs can be fitted and our range of wall brackets provide different options for your installation.



*A new aluminium LNB bracket is now available for the TD-series*

The Triax standard bracket set consist of:  
2 mast brackets with 6-edge flange nut and 6-edge wing nuts  
- fits on all dish sizes



## Our standard solutions meet most needs

We know no two customers are alike, which is why you can choose from a range of standard solutions or customised dishes and packaging upon request.

As a leading satellite dish manufacturer, we offer "one-stop-shopping," with all the accessories you need for the perfect installation.

We have also made installation quick and easy, as many parts are pre-mounted on the dish meaning few tools are needed.

*\*Bulk single pack = 50 or 100 dishes per package, accessories are not pre-mounted but are delivered single boxed to marry with dish reflector.*



## Customise to your requirements

We can meet most special requests for:

- Material
- Sizes
- Colours
- Nuts and bolts
- Customised packaging and/or logo

Please contact us to discuss how we can benefit your business.

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® TD 64 series single pack

high quality satellite dishes



**TD64 std. RAL 7016,  
singlepack - Flange nut**

Art. No. 120611

EAN Number  
5702661206115



**TD64 std. RAL 7016,  
singlepack - Wing nut**

Art. No. 120612

EAN Number  
5702661206122



**TD64 std. RAL 7035,  
singlepack - Flange nut**

Art. No. 120621

EAN Number  
5702661206214



**TD64 std. RAL 7035,  
singlepack - Wing nut**

Art. No. 120622

EAN Number  
5702661206221



Singlepacked



Bulk Singlepacked



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® TD 64 series bulk pack

high quality satellite dishes



**TD64 std. RAL 7016,  
100 pcs. bulk pack  
Flange nut**

Art. No. 120613  
EAN Number  
5702661206139



**TD64 std. RAL 7016,  
100 pcs. bulk pack  
Wing nut**

Art. No. 120614  
EAN Number  
5702661206146



**TD64 std. RAL 7035,  
100 pcs. bulk pack  
Flange nut**

Art. No. 120623  
EAN Number  
5702661206238



**TD64 std. RAL 7035,  
100 pcs. bulk pack  
Wing nut**

Art. No. 120624  
EAN Number  
5702661206245

TECHNICAL DATA	TD 64 Singlepack	TD 64 Bulk Singlepack
Art. no.	120611/120612 120621/120622	120613/120614 120623/120624
CHARACTERISTICS		
Elevation range	10-50 / 45-80°	10-50 / 45-80°
G/T LNB 0.7	16dB/K	16dB/K
X-polarisation	>27dB	>27dB
Offset angle	26°	26°
FREQUENCY		
Frequency range	10.7 - 12.75GHz	10.7 - 12.75GHz
GAIN		
Gain @ 11.7 GHz	35.8dBi	35.8dBi
MECHANICAL		
Net Weight	2,300kg	2,300kg
Packing QTY	1	100
Remarks	Singlepacked	Bulk Singlepacked
Material	Galvanized Steel	Galvanized Steel
Height (cm)	65cm	65cm
Width (cm)	60cm	60cm
LNB holder	23-40mm / Black	23-40mm / Black
Mast bracket diameter	<60mm	<60mm
Reflector type	Offset	Offset
Beamwidth	3.1°	3.1°
Windload @ 42 m/s	445N	445N
Dish colour	RAL 7016 RAL 7035	RAL 7016 RAL 7035
Arm colour	raw	raw
Back structure colour	raw	raw
Dimensions carton (H x D x W)	658 x 658 x 115	658 x 658 x 115
Finish	Polyester powder coat	Polyester powder coat

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® TD 78 series single pack

high quality satellite dishes



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



**TD78 std. RAL 7016,  
singlepack - Flange nut**

Art. No. 120711

EAN Number  
5702661207112



**TD78 std. RAL 7016,  
singlepack - Wing nut**

Art. No. 120712

EAN Number  
5702661207129



**TD78 std. RAL 7035,  
singlepack - Flange nut**

Art. No. 120721

EAN Number  
5702661207211



**TD78 std. RAL 7035,  
singlepack - Wing nut**

Art. No. 120722

EAN Number  
5702661207228



Singlepacked



Bulk Singlepacked



# TRIAX® TD 78 series bulk pack

high quality satellite dishes



**TD78 std. RAL 7016,  
100 pcs. bulk pack  
Flange nut**

Art. No. 120713  
EAN Number  
5702661207136



**TD78 std. RAL 7016,  
100 pcs. bulk pack  
Wing nut**

Art. No. 120714  
EAN Number  
5702661207143



**TD78 std. RAL 7035,  
100 pcs. bulk pack  
Flange nut**

Art. No. 120723  
EAN Number  
5702661207235



**TD78 std. RAL 7035,  
100 pcs. bulk pack  
Wing nut**

Art. No. 120724  
EAN Number  
5702661207242

TECHNICAL DATA	TD 78 Singlepack	TD 78 Bulk Singlepack
Art. no.	120711/120712 120721/120722	120713/120714 120723/120724
CHARACTERISTICS		
Elevation range	10-60°	10-60°
G/T LNB 0.7	17.3dB/K	17.3dB/K
X-polarisation	>27dB	>27dB
Offset angle	26°	26°
FREQUENCY		
Frequency range	10.7 - 12.75GHz	10.7 - 12.75GHz
GAIN		
Gain @ 11.7 GHz	37.1dBi	37.1dBi
MECHANICAL		
Net Weight	4,000kg	4,000kg
Packing QTY	1	100
Remarks	Singlepacked	Bulk Singlepacked
Material	Galvanized Steel	Galvanized Steel
Height (cm)	78cm	78cm
Width (cm)	70cm	70cm
LNB holder	23-40mm / Black	23-40mm / Black
Mast bracket diameter	<60mm	<60mm
Reflector type	Offset	Offset
Beamwidth	2.6°	2.6°
Windload @ 42 m/s	619N	619N
Dish colour	RAL 7016 RAL 7035	RAL 7016 RAL 7035
Arm colour	raw	raw
Back structure colour	raw	raw
Dimensions carton (H x D x W)	773 x 778 x 126	773 x 778 x 126
Finish	Polyester powder coat	Polyester powder coat

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® TD 88 series single pack

high quality satellite dishes



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



TD88 std. RAL 7016,  
singlepack - Flange nut

Art. No. 120811

EAN Number  
5702661208119



TD88 std. RAL 7016,  
singlepack - Wing nut

Art. No. 120812

EAN Number  
5702661208126



TD88 std. RAL 7035,  
singlepack - Flange nut

Art. No. 120821

EAN Number  
5702661208218



TD88 std. RAL 7035,  
singlepack - Wing nut

Art. No. 120822

EAN Number  
5702661208225



Singlepacked



Bulk Singlepacked



# TRIAX® TD 88 series bulk pack

high quality satellite dishes



**TD88 std. RAL 7016,  
100 pcs. bulk pack  
Flange nut**

Art. No. 120813  
EAN Number  
5702661208133



**TD88 std. RAL 7035,  
100 pcs. bulk pack  
Flange nut**

Art. No. 120823  
EAN Number  
5702661208232



**TD88 std. RAL 7016,  
100 pcs. bulk pack  
Wing nut**

Art. No. 120814  
EAN Number  
5702661208140



**TD88 std. RAL 7035,  
100 pcs. bulk pack  
Wing nut**

Art. No. 120824  
EAN Number  
5702661208249

TECHNICAL DATA	TD 88 Singlepack	TD 88 Bulk Singlepack
Art. no.	120811/120812 120821/120822	120813/120814 120823/120824
CHARACTERISTICS		
Elevation range	10-60°	10-60°
G/T LNB 0.7	19.2dB/K	19.2dB/K
X-polarisation	>27dB	>27dB
Offset angle	26°	26°
FREQUENCY		
Frequency range	10.7 - 12.75GHz	10.7 - 12.75GHz
GAIN		
Gain @ 11.7 GHz	38.8dBi	38.8dBi
MECHANICAL		
Net Weight	5,800kg	5,800kg
Packing QTY	1	100
Remarks	Singlepacked	Bulk Singlepacked
Material	Galvanized Steel	Galvanized Steel
Height (cm)	95cm	95cm
Width (cm)	85cm	85cm
LNB holder	23-40mm / Black	23-40mm / Black
Mast bracket diameter	<60mm	<60mm
Reflector type	Offset	Offset
Beamwidth	2.0°	2.0°
Windload @ 42 m/s	902N	902N
Dish colour	RAL 7016 RAL 7035	RAL 7016 RAL 7035
Arm colour	raw	raw
Back structure colour	raw	raw
Dimensions carton (H x D x W)	937 x 942 x 150	937 x 942 x 150
Finish	Polyester powder coat	Polyester powder coat

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® TD 110 series single pack

high quality satellite dishes



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

- 
- LNB diametre**  
Ø25/40 mm
- DVB-S**  
Satellite
- HD**  
TV
- EASY mounting**
- Warranty**  
2 Years
- Gain**



**TD110 std RAL 7016,  
singlepack - Flange nut**

Art. No. 120111

EAN Number  
5702661201110



**TD110 std RAL 7016,  
singlepack - Wing nut**

Art. No. 120112

EAN Number  
5702661201127



**TD110 std RAL 7035,  
singlepack - Flange nut**

Art. No. 120121

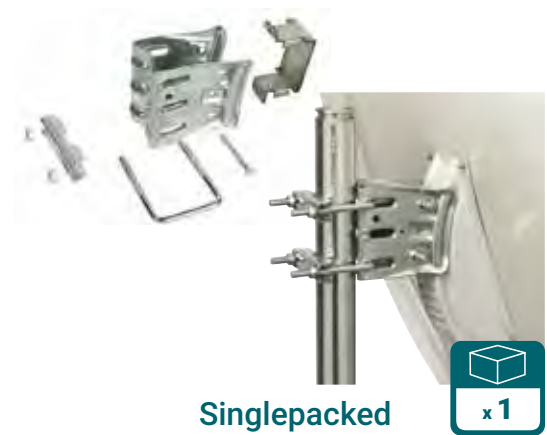
EAN Number  
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**TD110 std RAL 7035,  
singlepack - Wing nut**

Art. No. 120122

EAN Number  
5702661201226



Singlepacked



Bulk Singlepacked



# TRIAX® TD 110 series bulk pack

high quality satellite dishes



**TD110 std RAL 7016,  
50 pcs. bulk pack  
Flange nut**

Art. No. 120113  
EAN Number  
5702661201134



**TD110 std RAL 7016,  
50 pcs. bulk pack  
Wing nut**

Art. No. 120114  
EAN Number  
5702661201141



**TD110 std RAL 7035,  
50 pcs. bulk pack  
Flange nut**

Art. No. 120123  
EAN Number  
5702661201233



**TD110 std RAL 7035,  
50 pcs. bulk pack  
Wing nut**

Art. No. 120124  
EAN Number  
5702661201240

TECHNICAL DATA	TD 110 Singlepack	TD 110 Bulk Singlepack
Art. no.	120111/120112 120121/120122	120113/120114 120123/120124
CHARACTERISTICS		
Elevation range	10-60°	10-60°
G/T LNB 0.7	20.6dB/K	20.6dB/K
X-polarisation	>27dB	>27dB
Offset angle	26°	26°
FREQUENCY		
Frequency range	10.7 - 12.75GHz	10.7 - 12.75GHz
GAIN		
Gain @ 11.7 GHz	40.2dBi	40.2dBi
MECHANICAL		
Net Weight	8,900kg	8,900kg
Packing QTY	1	50
Remarks	Singlepacked	Bulk Singlepacked
Material	Galvanized Steel	Galvanized Steel
Height (cm)	105cm	105cm
Width (cm)	100cm	100cm
LNB holder	23-40mm / Black	23-40mm / Black
Mast bracket diameter	<60mm	<60mm
Reflector type	Offset	Offset
Beamwidth	1.8°	1.8°
Windload @ 42 m/s	1222N	1222N
Dish colour	RAL 7016 RAL 7035	RAL 7016 RAL 7035
Arm colour	raw	raw
Back structure colour	raw	raw
Dimensions carton (H x D x W)	1195 x 1070 x 155	1195 x 1070 x 155
Finish	Polyester powder coat	Polyester powder coat

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® DAP series

fibre glass dishes



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## DAP 610 - 60cm - RAL 1013

Art. No. 362610

EAN Number  
3700113427899



## DAP 611 - 60cm - RAL 7016

Art. No. 362611

EAN Number  
3700113427905



## DAP 710 - 70cm - RAL 1013

Art. No. 362710

EAN Number  
3700113427912



## DAP 711 - 70cm - RAL 7016

Art. No. 362711

EAN Number  
3700113427929

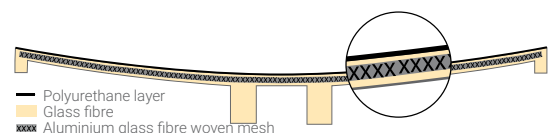


Singlepacked



### Glass fibre DAP dishes

Made of polyester reflector with glass fibre, aluminium woven mesh and polyurethane lacquer on the reflector surface – our dishes are designed to survive speeds beyond the ETSI 300784 standard.



# TRIAX® DAP series

fibre glass dishes



**DAP 910 - 90cm - RAL 1013**

Art. No. 362910

EAN Number  
3700113427936



**DAP 911 - 90cm - RAL 7016**

Art. No. 362911

EAN Number  
3700113427943

TECHNICAL DATA	DAP 610 - DAP 611	DAP 710 - DAP 711	DAP 910 - DAP 911
Art. no.	362610 362611	362710 362711	369910 362911
CHARACTERISTICS			
Elevation range	10-55°	10-55°	10-55°
G/T LNB 0.7			16.9 dB/K
X-polarisation	> 27dB	> 27dB	> 27dB
Offset angle	26°	26°	26°
FREQUENCY			
Frequency range	10.7 - 12.75GHz	10.7 - 12.75GHz	10.7 - 12.75GHz
GAIN			
Gain @ 12.625 GHz	36.0 dBi	37.3 dBi	39.7 dBi
MECHANICAL			
Net Weight	4.300kg	4.940kg	8.940kg
Packing QTY	1	1	1
Remarks	1 U-Bolt for mast mount	1 U-Bolt for mast mount	2 U-Bolt for mast mount
Material	Fibre glass	Fibre glass	Fibre glass
Height (cm)	61cm	72cm	94cm
Width (cm)	56cm	62.5cm	86cm
LNB holder	Plastic	Plastic	Plastic
Mast bracket diameter	Ø 40-60mm	Ø 40-60mm	Ø 50-60mm
Reflector type	Offset	Offset	Offset
Windload @ 42 m/s	378N	600N	846N
Dish colour	RAL 1013 RAL 7016	RAL 1013 RAL 7016	RAL 1013 RAL 7016
Arm material	Alu	Alu	Alu
Back structure colour	Galv. steel	Galv. steel	Galv. steel
Dimensions carton (H x D x W)	560 x 610	625 x 720	860 x 940
Remarks - 2nd. U bolt		Art. No. 362700	

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® SAT Fibre Optics

integrated reception systems – remove the limits from your installation



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

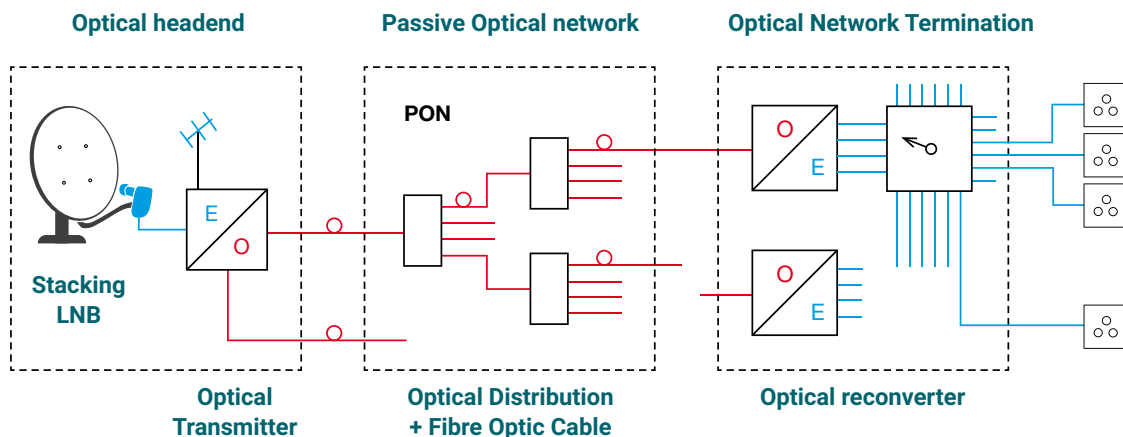


## Television at the speed of light – the transmission choice for the future

- SAT IF distribution over fibre optics can supply many households over larger distances, with feed from a central satellite dish station
- Almost lossless transmission of satellite, DVB-T and DAB signals. Attenuation per 1000 m only about 0.3 dB
- Future-proof and widest possible variety of channels
- All 4 SAT IF signals are transmitted over one optical fibre by using a Full Band Stacking LNB
- Space-saving installation – a 3 mm optical fibre replaces five 7 mm coaxial cables
- Optical fibre with galvanic isolation
- Quick and easy installation by using pre-assembled fibre optical cables





## Typical structure of optic fibre distribution system



# TRIAX<sup>®</sup> SAT Fibre Optics

optical transmission technology – the SAT-TV coverage of tomorrow

## Overview of TRIAX products for optical satellite IF transmission technology

System	Opto-LNB	Opto-IRS
Transmission capabilities SAT Terrestrial	1 SAT position/4 polarities -	1 SAT position/4 polarities FM, DTT, DAB
Technical concept	Stacking-LNB included with optical transmitter 1310 nm	Full band stacking-LNB with external optical transmitter 1310 nm
System components Stacking LNB	TOL 32, incl. integrated optical transmitter TOL 64, incl. integrated optical transmitter	TWL 01 with N connector
Optical transmitter		TOU 232 SA with 2 x opt. output 
Optical re-converter	TVC TVQ TOM	TVC TVQ TOM
Components for extension Coaxial Active Splitter		TAS 04 + TUC 02 + TOU 232SA
Opto Repeater	TOE 02 + TOU 232 SA	TOE 02 + TOU 232 SA
Optical budget (max.)	TOL 32: 19 dB TOL 64: 22 dB	2 x 19 dB
Max. optical splitting	TOL 32: 32 TOL 64: 64	2x32 = 64
- with extension 4x (TAS 04+TOU 232SA)		256
- with extension 2x16x (TOE 02+TOU 232 SA)	1024	2048
- in total (TAS 04 + TOE 02)		8192

## Key terms

### PON

The Passive Optical Network (PON) is the distribution part of the network between optical headend and optical network termination with the Opto-Re-converters. The PON consists of passive fibre optic components, such as fibre cables and optical splitters.

### Optical Split

The maximum optical split defines how many fibre lines with an optical termination unit on the optical reception side can be driven from the output of the optical transmitter. The maximum optical split of 32 for an Opto-LNB TOL 32 means that the optical signal can be split up to 32 fibre lines. Until that symmetrical split, the input signal on the optical reconverters still have a level to provide an electrical output signal in sufficient quality.

### Optical Budget

The optical budget is the most important characteristic of an optical link. It defines the upper limit of the insertion loss of a fibre link in the PON.

The insertion loss of a link is the sum of the attenuation of all single network elements like splitters, cables and connectors in an optical link of the PON.

The maximum optical budget defines also the minimum input level of the optical re-converter. The minimum input level is the optical output power of the in dBm minus the max optical budget.  
Example: the optical output power of the Opto-LNB TOL 32 is (+7 dB) and the max optical budgets is 19 dB. Thus the level of the optical signal on the input of the optical reconverter should not be less than 7 dBm - 19 dB = -12 dBm.

The optical budget in this catalogue is the fix specified max. optical link attenuation for all network design. The output power of the transmitters and the minimum input level of the reconverters are for rough information only.

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

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(CCTV)

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# TRIAX® Fibre Optical LNB

stacking LNBs with integrated optical transmitter



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& FIBRE  
RECEPTION

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OUTLETS  
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## Common features

The Opto-LNB consists of a low noise block converter and an optical transmitter. The LNB stacks the 4 SAT-IF-bands into a super broadband IF of 950...5450 MHz frequency range. Thus the 4 SAT-IF-bands can be transmitted over one fibre line.

- Two versions of optical stacking LNBs are available with optical outputs for splitting to max. 32 or 64 fibre links.

- Optical wavelength 1310 nm
- The LNB is powered through the F Type connector or via the included external power supply
- Compatible with optical re-converter TVQ (Quatro) and TVC (Quad) as well as Opto Multiswitch TOM



**TOL 32 - Optical SAT Fullband LNB, 32-way**

Art. No. 307610

EAN Number  
5702663076105



**TOL32/C120 flange, Opt. SAT Fullband LNB, 32-way**

Art. No. 307609

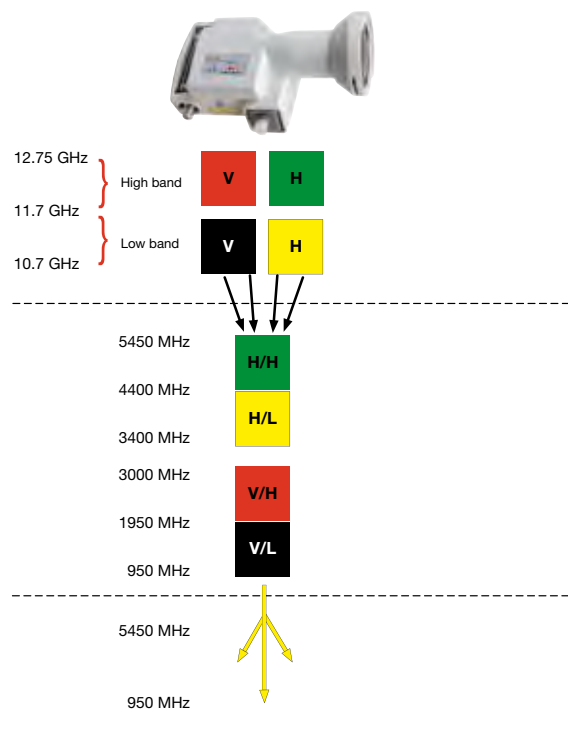
EAN Number  
5702663076099



**TOL 64 - Optical SAT Fullband LNB, 64-way**

Art. No. 307611

EAN Number  
5702663076112



# TRIAX® Fibre Optical LNB

Opto-LNB for 1 satellite position, fibre splitting 32/64, 1310 nm.

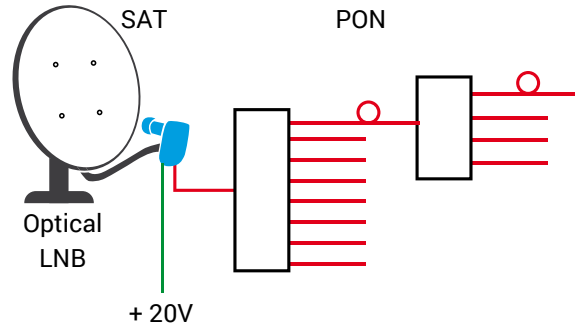


Figure: Optical LNB (LNB with FO output) for a satellite position

Type:	TOL 32 - Optical SAT Fullband LNB, 32-way	TOL32/C120 flange, Opt. SAT Fullband LNB, 32-way	TOL 64 - Optical SAT Fullband LNB, 64-way
Art. no.	307610	307609	307611
<b>OPTICAL CHARACTERISTICS</b>			
Wavelength optical	1310nm	1310nm	1310nm
Optical output level (nom. @ 25 °C)	7.0dBm	7.0dBm	8.5dBm
Optical budget for PON (max.)	19.0dB	19.0dB	22dB
Optical splitting in PON (max.)	32	32	64
<b>CHARACTERISTICS</b>			
Laser class	1M	1M	1M
Feedhorn diameter	40mm	C 120 flange	40mm
Reception frequency range	10.7 - 12.75GHz	10.7 - 12.75GHz	10.7 - 12.75GHz
Reception polarization	horizontal & vertical	horizontal & vertical	horizontal & vertical
SAT-IF vert. band, stacked VL + VH	0.950 - 3.0GHz	0.950 - 3.0GHz	0.950 - 3.0GHz
SAT-IF horiz. band, stacked HL + HH	3.4 - 5.45GHz	3.4 - 5.45GHz	3.4 - 5.45GHz
<b>GAIN</b>			
Gain	62 - 72dB	62 - 72dB	62 - 72dB
Noise figure (typical)	0.5dB	0.7dB	0.5dB
<b>OPERATIONAL</b>			
DC Operating voltage	12VDC	12VDC	20VDC
DC Current consumption (typ.)	< 450mA	< 450mA	< 300mA
External PSU	Included	Included	Included
External PSU item ID	307658 (TPS322)	307658 (TPS322)	307657 (TPS323)
Temperature - operating	-30 ... +60°C	-30 to +60°C	-30 ... +60°C
Temperature - storage	-40 ... +70°C	-40 to +70°C	-40 ... +70°C
Weather Proof Rating	IP 65	IP 65	IP 65
<b>CONNECTORS</b>			
Connector Optical	Optical - FC/PC	Optical - FC/PC	Optical - FC/PC
Connector power supply	F-female	F-female	F-female
<b>MECHANICAL</b>			
Remarks	230 VAC -> 12 VDC/0.5A	230 VAC -> 12 VDC/0.5A	100-250 VAC -> 20 VDC/1.2 A
Dimensions product (H x D x W)	173 x 108 x 68 mm	95 x 108 x 68 mm	173 x 108 x 68 mm
Packing QTY	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

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# TRIAX® Integrated Reception System

IRS 1 for 1 SAT-position + DTT/DAB/FM



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

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## Common features

- The TOU 232 kit consists of the stacking LNB TWL 01, Optical Transmitter TOU 232 SA (SAT + Terrestrial), N-cable TUC 02 (2m), TAS 04, PSU 20V, Mast mounting plate, terminator.
- The 4 SAT bands are stacked in the full-band LNB TWL 1. The SAT IF signal 950...5450 MHz is connected via the high performance coaxial N-cable TUC to the optical transmitter TOU 232 SA.
- The terrestrial signals are connected to the optical transmitter directly.
- External PSU 20V (included)
- The optical transmitter converts the SAT and Terr signal into 2 optical output signals with 1310 nm wavelength
- Each optical output can be split up to 32 ways with each output feeding a TVC 05/06 or TVQ 05/06 reconverter or a TOM multiswitch
- The optical signal can be split up to 8 x 32 ways by using the active coaxial splitter TAS 04 that can drive up to 4 x TOU 232 SA optical transmitters

### TWL 01 - SAT Fullband Stacking LNB

Art. No. 307612  
EAN Number  
5702663076129



### TOU 232 - Optical Fullband LNB Kit, SAT+TER

Art. No. 307614  
EAN Number  
5702663076143



### TOU 232 SA - Optical SAT-Fullband transmitter

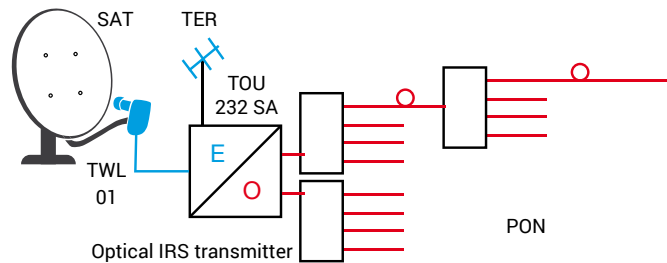
Art. No. 307615  
EAN Number  
5702663076150





# TRIAX® Integrated Reception System

IRS 1 for 1 SAT-position + DTT/DAB/FM



**Figure 3:**  
Optical IRS for a satellite position plus terrestrial

Type:	TWL 01 - SAT Fullband Stacking LNB	TOU 232 - Optical Fullband LNB Kit, SAT+TER	TOU 232 SA - Optical SAT-Fullband transmitter
Art. no.	307612	307614	307615
<b>OPTICAL CHARACTERISTICS</b>			
Wavelength optical		1310nm	1310nm
Optical output level (nom. @ 25 °C)		2 x 7.0dBm	2 x 7.0dBm
Optical budget for PON (max.)		2 x 19.0dB	2 x 19.0dB
Optical splitting in PON (max.)		2 x 32	2 x 32
<b>CHARACTERISTICS</b>			
Laser class		1M	1M
Feedhorn diameter	40mm	40mm	
Reception frequency range	10,7 - 12,75GHz	10.7 - 12.75GHz	
Reception polarization	horizontal & vertical	horizontal & vertical	
SAT-IF, full stacked on coax output	0.95 - 5.450GHz	0.95 - 5.450GHz	
SAT-IF vert. band, stacked VL + VH	0.950 - 3.0GHz	0.950 - 3.0GHz	
SAT-IF hor. band, stacked HL + HH	3.4 - 5.45GHz	3.4 - 5.45GHz	
<b>FREQUENCY</b>			
TER input frequency range DTT		470 - 854MHz	470 - 854MHz
TER input frequency range DAB		213 - 230MHz	213 - 230MHz
TER input frequency range FM		87 - 108MHz	87 - 108MHz
<b>GAIN</b>			
Gain	62 - 72dB	62 - 72dB	
Noise figure (typical)	0.5dB	0.5dB	
TER gain flatness		< 4dB	< 4dB
TER noise figure		< 10dB	< 10dB
<b>OPERATIONAL</b>			
AC Supply voltage		100...250VAC	100...250VAC
DC Operating voltage		20VDC	20VDC
DC Current consumption (typ.)	< 450mA	< 500(incl. LNB)mA	< 500(incl. LNB)mA
External PSU		Included	Included
External PSU item ID		307657 (TPS323)	307657 (TPS323)
Temperature - operating	-30 to +60°C	See kit components	-10 to +50°C
Temperature - storage	-40 to +70°C	See kit components	-30 to +60°C
Weather Proof Rating	IP 65	See kit components	IP 65
<b>CONNECTORS</b>			
Connector Optical		Optical - FC/PC	Optical - FC/PC
Connector SAT-IF	Coaxial N (50 Ohm)	Coaxial N (50 Ohm)	Coaxial N (50 Ohm)
RF inputs		1 x SAT-IF + 1 x TER	1 x SAT-IF + 1 x TER
Connector power supply	N, through SAT-IF out	F-female	F-female
<b>MECHANICAL</b>			
Remote power feeding	-	11.5 VDC/(80 mA) - (LNB feed voltage) 6.2 VDC TER feed - (through TER input)	
Packing QTY	1	1	1
Dimensions product (H x D x W)		See kit components	140 x 145 x 30 mm

\*) 6 transponders of digital multiplexes

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

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CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

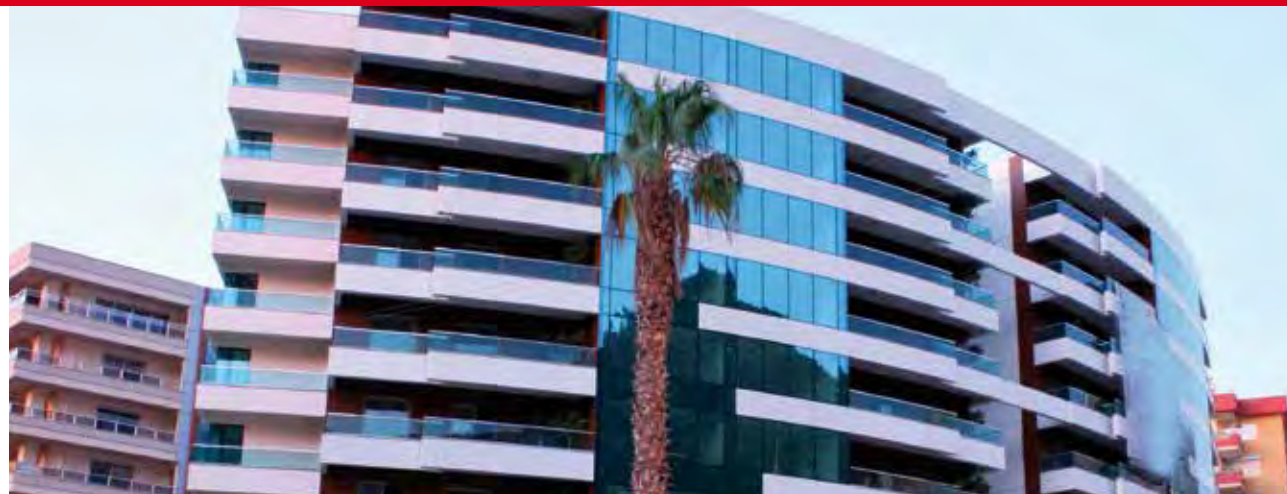
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(CCTV)

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# TRIAX® TAS 04

Expanding the fibre network on the opto-transmitter side



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RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

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(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

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(CCTV)

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## Common features

TAS 04 is an active coaxial splitter driving up to four TOU 232 SA optical transmitters, connected by the TUC 002 N-cable (not supplied)

- Power is supplied via the coaxial cable TUC from the IRS transmitter TOU.
- The optical splitting of an IRS 1 system can be expanded up to  $4 \times (2 \times 32) = 256$  by using the TAS 04 connected to 4 x optical transmitter TOU 232 SA.
- The TAS 04 distributor is connected via TUC coaxial cables with the TWL 01 stacking LNB and the TOU IRS-transmitters.
- Active splitter with no insertion loss.



## TAS 04 - Active 4-way coax splitter SAT Fullband

Art. No. 307616

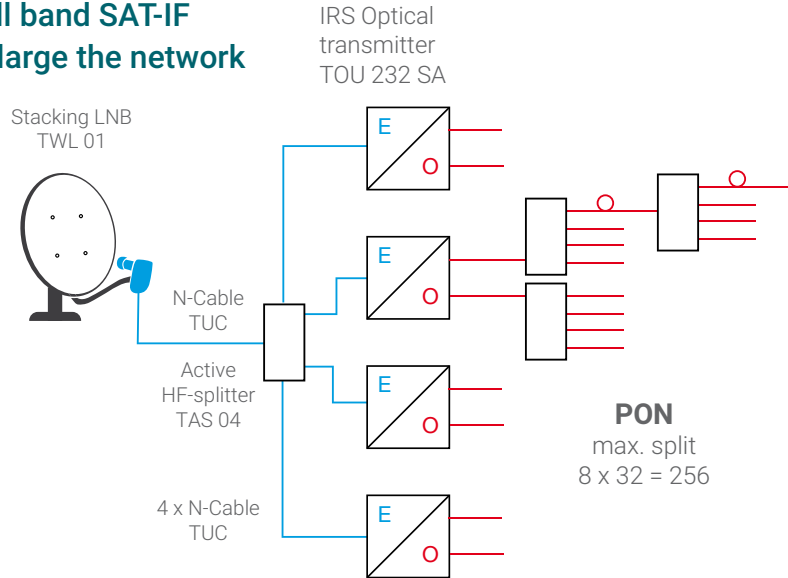
EAN Number  
5702663076167

Type:	TAS 04 - Active 4-way coax splitter SAT Fullband
Art. no.	307616
GAIN	
Gain	4dB
ELECTRICAL	
Number of RF outputs	4 x SAT-IF
OPERATIONAL	
Temperature - operating	-10 to +50°C
Temperature - storage	-30 to +60°C
CONNECTORS	
Connector SAT-IF	Coaxial N (50 Ohm)
RF inputs	1 x SAT-IF
Connector power supply	N, through SAT-IF out
MECHANICAL	
Packing QTY	1
Dimensions product (H x D x W)	110 x 188 x 38 mm

# TRIAX® N-connector

4-way fullband coax splitter

## Active splitting of the full band SAT-IF signal with TAS 04 to enlarge the network



**TUC 001 - coax cable - N-connector, 0.5m**

Art. No. 307601

EAN Number  
5702663076013



**TUC 002 - coax cable - N-connector, 2.0m**

Art. No. 307602

EAN Number  
5702663076020



**TUC 003 - coax cable - N-connector, 3.0m**

Art. No. 307603

EAN Number  
5702663076037



**TUC 005 - coax cable - N-connector, 5.0m**

Art. No. 307604

EAN Number  
5702663076044



**TUC 010 - coax cable - N-connector, 10.0m**

Art. No. 307605

EAN Number  
5702663076051

Type:	TUC 001	TUC 002	TUC 003	TUC 005	TUC 010
	N-cable 0,5m	N connector	N connector	N connector	N connector
Art. no.	307601	307602	307603	307604	307605
<b>CONNECTORS</b>					
Connector Type	N-connector	N-connector	N-connector	N-connector	N-connector
<b>MECHANICAL</b>					
Diameter cable (mm)	10mm	10mm	10mm	10mm	10mm
Length (m)	0.5m	2.0m	3.0m	5.0m	10.0m

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

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# TRIAX® Integrated Reception System

Expanding the fibre network by TOE 02 opto-repeater



TERRESTRIAL  
RECEPTION

SATELLITE  
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RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

<b>4K</b> Ultra HD	<b>EASY</b> mounting	<b>x 1</b>	<b>Warranty</b> 2 Years
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## Common features

The TOE 02 is designed to relaunch the fibre system when the PON cannot be split any further.

The TOE 02 converts the optical signal from the Opto-LNB or IRS1 transmitter into electrical signals for feeding another optical transmitter TOU 232 SA.

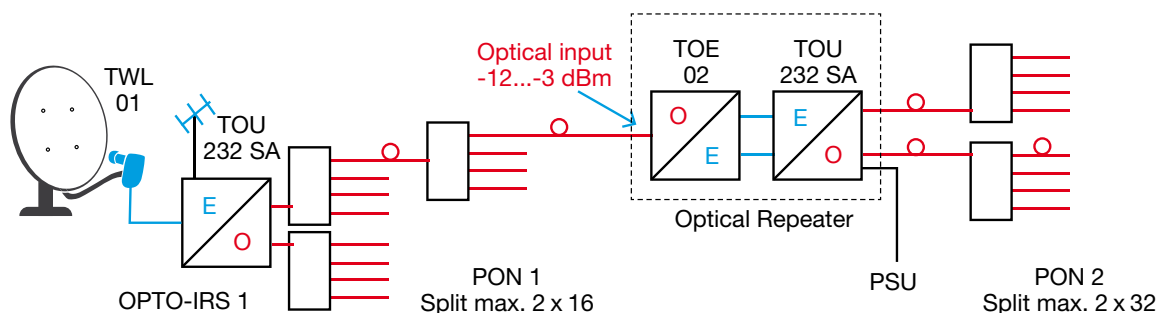
- The split of the passive optical network (PON) before the repeater should not be more than 16.
- Expands the optical split of a fibre line up to 2x32.

- Maximum of optical split in an IRS 1: 2048 = (TOU 232=2x16) x (Repeater TOE 02+TOU 232SA=2x32).
- Additional split by factor 4 by use of the TAS 04 active coaxial splitter for driving more IRS1 transmitters (TOU 232SA) can expand the optical split up to 8192.
- Power supply is carried over the coaxial patch cable TUC 02 from the TOU 232 SA.

### TOE 02, Opto-to-Electrical Repeater

Art. No. 307694

EAN Number  
5702663076945



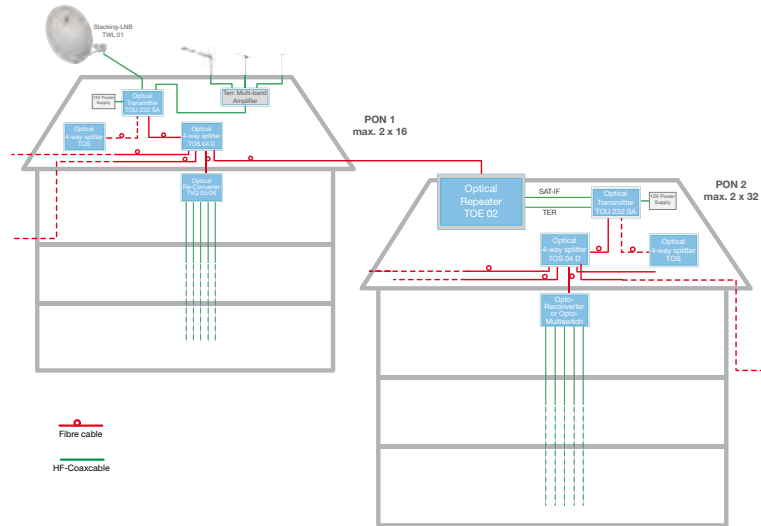
# TRIAX® Integrated Reception System

installation example with opto repeater TOE 02 + TOU 232 SA

## Expanding the Fibre network by Opto-Repeater for 1xSAT + DTT/DAB/FM

### Installation tips

- We recommend using a selective multi-band amplifier like the GNS or TMB to manage the terrestrial signals.
- The network can be extended for a second SAT position by installation of an Opto-LNB with an additional fibre distribution network in parallel.



Type:	TOE 02, Opto-to-Electrical Repeater
Art. no.	307694
<b>OPTICAL CHARACTERISTICS</b>	
Optical input power	-12...-3dBm
Wavelength	1310 / 1550 nm
<b>CHARACTERISTICS</b>	
Output level SAT	80dBμV
Output level DTT (DAB level -14 dB respect to DTT)	87dBμV
SAT-IF range, full stacked on coax output	0.95...5.45GHz
Flatness across band	4 dB
<b>FREQUENCY</b>	
RF frequency range, horizontal polarities	3.4...5.45GHz
RF frequency range, vertical polarities	0.95...3.0GHz
TER frequency range DTT	470...854MHz
TER frequency range DAB	174...240MHz
TER frequency range FM	87...108MHz
<b>RETURN LOSS</b>	
Return Loss	>9.0dB
<b>ELECTRICAL</b>	
Impedance	75 (TER) / 50(SAT)Ω
<b>OPERATIONAL</b>	
DC Operating voltage	10..24VDC
DC Current consumption (typ.)	65@20VDCmA
External PSU	Optional
External PSU item ID	307657 (TPS323-20Vdc/1.2A)
Temperature - operating	-30...+50°C
<b>CONNECTORS</b>	
Input connector	FC/PC - DC: F:female
Output connectors	SAT-IF: N-female, TER: F-female
Connector power supply	F-female
<b>MECHANICAL</b>	
Packing QTY	1
Dimensions product (H x D x W)	160x167x30

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
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INHOUSE  
CONNECTIVITY

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INSTRUMENTS  
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# TRIAX® Opto-Reconverters

TVC Quad/TVQ Quatro Optical reconverters for Opto-LNB and IRS 1



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

**4K**  
Ultra HD

**EASY**  
mounting

x 1

**Warranty**  
2 Years

## Common features

The TVC and TVQ Virtual Optical Receiver Nodes are optical-to-coax converters which convert frequency stacked optical signals from an Opto-LNB TOL or a TOU 232-Kit (IRS 1) unit into a legacy universal single coax signal. The converters also provide a coax DTT/DAB/FM signal diplexed onto each output (TVC), or onto a separate output (TVQ), when it is inserted into the TOU 232 SA optical transmitter.

- Compatible with optical LNB TOL 32/64 and optical transmitter TOU 232 kit.
- Two LED indicators display operation status.

- Built in AGC allowing a wide dynamic range of optical signals without impact to output level and quality.
- TVQ 06 output level adjustable by 0, -5, -10 dB.
- Power supply via RF output by SAT receiver (TVC) or by multiswitch (TVQ).
- Optional external power supply for continuous operation available: TPS 323 PSU.
- Attention: please insert an attenuator TFA (5/10/15 dB) if the optical attenuation of the passive optical network (PON) is less than 10 dB.



### TVC 06 - Mini Re-converter Quad

Art. No. 307641

EAN Number  
5702663076419



### TVQ 06 - Mini Re-converter Quatro

Art. No. 307640

EAN Number  
5702663076402



### TVQ 05, Re-converter Quatro

Art. No. 307629

EAN Number  
5702663076297

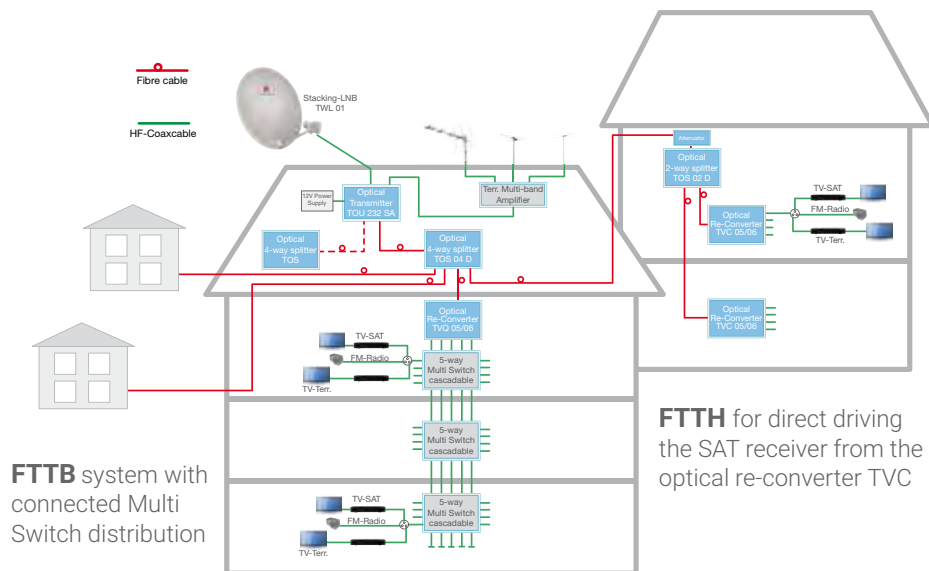


# TRIAX<sup>®</sup> Opto-Reconverters

TVC Quad/TVQ Quatro

## Installation tips

- Terrestrial reception should be implemented by a multi-band amplifier from the GNS or TMB series.
- The network can be extended for a second SAT position by installation of an Opto-LNB with an additional fibre distribution network in parallel.



Type:	TVC 06 - Mini Re-converter Quad	TVQ 06 - Mini Re-converter Quatro	TVQ 05, Re-converter Quatro
Art. no.	307641	307640	307629
<b>OPTICAL CHARACTERISTICS</b>			
Wavelength optical	1310/1550nm	1310/1550nm	1310/1550nm
Optical budget for PON (max.)	TOL 32, TOU 232: 19dBm TOL 64: 22dBm	TOL 32, TOU 232: 19 dBm TOL 64: 22dBm	TOL 32, TOU 232: 19 dBm TOL 64: 22dBm
Optical splitting in PON (max.)	TOL 32, TOU 232: 32 TOL 64: 64	TOL 32, TOU 232: 32 TOL 64: 64	
Optical input power	TOL32,TOU232: -12...0dBm TOL 64: -13.5...0dBm	TOL32,TOU232: -12...0dBm TOL 64: -13.5...0dBm	TOL32, TOU232: -12...0dBm TOL64: -13.5...0dBm
<b>CHARACTERISTICS</b>			
Output level SAT	75dB $\mu$ V	79, switchable to 74 or 69dB $\mu$ V	70dB $\mu$ V
Output level TER	65dB $\mu$ V	75dB $\mu$ V	68dB $\mu$ V
<b>FREQUENCY</b>			
RF freq. range, horizontal polarities	3.4...5.45GHz	3.4...5.45GHz	3.4...5.45GHz
RF freq. range, vertical polarities	0.95...3.0GHz	0.95...3.0GHz	0.95...3.0GHz
TER frequency range DTT	470...854MHz	470...854MHz	470...854MHz
TER frequency range DAB	174...241MHz	174...240MHz	174...240MHz
TER frequency range FM	88...108MHz	87...108MHz	87...108MHz
<b>RETURN LOSS</b>			
Return Loss	10dB	10dB	10dB
<b>ELECTRICAL</b>			
Impedance	75 $\Omega$	75 $\Omega$	75 $\Omega$
<b>OPERATIONAL</b>			
DC Operating voltage	10...20VDC	10...20VDC	10...20VDC
DC Current consumption (typ.)	125 (225mA@10V)mA	<400mA	<220@10VDCmA
External PSU	Optional	Optional	Optional
External PSU item ID	307657 (TPS323)	307657 (TPS323)	307657 (TPS323)
Temperature - operating	-10...+60°C	-15...+60°C	-15...+60°C
<b>CONNECTORS</b>			
Input connector	FC/PC	FC/PC	
Output connectors	4xF (4 x SAT+TER)	5xF (4 x SAT/1 x TER)	5xF (4 x SAT/1 x TER)
<b>MECHANICAL</b>			
Packing QTY	1	1	1
Dimensions product (H x D x W)	128x94x27	97x61x26	110x136x50

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® Opto-Multiswitch

TOM combines the optical reconverter with an integrated multiswitch.



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

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APPENDIX



## Common features

The Opto Multiswitch features a built-in optical-to-coaxial reconverter. All SAT-IF bands along with Terrestrial signals are available on every output.

The Opto Switch Master is the standalone base unit for the reception of one SAT position and terrestrial broadcast signals. Two versions are available with 8 or 16 outputs.

Reception can be extended to 2, 3 or 4 satellites by plugging additional Opto Switch Slave units into the Opto Switch Master, with additional parallel fibre infrastructure required.

- Compatible with the Optical LNB TOL 32 / TOL 64 or Optical IRS 1 which includes TER (DTT, DAB, FM)
- Very compact form factor
- Ideal for SAT FTTH/FTTB networks: easy and space-saving installation with no coaxial patch cables between reconverter and multi-switch
- Easy upgrade for reception of more than one satellite position.
- Desk top PSU for Master



**TOM 08 M, Opto Switch Master 8 way**

Art. No. 307697

EAN Number  
5702663076976



**TOM 16 M, Opto Switch Master 16 way**

Art. No. 307696

EAN Number  
5702663076969



**TOM 08 S, Opto Switch Slave 8 way**

Art. No. 307699

EAN Number  
5702663076990

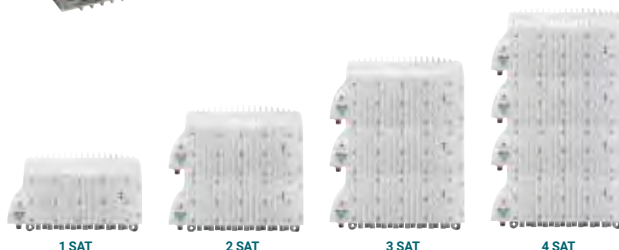


**TOM 16 S, Opto Switch Slave 16 way**

Art. No. 307698

EAN Number  
5702663076983

Switch Slaves are plugged on master

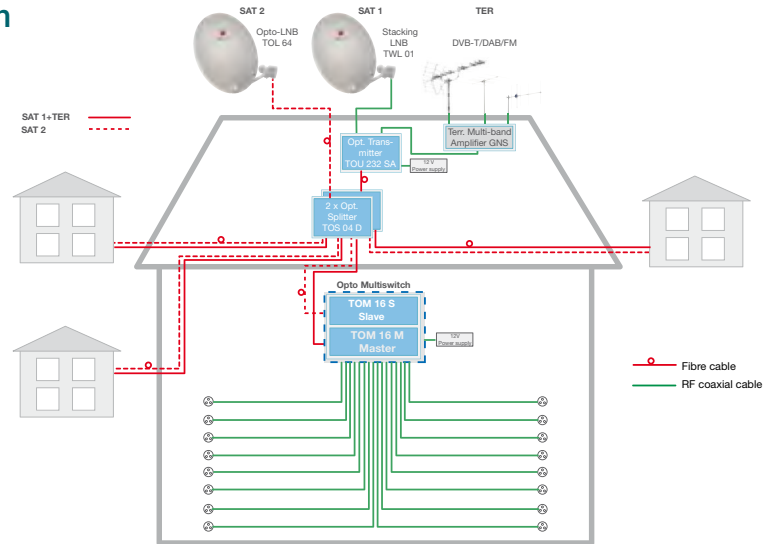




# TRIAx® Opto-Multiswitch

## SwitchMaster and SwitchSlave

### System application Opto-Multiswitch for optical distribution of 2xSAT + DTT/DVB/FM



Type:	TOM 08 M, Opto SwitchMaster 8 way	TOM 08 S, Opto SwitchSlave 8 way	TOM 16 M, Opto SwitchMaster 16 way	TOM 16 S, Opto SwitchSlave 16 way
Art. no.	307697	307699	307696	307698
<b>OPTICAL CHARACTERISTICS</b>				
Wavelength	1100...1650nm	1100...1650nm	1100...1650nm	1100...1650nm
Optical input power	-12...-3 (@TOL32, TOU232)	-12...-3 (@TOL32, TOU232)	-12...-3 (@TOL32, TOU232)	-12...-3 (@TOL32, TOU232)
	-14...-3(@TOL64)dBm	-14...-3(@TOL64)dBm	-14...-3(@TOL64)dBm	-14...-3(@TOL64)dBm
<b>CHARACTERISTICS</b>				
Output level SAT	75dBµV	dBµV	75dBµV	dBµV
Output level TER	69dBµV	dBµV	69dBµV	dBµV
<b>FREQUENCY</b>				
RF frequency range, horizontal polarities	3.4...5.45GHz	3.4...5.45GHz	3.4...5.45GHz	3.4...5.45GHz
RF frequency range, vertical polarities	0.95...3.0GHz	0.95...3.0GHz	0.95...3.0GHz	0.95...3.0GHz
TER frequency range DTT	470...854MHz	MHz	470...854MHz	MHz
TER frequency range DAB	174...241MHz	MHz	174...241MHz	MHz
TER frequency range FM	88...108MHz	MHz	88...108MHz	MHz
<b>RETURN LOSS</b>				
Return Loss	>10dB	>10dB	>10dB	>10dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
AC Supply voltage	100...240VAC		100...240VAC	
DC Operating voltage	12VDC	From Master	12VDC	From Master
DC Current consumption (typ.)	1200mA		1200mA	
External PSU	Included		Included	
Temperature - operating	-20...+50°C	-20...+50°C	-20...+50°C	-20...+50°C
<b>CONNECTORS</b>				
Connector IN	Optical - FC/PC	Optical - FC/PC	Optical - FC/PC	Optical - FC/PC
Connectors OUT	8 x F-f		16 x F-f	
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	227x138x67.5mm	227x95x67.5mm	227x138x67.5mm	227x95x67.5mm

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> Optical Couplers

passive balanced couplers for optical network



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

TOS Optical passive balanced couplers

- For single mode fibre systems
- Excellent mechanical stability
- Low insertion loss

- Coupler Technology
  - FBT (Fused Biconical Tapered)
  - PLC (Planar Lightwave Circuit)



### TOS 02D - 2-way FC/PC

Art. No. 307636  
EAN Number  
5702663076365



### TOS 08F, 8-way FC/PC

Art. No. 307737  
EAN Number  
5702663077379



### TOS 03D, 3-way FC/PC

Art. No. 307637  
EAN Number  
5702663076372



### TOS 16F, 16-way FC/PC

Art. No. 307734  
EAN Number  
5702663077348



### TOS 04F, 4-way FC/PC

Art. No. 307736  
EAN Number  
5702663077362



### TOS 32F, 32-way FC/PC

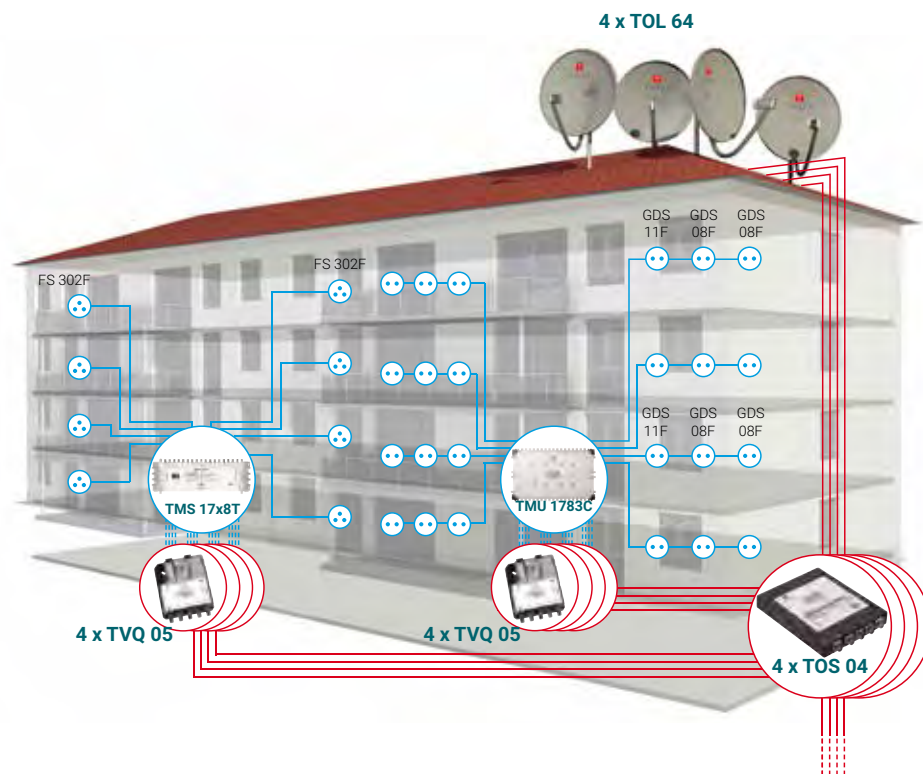
Art. No. 307735  
EAN Number  
5702663077355

# TRIAX<sup>®</sup> Optical Couplers

passive balanced couplers with FC/PC connectors

## Installation example

- Full SAT reception of 4 SAT positions (16 SAT-bands) for every resident from one central satellite dish station
- Each SAT position needs one Opto-LNB connected with a separate passive optical network (PON)
- Scalable from small to very large SMATV networks
- Cost efficient installation and operation
- FTTB combined with
  - Multi-Switches TMS 17xxC or TMS 17xxT
  - Multi-SCR Switches TMM 17x3C
- Terrestrial reception can be implemented by replacing the Opto-LNB with a TOU 232 kit (IRS1)



Type:	TOS 02D	TOS 03D	TOS 04F	TOS 08F	TOS 16F	TOS 32F
Art. no.	2-way couplers 307636	3-way couplers 307637	4-way couplers 307736	8-way couplers 307737	16-way couplers 307734	32-way couplers 307735
<b>CHARACTERISTICS</b>						
Coupling Ratio	50/50%	33.3/33.3/33.3%	4x25%	8x12.5%	16x6.25%	32x3.125%
Technology	OPTO balanced FBT	OPTO balanced FBT	OPTO balanced PLC	OPTO balanced PLC	OPTO balanced PLC	OPTO balanced PLC
Wavelength	1310/1550nm	1310/1550nm	1260...1650nm	1260...1650nm	1260...1650nm	1260...1650nm
Wavelength bandwidth	± 40MHz	± 40MHz	MHz	MHz	MHz	MHz
<b>LOSS</b>						
Through loss	3.5dB	5.6dB	7.2dB	10.2dB	13.6dB	16.7dB
<b>CONNECTORS</b>						
Connector	Optical - FC/PC					
Number of inputs	1	1	1	1	1	1
Number of outputs	2	3	4	8	16	32
<b>MECHANICAL</b>						
Dimensions product (H x D x W)	150x20x-114mm	150x20x-114mm	150x20x-114mm	150x20x-114mm	155x50x-175mm	155x50x-175mm
Packing QTY	1	1	1	1	1	1

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX<sup>®</sup> Optical Couplers

passive balanced couplers with SC/APC connectors



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

TOS Optical passive balanced couplers

- For single mode fibre systems
- Excellent mechanical stability
- Low insertion loss

- Coupler Technology
  - FBT (Fused Biconical Tapered)
  - PLC (Planar Lightwave Circuit)



### TOS 02S, 2-way SC/APC

Art. No. 307744

EAN Number  
5702663077447



### TOS 16S, 16-way SC/APC

Art. No. 307747

EAN Number  
5702663077478



### TOS 04S, 4-way SC/APC

Art. No. 307738

EAN Number  
5702663077386



### TOS 32S, 32-way SC/APC

Art. No. 307748

EAN Number  
5702663077485



### TOS 08S, 8-way SC/APC

Art. No. 307739

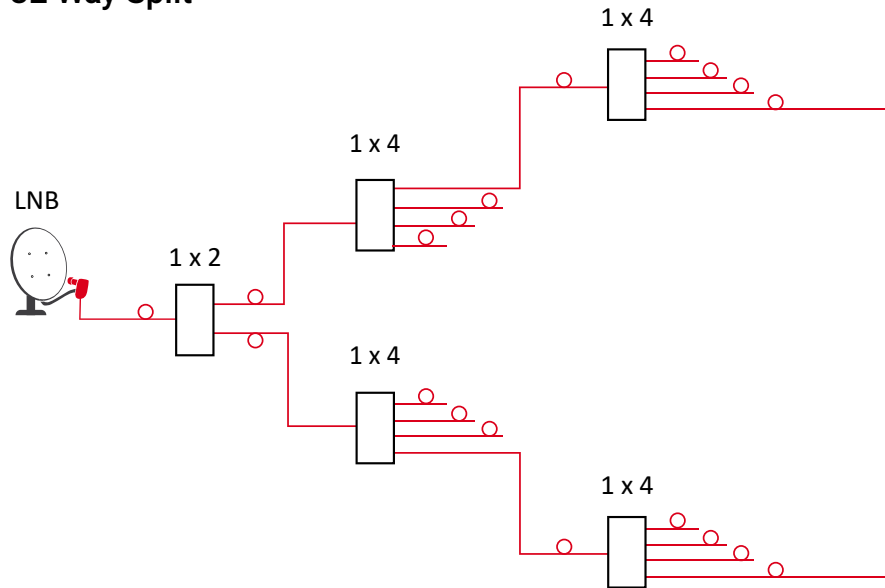
EAN Number  
5702663077393

# TRIAX<sup>®</sup> Optical Couplers

passive balanced couplers with SC/APC connectors

## Expanding the fibre network on the Opto-transmitter side

### 32 Way Split



Type:	TOS 02S, 2-way SC/APC	TOS 04S, 4-way SC/APC	TOS 08S, 8-way SC/APC	TOS 16S, 16-way SC/APC	TOS 32S, 32-way SC/APC
Art. no.	307744	307738	307739	307747	307748
<b>CHARACTERISTICS</b>					
Coupling Ratio	50/50%	4x25%	8x12.5%	16x6.25%	32x3.125%
Technology	OPTO balanced FBT	OPTO balanced PLC	OPTO balanced PLC	OPTO balanced PLC	OPTO balanced PLC
Wavelength	1310/1550nm	1260...1650nm	1260...1650nm	1260...1650nm	1260...1650nm
Wavelength bandwidth	± 40MHz				
<b>LOSS</b>					
Insertion loss (typ.)	3.6dB	7.2dB	10.2dB	13.6dB	16.7dB
<b>CONNECTORS</b>					
Connector	Optical - SC/APC	Optical - SC/APC	Optical - SC/APC	Optical - SC/APC	Optical - SC/APC
Number of inputs	1	1	1	1	1
Number of outputs	2	4	8	16	32
<b>MECHANICAL</b>					
Dimensions product (HxDxW)	100x20x100mm	100x20x100mm	100x20x100mm	155x50x175mm	155x50x175mm
Packing QTY	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> Optical Couplers

passive unbalanced couplers with FC/PC connectors



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

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(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

**4K**  
Ultra HD

**EASY**  
mounting

x 1

**Warranty**  
2 Years

## TOS 02D - 1090 - FC/PC

Art. No. 307730

EAN Number  
5702663077300



## TOS 02D - 3070 - FC/PC

Art. No. 307732

EAN Number  
5702663077324



## TOS 02D - 2080 - FC/PC

Art. No. 307731

EAN Number  
5702663077317



## TOS 02D - 4060 - FC/PC

Art. No. 307733

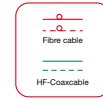
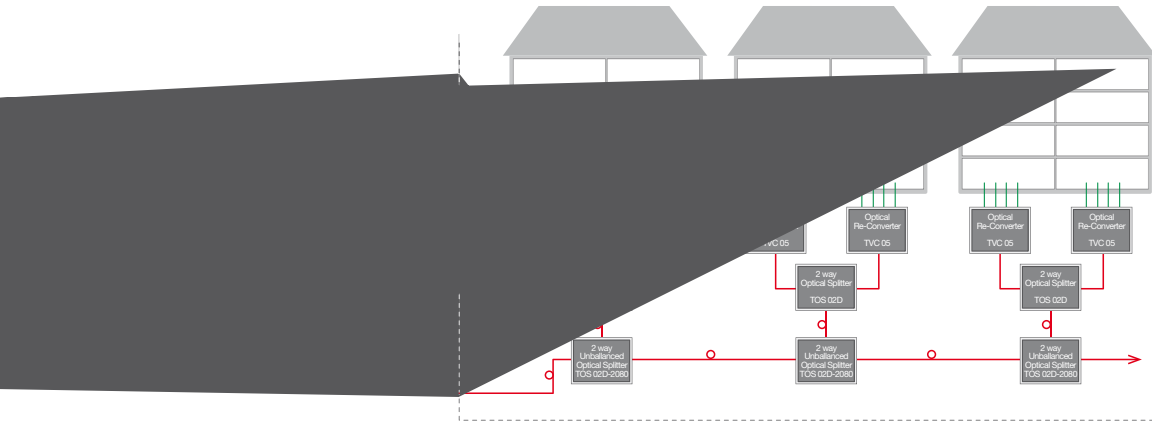
EAN Number  
5702663077331



Type:	TOS 02D 1090 - FC/PC	TOS 02D - 2080 - FC/PC	TOS 02D - 3070 - FC/PC	TOS 02D - 4060 - FC/PC
Art. no.	307730	307731	307732	307733
<b>CHARACTERISTICS</b>				
Coupling Ratio	10/90%	20/80%	30/70%	40/60%
Technology	OPTO unbalanced FBT			
Wavelength	1310/1550nm			
Wavelength bandwidth	± 40MHz			
<b>LOSS</b>				
Insertion loss (typ.)	10.9/0.9dB	7.6/1.5dB	5.8/2.1dB	4.4/2.6dB
<b>CONNECTORS</b>				
Connector	FC/PC			
Number of inputs	1			
Number of outputs	2			
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	150x20x114mm			
Packing QTY	1			

# TRIAx<sup>®</sup> Optical Couplers

passive unbalanced couplers with SC/APC connectors



## TOS 02S - 1090 - SC/APC

Art. No. 307740

EAN Number  
5702663077409



## TOS 02S - 3070 - SC/APC

Art. No. 307742

EAN Number  
5702663077423



## TOS 02S - 2080 - SC/APC

Art. No. 307741

EAN Number  
5702663077416



## TOS 02S - 4060 - SC/APC

Art. No. 307743

EAN Number  
5702663077430

Type:	TOS 02S - 1090 - SC/APC	TOS 02S - 2080 - SC/APC	TOS 02S - 3070 - SC/APC	TOS 02S - 4060 - SC/APC
Art. no.	307740	307741	307742	307743
<b>ORDER INFORMATION</b>				
EAN Number	5702663077409	5702663077416	5702663077423	5702663077430
<b>CHARACTERISTICS</b>				
Coupling Ratio	10/90%	20/80%	30/70%	40/60%
Technology	OPTO unbalanced FBT			
Wavelength	1310/1550nm	1310/1550nm	1310/1550nm	1310/1550nm
Wavelength bandwidth	± 40MHz	± 40MHz	± 40MHz	± 40MHz
<b>LOSS</b>				
Insertion loss (typ.)	10.9/0.9dB	7.6/1.5dB	5.8/2.1dB	4.4/2.6dB
<b>CONNECTORS</b>				
Connector	SC/APC	SC/APC	SC/APC	SC/APC
Number of inputs	1	1	1	1
Number of outputs	2	2	2	2
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	150x20x114mm	150x20x114mm	150x20x114mm	150x20x114mm
Packing QTY	1	1	1	1

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® Fibre Optic Accessories

TFC pre-assembled terminated fibre cables



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

Pre-assembled with optical connectors on both sides for easy and reliable installation

- Low attenuation of 0.3 dB per km
- Single-mode fibre G 657A, 9/125 µm

TFC version, suitable for indoor installation

- Crush protection – flexible steel-reinforced intermediate coat protects against pressure loads
- 4 aramid strands for strain relief when laying, maximum tension on the cable: permanently 80N, briefly 100N.



**TFC 01 - Optical patch cable  
- FC/PC**

Art. No. 307661  
EAN Number  
5702663076617



**TFC 10 - Optical patch cable  
- FC/PC**

Art. No. 307664  
EAN Number  
5702663076648



**TFC 03 - Optical patch cable  
- FC/PC**

Art. No. 307662  
EAN Number  
5702663076624



**TFC 15 - Optical patch cable  
- FC/PC**

Art. No. 307665  
EAN Number  
5702663076655



**TFC 05 - Optical patch cable  
- FC/PC**

Art. No. 307663  
EAN Number  
5702663076631



**TFC 20 - Optical patch cable  
- FC/PC**

Art. No. 307666  
EAN Number  
5702663076662



# TRIAX® Optical Cables

optical patch cables



## TFC 30 - Optical patch cable - FC/PC

Art. No. 307667  
EAN Number 5702663076679



## TFC 40 - Optical patch cable - FC/PC

Art. No. 307668  
EAN Number 5702663076686



## TFC 50 - Optical patch cable - FC/PC

Art. No. 307669  
EAN Number 5702663076693



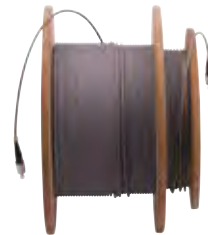
## TFC 75 - Optical patch cable - FC/PC

Art. No. 307670  
EAN Number 5702663076709



## TFC 100 - Optical patch cable - FC/PC

Art. No. 307671  
EAN Number 5702663076716



## TFC 150 Optical patch cable - FC/PC

Art. No. 307660  
EAN Number 5702663076600



## TFC 200 - Optical patch cable - FC/PC

Art. No. 307672  
EAN Number 5702663076723



## TFC 500 - Optical patch cable - FC/PC

Art. No. 307675  
EAN Number 5702663076754

Type:	TFC 01 FC/PC	TFC 03 FC/PC	TFC 05 FC/PC	TFC 10 FC/PC	TFC 15 FC/PC	TFC 20 FC/PC	TFC 30 FC/PC
Art. no.	307661	307662	307663	307664	307665	307666	307667
OPTICAL CHARACTERISTICS							
Optical Attenuation 1310/1550 nm	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km
MECHANICAL							
Cable length	1m	3m	5m	10m	15m	20m	30m
Colour	Grey	Grey	Grey	Grey	Grey	Grey	Grey

Type:	TFC 40 FC/PC	TFC 50 FC/PC	TFC 75 FC/PC	TFC 100 FC/PC	TFC 150 FC/PC	TFC 200 FC/PC	TFC 500 FC/PC
Art. no.	307668	307669	307670	307671	307660	307672	307675
OPTICAL CHARACTERISTICS							
Optical Attenuation 1310/1550 nm	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km
MECHANICAL							
Cable length	40m	50m	75m	100m	150m	200m	500m
Colour	Grey	Grey	Grey	Grey	Grey	Grey	Grey

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX<sup>®</sup> Optical Cables

fibre burial cable and patch cable for optical networks



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

Pre-assembled with optical connectors on both sides for easy and reliable installation

- Low attenuation of 0.3 dB per km
- Single-mode fibre G 657A, 9/125 µm

TDB version for burial installation.

Extremely resistant PE sheath, UV-resistant

- Aramid reinforced inserts allow high max. tensile forces: 1500N briefly, permanently 600N
- Gel insert to protect from moisture
- Without steel reinforcement



### TDB 050 Fibre burial cable - twin core

Art. No. 307760

EAN Number  
5702663077607



### TDB 200 Fibre burial cable - twin core

Art. No. 307762

EAN Number  
5702663077621



### TDB 100 Fibre burial cable - twin core

Art. No. 307761

EAN Number  
5702663077614



### TDB 500 Fibre burial cable - twin core

Art. No. 307763

EAN Number  
5702663077638

Type:	TDB 050 Fibre burial cable - twin core	TDB 100 Fibre burial cable - twin core	TDB 200 Fibre burial cable - twin core	TDB 500 Fibre burial cable - twin core
Art. no.	307760	307761	307762	307763
LOSS				
Optical Attenuation 1310/1550 nm	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km	0.35/0.25 dB/km
CONNECTORS				
Connector Optical MECHANICAL	FC/PC	FC/PC	FC/PC	FC/PC
Jacket				
	Extremely resistant PE sheath, UV-resistant			
Diameter (mm)	5.9mm	5.9mm	5.9mm	5.9mm
Length (m)	50m	100m	200m	500m

# TRIAX® Optical Cables

adapter cables and pigtails



**Optical patch cable  
SC/APC - SC/PC**

Art. No. 307577

EAN Number  
5702663075771



**Optical patch cable  
FC/PC - SC/PC**

Art. No. 307578

EAN Number  
5702663075788



**Optical patch cable  
SC/APC - FC/PC**

Art. No. 307579

EAN Number  
5702663075795



**Optical patch cable,  
Steel reinforced - Ø 3 mm  
- SC/APC - SC/APC**

Art. No. 307580

EAN Number  
5702663075801



**Optical Pigtail - Ø 3mm  
FC/PC**

Art. No. 307581

EAN Number  
5702663075818



**Optical Pigtail - Ø 3mm  
SC/APC**

Art. No. 307584

EAN Number  
5702663075849



**Optical patch cable - Ø 3mm  
- FC/PC - SC/APC**

Art. No. 307582

EAN Number  
5702663075825

Type:	Optical patch cable SC/APC - SC/PC	Optical patch cable FC/PC - SC/PC	Optical patch cable SC/APC - FC/PC	Optical patch cable SC/APC-SC/APC	Optical Pigtail cable FC/PC	Optical patch cable FC/PC-SC/APC
Art. no.	307577	307578	307579	307580	307581	307582
CONNECTORS						
Connector Optical in						
Connector Optical out						
Connector Type	SC/APC - SC/PC	FC/PC - SC/PC	SC/APC - SC/PC	SC/APC - SC/PC	FC/PC	FC/PC - SC/APC
MECHANICAL						
Colour	Yellow	Yellow	Yellow	Grey	Grey	Grey
Diameter cable (mm)	2.5 mm	2.5 mm	2.5 mm	3mm	3mm	3mm
Length (m)	1m	1m	1m	2m	1m	2m

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX<sup>®</sup> Opto-Accessories

fibre attenuators, terminators, adaptors & tools



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

**EASY**  
mounting

**x 1**

**Warranty**  
**2 Years**

## Common features

Accessories for professional installation and service of optical products. To make your own cable configuration, we supply a professional range of connectors and tools:

- Pigtails for fuse splicing to single mode fibre cables
- Adapters to patch FC/PC or SC/PC connectors
- Optical attenuators for reducing the input level to the optical receivers

## Attenuators



### TFA 03 SC/APC, opt. att 3dB

Art. No. 307001

EAN Number  
5702663070011



### TFA 05 - FC/PC Optical attenuator - 5dB

Art. No. 307688

EAN Number  
5702663076884



### TFA 05 SC/APC, opt.att 5dB

Art. No. 307002

EAN Number  
5702663070028



### TFA 10 - FC/PC Optical attenuator - 10dB

Art. No. 307690

EAN Number  
5702663076907



### TFA 10 SC/APC, opt.att 10dB

Art. No. 307003

EAN Number  
5702663070035



### TFA 15 - FC/PC Optical attenuator - 15dB

Art. No. 307692

EAN Number  
5702663076921

# TRIAX<sup>®</sup> Opto-Accessories

fibre attenuators, terminators, adaptors & tools

## Terminator & adaptor



**TOT 02 - FC/PC  
Optical Terminator**

Art. No. 307644

EAN Number  
5702663076440



**TFB 002 - FC/PC-SC/PC  
Barrel adaptor**

Art. No. 307686

EAN Number  
5702663076860



**TFB 001 - FC/PC-FC/PC  
Barrel adaptor**

Art. No. 307684

EAN Number  
5702663076846

## Tools



**TST 001 - Fibre stripping tool**

Art. No. 307648

EAN Number  
5702663076488



**TCC 001 - Fibre cleaning  
cube**

Art. No. 307652

EAN Number  
5702663076525



**TSR 001 - Steel tape remover**

Art. No. 307649

EAN Number  
5702663076495



**TSP 001 - Fibre solvent pen**

Art. No. 307654

EAN Number  
5702663076549



**TKS 001 - Fibre kevlar sissor  
tool**

Art. No. 307650

EAN Number  
5702663076501



**TCS 001 - Fibre swabs**

Art. No. 307656

EAN Number  
5702663076563

TERRESTRIAL  
RECEPTION

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CABLE TV  
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CONNECTORS

OUTLETS  
TAPS & SPLITTER

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# TRIAX® State of the art LNB units

the best choice for satellite TV reception



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
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## Keep TV screen images sharp – use Triax Universal LNBs

Our complete range of LNB units use the latest cutting-edge RF technology to meet the most critical demands in today's market. You are guaranteed extremely low noise in both high and low band – and excellent cross polar isolation.

Our comprehensive range includes:

- Universal Single LNB
- Universal Twin LNB
- Universal Quad LNB
- Universal Quattro LNB
- Universal Octo LNB
- Triax fibre optical LNB
- Triax SCR LNB

- Available as single, dual and quad for 1, 2, 4 or 8 set top boxes
- Available in Quattro version for multi switch systems
- Full ku-band coverage for both analogue and digital reception
- Excellent noise figures and low phase noise
- High gain and excellent cross-pole isolation (typically >25 dB)
- High output and low power consumption
- Waterproof and qualified for harsh environments
- Flexible packaging : Single packed, bulk packed or packed together with dishes

### Universal Single LNB

For the typical private home installation with 1 set-top box



### Universal Twin LNB

For connection to two separate set-top boxes in individual homes, or for example in semi-detached houses.



# TRIAX® LNB Units

universal single, twin, quad, quattro, octo, SCR and fibre

## Universal Quad LNB

For connection to four separate boxes, for example in a multiapartment house.



## Universal Octo LNB

For MATV/SMATV installations. This LNB is compatible with any kind of multi switch. For connection to eight separate set-top boxes in individual homes or for example in semi-detached houses.



## Universal Quattro LNB

For MATV/SMATV installations. This LNB is compatible with any kind of multi switch.



## Triax SCR LNB

From just one Triax SCR LNB you can distribute up to 4 individual signals/user bands – in a single cable – to 4 different set-top boxes.

In other words:

- less wiring,
- faster installation
- more users.



## Triax dCSS LNB

From just one Triax SCR LNB you can distribute up to 24 individual signals/user bands – in a single cable – to 24 different set-top boxes.

In other words:

- less wiring,
- faster installation
- even more users.



## Fiber optical reception with

### TRIAX TOL32 optical LNB

A high quality, high performance universal LNB, that offers the end user the perfect set-top box signal – even if the signal distribution has to cover long distances. In addition to the excellent LNB performance, it provides a 1310 nm wideband optical output where all four satellite polarities are stacked into one frequency range (950-5450 MHz).



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

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# TRIAX® Universal Single LNB

for the typical private home installation



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
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## Common features

Complete range of Universal Single LNB, adopting the latest cutting-edge RF technology

- Full KU-band coverage for both digital and analogue reception.
- Excellent noise figure and low phase noise. High gain and excellent cross-pole isolation. Waterproof.
- High output and low power consumption.

- Flat gain.
- For 1 set-top box.
- Weather protection included.
- Colour options:
  - RAL 7035 Light grey or
  - RAL 7016 Anthracite grey.
- Single packed in gift box.



**CS 300 S Universal Single LNB, RAL 7035**

Art. No. 350041

EAN Number  
5702663500419



**TMB 002 Universal Single LNB, 6° Monoblock, RAL 7035**

Art. No. 300439

EAN Number  
5702663004399



**THSI 01 Universal Single LNB, High Gain +5 dB, RAL 7035**

Art. No. 304480

EAN Number  
5702663044807



**TSI 006 Universal Single LNB, RAL 7035**

Art. No. 304432

EAN Number  
5702663044326



**TISI 001 Universal Single LNB, Slim Line, RAL 7035**

Art. No. 304474

EAN Number  
5702663044746



**TSI 007 Universal Single LNB, RAL 7016**

Art. No. 304434

EAN Number  
5702663044340



# TRIAX<sup>®</sup> Universal Single LNB

for the typical private home installation

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

Type:	CS 300 S	THSI 01	TISI 001	TMB 002	TSI 006	TSI 007 U
Art. no.	RAL 7035 350041	High Gain +5 dB 304480	Slim Line 304474	6° Monoblock 300439	RAL 7035 304432	RAL 7016 304434
<b>CHARACTERISTICS</b>						
Phase noise @ 1 kHz	- 50dBc/Hz	- 50dBc/Hz	- 50dBc/Hz	- 60dBc/Hz	- 50dBc/Hz	
Phase noise @ 10 kHz	- 80dBc/Hz	- 75dBc/Hz	- 75dBc/Hz	- 80dBc/Hz	- 75dBc/Hz	
Phase noise @ 100 kHz	- 100dBc/Hz	- 95dBc/Hz	- 95dBc/Hz	- 100dBc/Hz	- 95dBc/Hz	
Spurious level	- 65 (max.)dBm	- 60 (max.)dBm	- 60 (max.)dBm	- 60 (max.)dBm	- 60 (max.)dBm	
Image rejection (min.)	40dB	40dB	40dB	40dB	40dB	
Feedhorn F/D @ 11.7	0.615	0.615	0.615	0.615	0.615	
Frequency stability (-40 ~ +60 °C)	± 2.5:1MHz	± 2.1:1MHz	± 2.1:1MHz	± 2.0:1MHz	± 2.1:1MHz	
Switching position		nonenone	nonenone	DiSEqC 2.0	nonenone	
Switching low band	0.0kHz	0.0kHz	0.0kHz	0.0kHz	0.0kHz	
Switching high band	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz	
<b>FREQUENCY</b>						
Output frequency high band	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	
Output frequency low band	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz	
LO frequency high band	10.6GHz	10.6GHz	10.6GHz	10.6GHz	10.6GHz	
LO frequency low band	9.75GHz	9.75GHz	9.75GHz	9.75GHz	9.75GHz	
Input frequency high band	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz	
Input frequency low band	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz	
<b>GAIN</b>						
Gain flatness (across 26 MHz segm)	± 0.5 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB	
Gain variation (over operating band)	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)	
Conversion gain (max.)		68dB		62dB	62dB	
Conversion gain (min.)		55dB		50dB	50dB	
Conversion gain (typ.)	56dB		56dB			
Noise figure max.	0.3dB	0.3dB	0.3dB	0.3dB	0.3dB	
<b>ISOLATION</b>						
Cross polarization isolation	25 typ.dB	25 typ.dB	25 typ.dB	25 typ.dB	25 typ.dB	
<b>OPERATIONAL</b>						
AC Supply voltage	VAC	VAC	VAC	VAC	VAC	
DC Operating voltage	VDC	VDC	VDC	VDC	VDC	
DC Current consumption (typ.)	110mA	100mA	190mA	110mA	100mA	
Operating voltage vertical	10.5 ~ 14.5V/DC	15.5 ~ 21.0V/DC	15.5 ~ 21.0V/DC	10.5 ~ 14.5V/DC	15.5 ~ 21.0V/DC	
Operating voltage horizontal	15.5 ~ 21.0V/DC	10.5 ~ 14.5V/DC	10.5 ~ 14.5V/DC	15.5 ~ 21.0V/DC	10.5 ~ 14.5V/DC	
Operating temperature range	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C	
<b>CONNECTORS</b>						
Connector Type	F-female	F-female	F-female	F-female	F-female (IEC 61 169-24)	
<b>MECHANICAL</b>						
Packing QTY	50	50	50	30	50	
Max. depth incl. feedhorn	112mm	135mm	135mm	145mm	135mm	
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7016
Diameter	Ø 40mm	Ø 40mm	Ø 40mm	Ø 40mm	Ø 40mm	
Height (mm)	59mm	137mm	137mm	137mm	137mm	
Depth (mm)	112mm	97mm	97mm	97mm	97mm	
Width (mm)	59mm	59mm	59mm	140mm	40mm	
Weight (kg)	0.120	0.120	0.210	0.375	0.120	

# TRIAX® Universal Twin LNB

for connection to two separate set-top boxes



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## Common features

Complete range of TWIN LNB units, adopting the latest cutting-edge RF technology

- Full Ku-band coverage for analogue/digital reception
- Excellent noise figure and low phase noise
- High gain and excellent cross-pole isolation
- High output and low power consumption
- Gain flatness
- For 2 or 4 set-top boxes
- Supplied sliding cover
- Available in 2 colours
- Single packed in gift box



**TITW 001 Universal Twin, Slim Line, RAL 7035**

Art. No. 304475

EAN Number  
5702663044753



**TTW 006 Universal Twin, RAL 7035**

Art. No. 304436

EAN Number  
5702663044364



**CS 320 T Universal Twin, RAL 7035**

Art. No. 350042

EAN Number  
5702663500426



**TTW 007 Universal Twin, RAL 7016**

Art. No. 304438

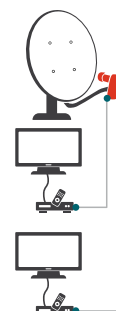
EAN Number  
5702663044388



**THTW 01 High Gain TWIN LNB**

Art. No. 304466

EAN Number  
5702663044661



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® Universal Twin LNB

for connection to two separate set-top boxes

Type:	TITW 001 Universal Twin, Slim Line RAL 7035	CS 320 T Universal Twin, RAL 7035	THTW 01 High Gain TWIN LNB	TTW 006 Universal Twin, RAL 7035	TTW 007 Universal Twin, RAL 7016
Art. no.	304475	350042	304466	304436	304438
<b>CHARACTERISTICS</b>					
Phase noise @ 1 kHz	- 50dBc/Hz	- 60dBc/Hz	- 60dBc/Hz	- 50dBc/Hz	- 50dBc/Hz
Phase noise @ 10 kHz	- 75dBc/Hz	- 80dBc/Hz	- 75dBc/Hz	- 75dBc/Hz	- 75dBc/Hz
Phase noise @ 100 kHz	- 95dBc/Hz	- 100dBc/Hz	- 100dBc/Hz	- 95dBc/Hz	- 95dBc/Hz
Spurious level	- 60 (max.)dBm	- 60 (max.)dBm	- 30 (max.)dBm	- 60 (max.)dBm	- 60 (max.)dBm
Image rejection (min.)	40dBdB	40dBdB	35dBdB	40dBdB	40dBdB
Feedhorn F/D @ 11.7	0.615	0.615	0.6	0.615	0.615
LO temperature drifting	± 1/± 3 MHz				
Frequency stability (-40 ~ +60 °C)	± 2.1:1MHz	± 2.0:1MHz	MHz	± 2.1:1MHz	± 2.1:1MHz
Switching position	nonenone	nonenone		nonenone	nonenone
Switching low band	0.0kHz	0.0kHz	0.0kHz	0.0kHz	0.0kHz
Switching high band	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz
<b>FREQUENCY</b>					
Output frequency high band	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz
Output frequency low band	950 - 1950GHz	950 - 1950GHz	950 - 2150GHz	950 - 1950GHz	950 - 1950GHz
LO frequency high band	10.6GHz	10.6GHz	10.6GHz	10.6GHz	10.6GHz
LO frequency low band	9.75GHz	9.75GHz	9.75GHz	9.75GHz	9.75GHz
Input frequency high band	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz
Input frequency low band	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz
<b>GAIN</b>					
Gain flatness (across 26 MHz segm)	± 1.0 (typ.)dB	± 1.0 (typ.)dB	± 1.5 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB
Gain variation (over operating band)	5 p-p (typ.)	5 p-p (typ.)		5 p-p (typ.)	5 p-p (typ.)
Conversion gain (max.)		62dB	76dB	64dB	64dB
Conversion gain (min.)		50dB	58dB	50dB	50dB
Conversion gain (typ.)	56dB	56dB	67dB	dB	dB
Noise figure max.	0.3dB	0.3dB	0.8dB	0.3dB	0.3dB
<b>ISOLATION</b>					
Cross polarization isolation	25 typ.dB	25 typ.dB	18/20 typ.dB	25 typ.dB	25 typ.dB
<b>OPERATIONAL</b>					
AC Supply voltage	VAC	VAC	VAC	VAC	VAC
DC Operating voltage	VDC	VDC	10.5 - 21VDC	VDC	VDC
DC Current consumption (typ.)	190mA	140mA	170mA	170mA	170mA
Operating voltage vertical	15.5 ~ 21.0V/DC	10.5 ~ 14.5V/DC	10.5 ~ 14.5V/DC	15.5 ~ 21.0V/DC	15.5 ~ 21.0V/DC
Operating voltage horizontal	10.5 ~ 14.5V/DC	15.5 ~ 21V/DC	15.5 ~ 21.0V/DC	10.5 ~ 14.5V/DC	10.5 ~ 14.5V/DC
Operating temperature range	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C
<b>CONNECTORS</b>					
Connector Type	F-female	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>					
Packing QTY	50	50		50	50
Max. depth incl. feedhorn	135mm	145mm	mm	135mm	135mm
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7016
Diameter	Ø 40mm	Ø 40mm	Ø 40mm	Ø 40mm	Ø 40mm
Height (mm)	137mm	137mm		137mm	137mm
Depth (mm)	97mm	97mm		97mm	97mm
Width (mm)	59mm	59mm		59mm	59mm
Weight (kg)					

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Universal Quad LNB

for connection to four separate set-top boxes



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

Complete range of QUAD LNB units, adopting the latest cutting-edge RF technology.

- Full Ku-band coverage for analogue/digital reception
- Excellent noise figure and low phase noise
- High gain and excellent cross-pole isolation
- High output and low power consumption

- Gain flatness
- For up to 4 set-top boxes
- Supplied sliding cover
- Available in 2 colours
- Single packed in gift box



**CS 404 QS Universal Quad LNB, RAL 7035**

Art. No. 350043

EAN Number  
5702663500433



**TQD 007 - Elliptical Quad LNB - for Mk4 elliptical satellite dish, RAL 7016**

Art. No. 304444

EAN Number  
5702663044449



**TIQD 001 Universal Quad LNB, Slim Line, RAL 7035**

Art. No. 304476

EAN Number  
5702663044760



**CS 504 QST Universal Quattro LNB**

Art. No. 350046

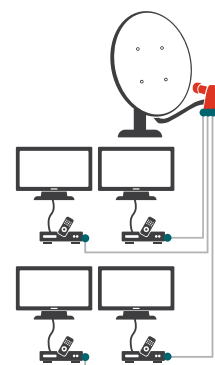
EAN Number  
5702663500464



**TQD 006 Universal Quad LNB, RAL 7035**

Art. No. 304442

EAN Number  
5702663044425



# TRIAX® Universal Quad LNB

for connection to four separate set-top boxes

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

Type:	CS 404 QS Universal Quad LNB, RAL 7035	TIQD 001 Universal Quad LNB, Slim Line, RAL 7035	TQD 006 Universal Quad LNB, RAL 7035	TQD 007 Elliptical Quad LNB - for Mk4 elliptical satellite dish, RAL 7016	CS 504 QST
Art. no.	350043	304476	304442	304444	350046
<b>CHARACTERISTICS</b>					
Phase noise @ 1 kHz	- 60dBc/Hz	- 50dBc/Hz	- 50dBc/Hz	- 50dBc/Hz	
Phase noise @ r10 kHz	- 80dBc/Hz	- 75dBc/Hz	- 75dBc/Hz	- 75dBc/Hz	
Phase noise @ 100 kHz	- 100dBc/Hz	- 95dBc/Hz	- 95dBc/Hz	- 95dBc/Hz	
Spurious level	- 60 (max.)dBm	- 60 (max.)dBm	- 60 (max.)dBm	- 60 (max.)dBm	
Image rejection (min.)	40dB	40dB	40dB	40dB	
Feedhorn F/D @ 11.7	0.615	0.615	0.615	0.615	
Frequency stability (-40 ~ +60 °C)	± 2.0:1MHz	± 2.1:1MHz	± 2.1:1MHz	± 2.1:1MHz	
Switching position	nonenone	nonenone	nonenone	nonenone	
Switching low band	0.0kHz	0.0kHz	0.0kHz	0.0kHz	0kHz
Switching high band	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz	22kHz
<b>FREQUENCY</b>					
Output frequency high band	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz
Output frequency low band	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz
LO frequency high band	10.6GHz	10.6GHz	10,6GHz	10.6GHz	10,6GHz
LO frequency low band	9.75GHz	9.75GHz	9,75GHz	9.75GHz	9,75GHz
Input frequency high band	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz	11,7- 12,75GHz
Input frequency low band	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz	10,7-11,7GHz
<b>GAIN</b>					
Gain flatness (across 26 MHz segm)	± 1.0 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB
Gain variation (over operating band)	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)
Conversion gain (max.)		64dB	64dB	64dB	
Conversion gain (min.)		50dB	50dB	50dB	
Conversion gain (typ.)	56dB				56dB
Noise figure max.	0.3dB	0.3dB	0.3dB	0.3dB	0.3dB
<b>ISOLATION</b>					
Cross polarization isolation	25 typ.dB	25 typ.dB	25 typ.dB	25 typ.dB	20 typ.dB
<b>OPERATIONAL</b>					
DC Current consump.(typ.)	140mA	190mA	180mA	180mA	160mA
Operating voltage vertical	10.5 ~ 14.5V/DC	10.5 ~ 14.5V/DC	10.5 ~ 14.5V/DC	10.5 ~ 14.5V/DC	10.5...21.0VDC
Operating voltage horizontal	15.5 ~ 21V/DC	15.5 ~ 21.0V/DC	15.5 ~ 21.0V/DC	15.5 ~ 21.0V/DC	
Operating temperature range	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C
<b>CONNECTORS</b>					
Connector Type	F-female	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>					
Packing QTY	50	50	50	50	
Max. depth incl. feedhorn	145mm	135mm	135mm	135mm	
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7016	
Diameter	Ø 40mm	Ø 40mm	Ø 40mm	Ø 40mm	Ø40mm
Height (mm)	137mm	137mm	137mm	137mm	
Depth (mm)	97mm	97mm	97mm	97mm	
Width (mm)	59mm	59mm	59mm	59mm	
Weight (kg)					

# TRIAX® Universal Quattro LNB

for MATV/SMATV installations.



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

Complete range of QUATTRO LNB units, adopting the latest cutting-edge RF technology.

- Full Ku-band coverage for analogue/digital reception
- Excellent noise figure and low phase noise
- High gain and excellent cross-pole isolation
- High output and low power consumption

- Gain flatness
- For up to 4 set-top boxes
- Supplied sliding cover
- Available in 2 colours
- Single packed in gift box

### CS 400 QT Universal Quattro LNB, RAL 7035

Art. No. 350044

EAN Number  
5702663500440



### TQT 006 Universal Quattro LNB, RAL 7035

Art. No. 304446

EAN Number  
5702663044463



### THQT 001 Universal Quattro LNB

Art. No. 304486

EAN Number  
5702663044869



### TQT 007 Universal Quattro LNB, RAL 7016

Art. No. 304449

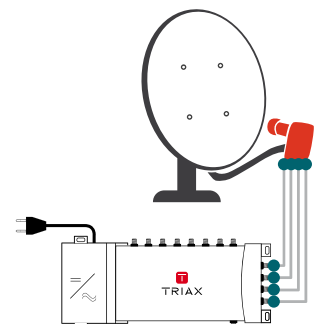
EAN Number  
5702663044494



### TIQT 001 Universal Quattro LNB, Slim Line, RAL 7035

Art. No. 304477

EAN Number  
5702663044777



# TRIAX® Universal Quattro LNB

for MATV/SMATV installations.

Type:	CS 400 QT RAL 7035	THQT 001	TIQT 001 Slim Line, RAL 7035	TQT 006 RAL 7035	TQT 007 RAL 7016
Art. no.	350044	304486	304477	304446	304449
<b>CHARACTERISTICS</b>					
Phase noise @ 1 kHz	- 50dBc/Hz		- 50dBc/Hz	- 50dBc/Hz	- 50dBc/Hz
Phase noise @ 10 kHz	- 75dBc/Hz		- 75dBc/Hz	- 75dBc/Hz	- 75dBc/Hz
Phase noise @ 100 kHz	- 95dBc/Hz		- 95dBc/Hz	- 95dBc/Hz	- 95dBc/Hz
Spurious level	- 60(max.)dBm		- 60(max.)dBm	- 60(max.)dBm	- 60(max.)dBm
Image rejection (min.)	40dB		40dB	40dB	40dB
Feedhorn F/D @ 11.7	0.615		0.615	0.615	0.615
<b>LO temperature drifting</b>					
Frequency stability (-40 ~ +60 °C)	± 2.1:1MHz		± 2.1:1MHz	± 2.1:1MHz	± 2.1:1MHz
Switching position	nonenone		nonenone	nonenone	nonenone
Switching low band	0.0kHz		0.0kHz	0.0kHz	0.0kHz
Switching high band	22 (± 4)kHz		22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz
<b>FREQUENCY</b>					
Output frequency high band	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz
Output frequency low band	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz
LO frequency high band	10.6GHz	10,6GHz	10.6GHz	10,6GHz	10.6GHz
LO frequency low band	9.75GHz	9,75GHz	9.75GHz	9,75GHz	9.75GHz
Input frequency high band	11.7-12.75GHz	11,7-12,75GHz	11.7-12.75GHz	11.7-2.75GHz	11.7-12.75GHz
Input frequency low band	10.7-11.7GHz	10,,7-1,7GHz	10.7-11.7GHz	10.7-11.7GHz	10.7-11.7GHz
<b>GAIN</b>					
Gain flatness (across 26 MHz segm)	± 1.0 (typ.)dB		± 1.0 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB
Gain variation (over operating band)	5 p-p (typ.)		5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)
Conversion gain (max.)		76dB	64dB	64dB	64dB
Conversion gain (min.)			50dB	50dB	50dB
Conversion gain (typ.)	56dB	58dB	dB	dB	dB
Noise figure max.	0.3dB		0.3dB	0.3dB	0.3dB
<b>ISOLATION</b>					
Cross pol. isolation	20 typ.dB		25 typ.dB	25 typ.dB	25 typ.dB
<b>OPERATIONAL</b>					
AC Supply voltage	VAC	VAC	VAC	VAC	VAC
DC Operating voltage	10.5...21.0VDC	10,5...21VDC	10.5...21.0VDC	10.5...21.0VDC	10.5...21.0VDC
DC Current Cons. (typ.)	160mA	190mA	190mA	190mA	190mA
Operating volt. vertical					
Operating volt. horizontal					
Operating temp. range	-40 ~ +60°C	-40 - 60°C	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C
<b>CONNECTORS</b>					
Connector Type	F-female	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>					
Packing QTY	50		50	50	50
Max. depth incl. feedhorn	135mm		135mm	135mm	135mm
Colour	RAL 7035		RAL 7035	RAL 7035	RAL 7016
Diameter	Ø 40mm		Ø 40mm	Ø 40mm	Ø 40mm
Height (mm)	137mm		137mm	137mm	137mm
Depth (mm)	97mm		97mm	97mm	97mm
Width (mm)	59mm		59mm	59mm	59mm
Weight (kg)					

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Universal Octo LNB

for MATV/SMATV installations.



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features

Complete range of OCTO LNB units, adopting the latest cutting-edge RF technology

- Full Ku-band coverage for analogue/digital reception
- Excellent noise figure and low phase noise
- High gain and excellent cross-pole isolation
- High output and low power consumption

- Gain flatness
- TQT for SMATV installation, 4 outputs: VH, VL, HH, HL
- OCTO for 8 set-top boxes
- Supplied sliding cover
- Available in 2 colours
- Single packed in gift box



**CS 408 OS Universal Octo LNB, RAL 7035**

Art. No. 350045

EAN Number  
5702663500457



**TOO 001 Universal Octo LNB, RAL 7035**

Art. No. 304401

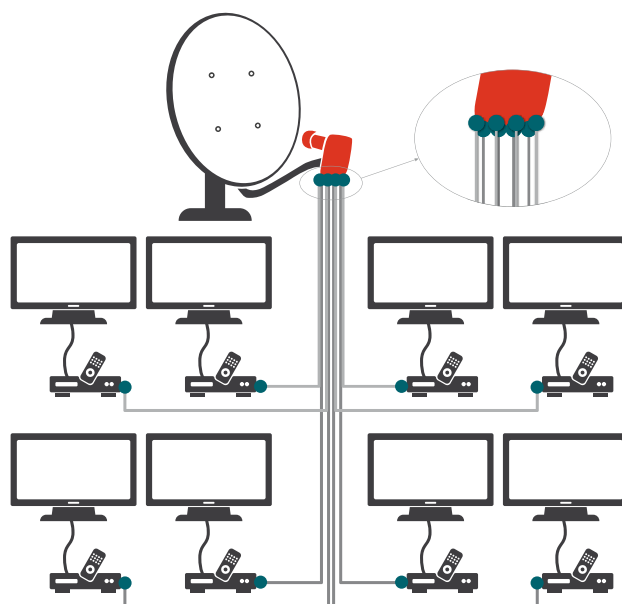
EAN Number  
5702663044012



**TOT 003 Universal Octo LNB, RAL 7016**

Art. No. 304448

EAN Number  
5702663044487





# TRIAX® Universal Octo LNB

for MATV/SMATV installations.

Type:	CS 408 OS RAL 7035	TOO 001 RAL 7035	TOT 003 RAL 7016
Art. no.	350045	304401	304448
<b>CHARACTERISTICS</b>			
Phase noise @ 1 kHz	- 50dBc/Hz	- 50dBc/Hz	- 50dBc/Hz
Phase noise @ 10 kHz	- 75dBc/Hz	- 75dBc/Hz	- 75dBc/Hz
Phase noise @ 100 kHz	- 95dBc/Hz	- 95dBc/Hz	- 95dBc/Hz
Spurious level	- 60 (max.)dBm	- 60 (max.)dBm	- 60 (max.)dBm
Image rejection (min.)	40dB	40dB	40dB
Feedhorn F/D @ 11.7	0.615	0.615	0.615
Frequency stability (-40 ~ +60 °C)	± 2.1:1MHz	± 2.1:1MHz	± 2.1:1MHz
Switching position	nonenone	nonenone	nonenone
Switching low band	0.0kHz	0.0kHz	0.0kHz
Switching high band	22 (± 4)kHz	22 (± 4)kHz	22 (± 4)kHz
<b>FREQUENCY</b>			
Output frequency high band	1100 - 2150GHz	1100 - 2150GHz	1100 - 2150GHz
Output frequency low band	950 - 1950GHz	950 - 1950GHz	950 - 1950GHz
LO frequency high band	10.6GHz	10.6GHz	10.6GHz
LO frequency low band	9.75GHz	9.75GHz	9.75GHz
Input frequency high band	11.7 - 12.75GHz	11.7 - 12.75GHz	11.7 - 12.75GHz
Input frequency low band	10.7 - 11.7GHz	10.7 - 11.7GHz	10.7 - 11.7GHz
<b>GAIN</b>			
Gain flatness (across 26 MHz segm)	± 1.0 (typ.)dB	± 1.0 (typ.)dB	± 1.0 (typ.)dB
Gain variation (over operating band)	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)
Conversion gain (max.)		50dB	50dB
Conversion gain (min. at room temperature)		62dB	62dB
Conversion gain (typ.)	56dB		
Noise figure max.	0.3dB	0.6dB	0.3dB
<b>ISOLATION</b>			
Cross polarization isolation	25 typ.dB	25 typ.dB	25 typ.dB
<b>OPERATIONAL</b>			
DC Current consump. (typ.)	140mA	180mA	180mA
Operating voltage vertical	15.5 ~ 21.0V/DC	15.5 ~ 21.0V/DC	15.5 ~ 21.0V/DC
Operating voltage horizontal	10.5 ~ 14.5V/DC	10.5 ~ 14.5V/DC	10.5 ~ 14.5V/DC
Operating temperature range	-40 ~ +60°C	-40 ~ +60°C	-40 ~ +60°C
Temperature range	°C	°C	°C
<b>CONNECTORS</b>			
Connector Type	F-female	F-female	F-female
<b>MECHANICAL</b>			
Packing QTY	30	1	50
Max. depth incl. feedhorn	135mm	135mm	135mm
Colour	RAL 7035	RAL 7035	RAL 7016
Diameter	Ø 40mm	Ø 40mm	Ø 40mm
Height (mm)	137mm	137mm	137mm
Depth (mm)	97mm	97mm	97mm
Width (mm)	59mm	59mm	59mm
Weight (kg)	0.134	0.282	0.155

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Single Cable Router (SCR) LNB

the standard for single cable distribution



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

HD  
TV

EASY  
mounting

x 1

LNB  
diametre  
Ø40  
mm

Warranty  
2 Years

Ral 7035  
Light Grey

Ral 7016  
Anthracite

## Common features

Using the latest satellite reception and distribution technology, our SCR LNB is the new standard for single cable distribution.

The industry standard CENELEC EN50494 facilitates the delivery of broadcast programming over a single

coaxial cable to multiple users, thus helping to eliminate the numerous coaxial cables previously required to connect satellite PVRs and other high-end set top boxes to the satellite dish.



**TSC 001 Single Cable Router LNB - 1 SCR output, 1 universal output**

Art. No. 304460

EAN Number  
5702663044609



**TSC 002 Single Cable Router LNB - 1 SCR output, 2 universal outputs**

Art. No. 304461

EAN Number  
5702663044616

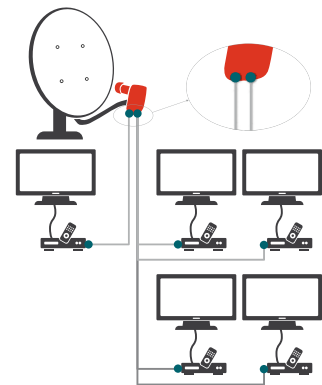


**TSI - dcSS Single Cable Router - 1 SCR output, RAL 7035**

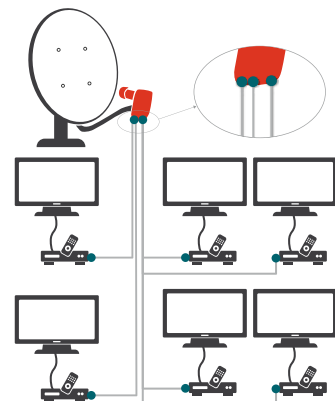
Art. No. 304463

EAN Number  
5702663044630

**1 x SCR  
1 x Legacy**



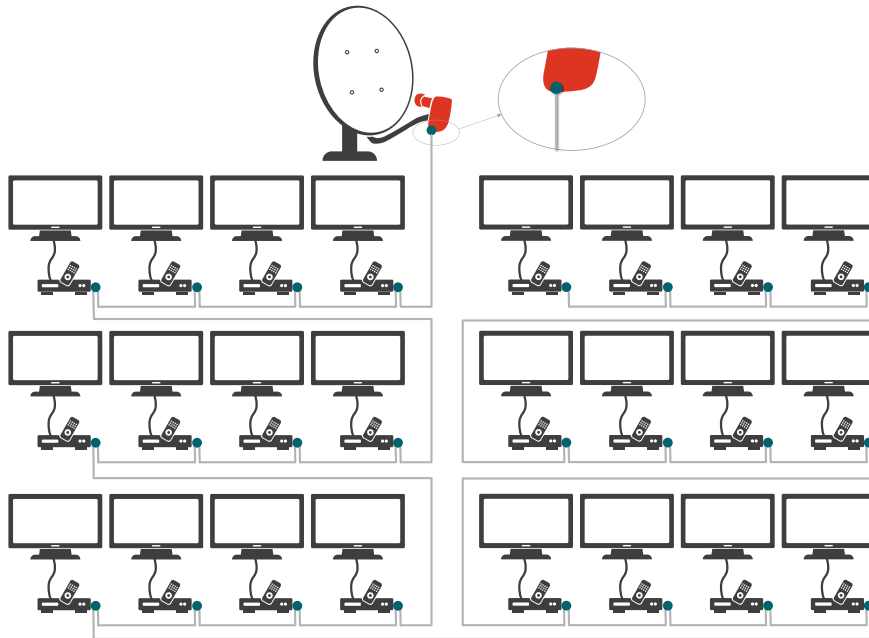
**1 x SCR  
2 x Legacy**



# TRIAX® Single Cable Router LNB

the standard for single cable distribution

## dCSS LNB



Type:	TSC 001 Single Cable Router LNB - 1 SCR output	TSC 002 Single Cable Router LNB - 1 SCR output, 2 universal outputs	TSI - dCSS Single Cable Router 1 SCR output
Art. no.	304460	304461	304463
<b>CHARACTERISTICS</b>			
Phase noise @ 10 kHz	- 80dBc/Hz	- 80dBc/Hz	- 80dBc/Hz
Image rejection (min.)	40dB	40dB	40dB
Output VSWR	2,5 : 1	2,5 : 1	2,3 : 1
<b>FREQUENCY</b>			
Output frequency band	950 ~ 2000GHz	950 ~ 2150GHz	950 ~ 2150GHz
LO frequency high band	10,6GHz	10,6GHz	
LO frequency low band	9,75GHz	9,75GHz	10,4GHz
Input frequency high band	11,7-12,75GHz	11,7-12,75GHz	
Input frequency low band	10,7-11,7GHz	10,7-11,7GHz	10,7-12,75GHz
<b>GAIN</b>			
Gain variation (over operating band)	+/- 0,75	+/- 0,75	
Conversion gain (max.)	60dB	60dB	63-73 (5 or more users)dB
Conversion gain (min.)	50dB	50dB	53-63 (4 or less users)dB
Noise figure max.	0.8dB	dB	0.8dB
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
AC Supply voltage	VAC	VAC	10.5 - 21.0VAC
DC Current Cons. (typ.)	mA	mA	350mA
Operating temperature range	°C	°C	-40...-60°C
<b>CONNECTORS</b>			
Connector Type	F-female	F-female	F-female
<b>MECHANICAL</b>			
Packing QTY	1	1	1
Colour	RAL 7035	RAL 7035	
Diameter	Ø 40mm	Ø 40mm	
Weight (kg)	0.134	0.282	

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® LNB brackets

single and multi satellite reception



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



**Aluminum LNB holder for TD**  
Art. No. 300721

EAN Number 5702663007215

**CHARACTERISTICS**

Type	Alu bracket TD
<b>MECHANICAL</b>	
Colour	Alu
LNB size	Ø 40mm
Remarks	Fits all TD-dishes



**Plastic Parts for TD - RAL 7016**  
Art. No. 129421

EAN Number 5702661294211

**CHARACTERISTICS**

Type	TD plastic spareparts
<b>MECHANICAL</b>	
Colour	Ral 7016
LNB size	Ø 40mm
Remarks	For TD64, TD78, TD88, TD110



**Plastic Parts for TD - RAL 7030**  
Art. No. 129420

EAN Number 5702661294204

**CHARACTERISTICS**

Type	Plastic spareparts
<b>MECHANICAL</b>	
Colour	Ral 7030
LNB size	Ø 40mm
Remarks	For TD64, TD78, TD88, TD110



**TD - 3° DuoBlock**  
Art. No. 300716

EAN Number 5702663007161

**CHARACTERISTICS**

Type	TD 3° Duo block
<b>MECHANICAL</b>	
Colour	Black
LNB size	Ø 40mm
Remarks	Ø 25 mm adaptor - optional extra



**TD - 6° DuoBlock**  
Art. No. 300715

EAN Number 5702663007154

**CHARACTERISTICS**

Type	TD 6° Duo block
<b>MECHANICAL</b>	
Colour	Black
LNB size	Ø 40mm
Remarks	Ø 25 mm adaptor - optional extra



**TD - 6° DuoBlock**  
Art. No. 300717

EAN Number 5702663007178

**CHARACTERISTICS**

Type	TD 6° Duo block
<b>MECHANICAL</b>	
Colour	Grey
LNB size	Ø 40mm
Remarks	Ø 25 mm adaptor - optional extra



# TRIAX® LNB brackets

single and multi satellite reception

Elegant solutions in black or grey – for Ø40 mm LNBs. Perfect for reception from two satellite positions, e.g. Eutelsat (Hotbird) and ASTRA, for up to four satellite positions.

Holds up to four Ø40 mm LNBs – with minimum 4 degrees between the satellite positions.

Also available with complete packaging: Bracket, LNB units and DiSEqC switch.



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

## TD - 3° - 10° FlexiBlock

Art. No. 300719

EAN Number 5702663007192

### CHARACTERISTICS

Type	TD - 3° - 10° FlexiBlock
------	--------------------------

### MECHANICAL

Colour	Black
LNB size	Ø 40mm



## MFD 850 DAP

Art. No. 200851

EAN Number 5702662008510

### CHARACTERISTICS

Type	6° Multifeed
------	--------------

### MECHANICAL

Colour	Black/White
LNB size	Ø 40mm



## TD multiblock with 2xLNB and switch

Art. No. 300730

EAN Number 5702663007307

### CHARACTERISTICS

Type	TD - 2 LNB Multi block set
------	----------------------------

### MECHANICAL

Colour	Black/Alu
LNB size	Ø 40mm
Remarks	incl. 2xLNB and switch



## TD multiblock with 4xLNB and switch

Art. No. 300725

EAN Number 5702663007253

### CHARACTERISTICS

Type	TD - 4 LNB Multi block set
------	----------------------------

### MECHANICAL

Colour	Black/Alu
LNB size	Ø 40mm
Remarks	incl. 4xLNB and switch



## TD - 3°-20° FlexiBlock - 3xLNB

Art. No. 300728

EAN Number 5702663007284

### CHARACTERISTICS

Type	TD - 3°-20° FlexiBlock - 3xLNB
------	--------------------------------

### MECHANICAL

Colour	Black/Alu
LNB size	Ø 40mm
Remarks	Ø 25 mm adaptor - optional extra



## TD - 3°-20° FlexiBlock - 4xLNB

Art. No. 300727

EAN Number 5702663007277

### CHARACTERISTICS

Type	TD - 3°-20° FlexiBlock - 4xLNB
------	--------------------------------

### MECHANICAL

Colour	Black/Alu
LNB size	Ø 40mm
Remarks	Ø 25 mm adaptor - optional extra



# TRIAX<sup>®</sup> multiswitch solutions

complete range from 1 to 4 satellite positions & terrestrial



## What do you need a multiswitch for ?

- From a technical point of view, multiswitches enable many satellite set-top box users to share a single satellite dish, LNB and cabling installation. Multiswitches are future proofed and can deliver the full signal spectrum, so all users can enjoy full SDTV/HDTV/4K-UHD digital signal quality to a Satellite/Terrestrial set-top box TV.
- From an aesthetical and practical point of view, multiswitches can help you avoid having many dishes on a building, and avoid a lot of unstructured cabling whilst meeting regional planning regulations.

The TRIAX passive multiswitch range now accommodates either Terrestrial or CATV signals, offering the end user alternative subscription services. As these multiswitches are future proofed, the system can be expanded for more users. However, to increase the number of Satellite positions the system would need to be redesigned. Despite their advanced and technical qualities, all TRIAX products are designed to be easily installed.

## When should you use a multiswitch ?

- Whenever more than four users have their own individual satellite set-top box and need terrestrial signals, a multiswitch is the best solution for combining the signals onto a single cable.
- When many different channels are required.
- When users live in the same apartment block. The number of satellite positions and polarities, along with user/subscriber outputs, determine the right choice of multiswitch for you. Solutions exist for one to four individual satellite positions or a total of 16 individual satellite polarities. DiSEqC technology is used to select the required satellite.

The TRIAX multiswitch system is the ideal, cost effective solution that offers the end user total flexibility and choice.



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

products for the perfect solution

## A complete satellite reception solution

The single most important part of an installation is the quality of the incoming signals. As a minimum, we recommend you use a TD78 or larger satellite dish for optimum signal levels depending upon the geographical location of the installation. It is not recommended to compromise on the size of the dish, as the system is dependent on high quality signals from the outset – to do so could introduce rain fade issues caused by bad weather.

These issues can't be remedied anywhere along the distribution path as the C/N has been affected. Multiswitch systems require the correct size dish, Quattro band LNB and an LTE aerials such as a the TRIAX UNIX range.

Smaller systems for up to 4 users could reuse the Quad LNB alongside the standalone multiswitch series supporting 22kHz tone selection.

## A selection of the best



### TD DISHES

As a leading satellite dish manufacturer, TRIAX produce sturdy and robust satellite dishes for high quality installations. The TD range come part assembled to reduce installation time and cost.

### LNB UNITS

TRIAX LNBs employ the latest technology and meet the highest specifications to ensure low noise and high cross polar rejection.



### AERIALS

TRIAX aerials are manufactured to the latest LTE specifications and are tested to a rigorous benchmark standard.



The TRIAX UNIX LTE range ensures maximum gain and rejection, achieving maximum signal transfer from the antenna to amplifiers and switches, so that the MER readings are maintained.

### Coaxial cables

The performance of the multiswitch installation relies heavily on the quality of the distribution cable installed to deliver signal levels and immunity to interference. TRIAX supplies a range of high quality coax cables with Class A++ screening.

### Fibre Optical cables

We also have a full range of fibre optic cables to support the range of optical converters and multiswitches. The converters allow the fibre to be converted back to coax and have a traditional multiswitch distribution system.

### Multiswitches

A multiswitch device is the rational way of providing satellite signals to multiple (usually more than four or eight) satellite receivers from a single dish and LNB. Its task is to be „invisible“ to the satellite STB as it mimics all the functions of standard Universal LNB units and, optionally, DiSEqC switches.

Many versions are available to allow you to customise for many particular local needs.



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX


# Focus on satellite reception solutions

If a picture is worth a thousand words, this page will save you a lot of reading

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

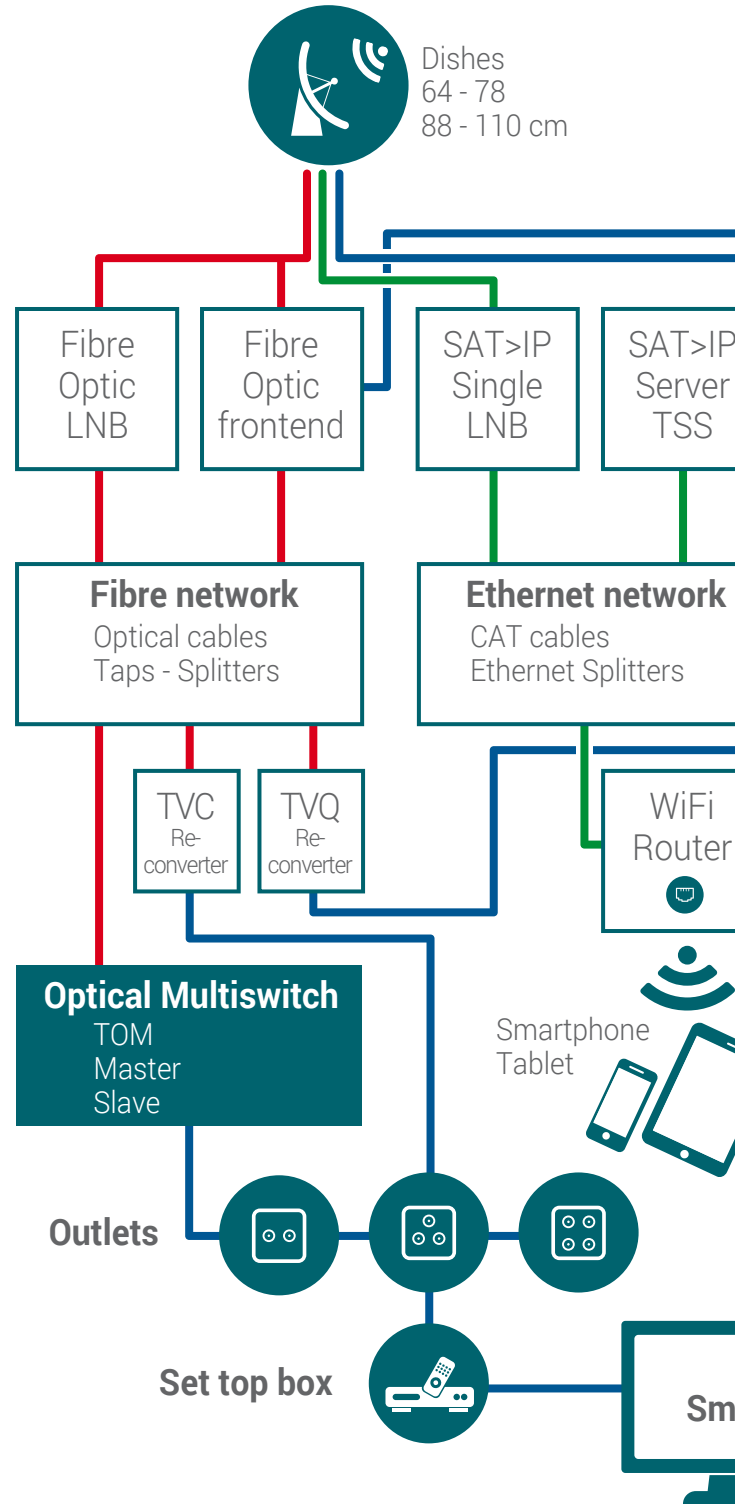
 Fibre Optical Cable system

 Coax Cable system

 CAT Cable system



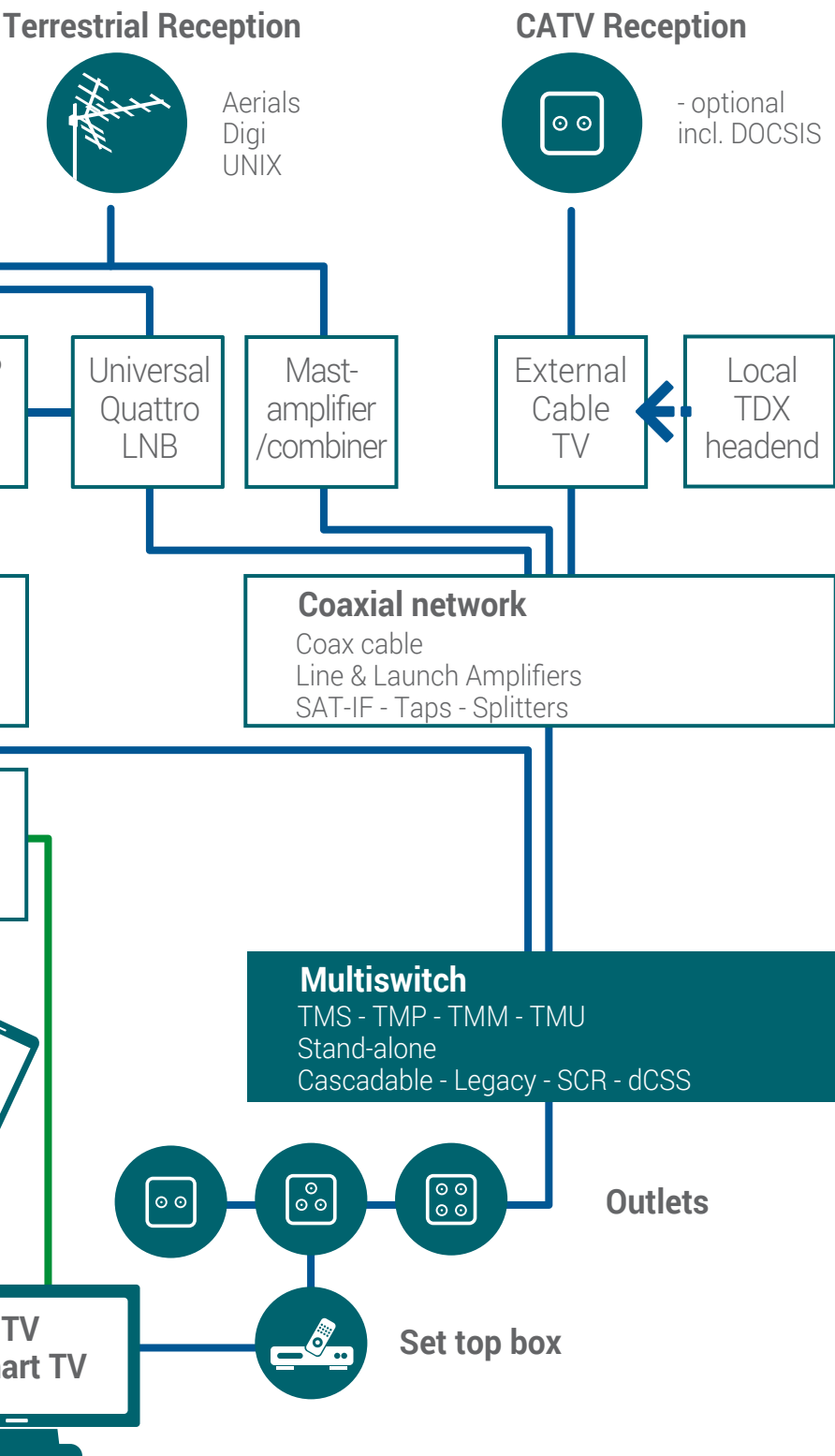
## Satellite Reception





# TRIAX<sup>®</sup> multiswitch solutions

products for the perfect solution



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
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- TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone, quad LNB support, active TER, EU Mains plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
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INHOUSE  
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## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Quad LNB support: no need to buy a quattro LNB
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.
- If you require a terrestrial TV input along with the satellite signal, please choose a version with an active TER path.
- If a CATV system is available, we recommend using a version with a passive TER path.

### TMS 506 SE AQ-EU

Art. No. 318102

EAN Number  
5702663181021



### TMS 516 SE AQ-EU

Art. No. 318124

EAN Number  
5702663181243



### TMS 508 SE AQ-EU

Art. No. 318108

EAN Number  
5702663181083



### TMS 524 SE AQ-EU

Art. No. 318130

EAN Number  
5702663181304



### TMS 512 SE AQ-EU

Art. No. 318116

EAN Number  
5702663181168



### TMS 532 SE AQ-EU

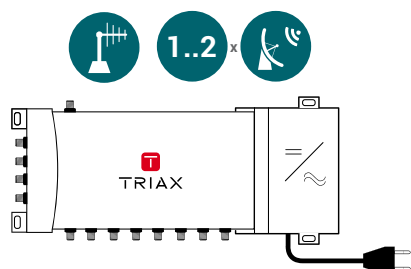
Art. No. 318140

EAN Number  
5702663181403



# TRIAX® multiswitch solutions

1 position



Legend:



**6 8 12 16 24 32**

TERRESTRIAL RECEPTION  
SATELLITE & FIBRE RECEPTION  
CABLE TV (CATV)  
HEADENDS CAS SYSTEM MODULATORS  
CABLES & CONNECTORS  
OUTLETS TAPS & SPLITTER  
INHOUSE CONNECTIVITY  
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INSTRUMENTS TOOLS & CABINETS  
TECHNICAL APPENDIX

Type:	TMS 506 SE AQ-EU Stand-alone	TMS 508 SE AQ-EU Stand-alone	TMS 512 SE AQ-EU Stand-alone	TMS 516 SE AQ-EU Stand-alone	TMS 524 SE AQ-EU Stand-alone	TMS 532 SE AQ-EU Stand-alone
Art. no.	318102	318108	318116	318124	318130	318140
<b>CHARACTERISTICS</b>						
LNB current max.	500mA	500mA	500mA	500mA	500mA	500mA
Max. output level SAT @ -35 dB IMD3	100dBµV	100dBµV	100dBµV	100dBµV	100dBµV	100dBµV
Max. output level TER @ 60dB IMD3	90dBµV	90dBµV	90dBµV	90dBµV	90dBµV	90dBµV
Switch commands	13/18 V, 0/22 kHz					
<b>FREQUENCY</b>						
Frequency range SAT	950...2400MHz					
Frequency range TER	40...862MHz					
<b>GAIN</b>						
Gain - SAT (with 5 dB slope)	-2... +3 ±2dB	-2... +3 ±2dB	-2... +3 ±2dB	-2... +3 ±2dB	-6... 0 ±2dB	-6... 0 ±2dB
Gain - TER [47-862 MHz]	-2 ±2dB	-2 ±2dB	-3 ±3dB	-3 ±3dB	-3 ±3dB	-3 ±3dB
<b>ISOLATION</b>						
Cross polarisation H/V	typ. 30dB					
Isolation SAT to TER	typ. 30dB					
Isolation TER to SAT	typ. 30dB					
<b>RETURN LOSS</b>						
Return loss SAT inputs	>10dB					
Return loss SAT outputs	>10dB					
Return loss TER inputs	>10dB					
Return loss TER outputs	>10dB					
<b>ELECTRICAL</b>						
Impedance	75Ω					
<b>OPERATIONAL</b>						
Control LEDs	Green LED (Power)					
Max. current @ 13 V/18V	120mA	120mA	250mA	250mA	305mA	305mA
Max. current to output (supplied by set top box)	27mA	27mA	38mA	38mA	29mA	29mA
Power Consumption (typ.)	3W	3W	5,5W	5,5W	6,5W	6,5W
Temperature range	0...+55°C					
<b>CONNECTORS</b>						
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow					
Connector Type	F-female					
DC input connector	N/A (Built-in PSU)					
Number of inputs	5	5	5	5	5	5
Subscriber outputs	6	8	12	16	24	32
<b>MECHANICAL</b>						
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	110mm	110mm	110mm	110mm	140mm	140mm
Width (mm)	222mm	222mm	310mm	310mm	324mm	324mm
Height (mm)	57mm	57mm	57mm	57mm	63mm	63mm
Material	steel metal cabinet					
Packing QTY	1	1	1	1	1	1

# TRIAX<sup>®</sup> multiswitch solutions

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

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CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

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(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

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## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.

### TMS 506 SE A-EU

Art. No. 318105

EAN Number  
5702663181052



### TMS 516 SE A-EU

Art. No. 318123

EAN Number  
5702663181236



### TMS 508 SE A-EU

Art. No. 318111

EAN Number  
5702663181113



### TMS 524 SE A-EU

Art. No. 318135

EAN Number  
5702663181359



### TMS 512 SE A-EU

Art. No. 318115

EAN Number  
5702663181151



### TMS 532 SE A-EU

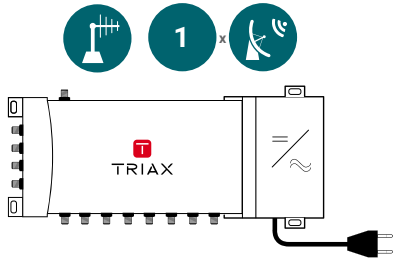
Art. No. 318145

EAN Number  
5702663181458



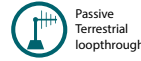
# TRIAX® multiswitch solutions

1 position



**6 8 12 16 24 32**

Legend:



**6 8 12 16 24 28 32**

Numbers of subscriber outputs from the multiswitch

Type:	TMS 506 SE A-EU Stand-alone	TMS 508 SE A-EU Stand-alone	TMS 512 SE A-EU Stand-alone	TMS 516 SE A-EU Stand-alone	TMS 524 SE A-EU Stand-alone	TMS 532 SE A-EU Stand-alone
Art. no.	318105	318111	318115	318123	318135	318145
<b>CHARACTERISTICS</b>						
LNB current max.	500mA	500mA	500mA	500mA	500mA	500mA
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	90dBμV	90dBμV	88dBμV	88dBμV	88dBμV	91dBμV
Switch commands	13/18 V, 0/22 kHz					
<b>FREQUENCY</b>						
Frequency range SAT	950...2400MHz					
Frequency range TER	40...862MHz					
<b>GAIN</b>						
Gain - SAT (with 5 dB slope)	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB
Gain - TER [47-862 MHz]	-2 ±2dB	-2 ±2dB	-3 ±3dB	-3 ±3dB	-3 ±3dB	-3 ±3dB
<b>ISOLATION</b>						
Cross polarisation H/V	typ. 30dB					
Isolation SAT to TER	typ. 30dB					
Isolation TER to SAT	typ. 30dB					
<b>RETURN LOSS</b>						
Return loss SAT inputs	>10dB					
Return loss SAT outputs	>10dB					
Return loss TER inputs	>10dB					
Return loss TER outputs	>10dB					
<b>ELECTRICAL</b>						
Impedance	75Ω					
<b>OPERATIONAL</b>						
Control LEDs	Green LED (Power)					
Max. current @ 13 V/18V	120mA	120mA	250mA	250mA	305mA	305mA
Max. current to each output (supplied by set top box)	27mA	27mA	38mA	38mA	29mA	35mA
Power Consumption (typ.)	3,5W	3,5W	5,5W	5,5W	6,5W	6,5W
Temperature range	0...+55 °C°C	0...+55 °C°C	0...+55 °C°C	0...+55 °C°C	0...+55 °C°C	0...+55 °C°C
<b>CONNECTORS</b>						
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow					
Connector Type	F-female					
DC input connector	N/A (Built-in PSU)					
Number of inputs	5	5	5	5	5	5
Subscriber outputs	6	8	12	16	24	32
<b>MECHANICAL</b>						
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	110mm	110mm	110mm	110mm	140mm	140mm
Width (mm)	222mm	222mm	310mm	310mm	324mm	324mm
Height (mm)	57mm	57mm	57mm	57mm	63mm	63mm
Material	steel metal cabinet					
Packing QTY	1	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
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# TRIAX<sup>®</sup> multiswitch solutions

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
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SATELLITE  
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RECEPTION

CABLE TV  
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## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.

### TMS 908 SE A-EU

Art. No. 318206

EAN Number  
5702663182066



### TMS 924 SE A-EU

Art. No. 318234

EAN Number  
5702663182349



### TMS 912 SE A-EU

Art. No. 318214

EAN Number  
5702663182141



### TMS 932 SE A-EU

Art. No. 318244

EAN Number  
5702663182448



### TMS 916 SE A-EU

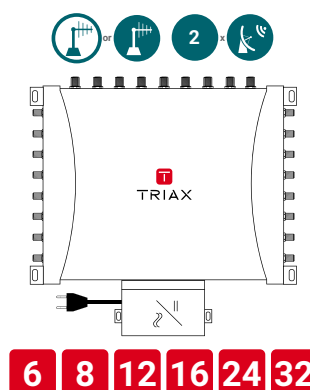
Art. No. 318224

EAN Number  
5702663182240



# TRIAX® multiswitch solutions

2 positions



Type:	TMS 908 SE A-EU	TMS 912 SE A-EU	TMS 916 SE A-EU	TMS 924 SE A-EU	TMS 932 SE A-EU
Art. no.	318206	318214	318224	318234	318244
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB	100dB $\mu$ V				
IMD3	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V
Max. output level TER @ 60dB	91dB $\mu$ V				
IMD3	91dB $\mu$ V	90dB $\mu$ V	88dB $\mu$ V	88dB $\mu$ V	90dB $\mu$ V
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0	13/18 V, 0/22 kHz, DiSEqC 1.0	13/18 V, 0/22 kHz, DiSEqC 1.0	13/18 V, 0/22 kHz, DiSEqC 1.0	13/18 V, 0/22 kHz, DiSEqC 1.0
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz	950...2400MHz	950...2400MHz	950...2400MHz	950...2400MHz
Frequency range TER	40...862MHz	40...862MHz	40...862MHz	40...862MHz	40...862MHz
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-5...+2 $\pm$ 2dB	-2...+2 $\pm$ 2dB	-2...+2 $\pm$ 2dB	-2...+2 $\pm$ 2dB	-2...+2 $\pm$ 2dB
Gain - TER [47-862 MHz]	-2 $\pm$ 2dB	-2 $\pm$ 2dB	-2 $\pm$ 2dB	-2 $\pm$ 2dB	-2 $\pm$ 2dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V				typ. 30dB	
Isolation SAT to TER				typ. 30dB	
<b>RETURN LOSS</b>					
Return loss SAT inputs				>10dB	
Return loss SAT outputs				>10dB	
Return loss TER inputs				>10dB	
Return loss TER outputs				>10dB	
<b>ELECTRICAL</b>					
Impedance				75 $\Omega$	
<b>OPERATIONAL</b>					
Control LEDs				Green LED (Power)	
Max. current to each output (supplied by set top box)	43mA	43mA	43mA	43mA	43mA
Power Consumption (typ.)	2,5W	5,5W	5,5W	6,5W	6,5W
Temperature range	0...+55 $^{\circ}$ C	0...+55 $^{\circ}$ C	0...+55 $^{\circ}$ C	0...+55 $^{\circ}$ C	0...+55 $^{\circ}$ C
<b>CONNECTORS</b>					
Colourcoding on inputs				VL=Black, VH=Red, HL=Green, HH=Yellow	
Connector Type				F-female	
DC input connector				N/A (Built-in PSU)	
Number of inputs	9	9	9	9	9
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	110mm	198mm	198mm	198mm	198mm
Width (mm)	270mm	272mm	272mm	390mm	390mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Length (mm)	mm	mm	mm	mm	mm
Material				steel metal cabinet	
Packing QTY	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

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# TRIAX<sup>®</sup> multiswitch solutions

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.



**TMS 1308 SE A-EU**

Art. No. 318308

EAN Number  
5702663183087



**TMS 1312 SE A-EU**

Art. No. 318316

EAN Number  
5702663183162



**TMS 1316 SE A-EU**

Art. No. 318324

EAN Number  
5702663183247



**TMS 1324 SE A-EU**

Art. No. 318332

EAN Number  
5702663183322



**TMS 1332 SE A-EU**

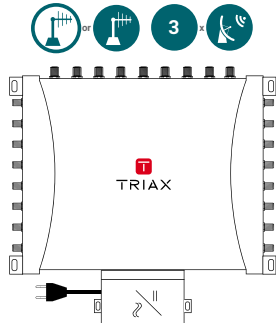
Art. No. 318340

EAN Number  
5702663183407



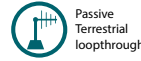
# TRIAX<sup>®</sup> multiswitch solutions

3 positions



**6 8 12 16 24 32**

Legend:



1...4 satellite positions

**6 8 12 16 24 28 32**

Numbers of subscriber outputs from the multiswitch

Type:	TMS 1308 SE A-EU Stand-alone	TMS 1312 SE A-EU Stand-alone	TMS 1316 SE A-EU Stand-alone	TMS 1324 SE A-EU Stand-alone	TMS 1332 SE A-EU Stand-alone
Art. no.	318308	318316	318324	318332	318340
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	88dBμV	90dBμV	90dBμV	90dBμV	90dBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	40...862MHz				
<b>LOSS</b>					
Insertion loss - SAT	-2...+2 ±2dB	-3...0 ±2dB	-3...0 ±2dB	-5...-2 ±2dB	-5...-2 ±2dB
Insertion loss - TER	-2 ±2dB	-3 ±3dB	-3 ±3dB	-3 ±3dB	-3 ±3dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TAP outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	68mA	68mA	68mA	68mA	68mA
AC Supply voltage	90...264 / 50...60HzVAC				
Power Consumption (typ.)	6,5W	5,5W	5,5W	5,5W	5,5W
Temperature range	0...+55°C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	N/A (Built-in PSU)				
Number of inputs	13	13	13	13	13
Number of outputs	13	13	13	13	13
Number of trunk inputs	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER
Number of trunk outputs	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER
Power connector	EU Plug	EU Plug	EU Plug	EU Plug	EU Plug
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	286mm	286mm	286mm	286mm	286mm
Width (mm)	272mm	272mm	272mm	395mm	395mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

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CONNECTORS

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## Common features - Standalone switches

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**TMS 1708 SE A-EU**

Art. No. 318406

EAN Number  
5702663184060



**TMS 1724 SE A-EU**

Art. No. 318432

EAN Number  
5702663184329



**TMS 1712 SE A-EU**

Art. No. 318416

EAN Number  
5702663184169



**TMS 1732 SE A-EU**

Art. No. 318440

EAN Number  
5702663184404



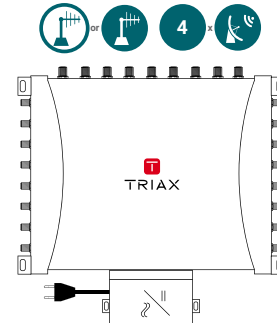
**TMS 1716 SE A-EU**

Art. No. 318424

EAN Number  
5702663184244

# TRIAX® multiswitch solutions

4 positions



Type:	TMS 1708 SE A-EU Stand-alone	TMS 1712 SE A-EU Stand-alone	TMS 1716 SE A-EU Stand-alone	TMS 1724 SE A-EU Stand-alone	TMS 1732 SE A-EU Stand-alone
Art. no.	318406	318416	318424	318432	318440
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V
Max. output level TER @ 60dB IMD3	88dB $\mu$ V	90dB $\mu$ V	90dB $\mu$ V	90dB $\mu$ V	90dB $\mu$ V
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	40...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-2...+2 $\pm$ 2dB	-3...0 $\pm$ 2dB	-3...0 $\pm$ 2dB	-5...-2 $\pm$ 2dB	-5...-2 $\pm$ 2dB
Gain - TER [47-862 MHz]	-2 $\pm$ 2dB	-3 $\pm$ 3dB	-3 $\pm$ 3dB	-3 $\pm$ 3dB	-3 $\pm$ 3dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75 $\Omega$				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	68mA				
Power Consumption (typ.)	6,5W	5,5W	5,5W	5,5W	5,5W
Temperature range	0...+55 $^{\circ}$ C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	N/A (Built-in PSU)				
Number of inputs	17	17	17	17	17
Number of outputs	17	17	17	17	17
Number of trunk inputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Number of trunk outputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	286mm	286mm	286mm	286mm	286mm
Width (mm)	272mm	272mm	272mm	395mm	395mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® multiswitch solutions

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.



**TMS 5X4 Single stand alone - 4SAT+1TER / 4out**

Art. No. 300314

EAN Number  
5702663003149



**TMP 5x16 Stand alone - 4SAT+1TER+PSU / 16out**

Art. No. 301624

EAN Number  
5702663016248



**TMP 5X8 Stand alone - 4SAT+1TER+PSU / 8out**

Art. No. 301620

EAN Number  
5702663016200



**TMP 5X24 Stand alone - 4SAT+1TER+PSU / 24out**

Art. No. 301626

EAN Number  
5702663016262



**TMP 5X12 Stand alone - 4SAT+1TER+PSU / 12out**

Art. No. 301622

EAN Number  
5702663016224



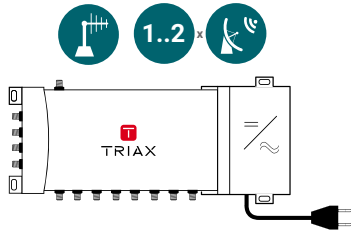
**TMP 5X32 Stand alone - 4SAT+1TER+PSU / 32out**

Art. No. 301628

EAN Number  
5702663016286

# TRIAX® multiswitch solutions

1 position



**6 8 12 16 24 32**

Legend:



1...4 satellite positions

**6 8 12 16 24 28 32**

Numbers of subscriber outputs from the multiswitch

Type:	TMS 5X4 / 4out	TMP 5X8 / 8out	TMP 5X12 / 12out	TMP 5x16 / 16out	TMP 5X24 / 24out	TMP 5X32 / 32out
Art. no.	300314	301620	301622	301624	301626	301628
<b>CHARACTERISTICS</b>						
Input pol. gain control SAT	dB	4 X 10.0dB	4 X 10.0dB	4 X 10.0dB	4 X 10.0dB	4 X 10.0dB
Input pol. gain control TER	dB	15.0dB	15.0dB	15.0dB	15.0dB	15.0dB
LNB current max.	mA	600mA	600mA	600mA	600mA	600mA
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	88dBμV	95dBμV	95dBμV	95dBμV	95dBμV	95dBμV
Switch commands	13V/18V - 13V/22 kHz - 18V/22 kHz					
<b>FREQUENCY</b>						
Frequency range SAT	950-2150MHz					
Frequency range TER	47-862MHz					
<b>GAIN</b>						
Gain - SAT (5 dB slope)						
Gain - TER [47-862 MHz]	4.0dB					
<b>LOSS</b>						
Insertion loss - trunkline SAT		3.0dB	3.0dB	3.0dB	2.0dB	3.0dB
Insertion loss - trunkline TER		3.0dB	3.0dB	0.0dB	0.0dB	0.0dB
<b>ISOLATION</b>						
Cross polarisation H/V	25dB					30dB
Isolation out-out SAT	30dB					30dB
Isolation out-out TER	30dB					30dB
Isolation SAT to TER	22dB					32dB
Isolation TER to SAT	22dB					32dB
<b>RETURN LOSS</b>						
Return loss SAT inputs	12dB					10dB
Return loss SAT outputs	7dB					8dB
Return loss TER inputs	11dB					10dB
Return loss TER outputs	7dB					8dB
<b>ELECTRICAL</b>						
Impedance	75Ω					75Ω
<b>OPERATIONAL</b>						
DC Operating voltage	15.0 ±0.5VDC	18.0VDC	18.0VDC	18.0VDC	18.0VDC	18.0VDC
DC Current cons. (typ.)	1500 (47-63 HZ)mA					
LINE power current (max.)		50.0mA	50.0mA	50.0mA	50.0mA	50.0mA
LINE power DC volt. (max.)		12.0VDC	12.0VDC	12.0VDC	12.0VDC	12.0VDC
Max. current pass F-conn.	600mA					
AC Supply voltage	180...264VAC					
Temperature range	0...+55°C	0...+55°C	0...+55°C	0...+55°C	0...+55°C	0...+55°C
<b>CONNECTORS</b>						
Colourcoding on inputs	Yes					
Connector Type	F-female					
Number of inputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Subscriber outputs	4	8	12	16	24	32
<b>MECHANICAL</b>						
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	103mm	157mm	157mm	157mm	157mm	157mm
Width (mm)	145mm	190mm	240mm	240mm	340mm	340mm
Height (mm)	51mm	51mm	51mm	51mm	51mm	51mm
Packing QTY	1	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions (LTE)

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
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INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
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**TMP 5x8 Stand alone -  
4SAT+1TER+PSU / 8out -  
LTE protected**

Art. No. 305371  
EAN Number  
5702663053717



**TMP 5x24 Stand alone -  
4SAT+1TER+PSU / 24out -  
LTE protected**

Art. No. 305377  
EAN Number  
5702663053779



**TMP 5x12 Stand alone -  
4SAT+1TER+PSU / 12out -  
LTE protected**

Art. No. 305373  
EAN Number  
5702663053731



**TMP 5x32 Stand alone -  
4SAT+1TER+PSU / 32out -  
LTE protected**

Art. No. 305379  
EAN Number  
5702663053793

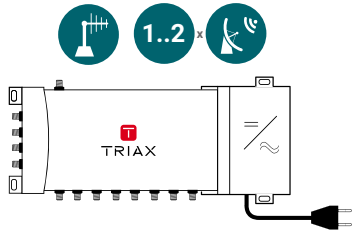


**TMP 5x16 Stand alone -  
4SAT+1TER+PSU / 16out -  
LTE protected**

Art. No. 305375  
EAN Number  
5702663053755

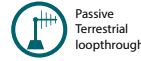
# TRIAX® multiswitch solutions

1 position



**6 8 12 16 24 32**

Legend:



1...4 satellite positions

**6 8 12 16 24 28 32**

Numbers of subscriber outputs from the multiswitch

Type:	TMP 5x8 8out - LTE protected	TMP 5x12 12out - LTE protected	TMP 5x16 16out - LTE protected	TMP 5x24 24out - LTE protected	TMP 5x32 32out - LTE protected
Art. no.	305371	305373	305375	305377	305379
<b>CHARACTERISTICS</b>					
Input pol. gain control SAT	4 x 10.0dB	4 X 10.0dB	4 X 10.0dB	4 x 10.0dB	4 x 10.0dB
Input pol. gain control TER	15.0dB	15.0dB	15.0dB	15.0dB	15.0dB
LNB current max.	1000mA	1000mA	1000mA	1000mA	1000mA
Max. output level SAT @ -35 dB IMD3	100dBµV	100dBµV	100dBµV	100dBµV	100dBµV
Max. output level TER @ 60dB IMD3	90dBµV	88dBµV	88dBµV	85dBµV	85dBµV
Switch commands	13V/18V - 13V/22 kHz - 18V/22 kHz				
<b>FREQUENCY</b>					
Frequency range SAT	950-2150MHz				
Frequency range TER	47-862MHz				
<b>LOSS</b>					
Equalization TER	10.0	10.0	10.0	10.0	10.0
Insertion loss - SAT	0dB	3dB	3dB	3dB	3dB
Insertion loss - TER	0dB	3dB	3dB	0dB	0dB
<b>ISOLATION</b>					
Isolation cross pol. H/V	30dB				
Isolation out-out SAT	30dB				
Isolation out-out TER	30dB				
Isolation SAT to TER	32dB				
Isolation TER to SAT	32dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	10dB	10dB	10dB	10dB	10dB
Return loss SAT outputs	8dB	8dB	8dB	8dB	8dB
Return loss TER inputs	10dB	10dB	10dB	10dB	10dB
Return loss TER outputs	8dB	8dB	8dB	8dB	8dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
DC Current consump.(typ.)	1500 (47-63 HZ)mA				
LINE power current (max.)	50.0mA	50.0mA	50.0mA	50.0mA	50.0mA
LINE power DC voltage (max.)	12.0 Switchable On Terr. Input for Masthead AmplifierVDC			12.0 SwitchableVDC	
AC Supply voltage	180...264VAC	180...264VAC	180...264VAC	180...264VAC	180...264VAC
Temperature range	0...+55°C	0...+55°C	0...+55°C	0...+55°C	0...+55°C
<b>CONNECTORS</b>					
Colourcoding on inputs	Yes	Yes	Yes	Yes	Yes
Connector Type	F-female	F-female	F-female	F-female	F-female
Number of inputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Depth	56mm	56mm	56mm	56mm	56mm
Height	170mm	170mm	170mm	170mm	170mm
Width	232mm	282mm	282mm	382mm	382mm
Packing QTY	1	1	1	1	1
Remarks	LTE rejection: 766...790 MHz -3 dB / 790...821MHz -25dB /821...862 MHz 0 dB				

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
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**TMP 9X8 Stand alone -  
8SAT+1TER+PSU / 8out**

Art. No. 301630  
EAN Number  
5702663016309



**TMP 9X24 Stand alone -  
8SAT+1TER+PSU / 24out**

Art. No. 301636  
EAN Number  
5702663016361



**TMP 9X12 Stand alone -  
8SAT+1TER+PSU / 12out**

Art. No. 301632  
EAN Number  
5702663016323



**TMP 9X32 Stand alone -  
8SAT+1TER+PSU / 32out**

Art. No. 301638  
EAN Number  
5702663016385



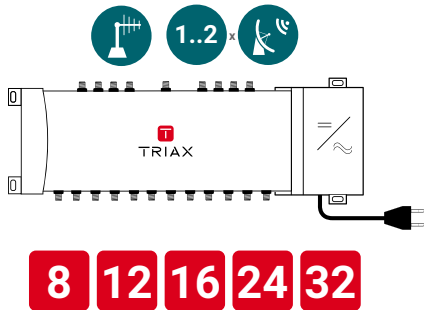
**TMP 9X16 Stand alone -  
8SAT+1TER+PSU / 16out**

Art. No. 301634  
EAN Number  
5702663016347

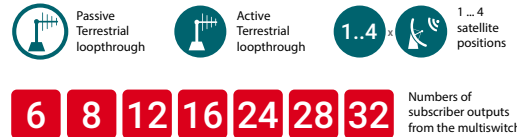


# TRIAX® multiswitch solutions

2 positions



Legend:



Type:	TMP 9X8 Stand alone	TMP 9X12 Stand alone	TMP 9X16 Stand alone	TMP 9X24 Stand alone	TMP 9X32 Stand alone
Art. no.	301630	301632	301634	301636	301638
<b>CHARACTERISTICS</b>					
Input polarity gain control SAT	4 X 10.0dB	4 X 10.0dB	4 X 10.0dB	4 X 15.0dB	4 X 15.0dB
Input polarity gain control TER	15.0dB	15.0dB	15.0dB	15.0dB	15.0dB
LNB current max.	600mA	600mA	600mA	600mA	600mA
Max. output level SAT @ -35 dB IMD3	100dBµV	100dBµV	100dBµV	100dBµV	100dBµV
Max. output level TER @ 60dB IMD3	95dBµV	95dBµV	95dBµV	95dBµV	95dBµV
Switch commands	13V/18V - 13V /22 kHz - 18V /22 kHz - DiSEqC 2.0				
<b>FREQUENCY</b>					
Frequency range SAT	950-2150MHz	950-2150MHz	950-2150MHz	950-2150MHz	950-2150MHz
Frequency range TER	47-862MHz	47-862MHz	47-862MHz	47-862MHz	47-862MHz
<b>LOSS</b>					
Insertion loss - trunkline SAT	3.0dB	3.0dB	3.0dB	2.0dB	2.0dB
Insertion loss - trunkline TER	3.0dB	3.0dB	3.0dB	2.0dB	2.0dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V				30dB	
Isolation out-out SAT				30dB	
Isolation out-out TER				30dB	
Isolation SAT to TER				32dB	
Isolation TER to SAT				32dB	
<b>RETURN LOSS</b>					
Return loss SAT inputs	10dB	10dB	10dB	10dB	10dB
Return loss SAT outputs	8dB	8dB	8dB	10dB	10dB
Return loss TER inputs	10dB	10dB	10dB	12dB	12dB
Return loss TER outputs	8dB	8dB	8dB	10dB	10dB
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
DC Operating voltage	18.0VDC				
DC Current consumption (typ.)	1.5 (47-63 HZ)mA				
LINE power current (max.)	50mA				
LINE power DC voltage (max.)	12.0VDC				
AC Supply voltage	180...264 / 47...63HzVAC				
Temperature range	-20...+55°C	0...+55°C	0...+55°C	0...+55°C	0...+55°C
<b>CONNECTORS</b>					
Colourcoding on inputs	Yes				
Connector Type	F-female				
Number of inputs	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Depth (mm)	157mm	157mm	157mm	157mm	157mm
Width (mm)	190mm	240mm	240mm	340mm	340mm
Height (mm)	51mm	51mm	51mm	51mm	51mm
Packing QTY	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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CONNECTIVITY

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TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



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- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.

### TMS 9x4P Stand alone 8SAT+1TER+PSU / 4out

Art. No. 300344

EAN Number  
5702663003446



### TMS 9x12P Stand alone 8SAT+1TER+PSU / 12out

Art. No. 300342

EAN Number  
5702663003422



### TMS 9x6P Stand alone 8SAT+1TER+PSU / 6out

Art. No. 300346

EAN Number  
5702663003460



### TMS 9x16P Stand alone 8SAT+1TER+PSU / 16out

Art. No. 300347

EAN Number  
5702663003477



### TMS 9x8P Stand alone 8SAT+1TER+PSU / 8out

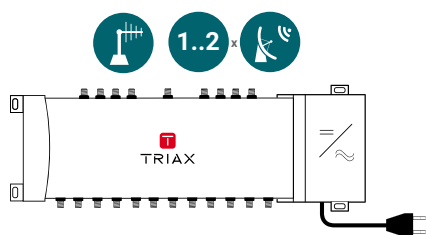
Art. No. 300348

EAN Number  
5702663003484



# TRIAX<sup>®</sup> multiswitch solutions

2 positions



**8 12 16 24 32**

Type:	TMS 9x4P Stand alone	TMS 9x6P Stand alone	TMS 9x8P Stand alone	TMS 9x12P Stand alone	TMS 9x16P Stand alone
Art. no.	300344	300346	300348	300342	300347
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	85dBμV	85dBμV	85dBμV	83dBμV	82dBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950-2150MHz				
Frequency range TER	47-862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	2dB	2dB	2dB	0dB	0dB
Gain - TER [47-862 MHz]	-2.0dB	-2.0dB	-2.0dB	4.0dB	2.0dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	28dB	28dB	28dB	25dB	25dB
Isolation out-out SAT	30dB	30dB	30dB	30dB	30dB
Isolation out-out TER	26dB	26dB	26dB	28dB	30dB
Isolation SAT to TER	30dB	30dB	30dB	30dB	28dB
Isolation TER to SAT	28dB	28dB	28dB	30dB	30dB
<b>RETURN LOSS</b>					
Return loss SAT inputs	14dB	14dB	14dB	10dB	10dB
Return loss SAT outputs	7dB	7dB	7dB	10dB	10dB
Return loss TER inputs	11dB	11dB	11dB	12dB	12dB
Return loss TER outputs	8dB	8dB	8dB	10dB	10dB
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
DC Operating voltage	15.0 ± 1.0VDC	15.0 ± 1.0VDC	15.0 ± 1.0VDC	15.0 ± 1.0VDC	15.0 ± 1.0VDC
Max. current per F-connector	1000mA	1000mA	1000mA	1000mA	1000mA
Temperature range	0...+55°C	0...+55°C	0...+55°C	0...+55°C	0...+55°C
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female	F-female	F-female	F-female	F-female
Number of inputs	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER
Subscriber outputs	4	6	8	12	16
<b>MECHANICAL</b>					
Depth (mm)	103mm	103mm	103mm	103mm	103mm
Width (mm)	359mm	359mm	359mm	459mm	559mm
Height (mm)	71mm	71mm	71mm	71mm	71mm
Packing QTY	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
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INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® multiswitch solutions (LTE)

standalone active TER – built-in PSU with EU plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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HEADENDS  
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CABLES &  
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INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
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- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.



**TMP 9x8 Stand alone -  
8SAT+1TER+PSU / 8out -  
LTE protected**

Art. No. 305381

EAN Number  
5702663053816



**TMP 9x24 Stand alone -  
8SAT+1TER+PSU / 24out -  
LTE protected**

Art. No. 305387

EAN Number  
5702663053878



**TMP 9x12 Stand alone -  
8SAT+1TER+PSU / 12out -  
LTE protected**

Art. No. 305383

EAN Number  
5702663053830



**TMP 9x32 Stand alone -  
8SAT+1TER+PSU / 32out -  
LTE protected**

Art. No. 305389

EAN Number  
5702663053892



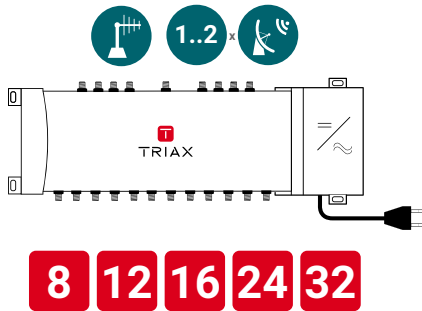
**TMP 9x16 Stand alone -  
8SAT+1TER+PSU / 16out -  
LTE protected**

Art. No. 305385

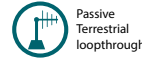
EAN Number  
5702663053854

# TRIAX<sup>®</sup> multiswitch solutions

2 positions



Legend:



1...4 satellite positions

6 8 12 16 24 28 32

Numbers of subscriber outputs from the multiswitch

Type:	TMP 9x8 Stand alone LTE protected	TMP 9x12 Stand alone LTE protected	TMP 9x16 Stand alone LTE protected	TMP 9x24 Stand alone LTE protected	TMP 9x32 Stand alone LTE protected
Art. no.	305381	305383	305385	305387	305389
<b>CHARACTERISTICS</b>					
Input polarity gain control SAT	10dB	10dB	10dB	10dB	10dB
Input polarity gain control TER	15dB	15dB	15dB	15dB	15dB
LNB current max.	1000mA	1000mA	1000mA	1000mA	1000mA
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	95dBμV	95dBμV
Max. output level TER @ 60dB IMD3	88dBμV	88dBμV	88dBμV	85dBμV	85dBμV
Switch commands	13V, 18V, 13V 22kHz, 18V 22kHz, DiSEqC 2.0				
<b>FREQUENCY</b>					
Frequency range SAT	950-2150MHz				
Frequency range TER	47-790MHz				
<b>LOSS</b>					
Equalization TER	10dB				
Insertion loss - SAT	3dB				
Insertion loss - TER	3dB				
<b>ISOLATION</b>					
Isolation cross polarisation H/V	30dB				
Isolation out-out SAT	30dB				
Isolation out-out TER	30dB				
Isolation SAT to TER	30dB				
Isolation TER to SAT	30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	10dB				
Return loss SAT outputs	8dB				
Return loss TER inputs	10dB				
Return loss TER outputs	8dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Power On				
LINE power current (max.)	50mA				
LINE power DC voltage (max.)	12 (Switchable)VDC				
AC Supply voltage	180...264 / 47...63HzVAC				
Temperature range	0 to +55°C	0 to +55°C	0 to +55°C	0 to +55°C	0 to +55°C
<b>CONNECTORS</b>					
Colourcoding on inputs	Yes				
Connector Type	F-female				
Number of trunk inputs	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Depth (mm)	232mm	282mm	282mm	382mm	382mm
Width (mm)	170mm	170mm	170mm	170mm	170mm
Height (mm)	56mm	56mm	56mm	56mm	56mm
Packing QTY	1	1	1	1	1
Remarks	LTE Rejection: 790-821MHz = 25dB				

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone, passive TER, EU mains plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.

### TMS 506 SE P-EU

Art. No. 318100

EAN Number  
5702663181007



### TMS 516 SE P-EU

Art. No. 318127

EAN Number  
5702663181274



### TMS 508 SE P-EU

Art. No. 318106

EAN Number  
5702663181069



### TMS 524 SE P-EU

Art. No. 318132

EAN Number  
5702663181328



### TMS 512 SE P-EU

Art. No. 318121

EAN Number  
5702663181212



### TMS 532 SE P-EU

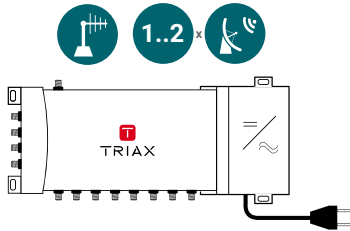
Art. No. 318142

EAN Number  
5702663181427



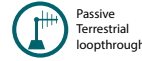
# TRIAX® multiswitch solutions

1 position



**6 8 12 16 24 32**

Legend:



1...4 satellite positions

**6 8 12 16 24 28 32**

Numbers of subscriber outputs from the multiswitch

Type:	TMS 506 SE P-EU Stand-alone	TMS 508 SE P-EU Stand-alone	TMS 512 SE P-EU Stand-alone	TMS 516 SE P-EU Stand-alone	TMS 524 SE P-EU Stand-alone	TMS 532 SE P-EU Stand-alone
Art. no.	318100	318106	318121	318127	318132	318142
<b>CHARACTERISTICS</b>						
LNB current max.	500mA	500mA	500mA	500mA	500mA	500mA
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passive	passive	passive	passive	passive	passive
Switch commands	13/18 V, 0/22 kHz					
<b>FREQUENCY</b>						
Frequency range SAT	950...2400MHz					
Frequency range TER	5...862MHz					
<b>GAIN</b>						
Gain - SAT (5 dB slope)	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB
Gain - TER [47-862 MHz]	-15 ±3dB	-15 ±3dB	-33 ±3dB	-33 ±3dB	-33 ±3dB	-33 ±3dB
<b>ISOLATION</b>						
Cross polarisation H/V	typ. 30dB					
Isolation SAT to TER	typ. 30dB					
Isolation TER to SAT	typ. 30dB					
<b>RETURN LOSS</b>						
Return loss SAT inputs	>10dB					
Return loss SAT outputs	>10dB					
Return loss TER inputs	>10dB					
Return loss TER outputs	>10dB					
<b>ELECTRICAL</b>						
Impedance	75Ω					
<b>OPERATIONAL</b>						
Control LEDs	Green LED (Power)					
Max. current @ 13 V/18V	120mA	120mA	120mA	120mA	120mA	120mA
Max. current to outputs (supplied by set top box)	27mA	27mA	38mA	38mA	29mA	29mA
Power Consumption (typ.)	0,5W	0,5W	0,5W	0,5W	0,5W	0,5W
Temperature range	0...+55 °C°C	0...+55 °C°C	0...+55 °C°C	0...+55 °C°C	0...+55 °C°C	0...+55 °C°C
<b>CONNECTORS</b>						
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow					
Connector Type	F-female					
DC input connector	N/A (Built-in PSU)					
Number of inputs	5	5	5	5	5	5
Subscriber outputs	6	8	12	16	24	32
<b>MECHANICAL</b>						
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	110mm	110mm	110mm	110mm	140mm	140mm
Width (mm)	222mm	222mm	310mm	310mm	324mm	324mm
Height (mm)	57mm	57mm	57mm	57mm	63mm	63mm
Material	steel metal cabinet					
Packing QTY	1	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone, passive TER, EU mains plug



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## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
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### TMS 908 SE P-EU

Art. No. 318208

EAN Number  
5702663182080



### TMS 924 SE P-EU

Art. No. 318236

EAN Number  
5702663182363



### TMS 912 SE P-EU

Art. No. 318216

EAN Number  
5702663182165



### TMS 916 SE P-EU

Art. No. 318226

EAN Number  
5702663182264



### TMS 932 SE P-EU

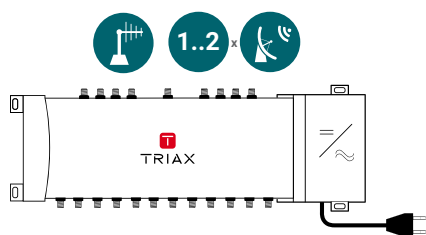
Art. No. 318246

EAN Number  
5702663182462



# TRIAX<sup>®</sup> multiswitch solutions

2 positions



**8 12 16 24 32**

Type:	TMS 908 SE P-EU	TMS 912 SE P-EU	TMS 916 SE P-EU	TMS 924 SE P-EU	TMS 932 SE P-EU
	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Art. no.	318208	318216	318226	318236	318246
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passivedBμV	passivedBμV	passivedBμV	passivedBμV	passivedBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	5...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-5...+2 ±2dB	-2...+2 ±2dB	-2...+2 ±2dB	-2...+2 ±2dB	-2...+2 ±2dB
Gain - TER [47-862 MHz]	-15 ±3dB	-32 ±3dB	-32 ±3dB	-32 ±3dB	-32 ±3dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	35mA	43mA	43mA	43mA	43mA
Power Consumption (typ.)	0,5W	0,5W	0,5W	0,5W	0,5W
Temperature range	0...+55 °C	0...+55 °C	0...+55 °C	0...+55 °C	0...+55 °C
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	N/A (Built-in PSU)				
Number of inputs	9	9	9	9	9
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	110mm	198mm	198mm	198mm	198mm
Width (mm)	270mm	272mm	272mm	390mm	390mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone, passive TER, EU mains plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.



**TMS 1308 SE P-EU**

Art. No. 318306

EAN Number  
5702663183063



**TMS 1324 SE P-EU**

Art. No. 318330

EAN Number  
5702663183308



**TMS 1312 SE P-EU**

Art. No. 318314

EAN Number  
5702663183148



**TMS 1332 SE P-EU**

Art. No. 318338

EAN Number  
5702663183384



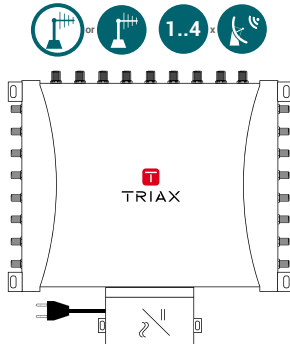
**TMS 1316 SE P-EU**

Art. No. 318322

EAN Number  
5702663183223

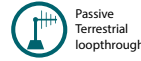
# TRIAX® multiswitch solutions

3 positions



**6 8 12 16 24 32**

## Legend:



**6 8 12 16 24 28 32**

Numbers of subscriber outputs from the multiswitch

Type:	TMS 1308 SE P-EU Stand-alone	TMS 1312 SE P-EU Stand-alone	TMS 1316 SE P-EU Stand-alone	TMS 1324 SE P-EU Stand-alone	TMS 1332 SE P-EU Stand-alone
Art. no.	318306	318314	318322	318330	318338
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passivedBμV	passivedBμV	passivedBμV	passivedBμV	passivedBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz	950...2400MHz	950...2400MHz	950...2400MHz	950...2400MHz
Frequency range TER	5...862MHz	5...862MHz	5...862MHz	5...862MHz	5...862MHz
<b>LOSS</b>					
Insertion loss - SAT	-2...+2 ±2dB	-3...0 ±2dB	-3...0 ±2dB	-5...-2 ±2dB	-5...-2 ±2dB
Insertion loss - TER	-30 ±3dB	-30 ±3dB	-30 ±3dB	-33 ±3dB	-33 ±3dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V				typ. 30dB	
Isolation SAT to TER				typ. 30dB	
<b>RETURN LOSS</b>					
Return loss SAT inputs				>10dB	
Return loss SAT outputs				>10dB	
Return loss TAP outputs				>10dB	
Return loss TER inputs				>10dB	
Return loss TER outputs				>10dB	
<b>ELECTRICAL</b>					
Impedance				75Ω	
<b>OPERATIONAL</b>					
Control LEDs				Green LED (Power)	
Max. current to each output (supplied by set top box)	68mA	68mA	68mA	68mA	68mA
AC Supply voltage				90...264 / 50...60HzVAC	
Power Consumption (typ.)				0,5W	
Temperature range				0...+55°C	
<b>CONNECTORS</b>					
Colourcoding on inputs				VL=Black, VH=Red, HL=Green, HH=Yellow	
Connector Type				F-female	
DC input connector				N/A (Built-in PSU)	
Number of inputs	13	13	13	13	13
Number of outputs	13	13	13	13	13
Number of trunk inputs	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER
Number of trunk outputs	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER
Power connector	EU Plug	EU Plug	EU Plug	EU Plug	EU Plug
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	286mm	286mm	286mm	286mm	286mm
Width (mm)	272mm	272mm	272mm	395mm	395mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material				steel metal cabinet	
Packing QTY	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone, passive TER, EU mains plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
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CABLE TV  
(CATV)

HEADENDS  
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CONNECTIVITY

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INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features - Standalone switches

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**TMS 1708 SE P-EU**

Art. No. 318402

EAN Number  
5702663184022



**TMS 1724 SE P-EU**

Art. No. 318430

EAN Number  
5702663184305



**TMS 1712 SE P-EU**

Art. No. 318414

EAN Number  
5702663184145



**TMS 1732 SE P-EU**

Art. No. 318438

EAN Number  
5702663184381



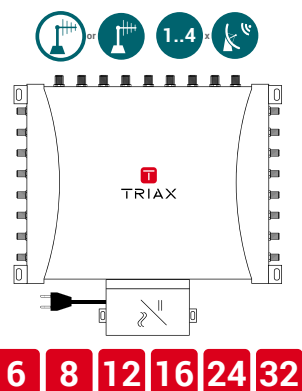
**TMS 1716 SE P-EU**

Art. No. 318422

EAN Number  
5702663184220

# TRIAX<sup>®</sup> multiswitch solutions

4 positions



Legend:



Type:	TMS 1708 SE P-EU Stand-alone	TMS 1712 SE P-EU Stand-alone	TMS 1716 SE P-EU Stand-alone	TMS 1724 SE P-EU Stand-alone	TMS 1732 SE P-EU Stand-alone
Art. no.	318402	318414	318422	318430	318438
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passive	passive	passive	passive	passived
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	5...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-2...+2 ±2dB	-3...0 ±2dB	-3...0 ±2dB	-5...-2 ±2dB	-5...-2 ±2dB
Gain - TER [47-862 MHz]	-30 ±3dB	-30 ±3dB	-30 ±3dB	-33 ±3dB	-33 ±3dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB	typ. 30dB	typ. 30dB	typ. 30dB	typ. 30dB
Isolation SAT to TER	typ. 30dB	typ. 30dB	typ. 30dB	typ. 30dB	typ. 30dB
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	68mA	68mA	68mA	68mA	68mA
Power Consumption (typ.)	6,5W	5,5W	5,5W	5,5W	5,5W
Temperature range	0...+55 °C	0...+55 °C	0...+55 °C	0...+55 °C	0...+55 °C
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female	F-female	F-female	F-female	F-female
DC input connector	N/A (Built-in PSU)	N/A (Built-in PSU)	N/A (Built-in PSU)	N/A (Built-in PSU)	N/A (Built-in PSU)
Number of inputs	17	17	17	17	17
Number of outputs	17	17	17	17	17
Number of trunk inputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Number of trunk outputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	286mm	286mm	286mm	286mm	286mm
Width (mm)	272mm	272mm	272mm	395mm	395mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

standalone, passive TER, built in PSU, EU mains plug



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

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TECHNICAL  
APPENDIX



## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
- Active Terrestrial: for when you need a terrestrial TV input alongside the satellite signal.
- EU mains plug: where mains power is available.

### TMS 5x4 P - Stand alone 4SAT+1TER+PSU / 4out

Art. No. 300324

EAN Number  
5702663003248



### TMS 5x12P - Stand alone 4SAT+1TER+PSU / 12out

Art. No. 300322

EAN Number  
5702663003224



### TMS 5x6P - Stand alone 4SAT+1TER+PSU / 6out

Art. No. 300326

EAN Number  
5702663003262



### TMS 5x16P - Stand alone 4SAT+1TER+PSU / 16out

Art. No. 300327

EAN Number  
5702663003279



### TMS 5x8P - Stand alone 4SAT+1TER+PSU / 8out

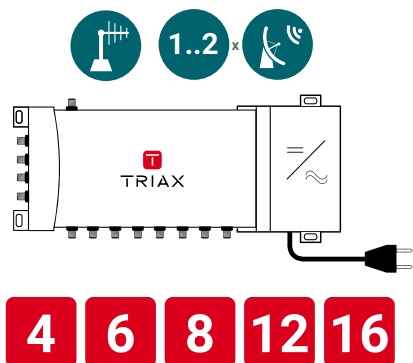
Art. No. 300328

EAN Number  
5702663003286



# TRIAX<sup>®</sup> multiswitch solutions

1 position



Legend:



6 8 12 16 24 28 32

Numbers of subscriber outputs from the multiswitch

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

Type:	TMS 5x4 P Stand-alone	TMS 5x6P Stand alone	TMS 5x8P Stand alone	TMS 5x12P Stand alone	TMS 5x16P Stand alone
Art. no.	300324	300326	300328	300322	300327
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V
Max. output level TER @ 60dB IMD3	88dB $\mu$ V	85dB $\mu$ V	85dB $\mu$ V	85dB $\mu$ V	85dB $\mu$ V
Switch commands	13/18 V, 0/22 kHz				
<b>FREQUENCY</b>					
Frequency range SAT	950-2150MHz				
Frequency range TER	47-862MHz				
<b>GAIN</b>					
Gain - SAT (5 dB slope)	- 4dB		-5dB		
Gain - TER [47-862 MHz]	4.0dB	3.0dB	3.0dB	0	4.0dB
<b>ISOLATION</b>					
Cross polarisation H/V	25dB	28dB	28dB	25dB	25dB
Isolation out-out SAT	30dB	35dB	35dB	35dB	35dB
Isolation out-out TER	28dB	28dB	28dB	28dB	28dB
Isolation SAT to TER	22dB	28dB	28dB	22dB	22dB
Isolation TER to SAT	22dB	25dB	25dB	22dB	22dB
<b>RETURN LOSS</b>					
Return loss SAT inputs	10dB	12dB	12dB	11dB	10dB
Return loss SAT outputs	8dB	7dB	7dB	8dB	8dB
Return loss TER inputs	10dB	11dB	11dB	11dB	10dB
Return loss TER outputs	8dB	7dB	7dB	8dB	8dB
<b>ELECTRICAL</b>					
Impedance	75 $\Omega$	75 $\Omega$	75 $\Omega$	75 $\Omega$	75 $\Omega$
<b>OPERATIONAL</b>					
Max. current pass per F-connector	600mA	600mA	600mA	600mA	600mA
Temperature range	-20...+55°C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
Number of inputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Subscriber outputs	4	6	8	12	16
<b>MECHANICAL</b>					
Depth (mm)	103mm	103mm	103mm	103mm	103mm
Width (mm)	359mm	359mm	359mm	459mm	559mm
Height (mm)	71mm	71mm	71mm	71mm	71mm
Packing QTY	1	1	1	1	1

# TRIAX<sup>®</sup> multiswitch solutions

standalone, passive TER, powered by receiver



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common features - Standalone switches

- The best solution for installations of between 6 and 32 satellite receivers within relatively short distance from each other and the switch.
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### TMS 506 SE P-R

Art. No. 318104

EAN Number  
5702663181045



### TMS 516 SE P-R

Art. No. 318126

EAN Number  
5702663181267



### TMS 508 SE P-R

Art. No. 318110

EAN Number  
5702663181106



### TMS 524 SE P-R

Art. No. 318134

EAN Number  
5702663181342



### TMS 512 SE P-R

Art. No. 318118

EAN Number  
5702663181182



### TMS 532 SE P-R

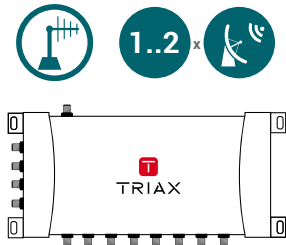
Art. No. 318144

EAN Number  
5702663181441

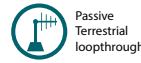


# TRIAX® multiswitch solutions

1 position



Legend:



1...4 satellite positions

6 8 12 16 24 28 32

Numbers of subscriber outputs from the multiswitch

6 8 12 16 24 28 32

Type:	TMS 506 SE P-R Stand-alone	TMS 508 SE P-R Stand-alone	TMS 512 SE P-R Stand-alone	TMS 516 SE P-R Stand-alone	TMS 524 SE P-R Stand-alone	TMS 532 SE P-R Stand-alone
Art. no.	318104	318110	318118	318126	318134	318144
<b>CHARACTERISTICS</b>						
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passive	passive	passive	passive	passive	passive
Switch commands	13/18 V, 0/22 kHz					
<b>FREQUENCY</b>						
Frequency range SAT	950...2400MHz					
Frequency range TER	5...862MHz					
<b>GAIN</b>						
Gain - SAT (5 dB slope)	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB	-2...+3 ±2dB
Gain - TER [47-862 MHz]	-15 ±3dB	-15 ±3dB	-33 ±3dB	-33 ±3dB	-33 ±3dB	-33 ±3dB
<b>ISOLATION</b>						
Cross polarisation H/V	typ. 30dB					
Isolation SAT to TER	typ. 30dB					
Isolation TER to SAT	typ. 30dB					
<b>RETURN LOSS</b>						
Return loss SAT inputs	>10dB					
Return loss SAT outputs	>10dB					
Return loss TER inputs	>10dB					
Return loss TER outputs	>10dB					
<b>ELECTRICAL</b>						
Impedance	75Ω					
<b>OPERATIONAL</b>						
Control LEDs	Green LED (Power)					
Max. current to outputs (supplied by set top box)	27mA	27mA	38mA	38mA	29mA	29mA
Temperature range	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C
<b>CONNECTORS</b>						
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow					
Connector Type	F-female					
DC input connector	N/A (power is sourced from STB only)					
Number of inputs	5	5	5	5	5	5
Subscriber outputs	6	8	12	16	24	32
<b>MECHANICAL</b>						
Colour	RAL 7035					
Depth (mm)	110mm	110mm	110mm	110mm	140mm	140mm
Width (mm)	222mm	130mm	215mm	215mm	240mm	240mm
Height (mm)	57mm	45mm	45mm	45mm	63mm	63mm
Material	steel metal cabinet					
Packing QTY	1					

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® multiswitch solutions

standalone, passive TER, powered by receiver



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



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### TMS 908 SE P-R

Art. No. 318210

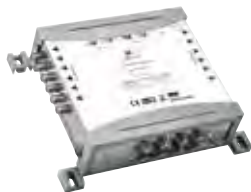
EAN Number  
5702663182103



### TMS 924 SE P-R

Art. No. 318238

EAN Number  
5702663182387



### TMS 912 SE P-R

Art. No. 318218

EAN Number  
5702663182189



### TMS 932 SE P-R

Art. No. 318248

EAN Number  
5702663182486



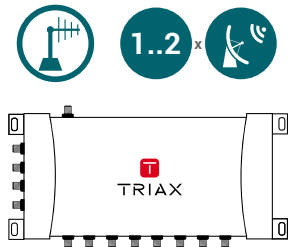
### TMS 916 SE P-R

Art. No. 318228

EAN Number  
5702663182288

# TRIAX<sup>®</sup> multiswitch solutions

2 positions



Legend:



1...4 satellite positions

6 8 12 16 24 28 32

Numbers of subscriber outputs from the multiswitch

6 8 12 16 24 28 32

Type:	TMS 908 SE P-R	TMS 912 SE P-R	TMS 916 SE P-R	TMS 924 SE P-R	TMS 932 SE P-R
	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Art. no.	318210	318218	318228	318238	318248
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passivedBμV	passivedBμV	passivedBμV	passivedBμV	passivedBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	5...862MHz				
<b>LOSS</b>					
Insertion loss - SAT	-5...+2 ±2dB	-2...+2 ±2dB	-2...+2 ±2dB	-2...+2 ±2dB	-2...+2 ±2dB
Insertion loss - TER	-15 ±3dB	-32 ±3dB	-32 ±3dB	-32 ±3dB	-32 ±3dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TAP outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	56mA	56mA	56mA	56mA	56mA
AC Supply voltage	90...264 / 50...60HzVAC	90...264 / 50...60HzVAC	90...264 / 50...60HzVAC	90...264 / 50...60HzVAC	90...264 / 50...60HzVAC
Temperature range	-20... 70°C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	N/A (power is sourced from STB only)				
Number of inputs	9	9	9	9	9
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035				
Depth (mm)	110mm	198mm	198mm	198mm	198mm
Width (mm)	230mm	272mm	272mm	390mm	390mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

cascadable, active TER, for external PSU



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
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## Common features - Cascadable switches

- In contrast to standalone multiswitches, a cascadable system can be extended to become a solution covering a very large number of end-users /satellite receivers.
- If your building layout means that users live on different floors, resulting in variable cable lengths from the multiswitch to the end-user apartment, a cascadable

multiswitch installation is the best solution. Cascadable means that every multiswitch has its standard input from the LNBS, but furthermore has outputs, where the LNB signal can be conveyed further down the building floors to additional multiswitches.



**TMS 508 CE A**

Art. No. 318112

EAN Number  
5702663181120



**TMS 524 CE A**

Art. No. 318138

EAN Number  
5702663181380



**TMS 512 CE A**

Art. No. 318120

EAN Number  
5702663181205



**TMS 532 CE A**

Art. No. 318148

EAN Number  
5702663181489



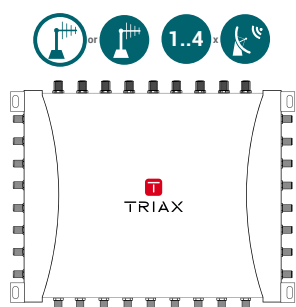
**TMS 516 CE A**

Art. No. 318128

EAN Number  
5702663181281

# TRIAX<sup>®</sup> multiswitch solutions

1 position



**8 12 16 24 28 32**

Legend:



Type:	TMS 508 CE A Cascadable	TMS 512 CE A Cascadable	TMS 516 CE A Cascadable	TMS 524 CE A Cascadable	TMS 532 CE A Cascadable
Art. no.	318112	318120	318128	318138	318148
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	84dBμV	84dBμV	84dBμV	91dBμV	91dBμV
Switch commands	13/18 V, 0/22 kHz				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	40...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-4...0 ±2dB	-4...0 ±2dB	-4...0 ±2dB	-4...0 ±2dB	-4...0 ±2dB
Gain - TER [47-862 MHz]	-2 ±2dB	-3 ±3dB	-3 ±3dB	-3 ±3dB	-3 ±3dB
<b>LOSS</b>					
Through loss - Trunk SAT	-2...-4 ±2dB	-3 ±2dB	-3 ±2dB	-2...-6 ±2dB	-2...-6 ±2dB
Through loss - Trunk TER	-3 ±2dB	-2 ±2dB	-3 ±2dB	-2...-6 ±2dB	-2...-6 ±2dB
<b>ISOLATION</b>					
Cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	35mA	35mA	35mA	29mA	29mA
Temperature range	-20... 70°C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	5.5 / 2.1 mm				
Number of inputs	5	5	5	5	5
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	140mm	140mm	140mm	140mm	140mm
Width (mm)	140mm	220mm	220mm	240mm	240mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

cascadable, active TER, for external PSU



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



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### TMS 908 CE A

Art. No. 318211

EAN Number  
5702663182110



### TMS 924 CE A

Art. No. 318240

EAN Number  
5702663182400



### TMS 912 CE A

Art. No. 318220

EAN Number  
5702663182202



### TMS 932 CE A

Art. No. 318250

EAN Number  
5702663182509



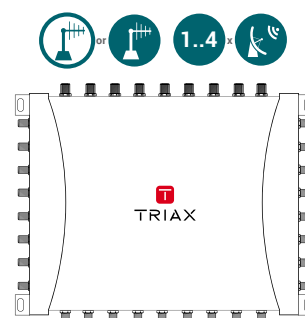
### TMS 916 CE A

Art. No. 318230

EAN Number  
5702663182301

# TRIAX<sup>®</sup> multiswitch solutions

2 positions



**8 12 16 24 28 32**

Type:	TMS 908 CE A Cascadable	TMS 912 CE A Cascadable	TMS 916 CE A Cascadable	TMS 924 CE A Cascadable	TMS 932 CE A Cascadable
Art. no.	318211	318220	318230	318240	318250
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	88dBμV	88dBμV	88dBμV	90dBμV	90dBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	40...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-0...+2 ±2dB	-2...0 ±2dB	-2...0 ±2dB	-2...0 ±2dB	-2...0 ±2dB
Gain - TER [47-862 MHz]	-2 ±2dB	-2 ±2dB	-2 ±2dB	-2 ±2dB	-2 ±2dB
<b>LOSS</b>					
Through loss - Trunk SAT	-1 ±1dB	-2 ±2dB	-2 ±2dB	-2...-4 ±2dB	-2...-4 ±2dB
Through loss - Trunk TER	-2 ±2dB	-2 ±2dB	-2 ±2dB	-2 ±4dB	-2 ±4dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Temperature range	-20... 70 °C°C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	5.5 / 2.1 mm				
Number of inputs	9	9	9	9	9
Number of outputs	9	9	9	9	9
Number of trunk inputs	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER
Number of trunk outputs	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	198mm	198mm	198mm	198mm	198mm
Width (mm)	124mm	185mm	185mm	302mm	302mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

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cascadable, active TER, for external PSU

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
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### TMS 1308 CE A

Art. No. 318312

EAN Number  
5702663183124



### TMS 1324 CE A

Art. No. 318336

EAN Number  
5702663183360



### TMS 1312 CE A

Art. No. 318320

EAN Number  
5702663183209



### TMS 1332 CE A

Art. No. 318344

EAN Number  
5702663183445



### TMS 1316 CE A

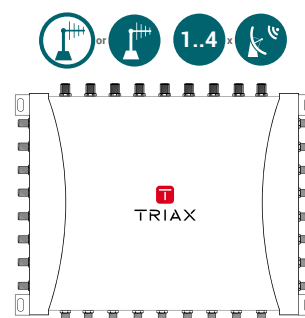
Art. No. 318328

EAN Number  
5702663183285



# TRIAX<sup>®</sup> multiswitch solutions

3 positions



**8 12 16 24 28 32**

Type:	TMS 1308 CE A	TMS 1312 CE A	TMS 1316 CE A	TMS 1324 CE A	TMS 1332 CE A
	Cascadable	Cascadable	Cascadable	Cascadable	Cascadable
Art. no.	318312	318320	318328	318336	318344
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	105dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	88dBμV	90dBμV	90dBμV	90dBμV	90dBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	5...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-2...+2 ±2dB	-3...0 ±2dB	-3...0 ±2dB	-5...-2 ±2dB	-5...-2 ±2dB
Gain - TER [47-862 MHz]	-2...+2 ±2dB	-3 ±3dB	-3 ±3dB	-3 ±3dB	-3 ±3dB
<b>LOSS</b>					
Through loss - Trunk SAT	-2 ±2dB	-2 ±2dB	-2 ±2dB	-2...-5 ±2dB	-2...-5 ±2dB
Through loss - Trunk TER	-2 ±2dB	-2 ±2dB	-2 ±2dB	-4 ±2dB	-4 ±2dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
DC Operating voltage	15VDC				
Max. current to each output (supplied by set top box)	68mA				
Temperature range	-20... 70 °C°C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	5.5 / 2.1 mm				
Number of inputs	13	13	13	13	13
Number of outputs	13	13	13	13	13
Number of trunk inputs	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER
Number of trunk outputs	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	286mm	286mm	286mm	286mm	286mm
Width (mm)	186mm	185mm	185mm	304mm	304mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1
Remarks	Made in Germany				

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

cascadable, active TER, for external PSU



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
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## Common features - Cascadable switches

- In contrast to standalone multiswitches, a cascadable system can be extended to become a solution covering a very large number of end-users /satellite receivers.
- If your building layout means that users live on different floors, resulting in variable cable lengths from the multiswitch to the end-user apartment, a cascadable

multiswitch installation is the best solution. Cascadable means that every multiswitch has its standard input from the LNBS, but furthermore has outputs, where the LNB signal can be conveyed further down the building floors to additional multiswitches.



### TMS 1708 CE A

Art. No. 318412

EAN Number  
5702663184121



### TMS 1724 CE A

Art. No. 318436

EAN Number  
5702663184367



### TMS 1712 CE A

Art. No. 318420

EAN Number  
5702663184206



### TMS 1732 CE A

Art. No. 318444

EAN Number  
5702663184442



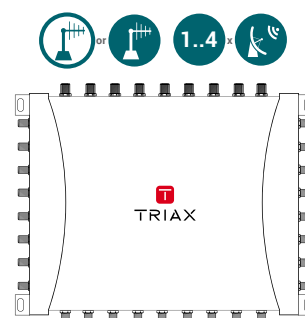
### TMS 1716 CE A

Art. No. 318428

EAN Number  
5702663184282

# TRIAX<sup>®</sup> multiswitch solutions

4 positions



**8 12 16 24 28 32**

Type:	TMS 1708 CE A	TMS 1712 CE A	TMS 1716 CE A	TMS 1724 CE A	TMS 1732 CE A
	Cascadable	Cascadable	Cascadable	Cascadable	Cascadable
Art. no.	318412	318420	318428	318436	318444
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	88dBμV	88dBμV	88dBμV	90dBμV	90dBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	40...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-2...+2 ±2dB	-3...0 ±2dB	-3...0 ±2dB	-5...-2 ±2dB	-5...-2 ±2dB
Gain - TER [47-862 MHz]	-2 ±2dB	-3 ±3dB	-3 ±3dB	-3 ±3dB	-3 ±3dB
<b>LOSS</b>					
Through loss - Trunk SAT	-2 ±2dB	-2 ±2dB	-2 ±2dB	-2...-5 ±2dB	-2...-5 ±2dB
Through loss - Trunk TER	-2 ±2dB	-2 ±2dB	-2 ±2dB	-4 ±2dB	-4 ±2dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	68mA				
Temperature range	-20... 70°C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	5.5 / 2.1 mm				
Number of inputs	17	17	17	17	17
Number of outputs	17	17	17	17	17
Number of trunk inputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Number of trunk outputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	286mm	286mm	286mm	286mm	286mm
Width (mm)	186mm	185mm	185mm	304mm	304mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

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cascadable, active TER, for external PSU



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- If your building layout means that users live on different floors, resulting in variable cable lengths from the multiswitch to the end-user apartment, a cascadable

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**TMS 9x4C - Casc.**  
8SAT+1TER / 4out

Art. No. 300364

EAN Number  
5702663003644



**TMS 9x12C - Casc.**  
8SAT+1TER / 12out

Art. No. 300372

EAN Number  
5702663003729



**TMS 9x6C - Casc.**  
8SAT+1TER / 6out

Art. No. 300366

EAN Number  
5702663003668



**TMS 9x16C - Casc.**  
8SAT+1TER / 16out

Art. No. 300376

EAN Number  
5702663003767



**TMS 9x8C - Casc.**  
8SAT+1TER / 8out

Art. No. 300368

EAN Number  
5702663003682



**TMS 9x20C - Casc.**  
8SAT+1TER / 20out

Art. No. 300388

EAN Number  
5702663003880

# TRIAX<sup>®</sup> multiswitch solutions

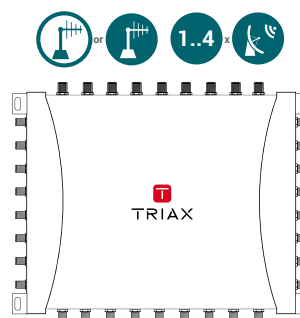
4 positions



**TMS 9x24C - Casc.**  
**8SAT+1TER / 24out**

**Art. No. 300389**

**EAN Number**  
**5702663003897**



**8 12 16 24 28 32**

Type:	TMS 9x4C Cascadable	TMS 9x6C Cascadable	TMS 9x8C Cascadable	TMS 9x12C Cascadable	TMS 9x16C Cascadable	TMS 9x20C Cascadable	TMS 9x24C Cascadable
Art. no.	300364	300366	300368	300372	300376	300388	300389
<b>CHARACTERISTICS</b>							
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	88dBμV	88dBμV	88dBμV	88dBμV	88dBμV	88dBμV	88dBμV
Switching	14V/18V - 14V/22kHz - 18V/22kHz - DiSEqC 2.0kHz						
<b>FREQUENCY</b>							
Frequency range SAT	950-2150MHz						
Frequency range TER	5-862 (active)MHz						
<b>GAIN</b>							
SAT (5 dB slope)	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB
TER [47-862 MHz]	-9dB	-9dB	-9dB	-9dB	-9dB	-9dB	-32dB
<b>LOSS</b>							
Insertion - trunkline SAT	2.0 (± 2.0)dB	3.0 (± 2.0)dB	4.0 (± 2.0)dB	4.0 (± 2.0)dB	6.0 (± 2.0)dB	7.0 (± 2.0)dB	7.0 (± 2.0)dB
Insertion - trunkline TER	4.0 (± 1.0)dB	4.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB
<b>ISOLATION</b>							
Cross polarisation H/V	28dB						
Isolation LNB to LNB	35dB						
Isolation out-out SAT	30dB						
Isolation out-out TER	28dB						
Isolation SAT to TER	28dB						
Isolation TER to SAT	23dB						
<b>RETURN LOSS</b>							
Return loss SAT inputs	13dB						
Return loss SAT outputs	8dB						
Return loss TER inputs	11dB						
Return loss TER outputs	8dB						
<b>ELECTRICAL</b>							
Impedance	75Ω						
<b>OPERATIONAL</b>							
DC Operating voltage	15.0 ±1.0VDC						
Max. current per F-con.	500mA						
Temperature range	-20...+55°C						
<b>CONNECTORS</b>							
Colourcoding on inputs	Yes						
Connector Type	F-female						
Number of inputs	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER
Number of trunk inputs	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER
Number of trunk outputs	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER
Subscriber outputs	4	6	8	8	16	20	24
<b>MECHANICAL</b>							
Depth (mm)	240mm	240mm	240mm	240mm	240mm	240mm	240mm
Width (mm)	253mm	253mm	253mm	257mm	257mm	300mm	300mm
Height (mm)	51mm	51mm	51mm	51mm	51mm	51mm	51mm
Length (mm)	mm	mm	mm	mm	mm	mm	mm
Packing QTY	1	1	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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TAPS & SPLITTER

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cascadable, passive TER, for external PSU



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## Common features - Cascadable switches

- In contrast to standalone multiswitches, a cascadable system can be extended to become a solution covering a very large number of end-users /satellite receivers.
- If your building layout means that users live on different floors, resulting in variable cable lengths from the multiswitch to the end-user apartment, a cascadable

multiswitch installation is the best solution. Cascadable means that every multiswitch has its standard input from the LNBS, but furthermore has outputs, where the LNB signal can be conveyed further down the building floors to additional multiswitches.



### TMS 508 CE P

Art. No. 318114

EAN Number  
5702663181144



### TMS 524 CE P

Art. No. 318136

EAN Number  
5702663181366



### TMS 512 CE P

Art. No. 318122

EAN Number  
5702663181229



### TMS 532 CE P

Art. No. 318146

EAN Number  
5702663181465



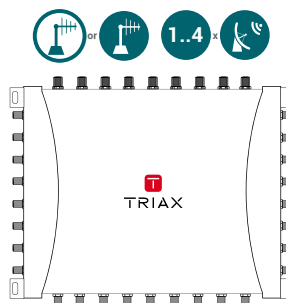
### TMS 516 CE P

Art. No. 318129

EAN Number  
5702663181298

# TRIAX<sup>®</sup> multiswitch solutions

1 position



**8 12 16 24 28 32**

Type:	TMS 508 CE P Cascadable	TMS 512 CE P Cascadable	TMS 516 CE P Cascadable	TMS 524 CE P Cascadable	TMS 532 CE P Cascadable
Art. no.	318114	318122	318129	318136	318146
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBµV	100dBµV	100dBµV	100dBµV	100dBµV
Max. output level TER @ 60dB IMD3	passive	passive	passive	passive	passive
Switch commands	13/18 V, 0/22 kHz				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	5...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-4...0 ±2dB	-4...0 ±2dB	-4...0 ±2dB	-4...0 ±2dB	-4...0 ±2dB
Gain - TER [47-862 MHz]	-15 ±3dB	-33 ±3dB	-33 ±3dB	-33 ±3dB	-33 ±3dB
<b>LOSS</b>					
Through loss - Trunk SAT	-2...-4 ±2dB	-3 ±2dB	-3 ±2dB	-2...-6 ±2dB	-2...-6 ±2dB
Through loss - Trunk TER	-3 ±2dB	-2 ±2dB	-3 ±2dB	-2...-6 ±2dB	-2...-6 ±2dB
<b>ISOLATION</b>					
Cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	35mA	27mA	27mA	29mA	29mA
Temperature range	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female	F-female	F-female	F-female	F-female
DC input connector	5.5 / 2.1 mm	5.5 / 2.1 mm	5.5 / 2.1 mm	5.5 / 2.1 mm	5.5 / 2.1 mm
Number of inputs	5	5	5	5	5
Number of outputs	5	5	5	5	5
Number of trunk inputs	1 SAT, 1 TER	1 SAT, 1 TER	1 SAT, 1 TER	1 SAT, 1 TER	1 SAT, 1 TER
Number of trunk outputs	1 SAT, 1 TER	1 SAT, 1 TER	1 SAT, 1 TER	1 SAT, 1 TER	1 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	140mm	140mm	140mm	140mm	140mm
Width (mm)	140mm	220mm	220mm	240mm	240mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
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CABLE TV  
(CATV)

HEADENDS  
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cascadable, passive TER, for external PSU



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### TMS 908 CE P

Art. No. 318212

EAN Number  
5702663182127



### TMS 924 CE P

Art. No. 318242

EAN Number  
5702663182424



### TMS 912 CE P

Art. No. 318222

EAN Number  
5702663182226



### TMS 932 CE P

Art. No. 318252

EAN Number  
5702663182523



### TMS 916 CE P

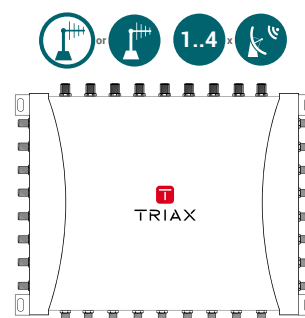
Art. No. 318232

EAN Number  
5702663182325



# TRIAX<sup>®</sup> multiswitch solutions

2 positions



**8 12 16 24 28 32**

Type:	TMS 908 CE P Cascadable	TMS 912 CE P Cascadable	TMS 916 CE P Cascadable	TMS 924 CE P Cascadable	TMS 932 CE P Cascadable
Art. no.	318212	318222	318232	318242	318252
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passivedBμV	passivedBμV	passivedBμV	passivedBμV	passivedBμV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz	950...2400MHz	950...2400MHz	950...2400MHz	950...2400MHz
Frequency range TER	5...862MHz	5...862MHz	5...862MHz	5...862MHz	5...862MHz
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-0...+2 ±2dB	-2...0 ±2dB	-2...0 ±2dB	-2...0 ±2dB	-2...0 ±2dB
Gain - TER [47-862 MHz]	-26 ±2dB	-32 ±3dB	-32 ±3dB	-32 ±3dB	-32 ±3dB
<b>LOSS</b>					
Through loss - Trunk SAT	-1 ±1dB	-2 ±2dB	-2 ±2dB	-2...-4 ±2dB	-2...-4 ±2dB
Through loss - Trunk TER	-2 ±2dB	-2 ±2dB	-2 ±2dB	-2 ±4dB	-2 ±4dB
<b>ISOLATION</b>					
Cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	43mA	43mA	43mA	43mA	43mA
Temperature range	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C	-20... 70 °C°C
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	5.5 / 2.1 mm				
Number of inputs	9	9	9	9	9
Number of outputs	9	9	9	9	9
Number of trunk inputs	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER
Number of trunk outputs	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER	2 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	198mm	198mm	198mm	198mm	198mm
Width (mm)	124mm	185mm	185mm	302mm	302mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
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RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

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CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> multiswitch solutions

cascadable, passive TER, for external PSU



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

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CABINETS

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## Common features - Cascadable switches

- In contrast to standalone multiswitches, a cascadable system can be extended to become a solution covering a very large number of end-users /satellite receivers.
- If your building layout means that users live on different floors, resulting in variable cable lengths from the multiswitch to the end-user apartment, a cascadable

multiswitch installation is the best solution. Cascadable means that every multiswitch has its standard input from the LNBS, but furthermore has outputs, where the LNB signal can be conveyed further down the building floors to additional multiswitches.



### TMS 1308 CE P

Art. No. 318310

EAN Number  
5702663183100



### TMS 1324 CE P

Art. No. 318334

EAN Number  
5702663183346



### TMS 1312 CE P

Art. No. 318318

EAN Number  
5702663183186



### TMS 1332 CE P

Art. No. 318342

EAN Number  
5702663183421



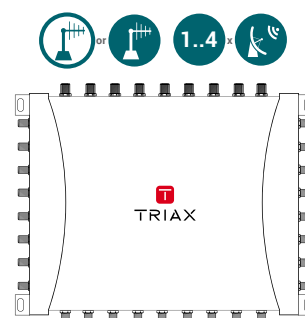
### TMS 1316 CE P

Art. No. 318326

EAN Number  
5702663183261

# TRIAX<sup>®</sup> multiswitch solutions

3 positions



**8 12 16 24 28 32**

Type:	TMS 1308 CE P Cascadable	TMS 1312 CE P Cascadable	TMS 1316 CE P Cascadable	TMS 1324 CE P Cascadable	TMS 1332 CE P Cascadable
Art. no.	318310	318318	318326	318334	318342
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V	100dB $\mu$ V
Max. output level TER @ 60dB IMD3	passive	passive	passive	passive	passive
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	5...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-2...+2 $\pm$ 2dB	-3...0 $\pm$ 2dB	-3...0 $\pm$ 2dB	-5...-2 $\pm$ 2dB	-5...-2 $\pm$ 2dB
Gain - TER [47-862 MHz]	-30 $\pm$ 3dB	-30 $\pm$ 3dB	-30 $\pm$ 3dB	-33 $\pm$ 3dB	-33 $\pm$ 3dB
<b>LOSS</b>					
Through loss - Trunk SAT	-2 $\pm$ 2dB	-2 $\pm$ 2dB	-2 $\pm$ 2dB	-2...-5 $\pm$ 2dB	-2...-5 $\pm$ 2dB
Through loss - Trunk TER	-2 $\pm$ 2dB	-2 $\pm$ 2dB	-2 $\pm$ 2dB	-4 $\pm$ 2dB	-4 $\pm$ 2dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75 $\Omega$				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
DC Operating voltage	15VDC				
Max. current to each output (supplied by set top box)	68mA				
Temperature range	-20... 70 °C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	5.5 / 2.1 mm				
Number of inputs	13	13	13	13	13
Number of outputs	13	13	13	13	13
Number of trunk inputs	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER
Number of trunk outputs	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER	3 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	286mm	286mm	286mm	286mm	286mm
Width (mm)	186mm	185mm	185mm	304mm	304mm
Height (mm)	63mm	63mm	63mm	63mm	63mm
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1
Remarks	Made in Germany				

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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HEADENDS  
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### TMS 1708 CE P

Art. No. 318410

EAN Number  
5702663184107



### TMS 1724 CE P

Art. No. 318434

EAN Number  
5702663184343



### TMS 1712 CE P

Art. No. 318418

EAN Number  
5702663184183



### TMS 1732 CE P

Art. No. 318442

EAN Number  
5702663184428



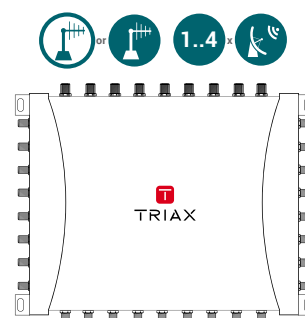
### TMS 1716 CE P

Art. No. 318426

EAN Number  
5702663184268

# TRIAX<sup>®</sup> multiswitch solutions

4 positions



**8 12 16 24 28 32**

Type:	TMS 1708 CE P Cascadable	TMS 1712 CE P Cascadable	TMS 1716 CE P Cascadable	TMS 1724 CE P Cascadable	TMS 1732 CE P Cascadable
Art. no.	318410	318418	318426	318434	318442
<b>CHARACTERISTICS</b>					
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passive	passive	passive	passive	passive
Switch commands	13/18 V, 0/22 kHz, DiSEqC 1.0				
<b>FREQUENCY</b>					
Frequency range SAT	950...2400MHz				
Frequency range TER	5...862MHz				
<b>GAIN</b>					
Gain - SAT (with 5 dB slope)	-2...+2 ±2dB	-3...0 ±2dB	-3...0 ±2dB	-5...-2 ±2dB	-5...-2 ±2dB
Gain - TER [47-862 MHz]	-30 ±3dB	-30 ±3dB	-30 ±3dB	-33 ±3dB	-33 ±3dB
<b>LOSS</b>					
Through loss - Trunk SAT	-2 ±2dB	-2 ±2dB	-2 ±2dB	-2...-5 ±2dB	-2...-5 ±2dB
Through loss - Trunk TER	-2 ±2dB	-2 ±2dB	-2 ±2dB	-4 ±2dB	-4 ±2dB
<b>ISOLATION</b>					
Isolation cross polarisation H/V	typ. 30dB				
Isolation SAT to TER	typ. 30dB				
<b>RETURN LOSS</b>					
Return loss SAT inputs	>10dB				
Return loss SAT outputs	>10dB				
Return loss TER inputs	>10dB				
Return loss TER outputs	>10dB				
<b>ELECTRICAL</b>					
Impedance	75Ω				
<b>OPERATIONAL</b>					
Control LEDs	Green LED (Power)				
Max. current to each output (supplied by set top box)	68mA				
Temperature range	-20... 70°C				
<b>CONNECTORS</b>					
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow				
Connector Type	F-female				
DC input connector	5.5 / 2.1 mm				
Number of inputs	17	17	17	17	17
Number of outputs	17	17	17	17	17
Number of trunk inputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Number of trunk outputs	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Subscriber outputs	8	12	16	24	32
<b>MECHANICAL</b>					
Colour	RAL 7035				
Depth (mm)	286mm				
Width (mm)	186mm	185mm	185mm	304mm	304mm
Height (mm)	63mm				
Material	steel metal cabinet				
Packing QTY	1	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
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RECEPTION

CABLE TV  
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HEADENDS  
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**TMS 9x4CP - Casc.  
8SAT+1TER / 4out  
+Passive Loop-in**

Art. No. 318504

EAN Number  
5702663185043



**TMS 9x12CP - Casc.  
8SAT+1TER / 12out  
+Passive Loop-in**

Art. No. 318512

EAN Number  
5702663185128



**TMS 9x6CP - Casc.  
8SAT+1TER / 6out  
+Passive Loop-in**

Art. No. 318506

EAN Number  
5702663185067



**TMS 9x16CP - Casc.  
8SAT+1TER / 16out  
+Passive Loop-in**

Art. No. 318516

EAN Number  
5702663185166



**TMS 9x8CP - Casc.  
8SAT+1TER / 8out  
+Passive Loop-in**

Art. No. 318508

EAN Number  
5702663185081



**TMS 9x20CP - Casc.  
8SAT+1TER / 20out  
+Passive Loop-in**

Art. No. 318520

EAN Number  
5702663185203

# TRIAX<sup>®</sup> multiswitch solutions

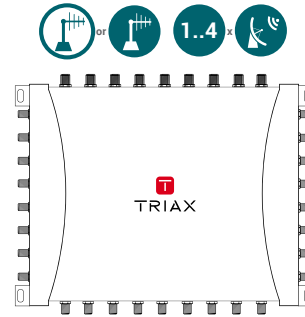
4 positions



**TMS 9x24CP - Casc.**  
**8SAT+1TER / 24out**  
**+Passive Loop-in**

Art. No. 318524

EAN Number  
 5702663185241



**8 12 16 24 28 32**

Type:	TMS 9x4CP Cascadable	TMS 9x6CP Cascadable	TMS 9x8CP Cascadable	TMS 9x12CP Cascadable	TMS 9x16CP Cascadable	TMS 9x20CP Cascadable	TMS 9x24CP Cascadable
Art. no.	318504	318506	318508	318512	318516	318520	318524
<b>CHARACTERISTICS</b>							
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Switching	14V/18V - 14V/22kHz - 18V/22kHz - DiSEqC 2.0kHz						
<b>FREQUENCY</b>							
Frequency range SAT	950-2150MHz						
Frequency range TER	5-862 (passive)MHz						
<b>GAIN</b>							
Gain - SAT (5 dB slope)	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB	-3.0 to 2.0dB
Gain - TER [47-862 MHz]	-22dB	-24dB	-26dB	-30dB	-30dB	-32dB	-32dB
<b>LOSS</b>							
Adjustable attenuator SAT	dB	dB	dB	dB	dB	dB	dB
Insertion loss - trunkline SAT	4.0 (± 2.0)dB	4.0 (± 2.0)dB	4.0 (± 2.0)dB	6.0 (± 2.0)dB	6.0 (± 2.0)dB	7.0 (± 2.0)dB	7.0 (± 2.0)dB
Insertion loss - trunkline TER	5.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB	5.0 (± 1.0)dB
<b>ISOLATION</b>							
Cross polarisation H/V	28dB						
Isolation LNB to LNB	35dB						
Isolation out-out SAT	30dB						
Isolation out-out TER	28dB						
Isolation SAT to TER	28dB						
Isolation TER to SAT	23dB						
<b>RETURN LOSS</b>							
Return loss SAT inputs	13dB	13dB	13dB	13dB	13dB	13dB	13dB
Return loss SAT outputs	8dB	8dB	8dB	8dB	8dB	8dB	8dB
Return loss TER inputs	11dB	11dB	11dB	11dB	11dB	11dB	11dB
Return loss TER outputs	8dB	8dB	8dB	8dB	8dB	8dB	8dB
<b>ELECTRICAL</b>							
Impedance	75Ω						
<b>OPERATIONAL</b>							
DC Operating voltage	15.0 ±1.0VDC						
Max. current per F-conn.	500mA						
Temperature range	-20...+55°C						
<b>CONNECTORS</b>							
Colourcoding on inputs	Yes						
Connector Type	F-female						
Number of trunk inputs	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER
Number of trunk outputs	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER	8 SAT, 1 TER
Subscriber outputs	4	6	8	12	16	20	24
<b>MECHANICAL</b>							
Depth (mm)	240mm	240mm	240mm	240mm	240mm	240mm	240mm
Width (mm)	253mm	253mm	253mm	257mm	257mm	300mm	300mm
Height (mm)	51mm	51mm	51mm	51mm	51mm	51mm	51mm
Packing QTY	1	1	1	1	1	1	1

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

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cascadable, passive TER, for external PSU



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**TMS 17x6C - Casc.**  
**16SAT+1TER / 6out**

Art. No. 301506

EAN Number  
5702663015067



**TMS 17x16C - Casc.**  
**16SAT+1TER / 16out**

Art. No. 301516

EAN Number  
5702663015166



**TMS 17x8C - Casc.**  
**16SAT+1TER / 8out**

Art. No. 301508

EAN Number  
5702663015081



**TMS 17x24 C switch excl**  
**PSU**

Art. No. 301517

EAN Number  
5702663015173



**TMS 17x12C - Casc.**  
**16SAT+1TER / 12out**

Art. No. 301512

EAN Number  
5702663015128



**TMS 17x28 C switch excl**  
**PSU**

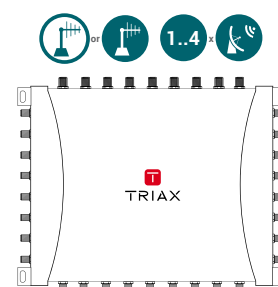
Art. No. 301518

EAN Number  
5702663015180



# TRIAX<sup>®</sup> multiswitch solutions

4 positions



8 12 16 24 28 32

Type:	TMS 17x6C Cascadable	TMS 17x8C Cascadable	TMS 17x12C Cascadable	TMS 17x16C Cascadable	TMS 17x24C Cascadable	TMS 17x28C Cascadable
Art. no.	301506	301508	301512	301516	301517	301518
<b>CHARACTERISTICS</b>						
Max. output level SAT @ -35 dB IMD3	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV	100dBμV
Max. output level TER @ 60dB IMD3	passive	passive	passive	passive	passive	passive
Switch commands	13/18 V, 0/22 kHz, DiSEqC 2.0, Toneburst VDC					
<b>FREQUENCY</b>						
Frequency range SAT	950-2150MHz					
Frequency range TER	5 - 862MHz					
<b>GAIN</b>						
Gain - TER [47-862 MHz]	-24.0dB	-24.0dB	-27.0dB	-27.0dB	-33.0dB	-33.0dB
<b>LOSS</b>						
Insertion loss - trunkline SAT	3.0dB	3.0dB	4.0dB	4.0dB		
Insertion loss - trunkline TER	4.0dB	4.0dB	4.0dB	4.0dB		
Through loss SAT	3dB	3dB	4dB	4dB		
Through loss TER	4dB	4dB	4dB	4dB		
<b>ISOLATION</b>						
Cross polarisation H/V	28.0dB	28.0dB	28.0dB	28.0dB	28.0dB	28.0dB
Isolation LNB to LNB	30.0dB	30.0dB	35.0dB	35.0dB		
Isolation out-out SAT	30.0dB	30.0dB	30.0dB	30.0dB		
Isolation out-out TER	25.0dB	25.0dB	25.0dB	25.0dB		
Isolation SAT to TER	30.0dB	30.0dB	30.0dB	30.0dB	30.0dB	30.0dB
Isolation TER to SAT	20.0dB	20.0dB	20.0dB	20.0dB		
<b>RETURN LOSS</b>						
Return loss SAT inputs				12.0dB		
Return loss SAT outputs				12.0dB		
Return loss TER inputs				8.0dB		
Return loss TER outputs				8.0dB		
<b>ELECTRICAL</b>						
Impedance	75Ω					
Power link (for ampl. in line)	Yes					
<b>OPERATIONAL</b>						
Control LEDs	Green LED (Power)					
DC Operating voltage	15.0 ± 0.5VDC	15.0 ± 0.5VDC	15.0 ± 0.5VDC	15.0 ± 0.5VDC		
Temperature range	-20...+55°C					
<b>CONNECTORS</b>						
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow					
Connector Type	F-female					
DC input connector	F-female					
Number of trunk inputs	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER
Number of trunk outputs	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER
Subscriber outputs	6	8	12	16	24	28
<b>MECHANICAL</b>						
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Depth (mm)	215mm	215mm	215mm	215mm	325mm	325mm
Width (mm)	355mm	355mm	355mm	355mm	355mm	355mm
Height (mm)	55mm	55mm	55mm	55mm	55mm	55mm
Material	steel metal cabinet					
Packing QTY	1	1	1	1	1	1

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
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cascadable with termination, passive TER, for external PSU



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**TMS 17x6T Terminated - 16SAT+1TER / 6out**

Art. No. 301606

EAN Number  
5702663016064



**TMS 17x16T Terminated - 16SAT+1TER / 16out**

Art. No. 301616

EAN Number  
5702663016163



**TMS 17x 8T Terminated - 16SAT+1TER / 8out**

Art. No. 301608

EAN Number  
5702663016088



**TMS 17x24T Terminated - 16SAT+1TER / 24 out**

Art. No. 301617

EAN Number  
5702663016170



**TMS 17x12T Terminated - 16SAT+1TER / 12out**

Art. No. 301612

EAN Number  
5702663016125



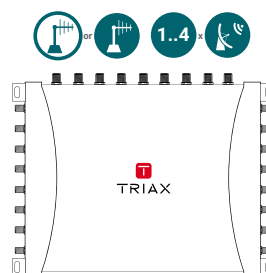
**TMS 17x28T Terminated - 16SAT+1TER / 28 out**

Art. No. 301618

EAN Number  
5702663016187

# TRIAX<sup>®</sup> multiswitch solutions

4 positions



8 12 16 24 28 32

TERRESTRIAL  
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CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
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Type:	TMS 17x6T Terminated	TMS 17x 8T Terminated	TMS 17x12T Terminated	TMS 17x16T Terminated	TMS 17x24T Terminated	TMS 17x28T Terminated
Art. no.	301606	301608	301612	301616	301617	301618
<b>CHARACTERISTICS</b>						
LNB power supply max.	1.3V/DC	1.3V/DC	1.3V/DC	1.3V/DC	1.3V/DC	1.3V/DC
Max. output level SAT @ -35 dB IMD3	100dBµV	100dBµV	100dBµV	100dBµV	100dBµV	100dBµV
Switch commands	13/18 V, 0/22 kHz, DiSEqC 2.0, Toneburst					
<b>FREQUENCY</b>						
Frequency range SAT	950-2150 (aktiv)MHz					
Frequency range TER	5-862 (passiv)MHz					
<b>GAIN</b>						
Gain - SAT (with 5 dB slope)	- 2.0dB	0dB	- 2.0dB	0dB		
Gain - TER [47-862 MHz]	- 21.0dB	- 22.0dB	- 24.0dB	- 24.0dB		
<b>LOSS</b>						
<b>ISOLATION</b>						
Cross polarisation H/V	28.0dB	28.0dB	28.0dB	28.0dB		
Isolation LNB to LNB	35.0dB	35.0dB	35.0dB	35.0dB	35.0dB	35.0dB
Isolation out-out SAT	30.0dB	30.0dB	30.0dB	30.0dB	30.0dB	30.0dB
Isolation out-out TER	25.0dB	25.0dB	25.0dB	25.0dB	25.0dB	25.0dB
Isolation SAT to TER	30.0dB	30.0dB	30.0dB	30.0dB	30.0dB	30.0dB
Isolation TER to SAT	20.0dB	20.0dB	20.0dB	20.0dB	20.0dB	20.0dB
<b>RETURN LOSS</b>						
Return loss SAT inputs	12.0dB	12.0dB	12.0dB	12.0dB	12.0dB	12.0dB
Return loss SAT outputs	12.0dB	12.0dB	12.0dB	12.0dB	12.0dB	12.0dB
Return loss TER inputs	8.0dB	8.0dB	8.0dB	8.0dB	8.0dB	8.0dB
Return loss TER outputs	8.0dB	8.0dB	8.0dB	8.0dB	8.0dB	8.0dB
<b>ELECTRICAL</b>						
Impedance	75Ω					
Power link (for ampl. in line)	Yes					
<b>OPERATIONAL</b>						
Control LEDs	Green for power, Yellow for power link					
DC Operating voltage	15.0 ± 0.5VDC					
Temperature range	0...+55°C					
<b>CONNECTORS</b>						
Colourcoding on inputs	VL=Black, VH=Red, HL=Green, HH=Yellow					
Connector Type	F-female					
Number of inputs	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER
Number of trunk inputs	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER	16 SAT, 1 TER
Subscriber outputs	6	8	12	16	24	28
<b>MECHANICAL</b>						
Depth (mm)	125mm	125mm	215mm	215mm	mm	mm
Width (mm)	355mm	355mm	355mm	355mm	355mm	355mm
Height (mm)	55mm	55mm	55mm	55mm	55mm	55mm
Packing QTY	1	1	1	1	1	1

# TRIAX<sup>®</sup> SCR multiswitch solutions

cascadable single cable distribution



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

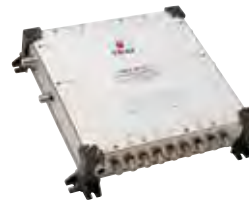
INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
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## Common features - SCR multiswitches

Our TMU single cable multiswitch family features state-of-the-art switching technology. Output switches between legacy and SCR receivers, with no installer or user intervention. With the growing need for more satellite receivers per apartment, SCR technology has obvious advantages, and TRIAX will help you to fully support this trend.



**TMU 943C - SCR 8SAT+1TER / 4out**

Art. No. 307348

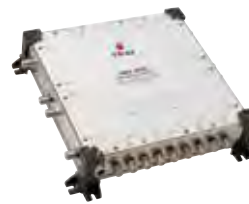
EAN Number  
5702663073487



**TMU 518 - SCR 4SAT+1TER / 8out**

Art. No. 307330

EAN Number  
5702663073302



**TMU 983C - SCR 8SAT+1TER / 8out**

Art. No. 307352

EAN Number  
5702663073524



**TMU 543C - SCR 4SAT+1TER / 4out**

Art. No. 307340

EAN Number  
5702663073401



**TMU 1743C - SCR 16SAT+1TER / 4out**

Art. No. 307356

EAN Number  
5702663073562



**TMU 583C - SCR 4SAT+1TER / 8out**

Art. No. 307344

EAN Number  
5702663073449



**TMU 1783C SCR 16SAT+1TER / 8out**

Art. No. 307360

EAN Number  
5702663073609

# TRIAX® SCR multiswitch solutions

1-4 positions

## Legend:



Passive Terrestrial loopthrough



Active Terrestrial loopthrough



1...4 satellite positions

**4** X **3x SCR**

Numbers of subscriber outputs each for 3 STB on same cable

**6** **8** **12** **16** **24** **28** **32**

Numbers of subscriber outputs from the multiswitch

Type:	TMU 518 - SCR	TMU 543C - SCR	TMU 583C - SCR	TMU 943C - SCR	TMU 983C - SCR	TMU 1743C - SCR	TMU 1783C - SCR
Art. no.	307330	307340	307344	307348	307352	307356	307360
<b>CHARACTERISTICS</b>							
Input polarity gain control SAT	4 X 10.0dB	dB	dB				
Input polarity gain control TER	15.0dB	dB	dB				
LNB current max.	600mA	500mA	500mA	500mA	500mA	500mA	500mA
Max. input level - SAT (IMD3 - 35dB)	dBµV	60...91dBµV	60...91dBµV	60...91dBµV	60...91dBµV	60...91dBµV	60...91dBµV
Max. input level - TER (IMD3 - 60dB)	dBµV	91dBµV	91dBµV	90dBµV	90dBµV	90dBµV	90dBµV
Max. output level SAT @ -35 dB IMD3	100dBµV	80dBµV	80dBµV	80dBµV	80dBµV	80dBµV	80dBµV
Max. output level TER @ 60dB IMD3	95dBµV						
Switch commands	13V/18V - 13V/22 kHz - 18V/22 kHz						
<b>FREQUENCY</b>							
Frequency range SAT	950-2150MHz						
Frequency range TER	47-862MHz						
<b>LOSS</b>							
Insertion loss - trunkline SAT	3.0dB	2.0dB	2.5dB	2.0dB	3.0dB	2.0dB	3.0dB
Insertion loss - trunkline TER	3.0dB	3.0dB	5.0dB	3.0dB	5.0dB	3.0dB	5.0dB
Tap loss TER	dB	typ. 24dB	typ. 24dB	typ. 24dB	typ. 24dB	typ. 24dB	typ. 24dB
<b>ISOLATION</b>							
Cross polarisation H/V	30dB						
Isolation out-out SAT	30dB						
Isolation out-out TER	30dB						
Isolation SAT to TER	32dB						
Isolation TER to SAT	32dB						
<b>RETURN LOSS</b>							
Return loss SAT inputs	10dB	>10dB	>10dB	>10dB	>10dB	>10dB	>10dB
Return loss SAT outputs	8dB						
Return loss TER inputs	10dB						
Return loss TER outputs	8dB						
<b>ELECTRICAL</b>							
Impedance	75Ω						
<b>OPERATIONAL</b>							
DC Operating voltage	18VDC				15VDC		
DC Current consumption (typ.)	1.5 (47-63 Hz)						
LINE power current (max.)	50.0mA				85.0mA		
LINE power DC voltage (max.)	12.0VDC						
AC Supply voltage	180...264VAC						
Temperature range	0...+55°C				-20...+50°C		
<b>CONNECTORS</b>							
Colourcoding on inputs	Yes				Yes		
Connector Type	F-female				F-female		
DC input connector	5.5 / 2.1 mm	5.5 / 2.1 mm	5.5 / 2.1 mm	5.5 / 2.1 mm	5.5 / 2.1 mm	5.5 / 2.1 mm	
Number of SCR / STB (max.)	8	12	24	12	24	12	24
Number of trunk inputs	4 SAT, 1 TER	4 SAT, 1 TER		8 SAT, 1 TER		16 SAT, 1 TER	
Number of trunk outputs	5	5	5	9	9	17	17
Number of SCR / STB per Output	8	3	3	3	3	3	3
Subscriber outputs	4	4	8	4	8	4	4
<b>MECHANICAL</b>							
Depth (mm)	157mm	122mm	122mm	122mm	122mm	222mm	222mm
Width (mm)	190mm	158mm	158mm	222mm	222mm	350mm	350mm
Height (mm)	51mm	51mm	51mm	51mm	51mm	51mm	51mm
Packing QTY	1	1	1	1	1	1	1

TERRESTRIAL RECEPTION

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CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

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# TRIAX® SkyQ multiswitch solutions

cascadable single cable distribution



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RECEPTION

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CONNECTORS

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## Common features - SkyQ multiswitches

Sky Q is Sky's most advanced TV experience ever. If you install in MDUs, the existing system will need to be redesigned to incorporate the new Digital SCR multiswitch (dSCR) to enable Sky Q functionality. TRIAX has a range of Sky approved dSCR (digital Satellite Cable Router) multiswitches for Sky Q.

The switch enables the Sky Q receiver to select certain frequencies and allow FM, DAB and UHF to pass to the apartment. The dSCR technology supports up to 16 receivers on a single cable.



**TMDS 42C SkyQ  
dSCR "add on" multi switch**

Art. No. 307368

EAN Number  
5702663073685



**TMDS 54C SkyQ  
dSCR multi switch**

Art. No. 307370

EAN Number  
5702663073708



**TMDS 58C SkyQ  
dSCR multi switch**

Art. No. 307378

EAN Number  
5702663073784



**TMDS 516 C SkyQ  
dSCR multi switch**

Art. No. 307380

EAN Number  
5702663073807

# TRIAX<sup>®</sup> SkyQ multiswitch solutions

cascadable single cable distribution

## Legend:



Passive  
Terrestrial  
loopthrough



Active  
Terrestrial  
loopthrough



1 ... 4  
satellite  
positions



Numbers of  
subscriber outputs  
from the multiswitch

TMDS 42 C SkyQ dSCR Add-On  
Channel plan of user bands:  
Sky UK, Sky Italia, Sky Germany

Type:	TMDS 42 C SkyQ dSCR Add-On 307368	TMDS 54 C SkyQ dSCR multi switch 307370	TMDS 58 C SkyQ dSCR multi switch 307378	TMDS 516 C SkyQ dSCR multi switch 307380
Art. no.				
<b>CHARACTERISTICS</b>				
Max. input level - SAT (IMD3 - 35dB)	-45...-15dBμV	73...103dBμV	73...103dBμV	73...103dBμV
Max. input level - TER (IMD3 - 60dB)		96dBμV	96dBμV	88dBμV
Max. output level SAT @ -35 dB IMD3		94dBμV	94dBμV	94dBμV
Max. output level TER @ 60dB IMD3		90/103dBμV	90/103dBμV	86/96dBμV
Switch commands		Legacy / BSKyB SCR / CENELEC 50494 / CENELEC 50607		
Switching	22kHz			
<b>FREQUENCY</b>				
Frequency range SAT	950..2150MHz		950..2150MHz	
Frequency range TER	5...862MHz		40...790MHz	
<b>LOSS</b>				
Insertion loss - SAT dB	-10.20 (AGC)			
Insertion loss - TER	-3dB			
Insertion loss - trunkline SAT		1.5dB	2.5dB	-6dB
Insertion loss - trunkline TER		5dB	8dB	-16dB
Insertion loss (typ.)@Legacy ports	0			
Tap loss SAT		-15...+15/0dB	-15...+15/0dB	-15...+15dB
Tap loss TER		-6/-17dB	-10/-21dB	-10/-24dB
<b>ISOLATION</b>				
Isolation SAT to SAT	dB	>35dB	>35dB	>35dB
<b>RETURN LOSS</b>				
Return loss SAT inputs	dB	>10dB	>10dB	>10dB
Return loss TER inputs	dB	>8dB	>8dB	>8dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
DC Operating voltage		20VDC	20VDC	20VDC
DC Current consumption (typ.)		100mA	100mA	600mA
External PSU item ID		307372	307372	307372
External PSU		Optional	Optional	Optional
LINE power current (max.)	500mA			
Power Consumption (typ.)				
@Legacy ports	<2			
@Legacy ports	<4.2			
Temperature range		-20...+50°C	-20...+50°C	-20...+50°C
<b>CONNECTORS</b>				
Colourcoding of IF and TER inputs		yes	yes	Yes
Connector Type	F-female	F-female	F-female	F-female
DC input connector	Yes	5.5 / 2.1 mm	5.5 / 2.1 mm	5.5 / 2.1mm
Number of SCR / STB (max.)		4 x 16	8 x 16	16 x 16
Number of inputs	4	5	5	5
Number of outputs @Legacy only	2			
@SCR/Legacy auto det.	2			
Number of trunk inputs		4 SAT, 1 TER	4 SAT, 1 TER	4 SAT, 1 TER
Number of trunk outputs		5	5	5
Number of SCR / STB per Output		16	16	16
Subscriber outputs	16 per SCR output	4	8	16
<b>MECHANICAL</b>				
Depth (mm)	92mm	50mm	50mm	50mm
Height (mm)	92mm	143mm	223mm	423mm
Length (mm)	40mm	223mm	223mm	223mm
Packing QTY	1	1	1	1

TERRESTRIAL  
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CABLE TV  
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# TRIAX® Accessories

amplifiers for multiswitches



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## Common features - Trunk launch and line amplifiers

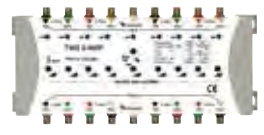
A launch amplifier is the first amplifier in a multiswitch installation, typically near the LNB and dish installation. It is designed to boost your signal to get more mileage in a long cascaded installation. Using a line amplifier, you can compensate for the cable losses further down the trunk lines of your satellite distribution system.

**Remember:**  
Due to the laws of physics there are limits to how many line amplifiers you can add into a multiswitch cascade before your signal quality deteriorates beyond practical use.



### SAT Line amplifier

Art. No. 300401  
EAN Number 5702663004016



### TMS 9 / IF-amplifier

Art. No. 300365  
EAN Number 5702663003651



### TMM 44 / IF-launch amplifier

Art. No. 305300  
EAN Number 5702663053007



### TMS 13 AMP - Lineamplifier

Art. No. 307420  
EAN Number 5702663074200



### TMS 55 / IF-amplifier

Art. No. 300315  
EAN Number 5702663003156



### TMS 17 / IF-amplifier

Art. No. 301501  
EAN Number 5702663015012



# TRIAX® Accessories

amplifiers for multiswitches

Type:	SAT Line amplifier	TMM 44 IF-launch amplifier	TMS 55 IF-amplifier	TMS 9 IF-amplifier	TMS 13 IF-amplifier	TMS 17 IF-amplifier
Art. no.	300401	305300	300315	300365	307420	301501
<b>CHARACTERISTICS</b>						
Max. output level SAT @ -35 dB IMD3	100dBµV	115dBµV	110dBµV	110dBµV		110dBµV
Out level TER - 47-862 MHz			105dBµV	105dBµV		105dBµV
LNB power supply max.	2x14/2x18V/DC					
<b>FREQUENCY</b>						
Frequency range	47-2300MHz	950...2150MHz	950 - 2150MHz	950 - 2150MHz	950 - 2150MHz	950 - 2150MHz
<b>GAIN</b>						
Gain	16...20dB					
Gain - SAT (5 dB slope)		40dB	20...25dB	14dB	18 to 24 +/-2dB	18...24dB
Gain - TER [47-862 MHz]			17 (± 2)dB	17 (± 2)dB	17+/-2dB	17dB
Gain - FM [47-108 MHz]					8dB	
Gain - DAB [170-230 MHz]					5dB	
Slope control SAT		0-10				
Noise figure SAT			< 12.0dB			< 8.0dB
<b>LOSS</b>						
Attenuation - adjustable						0 - 10dB
Adj. attenuator SAT			0-20dB	0-20dB	0 to 10dB	0-10dB
Adj. attenuator TER			0-20dB	0-20dB	0, 6 (switchable)	0-10dB
Equalization SAT			5 (fixed)	5 (fixed)	0 to 15	0, 6 (switchable)
Equalization TER			2-15 (adjustable)	2-15.0	dB	0-15.0 (adjustable)
<b>ISOLATION</b>						
Isolation SAT to SAT						30.0dB
Isolation trunk to trunk		35dB				
<b>RETURN LOSS</b>						
Return loss SAT outputs	10.0dB	dB	dB	dB	>=10dB	dB
Return loss SAT	dB	10.0dB	10.0dB	10.0dB	dB	10.0dB
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
LED indicator		On all Inputs				
DC Operating voltage		VDC	18VDC	18VDC		18VDC
DC Current consumption (typ.)		390mA				
LINE power DC voltage (max.)		18 (± 0.5)/ 13 (± 0.5) via in- or outputVDC				
Temperature - operating		0...55°C	0...50°C	0...50°C	0...55°C	0...55°C
<b>CONNECTORS</b>						
Number of trunk inputs		4x SAT	4x SAT, 1x TER	8x SAT, 1x TER	12 SAT, 1 TER	16x SAT, 1x TER, power link
Number of trunk outputs	1	4 SAT	4 SAT, 1 TER	8 SAT, 1 TER	12 SAT, 1 TER	16 SAT, 1x TER + power link
Colourcoding on inputs			Yes	Yes	Yes	Yes
Connector Type	F-female	F-female	F-female	F-female		F-female
<b>MECHANICAL</b>						
Packing QTY	1	1	1	1	1	1
Weight (kg)	0.06kg					
Dimensions (H x D x W)	82 x 25 x 27mm					

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CABLE TV  
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OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

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# TRIAX<sup>®</sup> Accessories

taps & splitters for multiswitches



TERRESTRIAL  
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CABLE TV  
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CABINETS

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## Common features - Trunk taps and splitters

Taps and splitters expand the TMS 5x series into a cascable system.

Using TMS 55 taps, it is possible to construct large cascable systems. Different tap values allow fine-tuning of available signal levels, and by using splitters you can

balance your distribution system in the best possible way. The MultiTAP allows you to extend any cascade into large systems using a passive TAP technique in the trunk, and 3 active TAPS on each level.



### TMM 4+1 Splitter

Art. No. 305320

EAN Number  
5702663053205



### TMM 5 Splitter

Art. No. 305319

EAN Number  
5702663053199



### TMS 510 - Splitter

Art. No. 300319

EAN Number  
5702663003194



### TMS 55-12 TAP

Art. No. 300313

EAN Number  
5702663003132



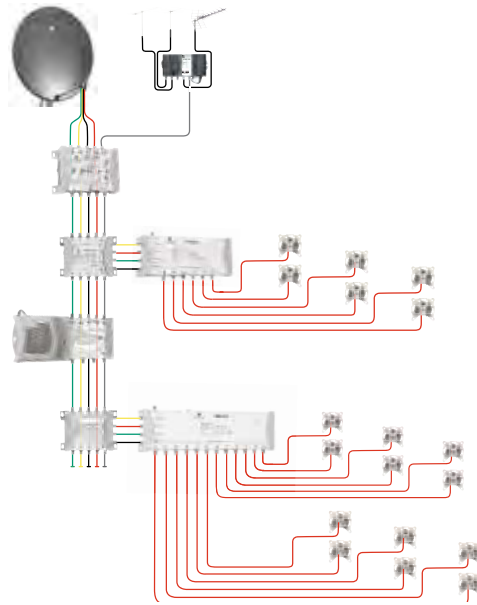
### TMS 55-15 TAP

Art. No. 300333

EAN Number  
5702663003330

# TRIAX® Accessories

taps & splitters for multiswitches



Type:	TMM 4+1 Splitter	TMM 5 Splitter	TMS 510 - Splitter	TMS 55-12 TAP	TMS 55-15 TAP
Art. no.	305320	305319	300319	300313	300333
<b>FREQUENCY</b>					
Frequency range SAT	MHz	MHz	950-2150MHz	950-2150MHz	950-2150MHz
Frequency range	47-2150MHz	47-2150MHz	47-2150MHz	47-2150MHz	47-2150MHz
<b>LOSS</b>					
Through loss - SAT	4.5 ±1dB	4.5 ±1dB	4.0 ±1dB	1.2 ±1dB	1.2 ±1dB
Through loss - TER	4.3 ±1dB	2.5 ±1.5dB	6.0 ±1dB	2.5 ±1.5dB	2.5 ±1.5dB
Tap loss - SAT				12.5dB	15.0dB
Tap loss - TER				12.5dB	15.0dB
<b>ISOLATION</b>					
Isolation trunkline			> 30.0dB	> 30.0dB	> 30.0dB
Isolation out-out SAT	> 20.0dB	> 20.0dB			
Isolation out-out TER	> 22.0dB	> 22.0dB			
<b>RETURN LOSS</b>					
Return loss SAT	13dB	13dB			
Return loss TER	15dB	15dB			
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
DC Passthrough	Yes	Yes			
Temperature - operating	0...55°C	0...55°C	-20...55°C	-20...55°C	0...55°C
<b>CONNECTORS</b>					
Number of trunk inputs	4 x SAT, 1 x TER	4 x SAT, 1 x TER	4 x SAT, 1 x TER	4 x SAT, 1 x TER	4 x SAT, 1 x TER
Number of trunk outputs	2x4 SAT, 2x1 TER	2x4 SAT, 2x1 TER	8 x SAT, 2 x TER	4 x SAT, 1 x TER	4 x SAT, 1 x TER
Colourcoding oninputs	Yes	Yes	Yes	Yes	Yes
Connector Type	F-female	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>					
Packing QTY	1	1	1	1	1
Product Height	190mm	190mm	145mm	145mm	145mm
Product Depth	78mm	78mm	42mm	42mm	42mm
Product Width	105mm	105mm	255mm	119mm	119mm
Weight (kg)	0.49kg	0.49kg			

TERRESTRIAL  
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CABLE TV  
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OUTLETS  
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INHOUSE  
CONNECTIVITY

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# TRIAX<sup>®</sup> Accessories

power supplies – terminators & connectors



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## Common features - Power supplies

Power supplies for your multiswitch installation come in many different varieties in terms of voltage, current supply and connector.

**Note** that the DC output connector may be different depending on the switch series. Make sure you get the one that fits the multiswitch you are installing.

## Choose the right power supply (PSU)

Small cascadable setups with 1 or 2 Sat Positions run on the small 2.0A power supply.

A larger cascadable system containing multiple Sat Positions and LNBS can be driven by a 3.0A power supply.



**TMS 1520-55 PSU - EU**  
15VDC/2.0A/  
5.5mm DC-plug

Art. No. 318150  
EAN Number  
5702663181502



**TMS 1533-55 PSU - EU**  
15VDC/3.3A/  
5.5mm DC-plugg

Art. No. 318152  
EAN Number  
5702663181526



**TMS 1520-55 PSU - BS**  
15VDC/2.0A/  
5.5mm DC-plug

Art. No. 318158  
EAN Number  
5702663181588



**TMS 1533-55 PSU - BS**  
15VDC/3.3A/  
5.5mm DC-plugg

Art. No. 318151  
EAN Number  
5702663181519



**TMS 1520 PSU - RCA**  
15VDC/2.0A/  
RCA DC-plug

Art. No. 318154  
EAN Number  
5702663181540

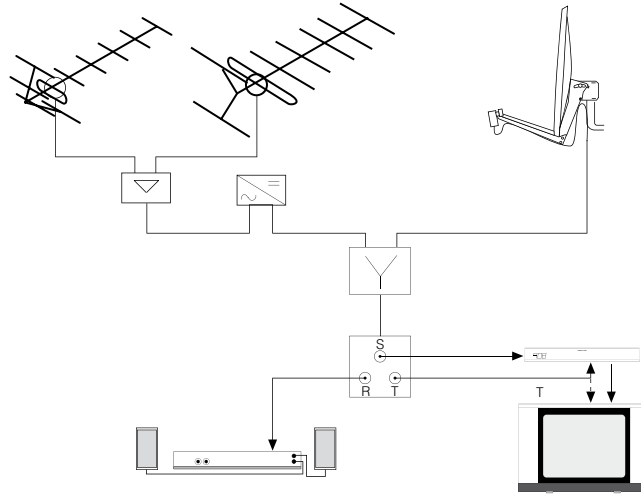


**TMS 1533 PSU - RCA**  
15VDC/3.3A/  
RCA DC-plug

Art. No. 318156  
EAN Number  
5702663181564

# TRIAX® Accessories

power supplies – terminators & connectors



## In Line DC Block

Art. No. 370706

EAN Number  
5702663707061



## TMM F\_F male Quick connector

Art. No. 370009

EAN Number  
5702663700093



## RFC 75 - F-male Terminator - 5 pcs. bag

Art. No. 153054

EAN Number  
5702661530548



## TMM LK - Connecting leads - 25,5 cm

Art. No. 305309

EAN Number  
5702663053090



## RFC 75 DC - F-male Terminator DC Blocked

Art. No. 350659

EAN Number  
5702663506596



## TMM RPL - Power lead

Art. No. 305350

EAN Number  
5702663053502



## TMM 75 ohm - F-male Terminator DC Blocked

Art. No. 305349

EAN Number  
5702663053496



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# TRIAX<sup>®</sup> DiSEqC switches

for multi satellite reception



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## Common features - DiSEqC switches

TRIAX DiSEqC switches are used in multi satellite installations for switching between 2 or 4 LNBs, each pointing at different satellites. High isolation ensures problem-free operation in multiple user installations.

Available in diode or relay versions (relay is a mechanical solution for extreme weather conditions), and can be used with single, dual and quad LNBs.

### MFD 41D - 4x1 switch

Art. No. 300509

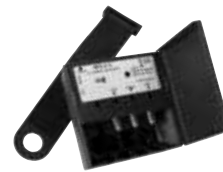
FREQUENCY	
Frequency range SAT	950...2200 MHz
CONNECTORS	
Number of inputs	4
Number of outputs	1



### MFD 21D - 2x1 switch

Art. No. 300510

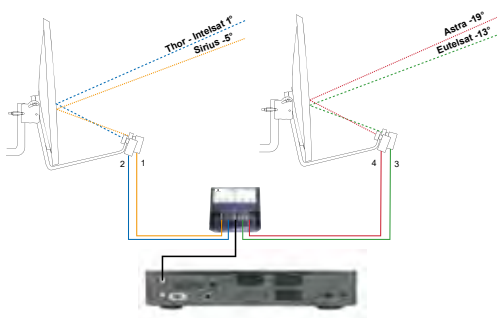
FREQUENCY	
Frequency range SAT	950...2200 MHz
CONNECTORS	
Number of inputs	2
Number of outputs	1



### MFD 21R - 2x1 Relay switch

Art. No. 300508

FREQUENCY	
Frequency range SAT	950...2200 MHz
CONNECTORS	
Number of inputs	2
Number of outputs	1



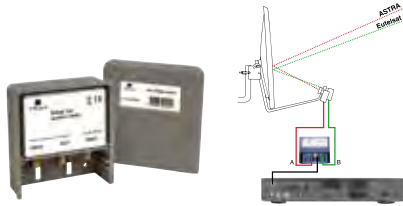
# TRIAX<sup>®</sup> DiSEqC switches

for multi satellite reception

## DiSEqC 502 - 2x1 switch

Art. No. 300502

FREQUENCY	
Frequency range SAT	900...2150 MHz
CONNECTORS	
Number of inputs	2
Number of outputs	1



## DiSEqC 504 - 4x1 switch

Art. No. 300504

FREQUENCY	
Frequency range SAT	900...2150 MHz
CONNECTORS	
Number of inputs	4
Number of outputs	1



Type:	DiSEqC 502 - 2x1 switch	DiSEqC 504 - 4x1 switch	MFD 21D - 2x1 switch	MFD 21R - 2x1 Relay switch	MFD 41D - 4x1 switch
Art. no.	300502	300504	300510	300508	300509
CHARACTERISTICS					
DiSEqC control	DiSEqC 1.0	DiSEqC 1.0	DiSEqC 1.0 and tone burst	DiSEqC 1.0 and tone burst	DiSEqC 1.0 and tone burst
FREQUENCY					
Frequency range SAT	900...2150MHz	900...2150MHz	950...2200MHz	950...2200MHz	950...2200MHz
LOSS					
Through loss	1.5 (max 3.0)dB	1.5 (max 3.0)dB	1.5dB	1dB	2.5dB
ISOLATION					
Isolation input A-B	> 10dB	> 10dB	> 25dB	> 25dB	> 30dB
RETURN LOSS					
Return Loss	> 8dB	> 8dB	> 10dB	> 10dB	> 8dB
ELECTRICAL					
Number of positions	2	4	2	2	4
Switch Type	DiSEqC	DiSEqC	Diodes	Relay	Diodes
OPERATIONAL					
DC Current consumption (typ.)	25mA	25mA	< 30mA	< 30mA	< 30mA
Functions	Position/ tone burst	Position/ option	Position/option/ band	Position/option/ band	Position/ option
Temperature range	-30...+60°C	-30...+60°C	-30 ... +60°C	-30 ... +60°C	-30 ... +60°C
MECHANICAL					
Remarks			Hi End DiSEqC switch	Hi End DiSEqC switch	Hi End DiSEqC switch
Height (mm)	60mm	60mm	106mm	106mm	106mm
Width (mm)	60mm	125mm	120mm	120mm	120mm
Depth (mm)	12mm	12mm	43mm	43mm	43mm

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## Triax range of masts and brackets – for perfect installations

Triax has a wide range of mounting brackets. Please refer to the mast calculation section of the technical appendix, and make your installation in accordance with the EN 50083-1 standard, with a restriction of 1650 Nm as maximum on a normal building.

### Wall bracket - 3 legs

Art. No. 140045

EAN Number 5702661400452

#### MECHANICAL

Clearance from wall	350 mm
Height (mm)	200 mm
Tube dimension	Ø30 mm
Material	Steel
Packing QTY	1



### Wall bracket - 2 x 2 legs 25-50 cm

Art. No. 140037

EAN Number 5702661400377

#### MECHANICAL

Clearance from wall	250-500 mm
Height (mm)	40 mm
Tube dimension	Ø 51 max.
Material	5 x 35 mm Electrogalv. steel
Packing QTY	1



### Window bracket

Art. No. 130016

EAN Number 5702661300165

#### MECHANICAL

Clearance from wall	600 mm
Material	Aluminium
Packing QTY	1



### Wall bracket - 2+3 legs 25-50 cm

Art. No. 140047

EAN Number 5702661400476

#### MECHANICAL

Clearance from wall	250-500 mm
Height (mm)	40 mm
Tube dimension	Ø 51 max.
Material	5 x 35 mm Electrogalv. steel
Packing QTY	1



### Window bracket

Art. No. 130018

EAN Number 5702661300189

#### MECHANICAL

Clearance from wall	780 mm
Material	Aluminium
Packing QTY	1



### Wall bracket - 2+3 legs 25-50 cm

Art. No. 140048

EAN Number 5702661400483

#### MECHANICAL

Clearance from wall	500-750 mm
Height (mm)	40 mm
Tube dimension	Ø 51 max.
Material	5 x 35 mm Electrogalv. steel
Packing QTY	1



### Wall bracket - 2 legs 7,5 cm

Art. No. 140036

EAN Number 5702661400360

#### MECHANICAL

Clearance from wall	75 mm
Height (mm)	40 mm
Tube dimension	30-50 mm
Material	Galvanized steel
Packing QTY	1





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## Wall bracket - 2 legs 5 cm

Art. No. 131002

EAN Number 5702661310027

MECHANICAL	
Clearance from wall	75 mm
Material	Galvanized steel
Tube dimension	30-50mm
Packing QTY	1



## Wall bracket - 2 legs 15 cm

Art. No. 131012

EAN Number 5702661310126

MECHANICAL	
Clearance from wall	150 mm
Material	Galvanized steel
Tube dimension	30-50mm
Packing QTY	1



## Wall bracket - 2 legs 25 cm

Art. No. 131022

EAN Number 5702661310225

MECHANICAL	
Clearance from wall	250 mm
Material	Galvanized steel
Tube dimension	30-50mm
Packing QTY	1



## Wall bracket - 2 legs 35 cm

Art. No. 131032

EAN Number 5702661310324

MECHANICAL	
Clearance from wall	350 mm
Material	Galvanized steel
Tube dimension	30-50mm
Packing QTY	1



## Wall bracket - 2 legs 45 cm

Art. No. 131042

EAN Number 5702661310423

MECHANICAL	
Clearance from wall	450 mm
Material	Galvanized steel
Tube dimension	30-50mm
Packing QTY	1



## Wall bracket - 3 legs 15 cm

Art. No. 131013

EAN Number 5702661310133

MECHANICAL	
Clearance from wall	150 mm
Material	Galvanized steel
Tube dimension	30-50mm
Packing QTY	1



## Wall bracket - 3 legs 25 cm

Art. No. 131023

EAN Number 5702661310232

MECHANICAL	
Clearance from wall	250mm
Material	Galvanized steel
Tube dimension	30-50
Packing QTY	1



## Wall bracket - 3 legs 35 cm

Art. No. 131033

EAN Number 5702661310331

MECHANICAL	
Clearance from wall	350mm
Material	Galvanized steel
Tube dimension	30-50
Packing QTY	1



## Wall bracket - 3 legs 45 cm

Art. No. 131043

EAN Number 5702661310430

MECHANICAL	
Clearance from wall	450mm
Material	Galvanized steel
Tube dimension	30-50
Packing QTY	1



## Wall bracket - 3 legs 55 cm

Art. No. 131053

EAN Number 5702661310539

MECHANICAL	
Clearance from wall	550mm
Material	Galvanized steel
Tube dimension	30-50
Packing QTY	1



## Wall bracket - 3 legs 65 cm

Art. No. 131063

EAN Number 5702661310638

MECHANICAL	
Clearance from wall	650mm
Material	Galvanized steel
Tube dimension	30-50
Packing QTY	1



## Wall bracket - 3 legs 75 cm

Art. No. 131073

EAN Number 5702661310737

MECHANICAL	
Clearance from wall	750 mm
Material	Galvanized steel
Tube dimension	30-50
Packing QTY	1



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## GH 25 - Wall bracket - 25.0 cm Art. No. 350600 EAN Number 5702663506008

MECHANICAL	
Clearance from wall	250 mm
Tube dimension	30-60 mm
Material	Galvanized steel
Packing QTY	1



SATELLITE  
& FIBRE  
RECEPTION

## GF 85 Wall Bracket set Art. No. 140033 EAN Number 5702661400339

MECHANICAL	
Clearance from wall	75 mm
Width (mm)	850 mm
Tube dimension	30-50 mm
Material	Galvanized steel
Packing QTY	1



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## GF 125 Wall Bracket set Art. No. 140038 EAN Number 5702661400384

MECHANICAL	
Clearance from wall	75 mm
Width (mm)	1250 mm
Tube dimension	30-50 mm
Material	Galvanized steel
Packing QTY	1



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## GF 175 Wall Bracket set Art. No. 140039 EAN Number 5702661400391

MECHANICAL	
Clearance from wall	75 mm
Width (mm)	1750 mm
Tube dimension	30-50 mm
Material	Galvanized steel
Packing QTY	1



CABLES &  
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## GF 110-170 Wall Bracket set Art. No. 140040 EAN Number 5702661400407

MECHANICAL	
Clearance from wall	75 mm
Width (mm)	1100-1700 mm
Tube dimension	30-50 mm
Material	Galvanized steel
Packing QTY	1



OUTLETS  
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## U-clamp - for wall mounts Art. No. 140035 EAN Number 5702661400353

MECHANICAL	
Tube dimension	30-50 mm
Material	Elektro galv. steel
Packing QTY	2



INHOUSE  
CONNECTIVITY

## Mast clamp - 50 mm straight Art. No. 132006 EAN Number 5702661320064

MECHANICAL	
Tube dimension	50 mm
Material	Galvanized steel
Packing QTY	1



SURVEILLANCE  
(CCTV)

## Single angle pipe - short Art. No. 140010 EAN Number 5702661400100

MECHANICAL	
Clearance from wall	mm
Height (mm)	210 mm
Tube dimension	38 / 30-50 mm
Material	Galvanized steel
Packing QTY	1



## Single angle pipe - long Art. No. 140011 EAN Number 5702661400117

MECHANICAL	
Clearance from wall	mm
Height (mm)	210 mm
Tube dimension	38 / 30-50 mm
Material	Galvanized steel
Packing QTY	1



## Mast clamp - 30-50 mm straight Art. No. 133107 EAN Number 5702661331077

MECHANICAL	
Material	Galvanized steel
Packing QTY	1



## Mast clamp - 38 mm w. 2 screws Art. No. 140041 EAN Number 5702661400414

MECHANICAL	
Tube dimension	38 mm
Material	Galvanized steel
Packing QTY	1



## Mast clamp - 38 mm straight Art. No. 132003 EAN Number 5702661320033

MECHANICAL	
Tube dimension	38 mm
Material	Galvanized steel
Packing QTY	1



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## Mast clamp - double - 30-50 mm

Art. No. 133245

EAN Number 5702661332456

MECHANICAL

Tube dimension	30-50 mm
Material	Galvanized steel
Packing QTY	1



## Clips for index - Steel

Art. No. 133011

EAN Number 5702661330117

MECHANICAL

Height (mm)	5 mm
Tube dimension	30-50 mm
Material	Steel
Packing QTY	1



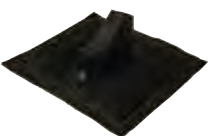
## Roof cover - Black

Art. No. 132203

EAN Number 5702661322037

MECHANICAL

Height (mm)	150 mm
Tube dimension	30-50 mm
Material	Aluminium with polyester
Packing QTY	1



## MAKA 15 - Mast Top 32-60mm

Art. No. 140406

EAN Number 5702661404061

MECHANICAL

Tube dimension	30-50 mm
Material	Plastic
Packing QTY	20



## DAB 42-2 Roof Cover

Art. No. 140400

EAN Number 5702661404009

MECHANICAL

Height (mm)	100 mm
Tube dimension	42 mm
Material	Rubber
Packing QTY	1



## Mast Top - ø38 mm pipe

Art. No. 140213

EAN Number 5702661402135

MECHANICAL

Tube dimension	38 mm
Material	Plastic
Packing QTY	1



## DAB 50-2 Roof Cover

Art. No. 140399

EAN Number 5702661403996

MECHANICAL

Height (mm)	100 mm
Tube dimension	50 mm
Material	Rubber
Packing QTY	1



## Mast Top - ø50 mm pipe

Art. No. 140215

EAN Number 5702661402159

MECHANICAL

Tube dimension	50 mm
Material	Plastic
Packing QTY	1



## DAB 60-1 Roof Cover

Art. No. 140398

EAN Number 5702661403989

MECHANICAL

Height (mm)	100 mm
Tube dimension	60 mm
Material	Plastic
Packing QTY	1



## Bracket kit for UFO

Art. No. 133226

EAN Number 5702661332265

MECHANICAL

Material	Steel / Plastic
Packing QTY	1



## Index medium - Black

Art. No. 132213

EAN Number 5702661322136

MECHANICAL

Height (mm)	50 mm
Tube dimension	30-50 mm
Material	Rubber
Packing QTY	1



## Center bracket for UFO

Art. No. 133225

EAN Number 5702661332258

MECHANICAL

Material	Steel - Polyester Powder Coated
Packing QTY	1



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**ASR Mast 50 mm, length 2.0 m**  
Art. No. 140384  
EAN Number 5702661403842



MECHANICAL	
Length	2000 mm
Tube dimension	50 mm
Material	Galvanized steel
Packing QTY	1



**Mast 38 mm, length 6.0 m**  
Art. No. 140110  
EAN Number 5702661401107



MECHANICAL	
Height (mm)	6000 mm
Tube dimension	38 mm
Material	Hot Galv. steel
Packing QTY	1



SATELLITE  
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**ASR Mast 50 mm, length 3.0 m**  
Art. No. 140385  
EAN Number 5702661403859



MECHANICAL	
Length	3000 mm
Tube dimension	50 mm
Material	Galvanized steel
Packing QTY	1



**Mast 50 mm, length 2.0 m**  
Art. No. 140028  
EAN Number 5702661400285



MECHANICAL	
Height (mm)	2000 mm
Tube dimension	50 mm
Material	Hot Galv. steel
Packing QTY	10



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**Mast 38 mm, length 1.5 m**  
Art. No. 140030  
EAN Number 5702661400308



MECHANICAL	
Height (mm)	1500 mm
Tube dimension	38 mm
Material	Hot Galv. steel
Packing QTY	10



**Mast 50 mm, length 3.0 m**  
Art. No. 140029  
EAN Number 5702661400292



MECHANICAL	
Height (mm)	3000 mm
Tube dimension	50 mm
Material	Hot Galv. steel
Packing QTY	1



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**Mast 38 mm, length 3.0 m**  
Art. No. 140031  
EAN Number 5702661400315



MECHANICAL	
Height (mm)	3000 mm
Tube dimension	38 mm
Material	Hot Galv. steel
Packing QTY	10



**Mast 50 mm, length 4.0 m**  
Art. No. 140008  
EAN Number 5702661400087



MECHANICAL	
Height (mm)	3000 mm
Tube dimension	50 mm
Material	Hot Galv. steel
Packing QTY	1



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**Mast 38 mm, length 3.0 m**  
DIN 2394  
Art. No. 140113  
EAN Number 5702661401138



MECHANICAL	
Height (mm)	3000 mm
Tube dimension	38 mm
Material	Hot Galv. steel
Packing QTY	1



**Mast 50 mm, length 6.0 m**  
Art. No. 140120  
EAN Number 5702661401206



MECHANICAL	
Height (mm)	6000 mm
Tube dimension	50 mm
Material	Hot Galv. steel
Packing QTY	1



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**Mast 38 mm, length 4.0 m**  
Art. No. 140112  
EAN Number 5702661401121



MECHANICAL	
Height (mm)	3000 mm
Tube dimension	38 mm
Material	Hot Galv. steel
Packing QTY	1



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## 2-part chimney bracket with band

Art. No. 140032

EAN Number 5702661400322

MECHANICAL

Clearance from wall 50 mm

Tube dimension 30-50 mm

Material Galvanized steel

Packing QTY 1



## Cable guards - Alu 10/12 mm

Art. No. 133053

EAN Number 5702661330537

MECHANICAL

Length 2375 mm

Material Aluminum

Packing QTY 5



## Chimney bracket 2 split

Art. No. 130030

EAN Number 5702661300301

MECHANICAL

Clearance from wall 50 mm

Tube dimension 30-50 mm

Material Galvanized steel

Packing QTY 1



## Cable guards - Alu 10/12 mm

Art. No. 133054

EAN Number 5702661330544

MECHANICAL

Height (mm) 5500 mm

Material Aluminum

Packing QTY 5



## Single wireset for chimney mounting - spare parts

Art. No. 130001

EAN Number 5702661300011

MECHANICAL

Material Galvanized steel

Packing QTY 1



## Expansion bolts

Art. No. 140380

EAN Number 5702661403804

MECHANICAL

Diameter Ø 10 mm

Length 80 mm

Material Electro galv.

Packing QTY 50



## Black selfvulcanized tape

Art. No. 153061

EAN Number 5702661530616

MECHANICAL

Height (mm) 18 mm

Material Rubber

Packing QTY 1



## Screw 8 x 80

Art. No. 140351

EAN Number 5702661403514

MECHANICAL

Diameter Ø 8 mm

Length 80 mm

Material Electro galv.

Packing QTY 200



## Grey mountingtape - l=10m

Art. No. 153060

Frequency range

Height (mm) 10 mm

Material Plastic

Packing QTY 10



## Screw 10 x 50

Art. No. 140360

EAN Number 5702661403606

MECHANICAL

Diameter Ø 10 mm

Length 50 mm

Material Electro galv.

Packing QTY 100



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**Cable clips white,  
25 pcs. - blister**  
Art. No. 153009  
EAN Number 5702661530098



**Cable strip - SST 21 black**  
Art. No. 153065  
EAN Number 5702661530654  
Packing QTY 100



**Cable clips - C 3x5 mm natural -  
box of 100 clips.**  
Art. No. 153001  
EAN Number 5702661530012



**Cable strip - PLT 2S black**  
Art. No. 153067  
EAN Number 5702661530678  
Packing QTY 100



**Cable clips - C 5/20 mm natural -  
box of 100 clips**  
Art. No. 153003  
EAN Number 5702661530036



**Cable strip - PLT 4S black**  
Art. No. 153066  
EAN Number 5702661530661  
Packing QTY 100



**Cable clips - C 7-10 mm white -  
box of 100 clips.**  
Art. No. 153008  
EAN Number 5702661530081



**Stapler Arrow T25**  
Art. No. 153070  
EAN Number 5702661530708



**Cable clips - C 7-10 mm black -  
box of 100 clips.**  
Art. No. 153080  
EAN Number 5702661530807



**Staples T25 - 9/16» (14mm) -  
White - box of 1000 pcs.**  
Art. No. 153069  
EAN Number 5702661530692



**Cable clips - C 11-13 mm black -  
box of 100 clips.**  
Art. No. 153082  
EAN Number 5702661530821



**Staples T25 - 9/16» (14mm) -  
Galv. - box of 1000 pcs.**  
Art. No. 153071  
EAN Number 5702661530715



# TRIAX® Mounting Accessories

for dishes

## Brackets for all your needs

TRIAX has all kinds of mounting brackets for dishes, alongside a complete range of accessories to ensure everything is mounted to perfection.

### Triax 2561 stand

Art. No. 127100

EAN Number 5702661271007

MECHANICAL	
Clearance from wall	
Material	Galvanized steel
Tube dimension	Ø 50
Packing QTY	1
Weight net	
Remarks	For mounting dish on ground



### Wall bracket type «J»

Art. No. 128050

EAN Number 5702661280504

MECHANICAL	
Clearance from wall	250 mm
Material	Galvanized steel
Tube dimension	Ø 25
Packing QTY	1
Weight net	
Remarks	incl. 2 plastic plugs



### Wall bracket type «S»

Art. No. 128070

EAN Number 5702661280702

MECHANICAL	
Clearance from wall	250 mm
Material	Galvanized steel
Tube dimension	Ø 25
Packing QTY	1
Weight net	
Remarks	incl. 2 plastic plugs



### Mast bracket - for TD110 Dish

Art. No. 140051

Packing QTY 2



### Universal roof/wall bracket

Art. No. 300709

EAN Number 5702663007093

MECHANICAL	
Clearance from wall	450 mm
Material	Alu
Tube dimension	Ø 45
Wall plate dimension	mm
Packing QTY	1
Weight net	
Remarks	For mounting dish on roof/wall



### Wall Bracket - EXA 192

Art. No. 131092

EAN Number 5702661310928

MECHANICAL	
Clearance from wall	250 mm
Material	Aluminium
Tube dimension	Ø 48
Wall plate dimension	155 x 155 x 3 mm
Packing QTY	10
Weight net	
Remarks	



### Wall bracket - EXA 194

Art. No. 131094

EAN Number 5702661310942

MECHANICAL	
Clearance from wall	450 mm
Material	Aluminium
Tube dimension	Ø 48
Wall plate dimension	155 x 155 x 3 mm
Packing QTY	10
Weight net	
Remarks	



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

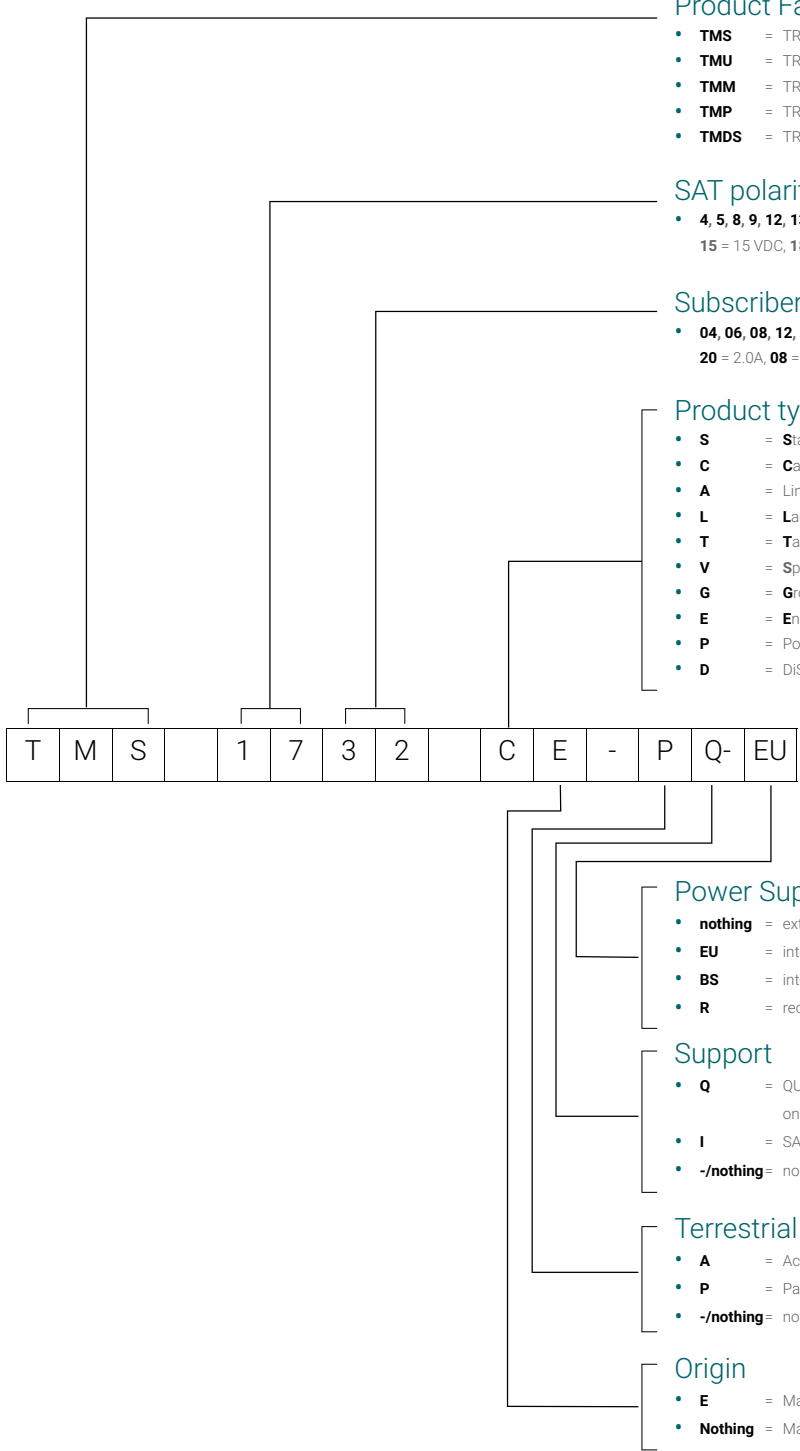
INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# "How we name the multi switch products..."

a quick guide on how-to-read the types

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX



### Product Family name

- **TMS** = TRIAX Multi Switch, traditional SAT-IF/TER, SAT>IP, etc.
- **TMU** = TRIAX Multi Switch, with Unicable/SatSCR support
- **TMM** = TRIAX Multi Switch Modular with attenuator
- **TMP** = TRIAX Multi Switch with attenuator and internal Power Supply (PSU)
- **TMDS** = TRIAX Multi Switch, with digital SatSCR support

### SAT polarities plus TER or VDC (for PSU)

- **4, 5, 8, 9, 12, 13, 16, 17** = Number of satellite polarities + TER (if any)
- 15 = 15 VDC, 18 = 18 VDC etc. (PSU)

### Subscriber output or max. current in Amp.(for PSU)

- **04, 06, 08, 12, 16, 24 or 32** = Number of subscriber outputs (TAP offs)
- 20 = 2.0A, 08 = 800 mA, etc. (PSUs)

### Product type

- **S** = Stand-alone multi switch
- **C** = Cascadable multi switch
- **A** = Line Amplifier (SAT-IF/TER, individual or combined)
- **L** = Launch Amplifier (SAT-IF/TER, individual or combined)
- **T** = Tap unit or Terminated Cascade switch
- **V** = Splitter unit
- **G** = Ground accessory (Earth bond bar)
- **E** = End terminator accessory
- **P** = Power supply / Power inserter, etc.
- **D** = DiSeqC switch

### Power Supply (PSU)

- **nothing** = external power supply.
- **EU** = internal/fixed/mounted power supply, EU mains plug
- **BS** = internal/fixed/mounted power supply, BS mains plug
- **R** = receiver powered, no PSU required

### Support

- **Q** = QUAD support. TMS 5xx types only. Has 13/18 VDC and 22 kHz on LNB inputs to allow a QUAD LNB to work as a QUATTRO LNB
- **I** = SAT>IP Server support
- **-/nothing** = none of the above

### Terrestrial path

- **A** = Active TER path
- **P** = Passive TER path
- **-/nothing** = not applicable (Accessory, PSU, etc)

### Origin

- **E** = Made in Europe, "Euroline range"
- **Nothing** = Made outside Europe, Current and future product range

### Legend:

- Passive Terrestrial loopthrough
- Active Terrestrial loopthrough
- 1...4 satellite positions

- 6**
  - 8**
  - 12**
  - 16**
  - 24**
  - 28**
  - 32**
- Numbers of subscriber outputs from the multiswitch



# TRIAX<sup>®</sup> HFC Equipment

takes your CATV network to the next level

Content	Page
Optical Fibre Equipment	
■ Hybrid Fibre Coax optical transmitters (HFC)	188
■ Hybrid Fibre Coax receivers and nodes (HFC)	191
Coaxial Equipment	
■ Broadband Distribution Amplifiers	205
■ Apartment Amplifiers	212
catTV system [TV over cat cabling]	214

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
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INSTRUMENTS  
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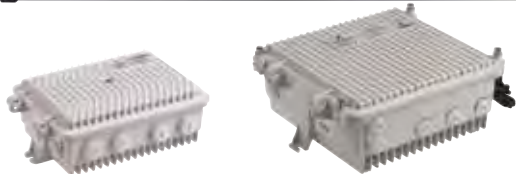
# TRIAX<sup>®</sup> Cable TV Network Equipment

covers all the equipment to transmit TV and DOCSIS signals.



A choice of active components for your CATV network

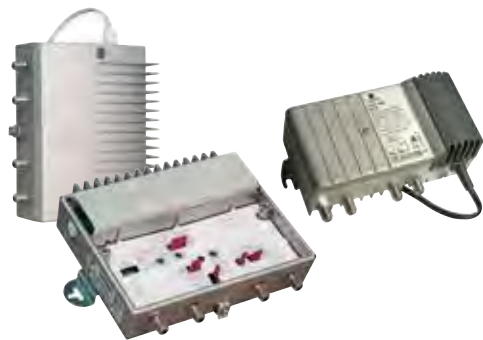
## Fibre Coax optical transmitters, receivers & nodes



An Optical Receiver converts the fibre-optic light signal into a traditional RF coax-based Distribution Signal (one-way = Downstream).

Optical Nodes provide a full Return Path channel from coax and back, via fibre-optic to the HeadEnd (two-way = Downstream and Upstream).

## Power - & Line Amplifier



Broadband Amplifiers for CATV / SMATV amplify the full signal range of a cable TV network to compensate for the attenuations of the passive distribution components like cable, taps, splitters and subscriber outlets in the network.

The amps are specially designed for transmission of a large number of PAL and QAM channels with low intermodulation and low distortion.

The amplifiers for CATV networks consist of a forward path for the downstream signal, and the option to use a return path for up-streaming of the DOCSIS signal to implement Fast Internet Access.

## Apartment Amplifier



Triax booster amplifiers give you the benefit of reliability, long lifetime and quick installation when you need to distribute the signal to more rooms.

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

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# TRIAx<sup>®</sup> Optical Fibre Equipment

takes your CATV network to the next level

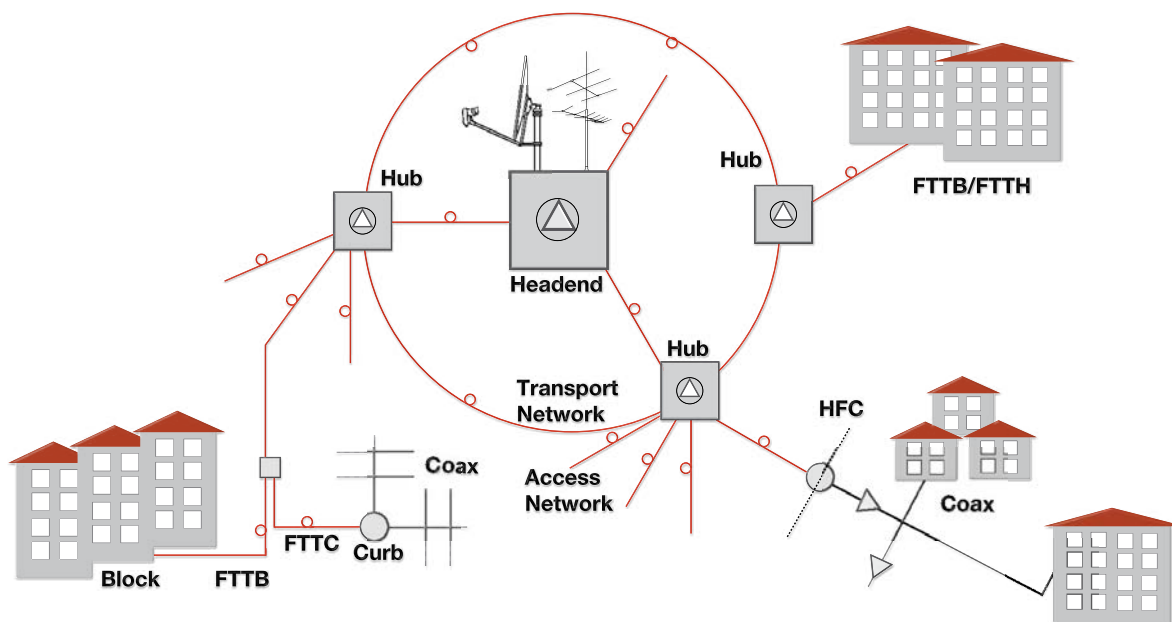
## The fibre possibilities

Cable Television Networks (CATV) have a centralized Headend where the signals are processed and then distributed via a fibre optic infrastructure to sub headends. The centralized CATV headend processes the signals from Terrestrial

or Satellite sources converts them to RF and then to an optical output which is then sent out to the network. Internet and return path signals can be added to the fibre network at the main or sub headends. All of the fibre optic cables are

distributed and terminated at the optical receiver or node within the cabinet; this is referred to as fibre to the curb FTTC. The Optical nodes convert the signal from light back to RF so that they can be distributed to the home via coaxial cabling.

The following network structures are now commonplace:



## CATV Optics

cover all active equipment to transmit TV broadcast and DOCSIS signals via fibre optic networks. Because of the sensitive high dense TV- QAM signals (QAM 64, 256,...) CATV optical transmitters and receivers need to work very linear with low distortions. The signals are transmitted transparently by amplitude-modulated light in the two optical wave lengths windows around 1310 and 1550 nm.

Optical transmission is used in HFC (Hybrid Fiber Coax) networks in combination with active coaxial parts of the access network or in deep fibre applications like FTTC (Fibre to Curb), FTTB (Fibre to the Building) and FTTH (Fibre to the Home). The devices are mostly designed on Headend site for installing in 19" racks and on subscriber site as compact Fibre Nodes and Fiber Receivers.

## Optical Receivers and Nodes

An Optical Receiver converts the Fibre Optical Light signal into a traditional RF coax based Distribution Signal (one-way = Downstream), whereas an Optical Node in addition provides a full Return Path channel from coax and back via the Fibre Optic to the HeadEnd (two-way = Downstream and Upstream).

## HFC solution

Situations where HFC (hybrid fibre/coax) is the right choice for you and your customers:

- when you want to distribute CATV
- when you want to keep an internet return path ready should your customers suddenly need one
- when you want to add cable TV to a SAT-IF installation

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX<sup>®</sup> Optical Fibre Equipment

Optical transmitter 1310 nm for HFC networks



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

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(CCTV)

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TECHNICAL  
APPENDIX

**DVB-C**  
Cable

**HD**  
TV

**EASY**  
mounting

**Warranty**  
2 Years

## Common features

- Directly modulated and cooled high-performance DFB laser.
  - Automatic processor-controlled adjustment of the laser drive with regard to level and channel loading of various RF input signals produces the best transmission characteristics in terms of low intermodulation (CTB/CSO) and low noise.
  - Multichannel pre-distortion and GaAs amplifier technology also provide the best signal quality with low noise and low distortion.
- Two redundant power supply units.
  - 32-bit microprocessor for automatic monitoring and control of the laser ensures constant output level and long service life.
  - 19" 1 HE enclosure with 10TBase Ethernet (IEEE802.2) and RS 232 interface for external network monitoring.
  - Other output levels available on request.
  - RF connectors: F female.
  - Fibre optic connectors: SC/APC.

### OTXS 06-1 Optical Transmitter

Art. No. 307507

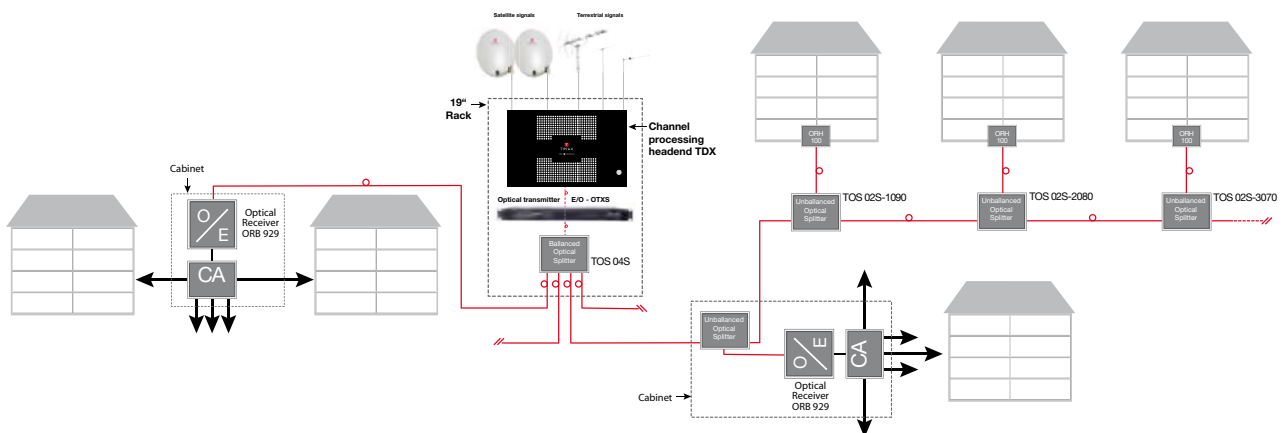
EAN Number  
5702663075078



### OTXS 20-1 Optical Transmitter

Art. No. 307521

EAN Number  
5702663075214



# TRIAX<sup>®</sup> Optical Fibre Equipment

Optical transmitter 1310 nm for HFC networks



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

Type:	OTXS 06-1 Optical Transmitter	OTXS20-1 Optical Transmitter
Art. no.	307507	307521
<b>OPTICAL CHARACTERISTICS</b>		
Wavelength	1310nm	1310nm
Optical output power	8.0 (~6.0mW)dBm	13.0 (~20.0mW)dBm
<b>CHARACTERISTICS</b>		
Carrier to noise (Popt in= -1dBm, 84 ch PAL-D)	> 51.0dB	> 51.0dB
CSO - non linear distortion (Popt in= -1dBm, 84 ch PAL-D)	> 60.0dB	> 60.0dB
CTB - non linear distortion (Popt in= -1dBm, 84 ch PAL-D)	> 65.0dB	> 65.0dB
Laser type	DBF temp contr.	DBF temp contr.
RF-input level (@15...84 channels)	72...88dBμV	72...88dBμV
Test point [F-con]	-20.0dB	-20.0dB
<b>FREQUENCY</b>		
Frequency range	47...862/1003MHz	47...862/1003MHz
<b>GAIN</b>		
Relative intensity noise	≥ 155.0dBc/Hz	≥ 155.0dBc/Hz
<b>RETURN LOSS</b>		
Return Loss	> 14.0dB	> 14.0dB
<b>ELECTRICAL</b>		
Impedance	75Ω	75Ω
Linearity	± 0.75dB	± 0.75dB
<b>OPERATIONAL</b>		
Control unit	3 buttons, LCD 2-lines/16 char.	3 buttons, LCD 2-lines/16 char.
AC Supply voltage	110...253VAC	110...253VAC
Remote control	RJ45, TCP/IP, SNMP r/o	RJ45, TCP/IP, SNMP r/o
Software update	RS232, 9-pin	RS232, 9-pin
<b>CONNECTORS</b>		
Input connectors (RF)	F-connector	F-connector
Output connectors (for Fibre)	SC/APC	SC/APC
<b>MECHANICAL</b>		
Product Depth	380mm	380mm
Product Width	480mm	480mm
Product Height	44mm	44mm
Housing	19", 1RU	19", 1RU
Packing QTY	1	1

# TRIAX<sup>®</sup> Optical Fibre Equipment

Optical Headend components and systems



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)



TRIAX supports your HFC projects also with a wide assortment of special Optical Fibre Headend equipment like:

- 1550 nm transmitters for transmission over long distances
- DWDM transmitters for FTTx applications
- Erbium Doped Fibre Amplifiers (EDFA)
- Return path receiver systems
- Combined CATV+SAT-IF transmitters
- The products are ready for DOCSIS 3.1 as well



HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

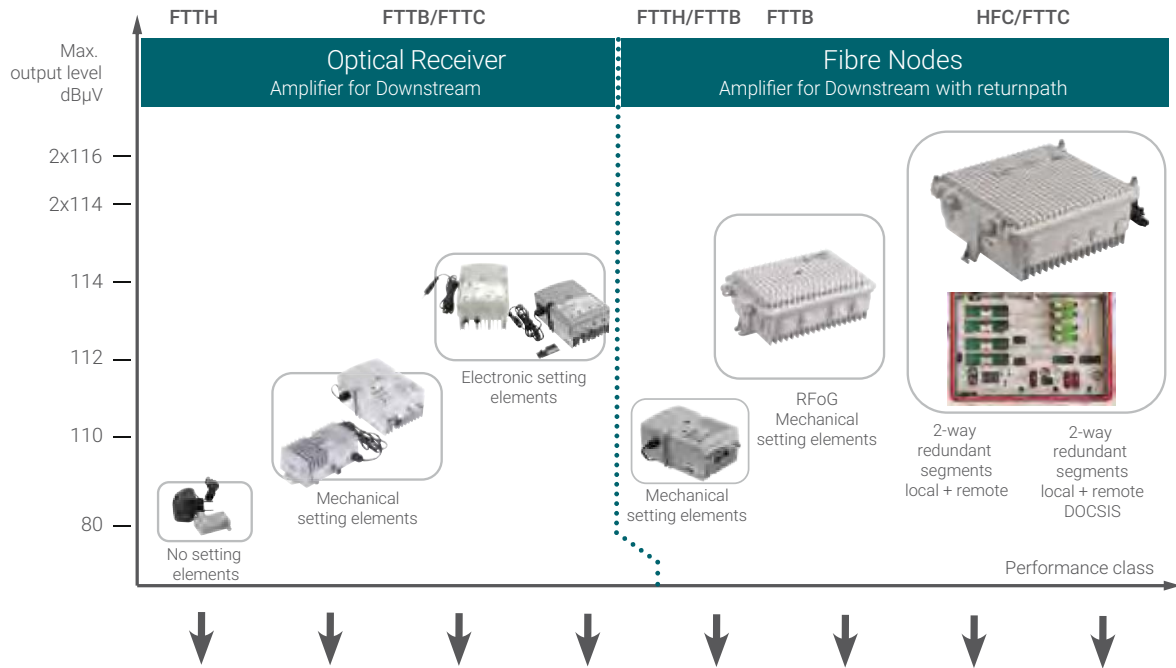
SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# Overview

## Optical Receivers and Fibre Nodes



### Variant Receiver/Fibre Node

Delivery	*	**	*	**	*	**	**	***
1 Optical input, local feed	ORH 100	ORB 923	ORB 929	ORB 729/1	ORB 1923	ORC 1629 M	ORC 2729 TRX	ORC 2731 TRX
1 Optical input, remote feed						ORC 1629 L		
2 Optical inputs, local feed							ORC 2729 M	ORC 2731 M
2 Optical inputs, remote feed							ORC 2729 L	ORC 2731 L
Special features/use in	FTTH	FTTB/HFC	FTTB/HFC	FTTB/HFC	Allround fibre node	RFoG - Burst Mode	HFC/FTTC segmentable	HFC/DOCSIS segmentable

### Module

Control + Monitoring locally via HotSwap remote via SNMP				TCM 729			TMM 2729	TDM 2731 DOCSIS
Receiver forward	-	-	-	-	-	TRX 2729	TRX 2729	TRX 2729
Sender returnway	-	-	-	-	OTBM...	OTBM...	TTX...	TTX...
Output modules Tap Splitter Bridge	-	-	-	-	-	TSTI... TTSL... TJMP 01	TSTI... TTSL... TJMP 01	TSTI... TTSL... TJMP 01
Diplexer	-	-	-	-	-	DPF 2729/65	DPF 2729/65	DPF 2729/65
Return HP-filter	-	-	-	-	-	-	FPA 2729...	FPA 2729...

\* From stock  
 \*\* Order for projects  
 \*\*\* On request - Special requirements for configurations and delivery have to be figured out

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® Fibre Optics

Optical Receiver FTTB for multi-dwelling homes - 1 way



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

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APPENDIX

**DVB-C**  
Cable

**HD**  
TV

**EASY**  
mounting

**Warranty**  
2 Years

## The ORB 923

is an optical receiver in a compact die-cast housing. The relatively high output level enables very cost effective FTTB installations in medium sized residential buildings. Optical level signalling and automatic gain control provide the correct as well as constant RF output level within a wide optical input level window. Settings are made using reliable plug-in pads.

- AGC for constant RF output level
- 3-colour LED for rapid indication of the correct optical input level
- Level control and equalizer adjusted via JXP plug-in pads \*)
- High output level 110 dBµV
- Low power consumption

\*) Model ORB 823 with potentiometer available on request

## The ORB 929

is a very compact high-performance optical receiver for cable TV systems without a return path. Its high degree of control enables it to be used as an optical network unit in both FTTC and FTTB constellations as well as in HFC networks with subsequent coaxial amplifiers on the line.

Easy indication of optical input level via LED display. Reliable long-term operation by use of JXP pads to make adjustments as well as regulation of optical level fluctuation via AGC.

- LED display (2-digit, 7-segment) for accurate indication of optical input level
- Level control and equalizer adjusted via JXP attenuator pad\*)
- Level control 0...20 dB
- Equalizer 0...20 dB
- External test point for output level
- High output level 114 dBµV

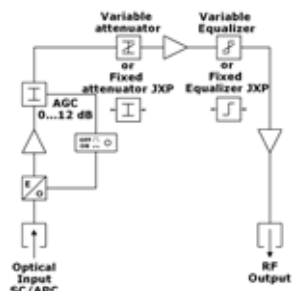
### ORB 923 - optical receiver

Art. No. 307563

EAN Number  
5702663075634



ORB 923  
block diagram



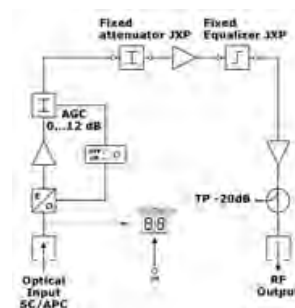
### ORB 929 - optical receiver

Art. No. 307568

EAN Number  
5702663075689



ORB 929  
block diagram





# TRIAX® Fibre Optics

Optical Receiver FTTB for larger buildings and HFC networks



## ORH 100 - optical FTTH receiver

Art. No. 307565

EAN Number  
5702663075658



## ORH 100 optical receiver

is a highly cost effective optical network termination for an individual residence. The receiver's output is directly connected to outlets via passive coaxial distribution. Simple setting up and stable operation via AGC and LED display. Receiver is supplied in a plastic hood with a plug-in power supply.

- AGC for constant RF output level
- 3-colour LED for rapid indication of the correct optical input level
- Compact and space saving
- Low power consumption
- Includes 9V power supply
- SC/APC connection at optical input
- RF output level 80 dBμV

Type:	ORB 923 optical receiver	ORB 929 optical receiver	ORH 100 optical FTTH receiver
Art. no.	307563	307568	307565
<b>OPTICAL CHARACTERISTICS</b>			
Optical return loss	>40.0dB	>40.0dB	>40.0dB
Eq. Input Noise Current	pA/√Hz	8.0pA/√Hz	6.5pA/√Hz
Optical input power	-8.0 ... +1.0dBm	-10.0...+1.0/max. +3.0dBm	-10.0 ... +1.0dBm
Reception wavelength	1100...1650nm	1100...1650nm	1100...1650nm
<b>CHARACTERISTICS</b>			
RF-output level (DIN 45004 B)	123.0dB	129.0dB	
RF-output level @42 ch CENELEC CTB <60 dBc	110.0dB	114.0dB	80.0dB
9 dB slope 3.5% CSO <60 dBc	110.0dB	114.0dB	80.0dB
AGC (Automatic Gain Control)	-6.0...0dB	-6.0...0dB	-6.0...0dB
Test point		-20dB	
<b>FREQUENCY</b>			
Frequency range	47...862MHz	47...862MHz	47...862MHz
<b>GAIN</b>			
Gain flatness	± 0.75dB	± 0.75dB	± 1.0dB
<b>LOSS</b>			
Attenuator/Equalization	JXP plug-in 0...20	JXP plug-in 0...20	
<b>RETURN LOSS</b>			
Return Loss	> 18dB	> 18dB	> 18dB
<b>ELECTRICAL</b>			
Number of receivers	1	1	1
<b>OPERATIONAL</b>			
DC Operating voltage			9VDC
DC Current consumption (typ.)			150mA
External PSU			Included
Operating temperature range	-20 ... +55°C	-20 ... +55°C	-20 ... +55°C
AC Supply voltage	180...253 / 50...60HzVAC		
Power Consumption (typ.)	5.5W	13.0W	< 1.0W
<b>CONNECTORS</b>			
Connector Optical	Optical - SC/APC	Optical - SC/APC	Optical - SC/APC
Input connectors (from transmitter)	SC/APC	SC/APC	SC/APC
Output connectors (for RF)	F-female type	F-female type	F-female type
<b>MECHANICAL</b>			
Product Depth	56mm	75mm	20mm
Product Width	96mm	155mm	60mm
Product Height	155mm	107mm	50mm
IP Housing protection class	IP 40	IP 64	IP 40
Packing QTY	1	1	1
Weight	0.76kg	1.1kg	0.1kg
Optical power in indication LED	Orange: Pin <-6.0 Green : -6.0 <Pin < 0 Red : Pin >0		Optical power indicator: Orange: Pin <-6.0 Green : -6.0 <Pin < 0 Red : Pin >0

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
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CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Fibre Optics

Optical Fibre Node FTTB for multi-dwelling homes



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## ORB 729 Fibre Node

Optical receivers of the ORB 7-series are very compact high-performance optical network units for FTTB-/FTTC and HFC cable TV systems without a return path.

Uninterruptible, electronic settings and monitoring of device parameters either on the device or via Ethernet interface.

Professional operating and monitoring features:

- Locally on the device - hot-swap module TCM 729 via keyboard

- Electronic level control and equalizer by using control module TCM 729 with 3 digit LED display and 3 cursor button
- Second RF output, configurable via plug-in module TSI
- Monitoring parameters: optical input- path and level, input signal switching hysteresis, output level, temperature, attenuation, equalizer and more
- Output level 114 dBµV

### ORB 729/1 - fibre nodes

Art. No. 307700

EAN Number  
5702663077003



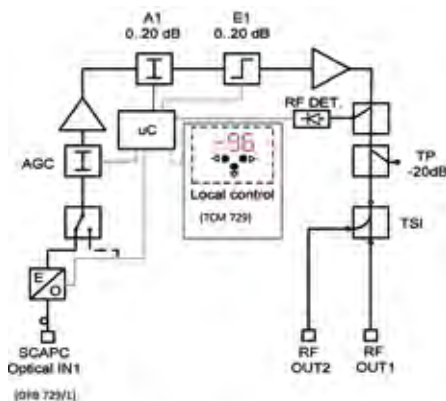
### TCM 729 module

Art. No. 307708

EAN Number  
5702663077089



## ORB 729/x block diagram



# TRIAX® Fibre Optics

Optical Fibre Node - 1 way



Type:	ORB 729/1 optical receiver	TCM 729 Local ctrl. module
Art. no.	307700	307708
<b>OPTICAL CHARACTERISTICS</b>		
Reception wavelength	1100...1650nm	
Optical return loss	>40.0dB	
Eq. Input Noise Current	6.5pA/√Hz	
Optical input power	-10.0 ... +1.0 / max. +3.0dBm	
<b>CHARACTERISTICS</b>		
RF-output level (DIN 45004 B CTB <60 dBc	114.0dB	
1310 nm @- dBm,9 dB slope 3.5% CSO <60 dBc	114.0dB	
AGC (Automatic Gain Control)	-6.0...0dB	
Optical power indicator range accuracy (electronic)	± 0.1dBm	
Test point	-20dB	
<b>FREQUENCY</b>		
Frequency range	47...862MHz	
<b>GAIN</b>		
Gain flatness	± 0.75dB	
<b>RETURN LOSS</b>		
Return Loss	> 18 (40 MHz) -4.5/Octave dB	
<b>ELECTRICAL</b>		
Number of receivers	1	
<b>OPERATIONAL</b>		
Level output stability in the AGC mode	± 1.0dB	
Interstage attenuator/ Interstage equalizer	0...15, step 1dB	
Operating temperature range	-20 ... +55°C	
AC Supply voltage	180...253 / 50...60HzVAC	
Power Consumption (typ.)	< 13.5W	
<b>CONNECTORS</b>		
Connector Optical	Optical - SC/APC	
Input connectors (from transmitter)	SC/APC	
Output connectors (for RF)	2 x F-female	
<b>MECHANICAL</b>		
Product Depth	75mm	
Product Width	155mm	
Product Height	107mm	
IP Housing protection class	IP 24	
Packing QTY	1	
Weight	1.1kg	

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

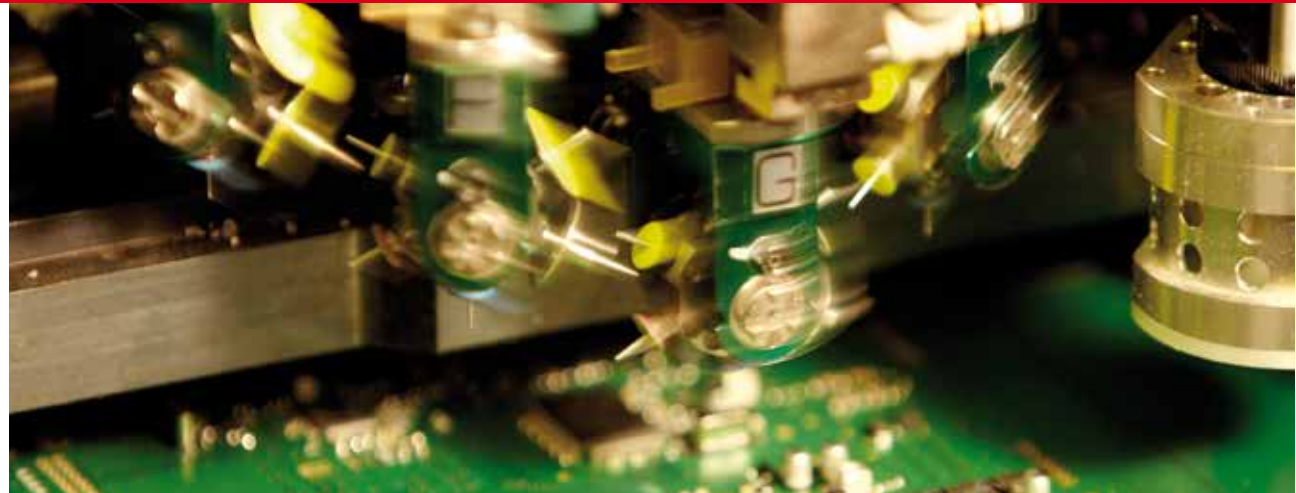
SURVEILLANCE  
(CCTV)

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# TRIAX® Fibre Optics

Fibre Node FTTB - 2 way



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CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

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(CCTV)

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## ORC 1629 M and ORC 1629 L

are compact fibre nodes with an optical receiver in the forward path and an optical transmitter in the return path. The high output level enables direct connection to passive coaxial house distribution networks without further amplification. The burst mode control only switches on the return path laser transmitter if the CMTS controlled cable modem transmits downstream. This avoids the noise overlapping of passively interconnected RW transmitters in an RFoG network.

- AGC for constant RF output level
- Uninterruptible setting of level control and equalizer with automatic 5 dB fall-back value via JXP attenuation pad
- Four selectable trigger levels for burst mode
- Second output with configurable by plug-in modules
- High output level 114 dB $\mu$ V

## ORB 1923

is a very compact high-performance optical network unit for two fibre way networks with a return path. Its high degree of control and free selection of the return path laser modules enables it to be used as an optical network unit in both FTTC and FTTB constellations as well as in HFC networks with subsequent coaxial amplifiers down the line. Reliable long-term operation by using JXP pads to make settings as well as regulation of optical level fluctuations via AGC.

- 3-colour LED to indicate the optical input signal level
- Level control and equalizer adjusted via JXP attenuator pad
- External test point for output level
- Large selection of laser modules (order separately)
- High output level 109 dB $\mu$ V

### ORC 1629/L - FTTB/RFoG Optical node

Art. No. 307803

EAN Number 5702663078031



### ORC 1629/M - FTTB/RFoG Optical node

Art. No. 307800

EAN Number 5702663078000



### ORB 1923 - Optical node

Art. No. 307717

EAN Number 5702663077171

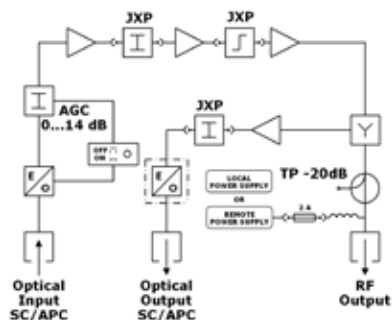


Optical return transmitter modules and other plug-in modules see page 202/203 and order separately please

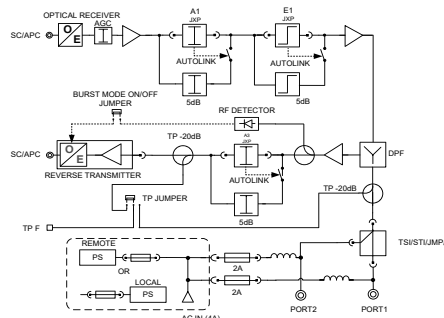
# TRIAx® Fibre Optics

Allround Fibre Node FTTB for multiple dwellings and HFC networks

**ORB 1629**  
block diagram



**ORB 1923**  
block diagram

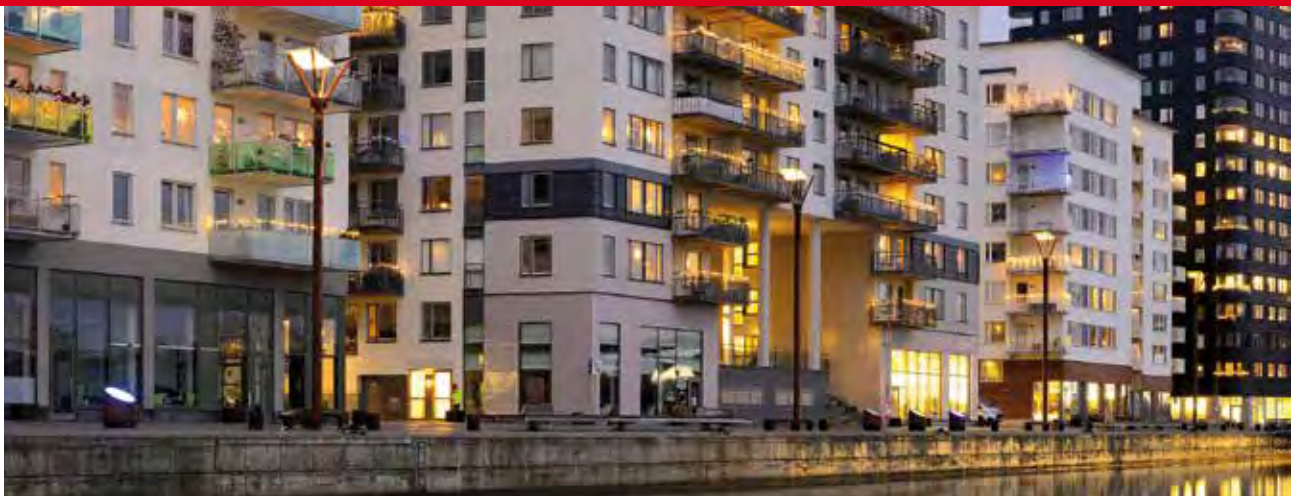


Type:	ORC 1629/L - FTTB/ RFoG Optical node	ORC 1629/M - FTTB/ RFoG Optical node	ORB 1923 Optical node
Art. no.	307803	307800	307717
<b>OPTICAL CHARACTERISTICS</b>			
Reception wavelength	1100...1650nm	1100...1650nm	1100...1650nm
Optical return loss	>40.0dB	>40.0dB	>40.0dB
Eq. Input Noise Current	<5.0pA/√Hz	<5.0pA/√Hz	<8.0pA/√Hz
Optical input power	-9.0...+2.0dBm	-9.0...+2.0dBm	-9.0...+1.0/ max. +3.0dBm
<b>CHARACTERISTICS</b>			
Max. RF-output level (DIN 45004 B CTB <60 dBc)	114.0dBμV	114.0dBμV	123.0dBμV
Max. RF output level (@42 ch CENLEC, 9 dB slope)	114.0dBμV	114.0dBμV	109.0dBμV
AGC (Automatic Gain Control)	-6.0...0dB	-6.0...0dB	-6.0...0dB
Test point	-20dB	-20dB	-20dB
Test point - return path	-20dB	-20dB	-20dB
<b>FREQUENCY</b>			
Frequency range	87...1006MHz	87...1006MHz	87...1006MHz
Frequency return path (depending on modules)	5...65MHz	5...65MHz	5...65MHz
Frequency response	± 1.0dB	± 1.0dB	± 1.0dB
<b>LOSS</b>			
Interstage/attenuator A1 - 1 dB Pads	0...15dB	0...15dB	
Interstage/attenuator E1 - 1 dB Pads	0...15dB	0...15dB	
Attenuator A3	0...20dB	0...20dB	
Attenuator/Equalization	JPX plug in, 0...20dB	JPX plug in, 0...20dB	JPX plug in, 0...20dB
<b>RETURN LOSS</b>			
Return Loss	> 18dB	> 18dB	> 18dB
<b>ELECTRICAL</b>			
Number of receivers	1	1	1
<b>OPERATIONAL</b>			
Return gain	30.0 ±0.75dB	30.0 ±0.75dB	20.0dB
Level output stability in the AGC mode	± 1.0dB	± 1.0dB	± 1.0dB
Operating temperature range	-20 ... +60°C	-20 ... +60°C	-20 ... +55°C
AC Supply voltage	24...65VAC	180...253VAC	180...253VAC
Power Consumption (typ.)	17W	17W	9W
<b>CONNECTORS</b>			
Connector Optical	Optical - SC/APC	Optical - SC/APC	Optical - SC/APC
Output connectors (for RF)	PG 11, 5/8"	PG 11, 5/8"	F-female type
<b>MECHANICAL</b>			
Product Depth	80mm	80mm	75mm
Product Width	145mm	145mm	107mm
Product Height	235mm	235mm	155mm
IP Housing protection class	IP 64	IP 64	IP 64
Packing QTY	1	1	1
Weight	1.3kg	1.3kg	1.1kg
Optical power in indication LED	Orange: Pin <-7.0 Green : -7.0 <Pin < 0 Red : Pin > 0	Orange: Pin <-7.0 Green : -7.0 <Pin < 0 Red : Pin > 0	Orange: Pin <-7.0 Green : -7.0 <Pin < 0 Red : Pin > 0

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX<sup>®</sup> Fibre Optics

Segmentable Fibre Node for CATV distribution networks - 2 way



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## ORC 2729 Fibre Node

platform provides extensive configuration and control options for use as the termination of a fibre optic distribution network in HFC or FTTC/FTTB structures. Full redundancy and electronic monitoring of all parameters on the device enable amongst others the uninterrupted switching of fibre optic feeder paths in the forward and return direction.

- Configurable, as 2x2(3) HFC node or 1x2(3) FTTC node
- Settings are made electronically via a keypad and a 3-digit LED display or optionally via the TMM2729 (RJ 45).
- Signal parameters, device setting and alarms are monitored and controlled remotely via SNMP.
- Device variant ORC 2931 with optional DOCSIS monitoring module TDM 2931 available on request
- Full product range of return path transmitter modules TTX

## Optical receiver and transmitter module for fibre nodes

- TRX is a receiver module for the local control and monitoring of the forward path, for use in ORC 2729/2731
- OTBMs are return channel modules for use in ORB1923 and ORC 1629
- TTX are return channel transmitter modules for use in ORC 2729/2731

## Plug-in modules, order separately:



**ORC 2729/L - Redundancy/segmentable Optical node - base unit**

Art. No. 307843  
EAN Number 5702663078437



**TRX 2729 Optical receiver module - Forward**

Art. No. 307850  
EAN Number 5702663078505



**ORC 2729/M - Redundancy/segmentable Optical node - base unit**

Art. No. 307840  
EAN Number 5702663078406



**TMM 2729 Monitoring module**

Art. No. 307845  
EAN Number 5702663078451

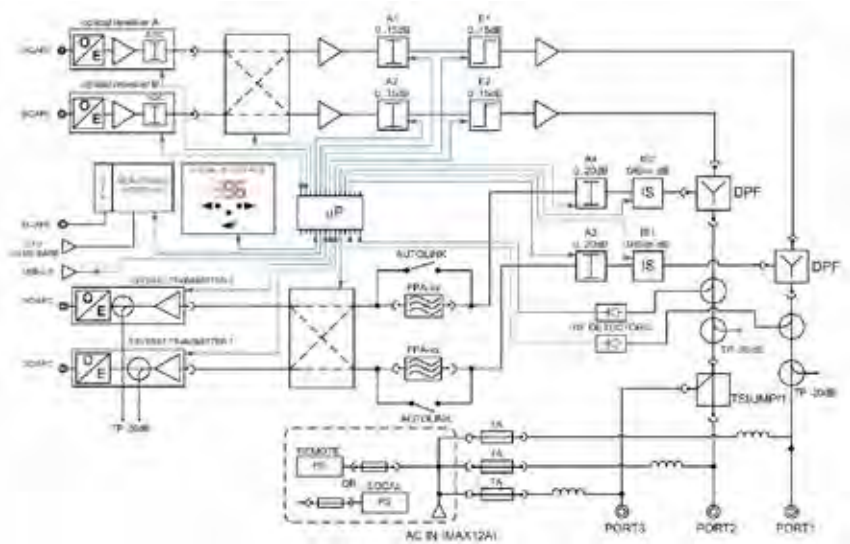


TTX 2729/xxxx nm Optical return transmitter modules and other plug-in modules see page 203 please

# TRIAx® Fibre Optics

## Segmentable Fibre Node for CATV distribution networks

### ORC 2729 block diagram



Type:	ORC 2729/L - Redundancy/ segmentation Optical node	ORC 2729/M - Redundancy/ segmentation Optical node
Art. no.	307843	307840
<b>OPTICAL CHARACTERISTICS</b>		
Reception wavelength	1100...1650nm	1100...1650nm
Optical return loss	>45.0dB	>45.0dB
Eq. Input Noise Current	<5.0pA/√Hz	<5.0pA/√Hz
Optical input power	-9.0 ... +2.0dBm	-9.0 ... +2.0dBm
<b>CHARACTERISTICS</b>		
RF-output level (DIN 45004 B CTB <60 dBc)	114.0dBμV	114.0dBμV
Max. RF-output level (@42 ch. CENELEC)	114.0dBμV	114.0dBμV
AGC (Automatic Gain Control)	-6.0...0dB	-6.0...0dB
Test point	-20dB	-20dB
Test point - return path	-20dB	-20dB
<b>FREQUENCY</b>		
Frequency range	87...1006MHz	87...1006MHz
Frequency return path (depending on modules)	5...65MHz	5...65MHz
Frequency response	± 1.0dB	± 1.0dB
<b>LOSS</b>		
Attenuation/Equalization	0...18/0.5dB step	0...18/0.5dB step
<b>RETURN LOSS</b>		
Return Loss	> 18dB	> 18dB
<b>ELECTRICAL</b>		
Number of receivers	2	2
<b>OPERATIONAL</b>		
Return gain	30.0 ±0.75dB	30.0 ±0.75dB
Operating temperature range	-20 ... +60°C	-20 ... +60°C
AC Supply voltage	24...65VAC	180...253VAC
Power Consumption (typ.)	<31W	<31W
<b>CONNECTORS</b>		
Connector Optical	Optical - SC/APC	Optical - SC/APC
Output connectors (for RF)	PG 11, 5/8"	PG 11, 5/8"
<b>MECHANICAL</b>		
Depth (mm)	256 mm	256 mm
Product Width	212 mm	212 mm
Product Height	97 mm	97 mm
IP Housing protection class	IP 64	IP 64
Packing QTY	1	1
Weight	3.65kg	3.65kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

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(CCTV)

INSTRUMENTS  
TOOLS &  
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# TRIAX® Fibre Optics

Segmentable Fibre Node for CATV distribution networks - 2 way



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

<b>DVB-C</b> Cable	<b>HD</b> TV	<b>EASY</b> 👍	<b>ECO</b> 🌿	<b>EASY mounting</b> 🔧	<b>Warranty</b> 2 Years
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## ORC 2731 Fibre Node

The ORC 2731 is an modular Fibre Node which also allows configurations like 1x1 (one downstream receiver x one upstream transmitter) or 2x2 for segmentable fibre line redundancy.

Additionally a slot is implemented for a DOCSIS or HMS transponder module for remote monitoring and control over the fibre network.

The ORC 2731 has to be customized for the special application. Thus the product is only available on special request.

## Optical receiver and transmitter module for fibre nodes

- TRX is a receiver module for the local control and monitoring of the forward path, for use in ORC 2729/2731
- OTBMs are return channel modules for use in ORB1923 and ORC 1629
- TTX are return channel transmitter modules for use in ORC 2729/2731

## Plug-in modules, order separately:



**ORC 2731/L - Redundancy/segmentation Optical node - DOCSIS - base unit**

Art. No. 307849

EAN Number 5702663078499



**TRX 2729 Optical receiver module - Forward**

Art. No. 307850

EAN Number 5702663078505



**ORC 2731/M - Redundancy/segmentation Optical node - DOCSIS - base unit**

Art. No. 307847

EAN Number 5702663078475



**TMM 2729 Monitoring module**

Art. No. 307845

EAN Number 5702663078451



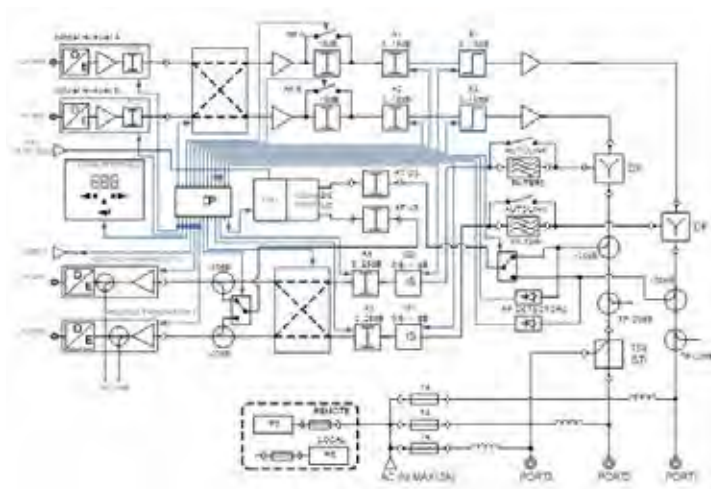
TTX 2729/xxxx nm Optical return transmitter modules and other plug-in modules see page 203 please



# TRIAX<sup>®</sup> Fibre Optics

## Segmentable Fibre Node for CATV distribution networks

### ORC 2731 block diagram



Type:	ORC 2731/L Redundancy/segmentation Optical node - DOCSIS	ORC 2731/M Redundancy/segmentation Optical node - DOCSIS
Art. no.	307849	307847
<b>OPTICAL CHARACTERISTICS</b>		
Reception wavelength	1100...1650nm	1100...1650nm
Optical return loss	>45.0dB	>45.0dB
Eq. Input Noise Current	<5.0pA/√Hz	<5.0pA/√Hz
Optical input power	-9.0 ... +2.0dBm	-9.0 ... +2.0dBm
<b>CHARACTERISTICS</b>		
RF-output level (DIN 45004 B CTB <60 dBc)	114.0dBμV	114.0dBμV
Max. RF-output level (@42 ch. CENELEC)	114.0dBμV	114.0dBμV
AGC (Automatic Gain Control)	-6.0...0dB	-6.0...0dB
Test point	-20dB	-20dB
Test point - return path	-20dB	-20dB
<b>FREQUENCY</b>		
Frequency range	87...1006MHz	87...1006MHz
Frequency return path (depending on modules)	5...65MHz	5...65MHz
Frequency response	± 1.0dB	± 1.0dB
<b>LOSS</b>		
Attenuation/Equalization	0...18/0.5dB step	0...18/0.5dB step
<b>RETURN LOSS</b>		
Return Loss	> 18dB	> 18dB
<b>ELECTRICAL</b>		
Number of receivers	2	2
<b>OPERATIONAL</b>		
Return gain	30.0 ±0.75dB	30.0 ±0.75dB
Operating temperature range	-20 ... +60°C	-20 ... +60°C
AC Supply voltage	24...65VAC	180...253VAC
Power Consumption (typ.)	<31W	<31W
<b>CONNECTORS</b>		
Connector Optical	Optical - SC/APC	Optical - SC/APC
Input connectors (from transmitter)	SC/APC	SC/APC
Output connectors (for RF)	PG 11, 5/8"	PG 11, 5/8"
<b>MECHANICAL</b>		
Depth (mm)	256 mm	256 mm
Product Width	212 mm	212 mm
Product Height	97 mm	97 mm
Housing protection class	IP 64	IP 64
Packing QTY	1	1
Weight	3.65kg	3.65kg
Remarks	A slot is implemented for a DOCSIS or HMS transponder module for remote monitoring and control over the fibre network	

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
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# TRIAX<sup>®</sup> Fibre Optics

Fibre Nodes - Plug-In Modules



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OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
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## Optical receiver and transmitter module for fibre nodes

- TRX is a receiver module for the local control and monitoring of the forward path, for use in ORC 2729/2731
- OTBMs are return channel modules for use in ORB1923 and ORC 1629
- TTX are return channel transmitter modules for use in ORC 2729/2731

TTX 2729/1310 FP



OT BM 1310FP

Optical Receiver Modules forward path, for use in ORC 2729/2731 (required min 1 x)	Input	Art. No.
TRX 2729-65	1	307838

Return path transmitter modules for use in ORB 1923 and 1629 ORC	Wavelength	Unit	Art. No.
OTBM 1310 FP, 0dBm	1310	nm	307810
OTBM 1310 DFB, 3dBm	1310	nm	307811
OTBM 1550 DFB, 3dBm	1550	nm	307812
OTBM 1430nm DFB, CWDM, 3dBm	1430	nm	307823
OTBM 1450nm DFB, CWDM, 3dBm	1450	nm	307824
OTBM 1470nm DFB, CWDM, 3dBm	1470	nm	307825
OTBM 1490nm DFB, CWDM, 3dBm	1490	nm	307826
OTBM 1510nm DFB, CWDM, 3dBm	1510	nm	307827
OTBM 1530nm DFB, CWDM, 3dBm	1530	nm	307828
OTBM 1550nm DFB, CWDM, 3dBm	1550	nm	307829
OTBM 1570nm DFB, CWDM, 3dBm	1570	nm	307830
OTBM 1590nm DFB, CWDM, 3dBm	1590	nm	307831
OTBM 1610nm DFB, CWDM, 3dBm	1610	nm	307832

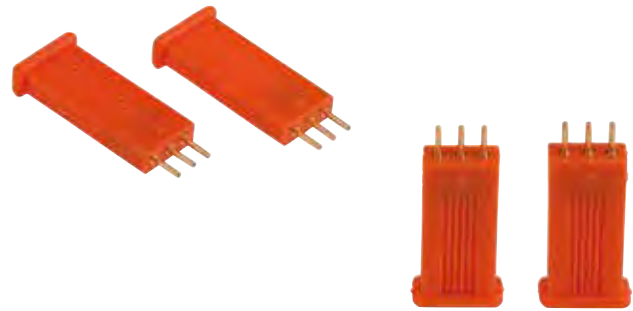
# TRIAX® Fibre Optics

## Fibre Nodes - Plug-In Modules

Return path transmitter modules for use in ORC 2729 and 2731	Wavelength	Unit	Art. No.
TTX 2729/1310 FP, 0 dBm	1310	nm	307851
TTX 2729/1310 DFB, 3 dBm	1310	nm	307852
TTX 2729/1550 DFB, 3 dBm	1550	nm	307853
TTX 2729/1430nm DFB, CWDM, 3 dBm	1430	nm	307863
TTX 2729/1450nm DFB, CWDM, 3 dBm	1450	nm	307864
TTX 2729/1470nm DFB, CWDM, 3 dBm	1470	nm	307865
TTX 2729/1490nm DFB, CWDM, 3 dBm	1490	nm	307866
TTX 2729/1510nm DFB, CWDM, 3 dBm	1510	nm	307867
TTX 2729/1530nm DFB, CWDM, 3 dBm	1530	nm	307868
TTX 2729/1550nm DFB, CWDM, 3 dBm	1550	nm	307869
TTX 2729/1570nm DFB, CWDM, 3 dBm	1570	nm	307870
TTX 2729/1590nm DFB, CWDM, 3 dBm	1590	nm	307871
TTX 2729/1610nm DFB, CWDM, 3 dBm	1610	nm	307872
TTX 2729/1370nm Return Tx CWDM, 3 dBm (2mW)	1570	nm	307860
TTX 2729/1390nm Return Tx CWDM, 3 dBm (2mW)	1590	nm	307861
TTX 2729/1410nm Return Tx CWDM, 3 dBm (2mW)	1610	nm	307862

### Filter-, Splitter and Taps

- DPF is a diplexer for use in ORC 1629 and ORC 2729
- FPA filter modules are used in ORC 1629 and ORC 2729
- TJMP is a bridge module for use in ORC 1629 and ORC 2729
- TSTI is a distributor module for use in ORC 1629 and ORC 2729
- TTSI is a tap module afor use in ORC 1629 and ORC 2729



Plug-in modules to configure the RF output (required min 1 x)	RF output 1 Attenuation	RF output 2 Attenuation	Art. No.
TJMP 01, Bridge, Oneway	0 dB	∞	307710
TSTI 01, 2-Way - Splitter modul	-3.5 dB	-3.5 dB	307711
TTSI 26, 2-Way - Tap modul	-2 dB	-6 dB	307712
TTSI 19, 2-Way - Tap modul	-1 dB	-9 dB	307713
TTSI 112, 2-Way - Tap modul	-1 dB	-12 dB	307714
TTSI 114, 2-Way - Tap modul	-1 dB	-14 dB	307715

Diplex module (required min 1 x)	Frequency range	Unit	Art. No.
DPF 2729/30	5...30	MHz	307880
DPF 2729/42	5...42	MHz	307881
DPF 2729/55	5...55	MHz	307882
DPF 2729/65	5...65	MHz	307883

Filtermodule (optional)	Frequency range	Unit	Art. No.
FPA 2729/13	13	MHz	307892
FPA 2729/15	15	MHz	307891
FPA 2729/17	17	MHz	307890

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® Coax Amplifiers

Active components for your CATV/SMATV in-door network



TERRESTRIAL  
RECEPTION

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& FIBRE  
RECEPTION

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## The perfect choice for everybody!

The TRIAX GHV/GPV ranges offer great solutions for TV house distribution systems of almost every size. The products boast state-of-the-art technological design, excellent transmission qualities and an exceptionally high adjustability/variability.

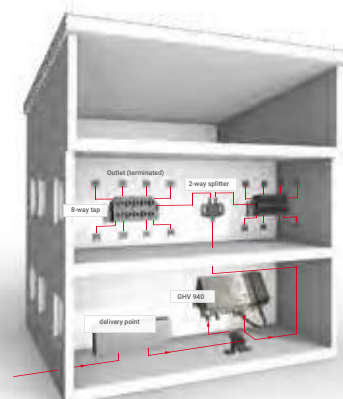
The readable adjusters allow the user to set up values calculated during the planning phase when placing the amplifier into operation. This also helps in case the amplifier should need to be serviced as all adjustments previously made can easily be transferred to a replacement. As calibration of the distribution system thus will be quicker and easier you can save valuable time and money.

No matter which amplifier you choose - you will always profit by the excellent product quality and the good technical service TRIAX is known for.

## Finding the right amplifier is easy.

You can choose from two series with different amplifications and corresponding additional characteristics. The GHV 500 series is designed as a low noise coaxial distribution amplifier for use in small headend-based communal installations (MATV/SMATV).

The GHV/GPV 900 series can be used as a house amplifier in cable television distribution networks (CATV) with a multimedia-enabled return path. As the return path can optionally be switched off the amplifiers of the GHV 900 are also perfect for use with VHF band I. In case the network will later be upgraded by adding return path services like internet access the return path can easily be re-activated by replugging the jumpers.



# TRIAX<sup>®</sup> Broadband Distribution Amplifier

– for all your applications

A selection of the best

## TRIAX GHV 520

AMPLIFIER TYPE	SERIE	GAIN (in dB)					YOUR DEVICE
		max. Output Level (42 ch CENELEC in dB $\mu$ V)					
House amplifier	GHV	20	30	35	40	41	Type
Output levels in dB $\mu$ V		100	103	105	109	114	
MATV/SMATV - system without return path	500	■					TRIAX GHV 520
	500		■				TRIAX GHV 530
	900	■					TRIAX GHV 920
CATV TV - system with return path	900		■				TRIAX GHV 930
	900			■			TRIAX GHV 935
	900				■		TRIAX GHV 940
	950					■	TRIAX GPV 950

GHV 500



GHV 900



GPV 950



COMMON FEATURES	500 SERIE	900 SERIE	950 SERIE
High output level	■	■	■
Optimised 1 GHz technology	■	■	■
16 step rotary switch for attenuation	■	■	■
16 step rotary switch for equalization		■	■
Interstage equalization	■ (3 dB fix)	■ (variable)	■ (variable)
VHF-Band I	■	■ (variable)	
Selectable return path 5-65 MHz		■ (active/passive/off)	■
Reliable all-on-board return path technology		■	■
Measurement port -20 dB for input and output	■	■	■
Extensive ESD- and surge protection	■	■	■
F-connectors (female)	■	■	■
Built-in energy-saving mains-fed power supply	■	■	■
Remote feeding psu model			■ (via RF input)
Functional die-cast housing	■	■	■

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# TRIAX® Broadband Distribution Amplifier

GHV 500 series - 1 way



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## GHV 500 Series

The GHV 500 amplifier series is designed as a low noise coaxial distribution amplifier for use in small head-end-based communal installations where no return path is needed. Setting up the amplifier is made easy by the rotary switch and the interstage equalization of 3 dB. Measurement ports at input and output also help to level out the forward path.

Choose this coax amplifier and enjoy these benefits:

- Place it on a wall inside your house or in a cabinet at the curb
- High output level
- Rotary switch for attenuation
- Interstage equalization fix 3 dB
- F-connectors (female)
- Available versions:
  - GHV 520 with 20dB Gain
  - GHV 530 with 30dB Gain

### GHV 520 Broadband Distribution Amplifier, no RC, Gain 20dB, 47...1006MHz

Art. No. 323138

EAN Number  
5702663231382



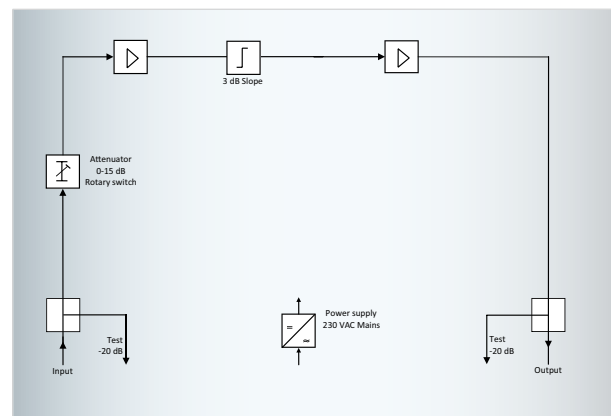
### GHV 530 Broadband Distribution Amplifier, no RC, Gain 30dB, 47...1006MHz

Art. No. 323142

EAN Number  
5702663231429

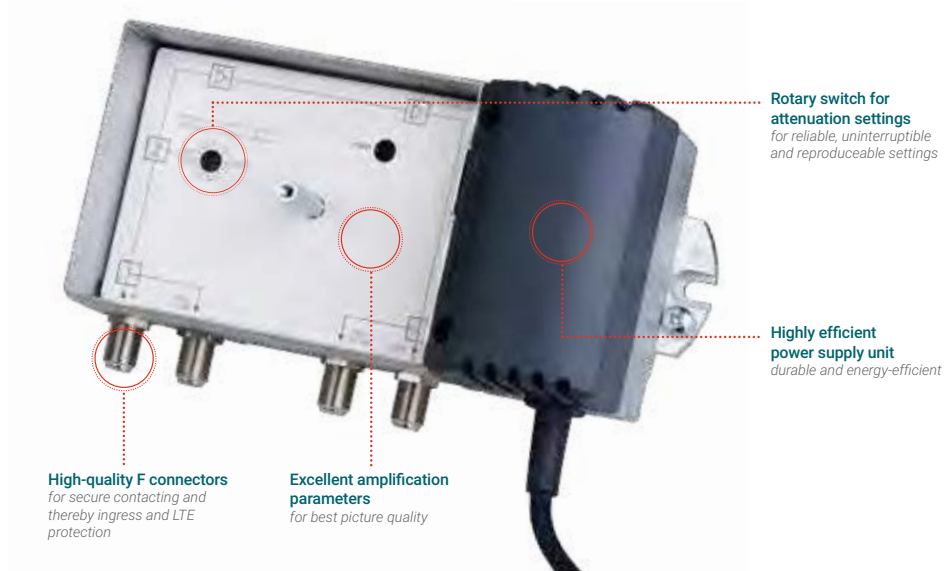


### GHV 530 block diagram



# TRIAx<sup>®</sup> Broadband Distribution Amplifier

## House amplifier for small buildings



Type:	GHV 520 Amplifier no RC	GHV 530 Amplifier no RC
Art. no.	323138	323142
<b>CHARACTERISTICS</b>		
Output level forward - CSO (42ch.@862 MHz)	101 dBμV	102dBμV
Output level forward - CTB (42ch.@862 MHz)	104 dBμV	105dBμV
Test point - input (bi-directional)		-20 dB
Test point - output (uni-directional)		-20 dB
<b>FREQUENCY</b>		
Frequency range	47...1006MHz	
<b>GAIN</b>		
Gain forward (@1006 MHz)	21 dB	30 dB
Noise figure - forward	4.5 dB	5.5 dB
<b>LOSS</b>		
Attenuation low/high jumper	0...15dB	0...22.5dB
Interstage equalizer/slope (jumper)	3 fixdB	3 fixdB
Return loss @40MHz,-1.5 dB oct.(forward)	> 18.0dB	> 18.0dB
<b>ELECTRICAL</b>		
Impedance	75Ω	75Ω
Linearity (@47/87..1006 MHz) jumper	± 1.0dB	± 1.0dB
<b>OPERATIONAL</b>		
Class	II	II
Operating temperature range	-25...+55°C	-25...+55°C
AC Supply voltage	190...264VAC	190...264VAC
Power Consumption (typ.)	<3 W	<3 W
<b>CONNECTORS</b>		
Connector Type (input/output) - test point	F-female/F-female	F-female/F-female
<b>MECHANICAL</b>		
Product W x H x D (mm)	170 x 90 x 65 mm	170 x 90 x 65 mm
IP Housing protection class	IP 20	IP 20
Packing QTY	1	1
Weight (kg)	0.65kg	0.65kg
Reference standards	EN 60728-3 - Class 2 / EN 307728-11 / EN 60065 / EN 50083-2	

TERRESTRIAL  
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# TRIAx® Broadband Distribution Amplifier

GHV 900 series - 2 way



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## GHV 900 Series

features flexibly configurable return paths. Upon delivery, the implemented return path amplifiers are activated at maximum gain but can be switched to "passive" or "off" via a jumper.

When the return path is switched off the transmission bandwidth in forward path is expanded by VHF band I. Return path basic gains are adjusted to the specific forward path gains of the different types. Additionally, a jumper

in the pre-stage can be used to lowered the return path gain by 6 dB (except with GHV 920) without affecting the excellent transmission performance regarding noise and modulation capability. 16 step rotary switches, far superior to normal spindle controller regarding reliability and log-term stability, and jumpers allow for an easy, uninterrupted and reproduceable setting of attenuation, equalization and cable simulation. Measurement ports at input and output also support an exact leveling of forward and return path.



**GHV 920 Amplifier,  
w/RC, Gain 20dB,  
47...1006MHz**

Art. No. 323150  
EAN Number  
5702663231504



**GHV 940 Amplifier,  
w/RC, Gain 40dB,  
47...1006MHz**

Art. No. 323166  
EAN Number  
5702663231665



**GHV 930 Amplifier,  
w/RC, Gain 30dB,  
47...1006MHz**

Art. No. 323158  
EAN Number  
5702663231580

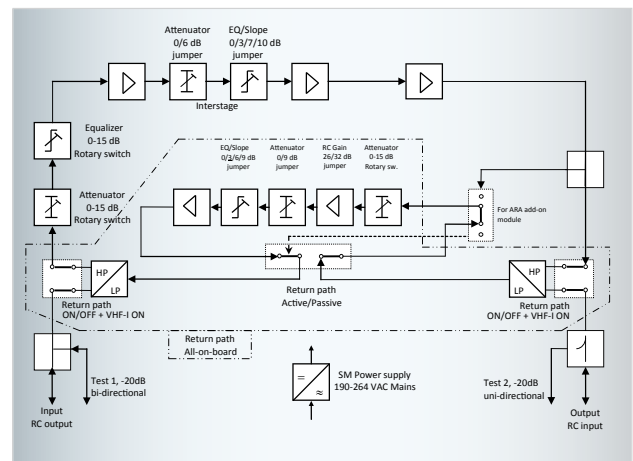


**GHV 935 Amplifier,  
w/RC, Gain 35dB,  
47...1006MHz**

Art. No. 323162  
EAN Number  
5702663231627



## GHV 930 block diagram



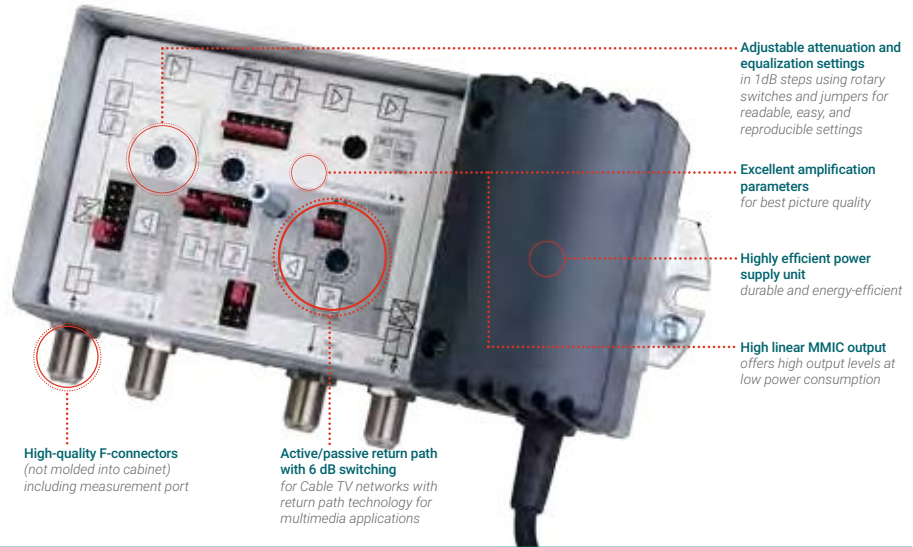


# TRIAx<sup>®</sup> Broadband Distribution Amplifier

for small to mid-sized buildings with active/passive return path

Choose this coax amplifier and enjoy these benefits:

- All-on-board: active/passive return path technology for 6 dB switching (GHV 920: 20 dB) - no performance loss and no additional modules
- Active return channel
- Optional plug-in module to enable the automatic return path activation
- Available versions:
  - GHV 920 with 20dB
  - GHV 930 with 30dB
  - GHV 935 with 35dB
  - GHV 940 with 40dB



Type:	GHV 920 Amplifier	GHV 930 Amplifier	GHV 935 Amplifier	GHV 940 Amplifier
Art. no.	323150	323158	323162	323166
<b>CHARACTERISTICS</b>				
Output level forward - CSO (42ch.@862) Slope 0/7 dB	98/100 dB $\mu$ V	103/105dB $\mu$ V	103/105dB $\mu$ V	107/109dB $\mu$ V
Output level forward - CTB (42ch.@862) Slope 0/7 dB	98/100 dB $\mu$ V	103/105dB $\mu$ V	103/105dB $\mu$ V	107/109dB $\mu$ V
Output level return path- 16 QAM	120dB $\mu$ V	120dB $\mu$ V	120dB $\mu$ V	120dB $\mu$ V
Test point - input (bi-directional)			-20 dB	
Test point - output (uni-directional)			-20 dB	
<b>FREQUENCY</b>				
Frequency range		47...1006/ 85...1006MHz		
Frequency range return path		5...65MHz		
<b>GAIN</b>				
Gain forward (@1006 MHz)	20 dB	30 dB	35 dB	40 dB
Gain return (@60 MHz) jumper	20 dB	22/28dB	24/30dB	26/32dB
Noise figure - forward	6.5 dB	6.5 dB	6.5 dB	6.5 dB
Noise figure - return path	5.0 dB	5.0 dB	5.0 dB	5.0 dB
<b>LOSS</b>				
Attenuation low/high jumper	0...15dB	0...15dB	0...15dB	0...15dB
Input attenuator - 1dB step rotary	0...15dB	0...15dB	0...15dB	0...15dB
Input equalizer - 1dB step rotary	0...15dB	0...15dB	0...15dB	0...15dB
Interstage attenuation (jumper)	0/6 dB	0/6 dB	0/6 dB	0/6 dB
Interstage equalizer/slope (jumper)	0/3/7/10dB	0/3/7/10dB	0/3/7/10dB	0/3/7/10dB
Input attenuator (return) - 1dB step rotary	0...15dB	0...15dB	0...15dB	0...15dB
Interstage equalizer/slope (return) jumper	0/3/6/9dB	0/3/6/9dB	0/3/6/9dB	0/3/6/9dB
Return loss @40MHz,-1.5 dB oct.(forward)	> 18.0dB	> 18.0dB	> 18.0dB	> 18.0dB
Return loss @40MHz,-1.5 dB oct.(return)	> 18.0dB	> 18.0dB	> 18.0dB	> 18.0dB
<b>ELECTRICAL</b>				
Impedance	75 $\Omega$	75 $\Omega$	75 $\Omega$	75 $\Omega$
Linearity (@47/87..1006 MHz) jumper	$\pm$ 1.0dB	$\pm$ 1.0dB	$\pm$ 1.0dB	$\pm$ 1.0dB
Linearity (@5...65 MHz return) jumper	$\pm$ 1.0dB	$\pm$ 1.0dB	$\pm$ 1.0dB	$\pm$ 1.0dB
<b>OPERATIONAL</b>				
Class	II	II	II	II
Operating temperature range	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
AC Supply voltage	190...264VAC	190...264VAC	190...264VAC	190...264VAC
Power Consumption (typ.)	<5W	<7W	<9W	<11W
<b>CONNECTORS</b>				
Connector Type (input/output) - test point	F-female/F-female	F-female/F-female	F-female/F-female	F-female/F-female
<b>MECHANICAL</b>				
Product W x H x D (mm)	170 x 90 x 65 mm	170 x 90 x 65 mm	170 x 90 x 65 mm	170 x 90 x 65 mm
Housing protection class	IP 20	IP 20	IP 20	IP 20
Packing QTY	1	1	1	1
Weight (kg)	0.65kg	0.65kg	0.65kg	0.75kg
Reference standards	EN 60728-3 - Class 2 / EN 307728-11 / EN 60065 / EN 50083-2			

- TERRESTRIAL RECEPTION
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- CABLE TV (CATV)
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- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
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# TRIAx® Broadband Distribution Amplifier

GHV 950 series - 2 way



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## GPV 950/950L

are high output Distribution Amplifiers for use primarily in CATV distribution networks in multi-dwelling premises. Basic gain switching permits configuration of the amplifiers as line extenders or as cascade amplifiers in a trunk position.

All functional parts and setting elements are implemented on the printed board and additional external accessories are not required to configure and operate these amplifiers.

Choose this coax amplifier and enjoy these benefits:

- One-board technology: all functionality implemented
- Rotary switches in 1 dB steps for precise attenuation/equalization setting
- Downstream: 85...1006 MHz @ max. output level 112 dB $\mu$ V
- Upstream: 5-65 MHz, max. output 120 dB $\mu$ V (high load performance for DOCSIS 3.1)
- Basic gain selectable via jumpers
- Integrated cable simulator by Pad\*

- \* Pad JXP-OT, 1-10 dB, is available as option, e.g.
- 4 dB, JXP-OT4, Order No. 322204
- 7 dB, JXP-OT7, Order No. 322207
- 10 dB, JXP-OT10, Order No. 322210.

Further attenuation values available upon by request.



### GPV 950 amplifier w/active RC, 85...1006MHz

Art. No. 323170

EAN Number  
5702663231702



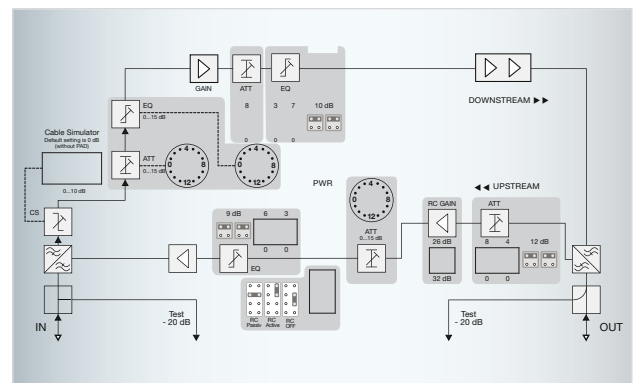
### GPV 950 L amplifier - Line fed - w/ active RC, 85...1006MHz

Art. No. 323174

EAN Number  
5702663231740



## GHV 950 block diagram



# TRIAX<sup>®</sup> Broadband Distribution Amplifier

## High Output Amplifier with active return path

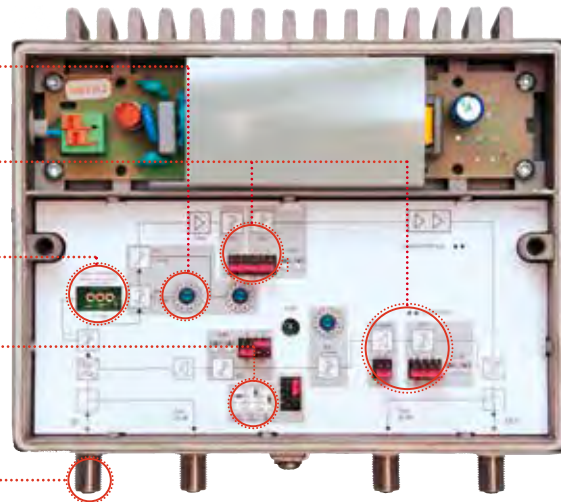
**Rotary Switches**  
for readable, easy and reproducible attenuation and equalization settings in 1 dB steps

**Versatile configuration options**  
for optimizing gain settings via jumpers

**Integrated Cable simulator**  
activated by standard PAD (1...10 dB) plug

**Low distortion pre- and power stages**  
without signal quality degradation

**High-quality F connectors**  
Reliable interface protects against noise interference. Waterproof housing IP 65



Type:	GPV 950 amplifier with active RC	GPV 950 L amplifier Line fed with active RC
Art. no.	323170	323174
<b>CHARACTERISTICS</b>		
Output level forward - CSO (42ch.@862 MHz) Slope 0/7 dB	112/114 dBμV	112/114 dBμV
Output level forward - CTB (42ch.@862 MHz) Slope 0/7 dB	112/114 dBμV	112/114 dBμV
Output level return path- 16 QAM	120dBμV	120dBμV
Test point - input (bi-directional)		-20 dB
Test point - output (uni-directional)		-20 dB
<b>FREQUENCY</b>		
Frequency range	85...1006MHz	
Frequency range return path	5...65MHz	
<b>GAIN</b>		
Gain forward (@1006 MHz)	41/33 dB	41/33 dB
Gain return (@60 MHz) jumper	20 dB	32/26dB
Noise figure - forward	6.5 dB	6.5 dB
Noise figure - return path	5.0 dB	5.0 dB
<b>LOSS</b>		
Cable simulator (Pads, optional)	1...10dB	1...10dB
Input attenuator - 1dB step rotary	0...15dB	0...15dB
Input equalizer - 1dB step rotary	0...15dB	0...15dB
Interstage attenuation (jumper)	0/8 dB	0/8 dB
Interstage equalizer/slope (jumper)	0/3/7/10dB	0/3/7/10dB
Input level control return (jumper)	0/4/8/12dB	0/4/8/12dB
Interstage attenuator (return) - 1dB step rotary	0...15dB	0...15dB
Interstage equalizer/slope (return) jumper	0/3/6/9dB	0/3/6/9dB
Return loss @ 40MHz,-1.5 dB oct.(forward)	> 18.0dB	> 18.0dB
Return loss @ 40MHz,-1.5 dB oct.(return)	> 18.0dB	> 18.0dB
<b>ELECTRICAL</b>		
Impedance	75Ω	75Ω
Linearity (@ 87..1006 MHz) jumper	± 1.0dB	± 1.0dB
Linearity (@ 5...65 MHz return) jumper	± 1.0dB	± 1.0dB
<b>OPERATIONAL</b>		
Class	II	II
Operating temperature range	-25...+55°C	-25...+55 °C
AC Supply voltage	190...264VAC	28...65 VAC (via RF input)
Power Consumption (typ.)	<15 W	<15 W
<b>CONNECTORS</b>		
Connector Type (input/output) - test point	F-female/F-female	F-female/F-female
<b>MECHANICAL</b>		
Product W x H x D (mm)	180 x 145 x 70 mm	180 x 145 x 70 mm
IP Housing protection class	IP 65	IP 65
Packing QTY	1	1
Weight (kg)	1.60kg	1.60kg
Reference standards / ROHS compliant	EN 60728-3 - Class 2 / EN 307728-11 / EN 60065 / EN 50083-2 /Yes	

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

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# TRIAX® Apartment Amplifier

IFA series



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## Indoor amplifier for your apartment

An amplifier for MATV/SMATV low channel density distributes a limited number of powerful cable TV signals to your home.

Choose this coax amplifier and enjoy these benefits:

- Few but powerful TV-signals/channels – which also means elimination of most disturbance and background noise
- Indoor amplifier – always within easy reach inside your house/apartment
- Need to attach another TV set? - there is an IFA solution for you.



**IFA 213 amplifier - 1 output - w/ RC 5....65, Gain 0...20dB**

Art. No. 339213

EAN Number  
5702663392137



**IFA 384, 4-port apartment amp**

Art. No. 339384

EAN Number  
5702663393844



**IFA 219 amplifier - 1 output, Gain 0...20dB**

Art. No. 339219

EAN Number  
5702663392199



**IFA 388, 8-port apartment amp**

Art. No. 339388

EAN Number  
5702663393882



**IFA 220 amplifier - 2 outputs, Gain 0...17dB**

Art. No. 339220

EAN Number  
5702663392205

# TRIAX<sup>®</sup> Apartment Amplifier

IFA series



Type:	IFA 213 amplifier w/ RC	IFA 219 amplifier	IFA 220 amplifier	IFA 384 4-port apartment amp	IFA 388 8-port apartment amp
Art. no.	339213	339219	339220	339384	339388
<b>CHARACTERISTICS</b>					
Input level				60...78dB $\mu$ V	60...78dB $\mu$ V
Linearity return	$\pm 1.0$ dB				
Max. output level				93 (IMD3.)dB $\mu$ V	93 (IMD3.)dB $\mu$ V
Output level CSO @ 60 dB IMD	96.0dB $\mu$ V	96.0dB $\mu$ V	92.0dB $\mu$ V		
Output level CTB @ 60 dB IMD (42 ch) flat	96.0dB $\mu$ V	96.0dB $\mu$ V	96.0dB $\mu$ V		
Output level IMD 2, EN 50083-3	104.0dB $\mu$ V	104.0dB $\mu$ V	100.0dB $\mu$ V		
Output level IMD 3, EN 50083-5	112.0dB $\mu$ V	112.0dB $\mu$ V	108.0dB $\mu$ V		
<b>FREQUENCY</b>					
Frequency range	87...862MHz	47...862MHz	47...862MHz	87...1006MHz	87...1006MHz
Frequency range return path	5...65MHz				
<b>GAIN</b>					
Gain	0...20dB	0...20dB	0...17dB	12dB	12dB
Noise figure	< 6.0 (typ. 5.5)dB		< 6.0dB	<7dB	<7dB
<b>LOSS</b>					
Attenuation	0...18dB	0...18dB		0/6/12 (0dB default)dB	
Equalization			0-18		
Through loss return	1.0dB				
<b>ISOLATION</b>					
Isolation				>40dB	>40dB
<b>RETURN LOSS</b>					
Return Loss				>18 (@40...1000MHz) (@40MHz -1.5dB/Oct(min. 10dB))dB	
<b>ELECTRICAL</b>					
Impedance	75 $\Omega$				
Linearity	$\pm 1.5$ dB				
<b>OPERATIONAL</b>					
Certification	CE				
Operating temperature range	0...+50°C	0...+50°C	0...+50°C	-10...+40°C	-10...+40°C
AC Supply voltage	230 $\pm$ 10%VAC	230 $\pm$ 10%VAC	230 $\pm$ 10%VAC	100...264 / 50...60HzVAC	
Power Consumption (typ.)	3.0W	3.0W	3.0W	3,1W	3,1W
<b>CONNECTORS</b>					
Connector Type	F-female				
Number of inputs	1	1	1	1	1
Number of outputs	1	1	2	4	8
<b>MECHANICAL</b>					
Product Width	118mm	118mm	118mm	255mm	255mm
Product Depth	61mm	44mm	61mm	110mm	110mm
Product Height	44mm	61mm	44mm	53mm	53mm
Main Material					
Packing QTY	1				
Weight (kg)	0.475kg	0.4kg	0.4kg	0.65kg	0.65kg

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

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# TRIAX<sup>®</sup> catTV system

TV over symmetric data cable



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RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

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## The catTV technique

was developed to transfer over the previously used only for telephone and Internet data network and radio, television and value-added services. Thus, the additional coaxial cabling for television reception is unnecessary. TV reception can be at any point in the data network realized.

- catTV technology from TRIAX was developed to enable transmission of radio, television, and value-added services via the data network that formerly was used only for telephone and Internet. Thus additional coax cabling can be dispensed with for television reception. Television reception can then be implemented at any point of the data network.
- Multimedia application (radio, TV) directly via the existing 100 Ohm application-neutral building cabling = "structured cabling" (symmetric cabling in accordance with category 6/7)

### NPN 3412 CatTV panel

Art. No. 350663

EAN Number  
5702663506633



NPN catTV panels for television and radio reception at any point in the data network without additional installation of coaxial cable.

The panel with electric NPN input (coaxial/75 ohms), converts the input signal into a balanced signal (sym./100 ohms) to it via the patch (patch panel) of the building wiring intrude subscriber line.

- Super low noise push-pull technology
- Attenuator + equaliser on the input

- With the double-active catTV systems (distribution panel and Balun) link attenuation of up to 50 dB can be compensated. This also means that the maximum structured cabling length of (90 m) can be bridged.
- The service can be fed individually to each subscriber via star-shaped "structured cabling"
- Cost-effective extensions and supplemental integration of additional subscribers are possible without installation expenses - additional calibration is not required
- Installation of an additional coax network is not required for the TV multimedia application
- All TV channels offered from 45 (85) to 862 MHz can be transmitted
- Return channel enabled, optionally available with active or passive return channel (5-65 MHz)
- Plug and play system. Adjustment of attenuation and slope to the existing cable length merely requires a changeover switch (in 3 steps) on the balun.

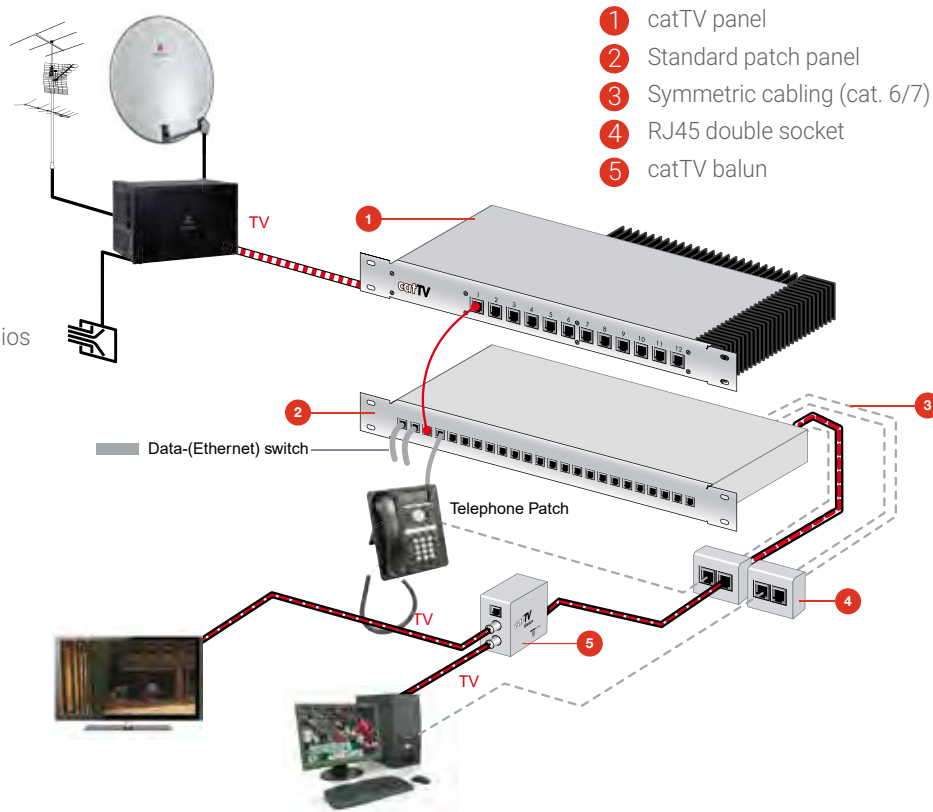
- Input measuring socket
- Amplification through GaAs- hybrids
- Conversion of 75 W(coaxial) to 100 W(symmetrical), RJ 45
- Paired cable configuration (HF 1,2; remote feed/RC 7, 8)
- TV signals are only actively switched when balun is connected
- Standard RC module active and passive can be retrofitted
- Static switch-off of individual ports is possible
- External power supply

# TRIAX<sup>®</sup> catTV system

## catTV-Panel NPN

### Applications in / to

- Office and industrial buildings
- Clinics and hospitals
- Rehabilitation centres
- Banks, savings institutions
- Stock exchange workstations
- Brokerage firms
- Insurance buildings
- Airports
- TV stations and television studios
- Munciple buildings
- Hotels, vacation resorts
- Housing estates
- Athletic arenas
- Correspondent workstations



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Type:	NPN 3412 CatTV panel
Art. no.	350663
<b>CHARACTERISTICS</b>	
Output level CSO @ 60 dB IMD	94 (104) @ 15 dB SlopedB $\mu$ V
Output level CTB @ 60 dB IMD	94 (104) @ 15 dB SlopedB $\mu$ V
<b>FREQUENCY</b>	
Frequency range	45..862MHz
<b>GAIN</b>	
Gain	34dB
Noise figure	7dB
<b>LOSS</b>	
Attenuation - adjustable	0-20dB
Equalization	0...18 dB
<b>ELECTRICAL</b>	
Impedance	75 (IN), 100 (OUT) $\Omega$
<b>OPERATIONAL</b>	
DC Operating voltage	28VDC
DC Current consumption (typ.)	930mA
External PSU	Included
LED indicator	green LED for Power on
Operating temperature range	0...+50°C
Power Consumption (typ.)	26W
<b>CONNECTORS</b>	
Connector Type	RJ45 female / F-female
Number of inputs	1
Number of outputs	12
RF connector - Test point input: bi-directional	-20dB
<b>MECHANICAL</b>	
Dimension (H x D x W)	42 x 180 x 483 mm (19 inch, 1 RU)

# TRIAX<sup>®</sup> catTV system

## catTV Balun



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### The balun (balanced - unbalanced)

converts the panel from catTV transmitted over the generic cabling symmetrical signal (100 ohms) to be processed in one of the devices (eg TV and radio) coaxial signal (75 ohm).

- The catTV balun is plugged in via a patch cable to the RJ45 socket participants.
- Phone input signals via RJ 45
- Back conversion of 100 W into 75 W

- Amplification of the HF signal
- Allocation of the signals to the outputs
- 2 variants, one without Return Path and one with Return Path 5-65 MHz
- Slope and attenuation of max. 50 dB are compensated
- Plug and play, 3 switch settings for easy adjustment to different cable lengths

#### NBL 0200 CatTV-Balun

Art. No. 350661

EAN Number  
5702663506619



#### NBL 0265 CatTV-Balun

Art. No. 350662

EAN Number  
5702663506626



Type:	NBL 0200 CatTV-Balun	NBL 0265 CatTV-Balun
Art. no.	350661	350662
CHARACTERISTICS		
Max. input level	54-90dBuV	54-90dBuV
Output level	60-77dBuV	60-77dBuV
FREQUENCY		
Frequency range	45...862MHz	80...862MHz
Frequency range return path		5...65MHz
Gain		
Gain	6/-7/-20 dB	6/-7/-20 dB
Pre-emphasis	18/10/0 dB	18/10/0 dB
ELECTRICAL		
Impedance	75 (RF OUT), 100 (RF IN) $\Omega$	75 (RF OUT), 100 (RF IN) $\Omega$
OPERATIONAL		
DC Operating voltage	10VDC	10VDC
DC Current consumption (typ.)	70mA	70mA
Operating temperature range	0...+50°C	0...+50°C
CONNECTORS		
Connector type - input	RJ 45-Buchse, 8-polig	RJ 45-Buchse, 8-polig
Connector type - output	IEC-male/IEC-female/RJ 45	F-female/IEC-male/RJ 45
Number of inputs	1	1
Number of outputs	3	3
MECHANICAL		
Colour	White	White
Product W x H x D (mm)	81 x 59 x 35 mm	81 x 59 x 35 mm
Packing QTY	1	1
Weight (kg)	0.112kg	0.112kg



# TRIAX® Headend Solutions

find the right headend for your needs

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# TRIAX<sup>®</sup> headends

overview of our headend system



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## TDX BLACK EDITION



...a strong headend for medium sized CATV networks, town districts, CATV clusters, etc. The ultimate flexible hospitality solution including DRM interface and middleware support via IPTV signals

- Multi-unit (48 frontends and 72 output channels)
- Wide range of input and output technologies
- Simultaneous output of QAM/COFDM, PAL and IP
- Multiplexing
- Remote management and monitoring
- Local Service and hotel info channel insertion
- PID Management – to adapt PIDs if required
  - to secure Service changes without retuning of the television in each room
- One-stop solution (TDX in combination with the TRIAX CAS solution)
- Encryption and re-scrambling in one unit with no insecure interfaces to the decrypted content
- Provide scrambled services on differed distribution networks and technologies. Simultaneously distribution of QAM, COFDM and/or IP.
- IP-out for IPTV and middleware solutions

## TDH 800



...a modular solution for hotels, multi-dwelling units, and as an add-on programme solution

- Wide range of input and output technologies
- Simultaneous output of QAM/COFDM and PAL
- Multiplexing
- Remote management and monitoring
- PID Management: – to secure service changes without retuning of the television in each room
- Local service and hotel info channel insertion

## CSE compact



...a compact solution for small hotels, pensions, retirement homes, multi-dwelling units, terraced houses, etc.

- Easy to use and install in coax networks
- Compact, flexible and low power consumption
- Analogue to digital (AV to DVB T/C)
- Long-life running without interruptions
- Simply add-on system (1 or 2 module add-ons)
- Exchangeable and mixable modules
- Multi-language On Screen Display configuration by IR remote control
- HDTV, DVB-S(2), DVB-T(2), DVB C, PAL
- Up to 32 digital channel trans-modulation in one box
- Optional CI-decryption support

# TDX Black Edition

technology that turns everything on its head

## TDX headend – quite simply a revolution

Forget everything you know about headends: with TRIAX TDX you move into a completely new world. TRIAX's revolutionary IP Pool technology simplifies the setting up and management of headends, making the input and output modules

mutually independent. All input signals, regardless of whether they are received via satellite, terrestrial, cable, audio/video or via the Internet, can be flexibly and independently distributed from a "pool" to each and every output module.

Each of these input signals can be converted to any output signal: PAL, QAM, COFDM or IP, and because the input signals are not fixed to any particular outputs, they can be assigned to several output modules.

## Energy friendly – long-term reliability

- 16 tuners, fully loaded 280W power consumption
- Intelligent cooling system with integrated fans increases the life of the equipment and allows installation in 19" cabinets

## Better and stronger performance

- Up to three headends can be combined into a multi unit system
- Up to 72 PAL, QAM or COFDM channels

## Easier service handling

- HOT SWAP service
- Fewer modules – allows easy spare part handling
- Log file on all TDX activity
- Remote access to the TDX for the installer and/or TRIAX support



## Easy setup and configuration

- HTML based user interface means no special software for managing the system
- Mux bandwidth monitor to ensure that the mux is not overloaded
- The respective four adjacent output channels can be freely selected across the full frequency range
- LED to indicate operation and errors on each module
- Intuitive and easy, step-by-step configuration

## A true IP headend

- Muxing technology
- IP in to any output
- IP out from any input
- Future proof: full compatibility with CAS systems, middleware, PMS, VOD services, EPG server, etc.

## Easy installation

- Input modules are independent of output modules, resulting in fewer modules in total
- Faster installation
- DiSEqC 1.1 functionality
- The housing is designed to accommodate up to 16 input and 6 quad output modules. The output modules provide the possibility to support 12 CAM modules
- Can easily be installed on a wall or a 19" cabinet
- All inputs and outputs as well as all modules and cables can be accessed and operated easily from the front
- The 22 modules are numbered so their respective allocations are always immediately clear
- Cabinet lock system
- Cable management on top, left and right



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# TRIAX<sup>®</sup> TDX cabinet

main unit for TDX range of modules



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## User-friendly technology

- Fully configurable: all implementation variants are possible with significantly fewer modules than a standard headend, thereby reducing costs for acquisition, service and warehousing
- Browser-based (HTML5) user interface configuration.
- Infinite variety of programmes thanks to revolutionary IP-pool technology, that makes TDX Black Edition uniquely flexible, efficient and economical

## Futureproof

- IPTV offers video on demand, time-shifted television, many additional services for hoteliers, trade shows and much more

- No re-programming of the TV sets when a channel changes, thanks to PID management
- Energy-saving and durable

## Perfect service for installers

- New modules are automatically recognised and configured
- No downtime for TV customers, as modules can be replaced during operation (hot swap)
- Supplied ready to fit the desired configuration
- Halved installation times due to easy programming
- Remote access for service and support

### TDX Black Edition Main Unit

Art. No. 492091

EAN Number  
5702664920919



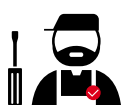
# TDX Black Edition

technology that turns everything on its head

## Easy to install. Easy to use.

The configuration XML file from the headend system can be stored anywhere as a backup, and can be installed rapidly on a new installation.

In close collaboration with installers, TRIAX has optimised system handling: installation and commissioning is very easy, and operating the system is straightforward for both users as well as service staff.



Type:	TDX Black Edition Main Unit
Art. no.	492091
<b>CHARACTERISTICS</b>	
Max. LNB control	4 x 305mA
Output level max. @ 60 dB IMD - 24 combined channels	103dB $\mu$ V
Test point	-20dB
<b>FREQUENCY</b>	
Frequency range (RF OUT)	47 - 862MHz
<b>RETURN LOSS</b>	
Return loss (RF OUT)	> 14 dB at 47 MHz (-1,5 dB/octave; min. 10 dB)
<b>ELECTRICAL</b>	
Impedance	75 $\Omega$
<b>OPERATIONAL</b>	
Humidity - operating	20 ... 80%
Humidity - storage	10 ... 90%
AC Supply voltage	190 - 260 (50/60) HzVAC
Power Consumption (typ.)	280 (min. 20)W
Temperature - operating	-10 ... +50°C
Temperature - storage	-20 ... +70°C
<b>CONNECTORS</b>	
External RF OUT	F-connector
External test point	F-connector
PC interface	RJ 45
SFP cage	SFP Module (Cat5/Opto)
<b>MECHANICAL</b>	
Dimensions product (H x D x W) (HE)	290 x 240 x 440 mm / 6.5
Weight (kg)	12.0 kg
Packing QTY	1
Remarks	SNMP version : V1 & V2c

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# TRIAX® TDX input modules

DVB-C - DVB-S/S2 - DVB-T/T2 - HDMI & AV frontend encoder modules



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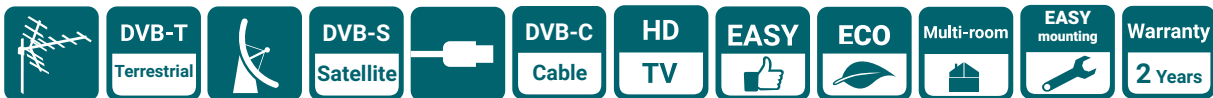
OUTLETS TAPS & SPLITTER

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## DVB-S/S2

An input module for the reception of digital satellite signals in a TDX headend system.

The module can receive a complete transponder and all services on the chosen frequency can be transferred to the TDX pool. The DVB-S/S2 frontend module includes an IF tuner and a QPSK/8PSK demodulator with serial transport stream input to the TDX headend system.

### TDX Frontend - DVB-S/S2 [QPSK/8PSK]

Art. No. 492020

EAN Number  
5702664920209



## DVB-T/T2

A frontend input module for the reception of both T and T2 digital terrestrial signals.

The module can receive a complete terrestrial mux and send all services in the mux to the TDX pool.

## DVB-C

An input QAM demodulator module for the reception of a complete cable mux, sending all services in the mux to the TDX pool. The DVB-C frontend module includes a tuner, with integrated gain control and channel filtering, and a QAM demodulator with serial transport stream input to the TDX system.

### TDX Frontend - DVB-T/T2 [COFDM]

Art. No. 492023

EAN Number  
5702664920230



### TDX Frontend - HDMI [Encoder module]

Art. No. 492030

EAN Number  
5702664920308



### TDX Frontend - DVB-C [QAM]

Art. No. 492024

EAN Number  
5702664920247



### TDX Frontend - AV [Encoder module]

Art. No. 492080

EAN Number  
5702664920803



# TRIAX® TDX input modules

DVB-C - DVB-S/S2 - DVB-T/T2 - HDMI & AV frontend encoder modules

## HDMI & AV

The AV encoder module converts analogue video (CVBS) and the HDMI encoder module converts digital signals from a set top box, a DVD player, a camera or other sources, into a MPEG2 or MPEG4 data stream.

This data stream is then available in the TDX pool and can be sent out on all TDX output modules.

A 15 pol Sub-D or HDMI cable can be used to connect the source to the AV or HDMI module is also available.

Type:	TDX Frontend DVB-S/S2 [QPSK/8PSK]	TDX Frontend DVB-T/T2 [COFDM]	TDX Frontend DVB-C [QAM]	TDX Frontend HDMI [Encoder modul]	TDX Frontend AV [Encoder module]
Art. no.	492020	492023	492024	492030	492080
<b>CHARACTERISTICS</b>					
Audio embedded				AAC, 48 kHz/ MPEG-2(L1)	AAC, 48 kHz/ MPEG-2(L1), Stereo
Code rates DVB-T		1/2, 2/3, 3/4, 5/6, 7/8			
Code rates DVB-T2		1/2, 2/3, 3/4, 5/6			
Constellations DVB-T		QPSK, 16QAM, 64QAM			
Constellations DVB-T2		QPSK, 16QAM, 64QAM, 256QAM			
Demodulator		QPSK, 16QAM, 64QAM, 256QAM/ 1k, 2k, 8k, 16k, 32k	16 QAM, 64 QAM, 128 QAM, 256 QAM		
Demodulator Symbolrate			1.8 ...7.2Msym/s		
Demodulator Type	QPSK/8PSK	COFDM	QAM		
DiSEqC level	1.1				
FFT mode DVB-T		2K, 8K			
FFT mode DVB-T2		1K, 2K, 8K, 16K, 32K			
Guard Interval DVB-T		1/4, 1/8, 1/16, 1/32			
Guard interval DVB-T2		1/4, 1/8, 1/16, 1/32, 1/128			
Input Aspect Ratio					4:3 or 16:9
Input audio level					2.4Vpp
Input level	55...75dBµV	45...75dBµV	45...75dBµV		
Input Video S/N Ratio					> 52dB
Input video standards				480i30; 480p30 576i25; 576p50; 720p50/60; 1080p/i25/30	PAL, Secam
LNB LO/HI programmable	0/22kHz				
LNB V/H programmable	0..13..18/300V/ma				
<b>FREQUENCY</b>					
Input Audio Freq. Linearity					± 0.75dB
Input frequency range	950-2150MHz	177.5-226.5/474 - 858MHz	114 - 858MHz		
<b>GAIN</b>					
Input noise figure		< 7.0dB	< 7.0dB		
<b>RETURN LOSS</b>					
Input return loss	>10dB	> 6.0dB	> 7.0dB		> 26dB
<b>ELECTRICAL</b>					
Harmonic Distortion Max.					< 1%
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
Input Audio Impedance					10 ± 1kΩ
Physical Interface					CVBS
<b>OPERATIONAL</b>					
DC Operating voltage	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC
DC Current cons.(typ.)	OFF 150/ON 450mA	275mA	120mA	< 320mA	mA
Humidity - operating	20...80%	20...80%	20...80%	20...80%	20...80%
Temperature - operating	-10...+50°C	-10...+50°C	-10...+50°C	-10...+50°C	-10...+50°C
<b>CONNECTORS</b>					
Connector Type					
Connector IN	F-female	F-female	F-female	HDMI female (A)	15pol Sub-D
Number of inputs	1	1	1	1	1 x AV-signal
<b>MECHANICAL</b>					
Dimensions (H x D x W)	29 x 132 x 50mm	29 x 132 x 50mm	29 x 132 x 50mm	29 x 126 x 53mm	29 x 126 x 53mm
Packing QTY	1	1	1	1	1

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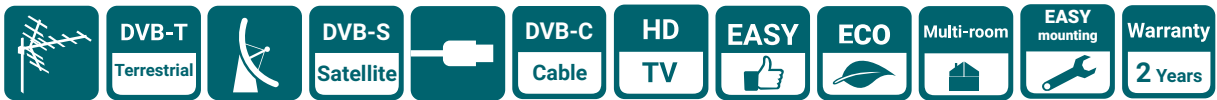
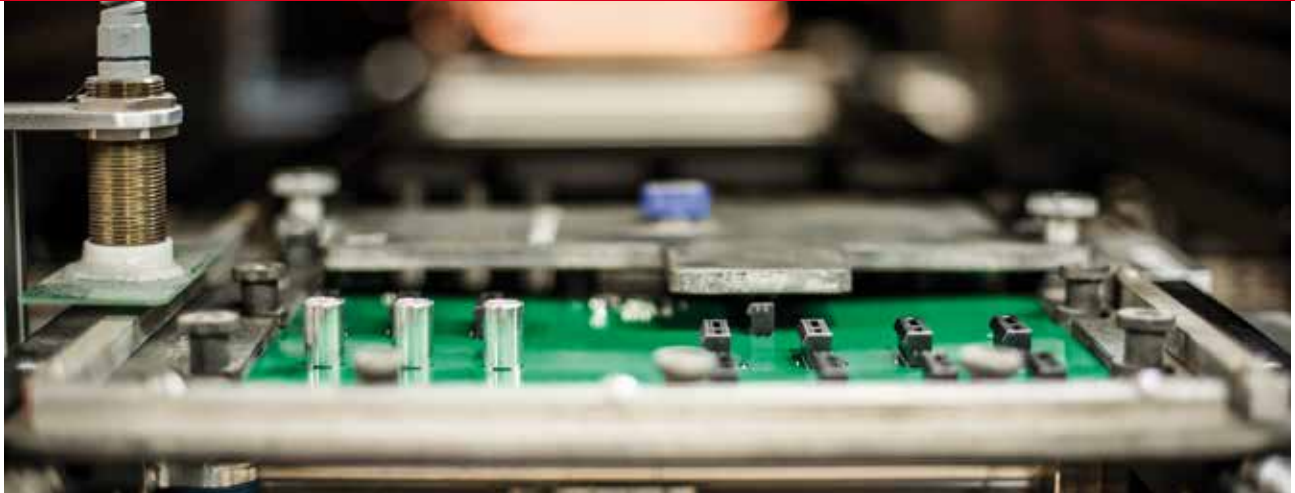
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# TRIAX® TDX backend modules

quad QAM backend module DVB-C in FTA or with 2 x CI slot



## TDX quad QAM

These backend output modules that enable you to create up to 4 muxes of services / TV programmes available from the TDX pool. The services are distributed in a QAM data stream and can be combined so that the bandwidth of each output mux is optimised. The mux bandwidth monitor function in the TDX service tool ensures that you don't overload the bandwidth and cause problems with the transmission.

## TDX quad COFDM

These backend output modules enable you to create up to 4 muxes of services / TV programmes available from the TDX pool. The services are distributed in a COFDM data stream and can be combined so that the bandwidth of each output mux is optimised. The mux bandwidth monitor function in the TDX service tool ensure that you don't overload the bandwidth and cause problems with the transmission.

### TDX Backend - QAM

Art. No. 492055  
EAN Number  
5702664920551



### TDX Backend - COFDM

Art. No. 492060  
EAN Number  
5702664920605



### TDX Backend - QAM - 2CI

Art. No. 492056  
EAN Number  
5702664920568



### TDX Backend - COFDM - 2CI

Art. No. 492061  
EAN Number  
5702664920612



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# TRIAX® TDX backend modules

## quad COFDM backend module DVB-T in FTA or with 2 x CI

### Multi-Unit for more power

- Up to three TDX headends can be combined as one system.
- Up to 72 PAL, QAM or COFDM channels are possible (around 280 HD programmes or 570 SD programmes).
- High output level at 103 dBµV for interference free reception.



Type:	TDX Backend QAM	TDX Backend QAM - 2CI	TDX Backend - COFDM	TDX Backend - COFDM - 2CI
Art. no.	492055	492056	492060	492061
<b>CHARACTERISTICS</b>				
Carrier supported			2K	2K
Deinterleaver	I=12	I=12		
FEC block code	RS 204, 188	RS 204, 188		
Guard Interval			1/32, 1/16, 1/8, 1/4	1/32, 1/16, 1/8, 1/4
MER	≥ 41.0 (typ. 42)dB	≥ 41.0 (typ. 42)dB	≥ 36 (typ. 38)dB	≥ 36 (typ. 38)dB
Output level adjustment	+3...-17dB	+3...-17dB	+3...-17dB	+3...-17dB
Output Level System	100dBµV	100dBµV	100dBµV	100dBµV
Output QAM Modes	16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM	16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM	16 QAM, 64 QAM, QPSK	16 QAM, 64 QAM, QPSK
Output symbol rate	3.15 - 7.2Mbit/s	3.15 - 7.2Mbit/s	Mbit/s	Mbit/s
Reed Solomon decoder	204, 188, t=8	204, 188, t=8	204 byte mode	204 byte mode
Roll-Off Factor	15%	15%		
Spurious Signals	> 60dB	> 60dB	> 60dB	> 60dB
<b>FREQUENCY</b>				
Bandwidth	7, 8MHz	7, 8MHz	6, 7, 8MHz	6, 7, 8MHz
Channel Raster	7, 8, 8.5MHz	7, 8, 8.5MHz	7, 8, 8.5MHz	7, 8, 8.5MHz
Frequency step	250kHz	250kHz	250kHz	250kHz
Output frequency range	50.5 - 858MHz	50.5 - 858MHz	50.5 - 858MHz	50.5 - 858MHz
<b>RETURN LOSS</b>				
Output Return Loss	> 10dB	> 10dB	> 10dB	> 10dB
<b>OPERATIONAL</b>				
CI slots	0	2	0	2
DC Operating voltage	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC
DC Current consumption (typ.)	700mA	900mA	1000mA	1200mA
Humidity - operating	20 ... 80%	20 ... 80%	20 ... 80%	20 ... 80%
Humidity - storage	10 ... 90%	10 ... 90%	10 ... 90%	10 ... 90%
Temperature - operating	-10 ... +50°C	-10 ... +50°C	-10 ... +50°C	-10 ... +50°C
Temperature - storage	-20 ... +70°C	-20 ... +70°C	-20 ... +70°C	-20 ... +70°C
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	17 x 162 x 185mm	24 x 162 x 185mm	17 x 162 x 185mm	24 x 162 x 185mm
Packing QTY	1	1	1	1
Weight (kg)	0.41kg	0.44kg	0.43kg	0.46kg

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

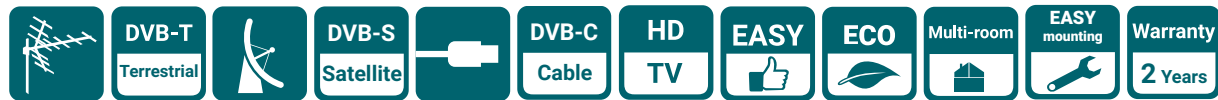
SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® TDX backend modules

PAL HD downscale - 2 x CI slot and IP backend modules



## TDX quad PAL HD downscale

These modules take any HD service from the TDX pool, scale the service down to SD format, modulate it to a PAL signal and distribute it in a PAL network. You can distribute 4 PAL services / TV programmes from each module, equal to 24 PAL services from one cabinet.

The PAL HD downscale module comes in 2 versions: a Free-to-Air version and a CI version with 2 CI slots for decrypting content or services. AC3 support is possible with the addition of an AC3 activation licence.

## Triax IP backend

This is an output module for the transmission of digital video, audio and miscellaneous data, encapsulated within one or more MPEG2/DVB single programme transport streams. Besides the backend module the package consists of a AUX-TS-Loop module and an SFP RJ45 (small form factor pluggable) module. IP licences are required.

### Features:

- IP transmission of up to 96 MPEG2/DVB SPTS
- Configurable ratio of 3-7 TS packets / MTU
- Configurable output priority for each output SPTS
- RTP option
- 2 x CI slots complying to EN 50 221
- Hotswappable

### TDX Backend - PAL HD FTA downscale

Art. No. 492052

EAN Number  
5702664920520



### TDX Backend - 2CI

Art. No. 492070

EAN Number  
5702664920704



### TDX Backend - PAL HD downscale - 2CI

Art. No. 492053

EAN Number  
5702664920537



### TDX Backend - IP - 2CI

Art. No. 492072

EAN Number  
5702664920728



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

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# TRIAX® TDX backend modules

## PAL HD downscale - 2 x CI slot and IP backend modules

### TDX – IP backend



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CABLE TV  
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Type:	TDX Backend PAL HD FTA downscale	TDX Backend PAL HD downscale - 2CI	TDX Backend 2CI	TDX Backend IP - 2CI
Art. no.	492052	492053	492070	492072
<b>CHARACTERISTICS</b>				
Crominance/luminance delay	< 80ns/m	< 80ns/m		
EIT				No EIT - must be obtained via native IP OUT
Differential Gain	< 8%	< 8%		
Differential Phase	< 8°	< 8°		
Output Audio S/N Ratio	50dB	50dB		
Output level adjustment	+3...-17dB	+3...-17dB		
Output Level System	103dBµV	103dBµV		
Output Video S/N Ratio	≥ 57dB	≥ 57dB		
Output format				MPEG-2/DVB compliant SPTS UDP/IP multicast via GbE
Picture carrier stability	< ±30kHz	< ±30kHz		
Sound sub carrier	5.5/5.74/6.0/6.5MHz	5.5/5.74/6.0/6.5MHz		
Spurious Signals	> 60dB	> 60dB		
<b>FREQUENCY</b>				
Channel Raster	7,8MHz	7,8MHz		
Frequency step	250kHz	250kHz		
Output frequency range	47 - 862MHz	47 - 862MHz		
<b>RETURN LOSS</b>				
Output Return Loss	> 10dB	> 10dB		
<b>ELECTRICAL</b>				
Luminance non-linearity	< 8%	< 8%		
Impedance			75Ω	75Ω
<b>OPERATIONAL</b>				
CI slots	0	2	2	2
DC Operating voltage	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC
DC Current consumption (typ.)	1600mA	1800mA	600mA	< 600mA
Humidity - operating	20 ... 80%	20 ... 80%	20 ... 80%	20 ... 80%
TV-norm	Pal(B/G, I, L, D/K), Secam			
Humidity - storage	10 ... 90%	10 ... 90%	10 ... 90%	10 ... 90%
Output protocol			3-7:1 TS / IP packet ratio (configurable via GUI), RTP (optional via GUI)	
Temperature - operating	-10 ... +50°C	-10 ... +50°C	-10 ... +50°C	-10 ... +50°C
Temperature - storage	-20 ... +70°C	-20 ... +70°C	-20 ... +70°C	-20 ... +70°C
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	17 x 162 x 185mm	24 x 162 x 185mm	24 x 162 x 185mm	24 x 162 x 185mm
Packing QTY	1	1	1	1
Weight (kg)	0.43kg	0.46kg	0.22kg	0.22kg

# TRIAX® TDX

fibre modules & software



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
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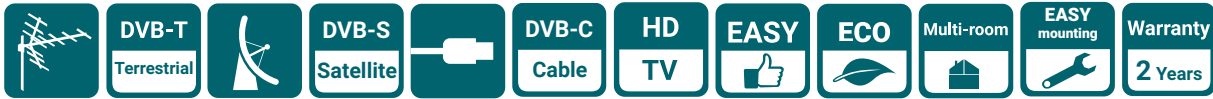
OUTLETS  
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## TDX Software

### IP input/output functionality

Create your own array of services / TV programmes from the TDX pool, distribute them on an IP data stream and define them in the TDX tool. No output module is needed, so long as more than 1 TS package per UDP package or RTP protocol is required – otherwise, an IP backend is required and you will need a licence key

containing the rights to the number of services needed. The licence keys are available in packages of 4 and 12 (96 IP out) IP services in each package. When the services are distributed in IP format, you will also need an SFP transceiver and a corresponding fibre or RJ45 cable.



**TDX SFP Module  
Copper RJ45 -  
EOLT - C12-02 plug**

Art. No. 492086  
EAN Number  
5702664920865



**TDX SFP Module - Fibre LC  
850nm EOLT - 8512 MXX  
plug**

Art. No. 492087  
EAN Number  
5702664920872



**TDX SFP Module  
Fibre LC 1310nm  
[EOLT - 1324-02XX plug]**

Art. No. 492088  
EAN Number  
5702664920889



Type:	TDX SFP Module - Copper RJ45 - EOLT - C12-02 plug	TDX SFP Module - Fibre LC 850nm EOLT - 8512 MXX plug	TDX SFP Module - Fibre LC 1310nm [EOLT - 1324-02XX plug]
Art. no.	492086	492087	492088
OPERATIONAL			
Data rate	1000	1000	1000
Reaching area	100m	550m	2.000m
MECHANICAL			
Packing QTY	1	1	1
Remarks	Copper SFP (RJ45)	Fibre LC - 850 nm	Fibre LC - 1310 nm

## TDX – IP-in and IP-out



### TDX IPTV-in 4 service - Start

Art. No. 418047

EAN Number  
5702664180474



### TDX IPTV-in 4 service - Expand

Art. No. 418048

EAN Number  
5702664180481



### TDX IPTV-in 12 service - Start

Art. No. 418045

EAN Number  
5702664180450



### TDX IPTV-in 12 service - Expand

Art. No. 418046

EAN Number  
5702664180467



### TDX IPTV-out 12 service - Start

Art. No. 418040

EAN Number  
5702664180405



### TDX IPTV-out 12 service - Expand

Art. No. 418041

EAN Number  
5702664180412



### TDX Samsung DRM backend license

Art. No. 418073

EAN Number  
5702664180733



## TDX – IP-in and IP-out



### TDX Alternative EIT source

Art. No. 418050

EAN Number  
5702664180504



### TDX PAL AC3 activation license

Art. No. 418051

EAN Number  
5702664180511



### TDX SimulCrypt 24 service

Art. No. 418072

EAN Number  
5702664180726



### TDX SNMP License

Art. No. 418062

EAN Number  
5702664180627



### TDX PID Management

Art. No. 418063

EAN Number  
5702664180634



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# TRIAX® TDX

accessories & spare parts



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## TDX IPTV EPG Server

The EPG Server extracts data from DVB-S, DVB-C and DVB-T front end modules, generating different XML formats to support IP set-top boxes, IP TVs and middleware solutions.

## TDX Redundant Power Supply

The TDX redundant power supply provides you with a high degree of power assurance in connection with your TDX headend system.

The redundant power supply uses two identical TDX Power supplies mounted in a mechanical frame. This means only one power supply in stock to support TDX and redundant power supply installations. If one power supply unit breaks down the other unit instantly takes over and thereby prevents an interruption of the supply of power. The damaged power supply can be changed without disconnecting the working unit from the power.

### IPTV EPG Server

Art. No. 492095

EAN Number  
5702664920957



### TDX redundant power supply

Art. No. 492006

EAN Number  
5702664920063



# TRIAX® TDX

accessories & spare parts



### TDX Controller

Art. No. 492000

EAN Number  
5702664920001



### TDX SD card

Art. No. 492084

EAN Number  
5702664920841



### TDX Double fan kit

Art. No. 775365

EAN Number  
5702667753651



### TDX power supply

Art. No. 492005

EAN Number  
5702664920056

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RECEPTION

CABLE TV  
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# TRIAX® TDH800 cabinet

the all-rounder with innovative pool technology



## TDH 800

The TDH 800 headend is ideal for those looking for a flexible, compact and reliable solution, with a range of input and output modules for all popular TV distribution formats.

If you need additional features such as multi unit or IP-in/out, then please select the TDX headend.

## Perfect for

- Hotels
- Large multi-family houses
- Small settlements

## Key features

- Fully configurable thanks to pool technology
- More programme channels by multiplexing
- Configuration via web interface



### TDH 800 Cabinet - Main Unit

Art. No. 692890

EAN Number  
5702666928906



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& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

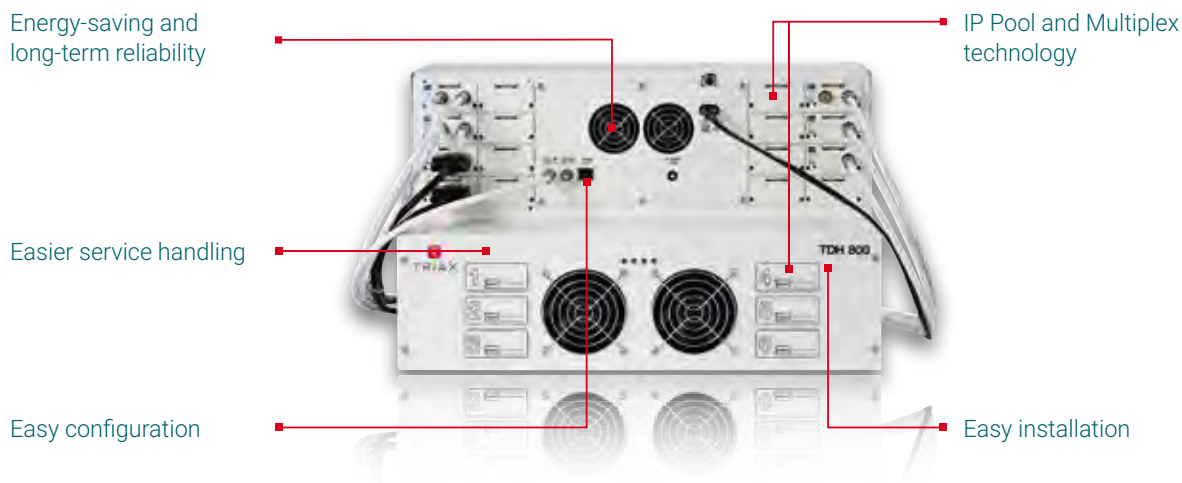
INSTRUMENTS  
TOOLS &  
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TECHNICAL  
APPENDIX



# TRIAX® TDH800 cabinet

main unit for TDH range of modules



Type:	TDH 800 Cabinet Main Unit
Art. no.	692890
<b>CHARACTERISTICS</b>	
External test point	F-connector
Max. LNB control	4 x 305mA
Output level max. @ 60 dB IMD - 24 combined channels	93dB $\mu$ V
Test point	-20dB
DiSEqC level	1
<b>FREQUENCY</b>	
Frequency range (RF OUT)	47-862MHz
<b>RETURN LOSS</b>	
Return loss (RF OUT)	> 10dB
<b>ELECTRICAL</b>	
Impedance	75 $\Omega$
<b>OPERATIONAL</b>	
Humidity - operating	20 to 80%
Humidity - storage	10 to 90%
AC Supply voltage	190-260 (50/60 HZ IEC320 1.8m cable)VAC
Power Consumption (typ.)	280 (min 20)W
Temperature - operating	-10 to +50°C
Temperature - storage	-20 to +70°C
<b>CONNECTORS</b>	
External RF OUT	F-connector
PC interface	RJ 45
<b>MECHANICAL</b>	
Dimensions product (H x D x W)	265 x 240 x 440 mm
Packing QTY	1pcs
Remarks	

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® TDH800 input modules

DVB-S/S2 - DVB-T/T2 - HDMI and AV frontend encoder module



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

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## DVB-S/S2

This frontend module is an input module for the reception of digital satellite signals in a TDH 800 headend system. The module can receive a complete transponder, and all services on the chosen frequency can be transferred to the IP-pool.

The DVB-S/S2 frontend module includes an IF tuner with antenna loop through and a QPSK/8PSK demodulator with serial transport stream input to the TDH 800 headend system.

## DVB-T/T2

This frontend module is an input module for the reception of both T and T2 digital terrestrial signals.

The module can receive a complete terrestrial mux and send all services in the mux to the IP-pool.



**TDH 811 Frontend DVB-S/S2 [QPSK/8PSK]**

Art. No. 692820

EAN Number 5702666928203



**TDH 814 Frontend - AV encoder module**

Art. No. 692880

EAN Number 5702666928807



**TDH 813 Frontend DVB-T/T2 [COFDM]**

Art. No. 692823

EAN Number 5702666928234



**TDH 815 Frontend HDMI module**

Art. No. 692830

EAN Number 5702666928302



# TRIAX® TDH800 input modules

## DVB-S/S2 - DVB-T/T2 - HDMI and AV frontend encoder module

### HDMI & AV

The AV encoder module converts analogue video (CVBS) and the HDMI encoder module converts digital signals from a set top box, a DVD player, a camera or other sources, into a MPEG2 or MPEG4 data stream.

This data stream is then available in the IP-pool and can be sent out on all TDX output modules.

A 15 pol Sub-D or HDMI cable can be used to connect the source to the AV- or HDMI module is also available.

Type:	TDH 800 Frontend DVB-S/S2 [QPSK/8PSK]	TDH 800 Frontend DVB-T/T2 [COFDM]	TDH 800 Frontend AV encoder module	TDH 815 Frontend HDMI module
Art. no.	692820	692823	692880	692830
<b>CHARACTERISTICS</b>				
Audio embedded			AAC, 48 kHz/ MPEG-2(L1), Stereo	AAC, 48 kHz/ MPEG-2(L1), Stereo or AC3 pass through
Code rates DVB-T		1/2, 2/3, 3/4, 5/6, 7/8		
Code rates DVB-T2		1/2, 2/3, 3/4, 5/6		
Constallations DVB-T		QPSK, 16QAM, 64QAM		
Constallations DVB-T2		QPSK, 16 QAM, 64 QAM, 256 QAM		
DiSEqC level	1.1			
FFT mode DVB-T		2K, 8K		
FFT mode DVB-T2		1K,2K,4K,8K,16K,32K		
Input audio level			2.4Vpp	
Input level	55...75dBµV	45...75dBµV		
Input video level			1.0Vpp	
Input Video S/N Ratio			> 52dB	
Input video standards			PAL, Secam	480i30; 480p60; 576i25; 576p50; 720p50/60; 1080p25/30; 1080i25/30
LNB LO/HI programmable	0/22kHz			
Output Type				MPEG (Serial) transport stream (LVDS)
Output Video Codec			MPEG-2, MPEG-4	MPEG-2, MPEG-4
Output Video Codec Settings (CBR)			1, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10 MbpsMbps	3...11 ā 1Mbps
Scan Resolution			525, 625 Pixel	
<b>FREQUENCY</b>				
Bandwidth		7/8MHz		
Audio frequency response			50 - 20.000Hz	
Input frequency range	950...2150MHz	VHF 177.5-226.5 MHz UHF 474 - 858MHz		
<b>GAIN</b>				
Input noise figure		< 7.0dB		
<b>RETURN LOSS</b>				
Input return loss	> 10dB	> 6dB	> 26dB	
<b>ELECTRICAL</b>				
Harmonic Distortion Max.			< 1.0%	
Impedance	75Ω	75Ω	75Ω	
Input Audio Impedance			10 ± 1kΩ	
Physical Interface			CVBS	
<b>OPERATIONAL</b>				
DC Operating voltage	12VDC	12VDC		12 ± 1VDC
DC Current consumption (typ.)	OFF 150/ ON 450mA	200mA		< 320mA
Humidity - operating	20...80%	20 to 80%	20 to 80%	20...80%
Temperature - operating	-10...+50°C	-10 to +50°C	-10 to +50°C	-10...+50°C
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	15pol Sub-D	HDMI female (A)
Number of inputs	1	1	1 x AV-signal	1x HDMI
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	32 x 132 x 50mm	29 x 132 x 50mm	29 x 126 x 53mm	29 x 126 x 53mm
Packing QTY	1	1	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
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RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

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(CCTV)

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# TRIAX® TDH800 backend modules

quad PAL HD downscale - FTA or with 2 x CI slot



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

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INHOUSE CONNECTIVITY

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INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX



## TDH800 quad PAL HD downscale

These modules take any HD service from the IP-pool, scale it down to SD format, modulate it to a PAL signal and distribute it in a PAL network. You can distribute 4 PAL services / TV programmes from each module, equal to 24 PAL services from one cabinet.

The PAL HD downscale module comes in 2 versions: a Free-to-Air version and a CI version with 2 CI slots for decrypting content or services. AC3 support is possible with the addition of an AC3 activation licence.



**TDH 848 Backend - PAL-HD Downscale FTA**

Art. No. 692852

EAN Number  
5702666928524



**TDH 849 Backend - PAL-HD Downscale CI**

Art. No. 692853

EAN Number  
5702666928531



**TDH 847 Backend 2CI**

Art. No. 692870

EAN Number  
5702666928708



# TRIAX<sup>®</sup> TDH800 backend modules

CI only

Type:	TDH 848 Backend PAL-HD Downscale FTA	TDH 849 Backend PAL-HD Downscale CI
Art. no.	692852	692853
<b>CHARACTERISTICS</b>		
Output Audio S/N Ratio	50dB	50dB
Output Level System	103dBuV	103dBuV
Output Video S/N Ratio	≥ 57dB	≥ 57dB
Sound sub carrier	5.5/5.74/6.0/6.5MHz	5.5/5.74/6.0/6.5MHz
Spurious Signals	> 60dB	> 60dB
<b>FREQUENCY</b>		
Channel Raster	7, 8MHz	7, 8MHz
Frequency step	250kHz	250kHz
Output frequency range	47 - 862MHz	47 - 862MHz
<b>RETURN LOSS</b>		
Output Return Loss	> 10dB	> 10dB
<b>ELECTRICAL</b>		
Impedance	75Ω	75Ω
<b>OPERATIONAL</b>		
CI slots	0	2
DC Operating voltage	12 ± 1VDC	12 ± 1VDC
DC Current consumption (typ.)	1600mA	1800mA
Humidity - operating	20 ... 80%	20 ... 80%
Humidity - storage	10 ... 90%	10 ... 90%
Temperature - operating	-10 ... +50°C	-10 ... +50°C
Temperature - storage	-20 ... +70°C	-20 ... +70°C
<b>CONNECTORS</b>		
Connector Type	F-female	F-female
<b>MECHANICAL</b>		
Dimensions product (H x D x W)	17 x 162 x 185mm	24 x 162 x 185mm
Packing QTY	1	1

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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HEADENDS  
CAS SYSTEM  
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INSTRUMENTS  
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## Triax 2 x CI backend

The 2 x CI backend module enables you to take several services depending on CAM module from the IP pool, decrypt them and loop them back in decrypted form to the pool.

Type:	TDH 847 2CI Backend
Art. no.	692870
<b>ELECTRICAL</b>	
Impedance	75Ω
<b>OPERATIONAL</b>	
CI slots	2
DC Operating voltage	12 ± 1VDC
DC Current consumption (typ.)	600mA
Humidity - operating	20 ... 80%
Humidity - storage	10 ... 90%
Output protocol	
Temperature - operating	-10 ... +50°C
Temperature - storage	-20 ... +70°C
<b>CONNECTORS</b>	
Connector Type	F-female
<b>MECHANICAL</b>	
Dimensions product (H x D x W)	24 x 162 x 185 mmmm
Packing QTY	1

# TRIAX® TDH800 backend modules

quad QAM backend module DVB-C in FTA or with 2 x CI slot



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RECEPTION

CABLE TV  
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## TDH800 quad COFDM

These backend modules are output modules that enable you to create up to 4 muxes of services / TV programmes which are available from the IP-pool. The services are distributed in a COFDM data stream. The services can be combined so that the bandwidth of each output mux is used in an optimal way. The mux bandwidth monitor function in the service tool ensures that you don't overload the bandwidth and cause problems with the transmission.

## TDH800 quad QAM

These backend modules are output modules that enable you to create up to 4 muxes of services / TV programmes which are available from the IP-pool. The services are distributed in a QAM data stream. The services can be combined so that the bandwidth of each output mux is used in an optimal way. The mux bandwidth monitor function in the service tool ensures that you don't overload the bandwidth and cause problems with the transmission.



### TDH 845 Backend QAM

Art. No. 692855

EAN Number  
5702666928555



### TDH 843 Backend COFDM

Art. No. 692860

EAN Number  
5702666928609



### TDH 846 Backend QAM - 2CI

Art. No. 692856

EAN Number  
5702666928562



### TDH 844 Backend COFDM - 2CI

Art. No. 692861

EAN Number  
5702666928616



# TRIAX® TDH800 backend modules

quad COFDM backend module DVB-T in FTA or with 2 x CI



TERRESTRIAL  
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Type:	TDH 800 Backend - COFDM	TDH 800 Backend - COFDM -2CI	TDH 800 Backend - QAM	TDH 800 Backend - QAM - 2CI
Art. no.	692860	692861	692855	692856
<b>CHARACTERISTICS</b>				
Carrier supported	2K	2K		
Guard Interval	1/32, 1/16, 1/8, 1/4	1/32, 1/16, 1/8, 1/4		
Deinterleaver			I =12	I =12
Reed Solomon decoder	204 byte mode	204 byte mode	204, 188, t=8	204, 188, t=8
MER	≥ 35.0dB	≥ 35.0dB	≥ 38.0dB	≥ 38.0dB
Output Level System	90.0 ± 1.5dBμV	90.0 ± 1.5dBμV	90.0dBμV	90.0dBμV
Output QAM Modes	16 QAM, 64 QAM, QPSK	16 QAM, 64 QAM, QPSK	16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM	16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM
Output symbol rate			3.15...7.2Mbit/s	3.15...7.2Mbit/s
Spurious Signals	> 60dB	> 60dB	> 60dB	> 60dB
Roll-Off Factor			15%	15%
TER - FEC rate	1/2, 2/3, 3/4, 5/6, 7/8	1/2, 2/3, 3/4, 5/6, 7/8		
<b>FREQUENCY</b>				
Channel Raster	7, 8, 8.5MHz	7, 8, 8.5MHz	7, 8, 8.5MHz	7, 8, 8.5MHz
Frequency step	250kHz	250kHz	250kHz	250kHz
Output frequency range	50.5 - 858MHz	50.5 - 858MHz	50.5 - 858MHz	50.5 - 858MHz
<b>RETURN LOSS</b>				
Output Return Loss	> 10dB	> 10dB	> 10dB	> 10dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
CI slots	0	2	0	2
DC Operating voltage	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC	12 ± 1VDC
DC Current consumption (typ.)	1000mA	1200mA	700mA	900mA
Humidity - operating	20...80%	20...80%	20...80%	20...80%
Humidity - storage	10...90%	10...90%	10...90%	10...90%
Temperature - operating	-10...+50°C	-10...+50°C	-10...+50°C	-10...+50°C
Temperature - storage	-20...+70°C	-20...+70°C	-20...+70°C	-20...+70°C
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	17 x 162 x 182mm	24 x 162 x 182mm	17 x 162 x 185mm	24 x 162 x 185mm
Packing QTY	1	1	1	1

# CSE compact

compact, quick and easy



- TERRESTRIAL RECEPTION
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## CSE compact

The CSE compact series is ideal for quick and easy installations and is available in a variety of housing sizes. Extremely flexible, each headend can be individually populated and expanded.

### Ideal for:

- Smaller campus
- Hospitality and hotel networks
- Bed and Breakfasts
- Hospitals
- Nursing Homes
- Apartment buildings

### Key features:

- Easy to use and install in coax networks
- Compact, flexible and low power consumption
- Analogue to digital (AV to DVB T/C)
- Long-life running without interruptions
- Simple add-on system (1 or 2 Module add-ons)
- Exchangeable and mixable modules
- Multi-language On Screen Display configuration by IR remote control
- HDTV, DVB-S(2), DVB-T(2), DVB C, PAL
- Up to 32 digital channel trans-modulation in one box
- Optional CI-decryption support

### Reliable reception quality

- High-quality modulators of the latest technology
  - Energy saving – power consumption only 64W (CSE 06)
  - High reliability of the system due to lower heat generation
- The signal quality can be checked during programming.

For radio programmes, there is a black image generator with sender identification and time.

### Desired programme

An individual programme sequence can be entered directly and without a PC, with the included remote control. The input of external AV signals is possible via Sub-D 15 – for example for a hotel info channel.

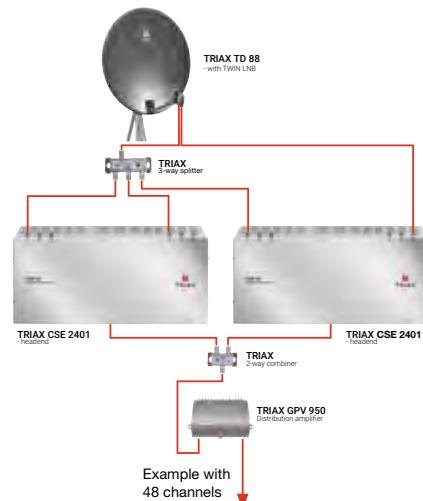
### Easy assembly

The high quality housings are robust yet light, and are equipped with keyholes. All connections and adjustment elements are easily accessible.

- CSE 1601 can be mounted in a 19" cabinet
- Lightweight
- Quick assembly

### Upgradable

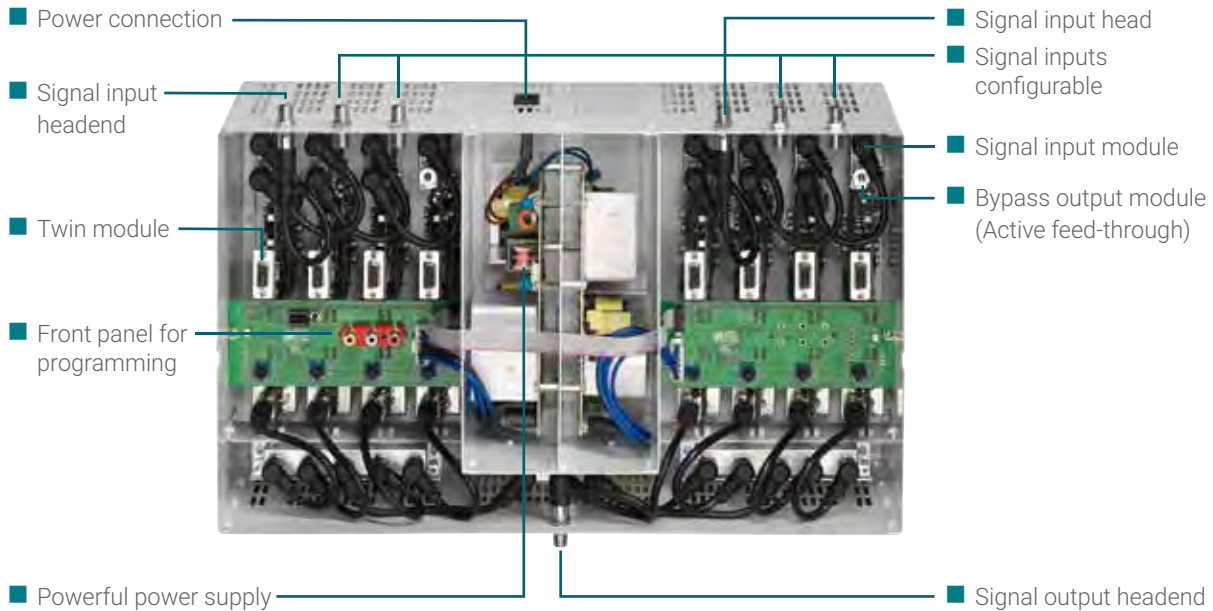
The modular design and the simple programming allow for fast, individual configuration both on the input and on the output side. The active feed-through of the input signal reduces the necessary inputs.





# CSE compact

compact, quick and easy



## Reliable reception quality

- Full-band high-quality modulators
- Significantly lower power consumption
- Conventional systems
- High reliability due to lower heat generation



### CSE 01: Case for one module

With external power supply. Can be used as a standalone or as an extension of an existing system.



### CSE 02: Case for 2 modules including PSU

Base unit for 2 modules with integrated power supply and remote control.



### CSE 06: 1 PSU + 1 x 6 Module slots

Base unit for 6 Modules with integrated power supply and remote control

### CSE 16: 2 PSU + 2 x 4 Module slots

Base unit for 6 modules with integrated power supply and remote control. Supporting wall and rack mounting.

### CSE 24: 2 PSU + 2 x 6 Module slots

Base unit for 6 Modules with integrated Power Supply and remote control.

#### Limitation for Quattro-QAM Modules:

Because of the power consumption (see technical datasheet) CSE 6 PSU can only serve 4 Modules while CSE 16 and CSE 24 can serve 2x4=8 modules.

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# CSE compact

digital main unit



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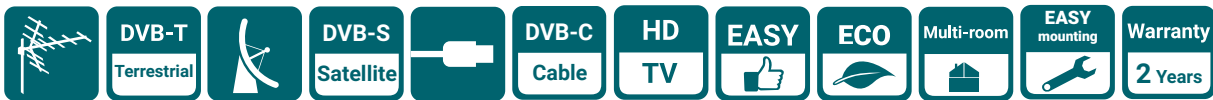
OUTLETS  
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## CSE 1, 2, 6, 16 and 24 cabinet

The base unit and compact headend modules are also available separately to configure according to your exact requirements. Suitable for wall mounting with the supplied brackets.

- CSE 01 as a standalone shell for a module slot
- CSE 02 case for 2 Modules incl. PSU
- CSE 06 with 6 module slots
- CSE 16 with 8 module slots
- CSE 24 with 12 module slots



### CSE 1

Art. No. 324707

EAN Number  
5702663247079



### CSE 16

Art. No. 324986

EAN Number  
5702663249868



### CSE 2

Art. No. 324711

EAN Number  
5702663247116



### CSE 24

Art. No. 324956

EAN Number  
5702663249561



### CSE 6

Art. No. 324988

EAN Number  
5702663249882



### CSE 0204 2DVB-S to 4COFDM 2CI

Art. No. 324942

EAN Number  
5702663249424



# CSE compact

## digital main unit



### Remote control

Art. No. 324909

EAN Number  
5702663249097



### CSE 4AV-in Cable

Art. No. 324710

EAN Number  
5702663247109



### CSE Power supply

Art. No. 389212

EAN Number  
5702663892125



### CSE 6-24:

Case for 4 to 6 modules including PSU and remote control

Type:	CSE 1 Cabinet	CSE 2 Cabinet	CSE 6 Base Unit	CSE 16 Base Unit	CSE 24 Base Unit	CSE 0204 2 DVB-S to 4 COFDM - 2 CI
Art. no.	324707	324711	324988	324986	324956	324942
CHARACTERISTICS						
Input level						70...74dBµV
Output level		85dBµV	85dBµV	85dBµV	85dBµV	90dBµV
Sound output						Mono/Stereo
FREQUENCY						
Input frequency range						950...2150MHz
Output frequency range						C2...C69MHz
ELECTRICAL						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
OPERATIONAL						
Operating temperature range	-10...50°C	-10...50°C	-10...50°C	-10...50°C	-10...50°C	-10...50°C
AC Supply voltage	90...264VAC	90...264VAC	90...264VAC	90...264VAC	90...264VAC	90...264VAC
CONNECTORS						
Connector IN-OUT	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	2	4	6	6	
MECHANICAL						
Product Depth	130mm	130mm	310mm	215mm	567mm	
Product Height	215mm	215mm	253mm	253mm	253mm	
Product Width	43mm	129mm	200mm	301mm	215mm	
Number of slots for cassettes	1	2	6	8	12	
Packing QTY	1	1	1	1	1	1

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# CSE compact

compact headend module AV - QAM/COFDM modules



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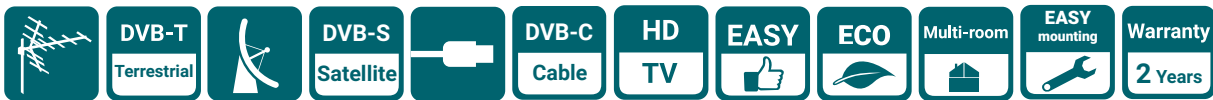
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## CSE 1AV / 2AV

This module converts one or two AV signals into DVB compliant MPEG2 transport streams including all necessary DVB tables (NIT, SDT, PMT etc.).

- High quality modulator
- DVB-T compliant
- Multi language on-screen display for setup
- Null packet insertion (Zero-stuffing)
- Accessory: AV – Input cable Adapter RCA to 15-Sub-D



### CSE 1AV-Q, AV modulator QAM

Art. No. 324705

EAN Number  
5702663247055



### CSE 2AV-Q - Twin AV - QAM

Art. No. 324706

EAN Number  
5702663247062



### CSE 1AV-C, AV modulator COFDM

Art. No. 324703

EAN Number  
5702663247031



### CSE 2AV-C, AV modulator COFDM

Art. No. 324704

EAN Number  
5702663247048



# CSE compact

## compact headend module AV - QAM/COFDM modules

### Single housing sample



Type:	CSE 1AV-Q, AV modulator QAM	CSE 1AV-C, AV modulator COFDM	CSE 2AV-Q - Twin AV - QAM	CSE 2AV-C, AV modulator COFDM
Art. no.	324705	324703	324706	324704
<b>CHARACTERISTICS</b>				
Constellation	QAM 16, 32, 64, 128, 256	QPSK, QAM 16, 64, 2k, 8k	QAM 16, 32, 64, 128, 256	QPSK, QAM 16, 64, 2k, 8k
Demodulator Type				
MER	>32dB	>32dB	>32dB	>32dB
Modulation	QAM	COFDM	QAM	COFDM
Output level	93dBµV	93dBµV	93dBµV	93dBµV
Output level adjustment	15dB	15dB	15dB	15dB
Sound output			Mono/Stereo	
<b>FREQUENCY</b>				
Input frequency range	47...862MHz	47...862MHz	47...862MHz	47...862MHz
Output frequency range	47...862MHz	47...862MHz	47...862MHz	47...862MHz
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
CI slots				
DC Operating voltage	12...18VDC	12...18VDC	12...18VDC	12...18VDC
DC Current consumption (typ.)	360...500mA	360...500mA	360...500mA	360...500mA
Operating temperature range	-10...+50°C	-10...+50°C	-10...+50°C	-10...+50°C
<b>CONNECTORS</b>				
Connector Type	15pol Sub-D	15pol Sub-D	15pol Sub-D	15pol Sub-D
Connector IN	F-female	F-female	F-female	F-female
<b>MECHANICAL</b>				
Colour				
Product Depth	mm	mm	mm	mm
Product Height	20mm	20mm	20mm	20mm
Product Length	208mm	208mm	208mm	208mm
Packing QTY	1	1	1	1
Weight (kg)	kg	kg	kg	kg

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# CSE compact

compact headend module AV-PAL (mono/stereo)



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## AV-PAL (mono/stereo)

This compact headend module is designed to modulate AV signals (composite video, audio) into four independent PAL/SECAM channels.

- Full band high quality modulators
- Four independent VSB outputs
- Multi-language on screen display menu
- Optional with A2-stereo encoder
- Output level adjuster via OSD for each channel



### CSE 1C/T2 - 2 COFDM CI

Art. No. 324929

EAN Number  
5702663249295



### CSE 4AV-PALmono

Art. No. 324709

EAN Number  
5702663247093



### CSE 1C/T2 - QAM CI

Art. No. 324939

EAN Number  
5702663249394



### CSE 4AV-PALstereo

Art. No. 324708

EAN Number  
5702663247086

# CSE compact

## compact headend module DVB-T/T2/C – DVB-C (or 2x DVB-T)

### Compact Module DVB-T/T2/C – DVB-C

A compact headend module for transmodulation of digital terrestrial signals (DVB-T/T2) or digital cable TV signals (DVB-C) in one digital CATV channel (DVB-C) with transport stream processing mechanism. Services can be decrypted by the optional CI slot using standard CAMs.

- Multituner DVB-T/T2/C
- Full band high quality modulator
- Full DVB-T/DVB-C compatible
- Multi-language on screen display menu
- Neighbour channel operational, agile adjustable
- Zero stuffing
- Common Interface (optional)

Type:	CSE 4AV-PAL mono	CSE 4AV-PAL stereo	CSE 1C/T2 - 2 COFDM CI	CSE 1C/T2 - QAM CI
Art. no.	324709	324708	324929	324939
<b>CHARACTERISTICS</b>				
Colour TV standard				
Constellation	QAM 16/32/128/256			
Demodulator Type			DVB-C/ DVB-T/ DVB-T2	DVB-C/ DVB-T/ DVB-T2
Input level			-84 to -25dB $\mu$ V	-84 to -19dB $\mu$ V
MER			>37 typ. 39 max 41dB	typ. 39dB
Modulation	PAL	PAL	COFDM	QAM
Output level	94dB $\mu$ V	94dB $\mu$ V	min. 89 typ. 94dB $\mu$ V	min. 89 typ. 94dB $\mu$ V
Output level adjustment	15dB	15dB	15dB	15dB
Sound output	Mono	Stereo		
<b>FREQUENCY</b>				
Input frequency range	47...862MHz	47...862MHz	50 - 862MHz	50 - 862MHz
Output freq. range - channel			47 - 862MHz	E2 - E69/ S2 - S41MHz
Output frequency range	47...862MHz	47...862MHz	E2-E69/S2-S41MHz	47 - 862MHz
<b>ELECTRICAL</b>				
Impedance	75 $\Omega$	75 $\Omega$	75 $\Omega$	75 $\Omega$
<b>OPERATIONAL</b>				
CI slots			1	1
DC Operating voltage	12...18VDC	12...18VDC	12...18VDC	12...18VDC
DC Current consump.(typ.)	900...1100mA	900...1100mA	900...1100mA	900...1100mA
LNB supply voltage			13/18 VDC	
Operating temperature range	-10...+45°C	-10...+45°C	-5...+40°C	-5...+45°C
Power Consumption (typ.)	13W	15W	6,3 - 7W	6,3W
<b>CONNECTORS</b>				
Connector Type	15pol Sub-D	15pol Sub-D		
Connector IN-OUT	F-female / F-female	F-female / F-female	F-female / F-female	F-female / F-female
<b>MECHANICAL</b>				
Product Height	20mm	20mm	20mm	20mm
Product Length	208mm	208mm	208mm	208mm
Packing QTY	1	1	1	1
Weight (kg)			0.26kg	0.26kg

TERRESTRIAL  
RECEPTION

SATELLITE  
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# CSE compact

modules for compact headend



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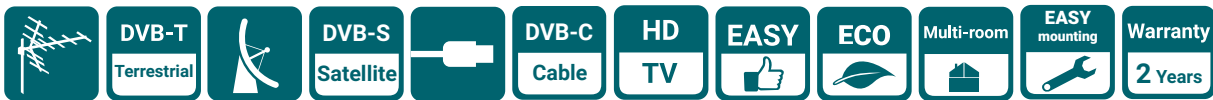
OUTLETS  
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## CSE 484-4 / CSE 484-4CI

A compact headend module for transmodulating 4 independent digital satellite transponders (DVB-S/S2) in 4 digital cable channels (DVB-C) by processing the digital transport stream. Services can be decrypted by the optional Common Interface.

- Fullband high quality modulator
- Full DVB-C compatible (Annex A/C)
- Multi-language on screen display menu
- Output: 1x F, 75 Ohm, four adjacent channels (2nd, 3rd and 4th can be individually switched off)
- Four separate inputs
- DiSEqC 1.0
- Zero stuffing
- Common Interface for first input (optional TSH 3086)

### CSE 484-4

Art. No. 324787

EAN Number  
5702663247871



### CSE 484-4 CI

Art. No. 324788

EAN Number  
5702663247888





# CSE compact

modules for compact headend



## CSE 4AV-in Cable

Art. No. 324710

EAN Number  
5702663247109



TERRESTRIAL  
RECEPTION

SATELLITE  
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CABLE TV  
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Type:	CSE 484-4	CSE 484-4 CI
Art. no.	324787	324788
<b>CHARACTERISTICS</b>		
Constellation	QAM 16/32/64/128/256	QAM 16/32/64/128/256
Demodulator Type	QPSK/8PSK	QPSK/8PSK
Input level	-84 bis -24dB $\mu$ V	-84 to -24dB $\mu$ V
MER	>37 typ. 39 max. 41dB	>37 typ. 39dB
Modulation	QAM	QAM
Output level	min. 89 typ. 94dB $\mu$ V	min. 89 typ. 94dB $\mu$ V
Output level adjustment	15dB	15dB
Sound output		
<b>FREQUENCY</b>		
Input frequency range	950...2150MHz	950...2150MHz
Output frequency range - channel	C5 - C69/S2 - S41MHz	C5 - C69/S2 - S41MHz
Output frequency range	111 - 862MHz	111 - 862MHz
<b>ELECTRICAL</b>		
Impedance	75 $\Omega$	75 $\Omega$
<b>OPERATIONAL</b>		
CI slots		1
DC Operating voltage	12...18VDC	12...18VDC
DC Current consumption (typ.)	900...1100mA	900...1100mA
LNB supply voltage	13/18 VDC	13/18 VDC
Operating temperature range	-5...+40°C	0...+45°C
Power Consumption (typ.)	11 - max. 18W	11 - max 18W
<b>CONNECTORS</b>		
Connector IN-OUT	F-female / F-female	F-female / F-female
<b>MECHANICAL</b>		
Depth (mm)	10mm	10mm
Product Height	20mm	20mm
Product Length	208mm	208mm
Packing QTY	1	1
Weight (kg)	0.26kg	0.26kg

# CAS – Conditional Access Systems

for hospitality and CATV Solutions



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RECEPTION

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DVB-C  
Cable

HD  
TV

EASY  
thumbs up icon

ECO  
leaf icon

Multi-room  
house icon

EASY  
mounting  
wrench icon

Warranty  
2 Years

## Conditional Access Turn-Key Solutions

TRIAx is your reliable partner for turn-key solutions, supporting headend operators with everything they need for digital TV projects.

## Plug & Play Hardware

All our CAS hardware is plug & play and can be easily installed with little prior knowledge. Configuration is downloaded from our central server and a continuous backup ensures data integrity at all times. Faulty hardware simply needs to be exchanged – its replacement will automatically receive the same configuration with no additional steps required.

## Security

We're committed to keeping content secure, and we've developed a set of countermeasures and standby technologies to allow continuity. Control words to protect broadcast content generated by scramblers in the headend are secured along the whole signal chain. Unique keys branded into secure chipsets together with watermarking technology effectively prevent control word sharing on all scales. Copy protection is a must for a Conditional Access System.

## CAS Hospitality

This solution has been specifically designed for the needs of the hospitality sector. Each guest house, clinic or hotel needs to offer value-added TV services and whether in limited budgets or green field deployment of state-of-the-art TV services, TRIAX is the key component for successful access control. Hospitality operators are able to offer linear TV services and Video-On-Demand to their guests while retaining full control over guests' demands and guarding against piracy.

Content in any network infrastructure can be secured and controlled with one single chassis CAS Server in

the headend. Using any type of cabling (coaxial, twisted pair or even wireless), and any type of transport (DVB-C/T or IP-based), the headend controls both one-way (broadcast) and two-way transport networks. Existing TV sets can be used by adding a Common Interface module. More functionality will be available with a set top box. Every employee has their unique interface: a receptionist handles the payment and controls the guest subscription accordingly, a technician or caretaker maintains and manages the respective smartcards / devices of the rooms. A manager has full control and observes all actions, including those executed in the past. Easy and effortless management of the overall system without the need for specialists is therefore possible.



## Features:

- Supports room management for up to 500 rooms
- Room messaging (On-screen messages)
- High-end conditional access system (CAS)
- Compatible with QAM, COFDM and IP
- Data stored at a secure TRIAX database (no backup necessary)
- Controlled by CAS Management Software or network based interface
- Pay per channel, TV client, provisioning, etc.
- Any client device: TV with CI interface or set-top box
- Smartcard or cradles licenses possible
- Hospitality & hotel chains management (on request): Master account for managing thousands of hotels uniformly
- Easy to use reception mode
- Easy integration into your PMS system (on request)

# CAS – Conditional Access Systems

for hospitality and small CATV Solutions

## CAS Hospitality

Art. No. 305528



## CAS Operator

Art. No. 305537



## CAS Operator

The Operator CAS System for digital headends is optimised to run with a TDX. Installation, operation and maintenance are very easy and do not need expert intervention. Every headend becomes a secure and state-of-the-art digital TV platform with high-end Digital Rights Management and access restriction.



### Features:

- Support subscriber or room management.
- Up to 250,000 subscribers
- Compatible with QAM, COFDM and IP
- Data stored at a secure TRIAX database (No backup necessary)
- Controlled by CAS Management Software or network based interface
- Pay per channel, TV client, provisioning, etc.
- On-screen messages
- Any client device: TV with CI interface or set-top box
- Smartcard or cradles licenses possible
- High-end conditional access system (CAS)

## CAS Smartcard

Art. No. 305502



The CAS smartcard chip is based on an NXP crypto controller. A set of cryptographic features makes this platform highly flexible and secure. Should a compromise take place, pre-included standby algorithms can be activated.

## CAS Cardless licence DVB

Art. No. 305503



TRIAX offers a CA kernel running on a secure chipset. Depending on the device's chipset every level of security can be reached: from basic kernel for cost-effective devices up to a sophisticated kernel, secured by a high-end, advanced security chipset. All CA kernel flavours include standby algorithms that can be activated in case of compromise. In this way you have the tamper-proof security of a smartcard integrated directly into your box, eliminating the possibility of attacks on the communication between the smartcard and the box hardware.



## CAS Management Software

This web-based application is the user interface for all TRIAX CAS products, with an ever-growing feature set. It is the central component that enables plug & play and easy control of the overall system. CAS Management Software is also multilingual. Translators maintain 9 languages currently and CAS Management Software itself can easily talk with any other software such as subscriber management systems, billing, etc.

## CAS Hybrid STB DVB-C/T/ IP slim

Art. No. 305232



HD DVB-C set top box compliant with MPEG2 and MPEG4 H.264. TRIAX has a full range of CAS compatible set-top boxes and will find and offer the right solutions needs during a project evaluation.

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
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CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
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# TRIAX® CM 01

1 channel modulators



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
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## TRIAX modulators

### CM series:

TRIAX CM modulators modulate AV signals from a camera, video or set top box to a VHF channel (CM 01V), UHF channel (CM 01U) or UHF channel with integrated amplifier (CM 01UA).

- Multi-standard
- Easy programming
- PLL – locked frequency
- Built-in power supply

### TFM01

The TRIAX Fullband Modulator TFM01 allows you to mix the output from any normal VCR/DVD-Player, camera, etc. with a composite output signal and enjoy it on any standard PAL TV-set in your household. Due to the full VHF/UHF coverage of this modulator you can be sure always to find a TV channel in your home system that is free for use and interference.

### MOD 101

The MOD 101 is a digital modulator with one high definition HDMI input (1080P, MPEG4) and a full range COFDM modulator (MOD 101T) or full range QAM modulator (MOD 101C).

#### CM 01U [UHF] modulator

Art. No. 300102

EAN Number  
5702663001022



#### MOD 101C HDMI-QAM

Art. No. 300126

EAN Number  
5702663001268



#### CM 01UA [UHF] modulator with amplifier

Art. No. 300116

EAN Number  
5702663001169



#### MOD 101T HDMI-COFDM

Art. No. 300125

EAN Number  
5702663001251



#### CM 01V [VHF] modulator

Art. No. 300101

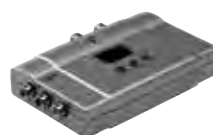
EAN Number  
5702663001015



#### Triax Fullband Modulator TFM01

Art. No. 300112

EAN Number  
5702663001121



# TRIAX® CM 01

## 1 channel modulators with amplifier

Type:	CM 01V [VHF] modulator	CM 01U [UHF] modulator	CM 01UA [UHF] modulator with amplifier	MOD 101C HDMI-QAM	MOD 101T HDMI-COFDM	TFM01 Fullband Modulator
Art. no.	300101	300102	300116	300126	300125	300112
<b>CHARACTERISTICS</b>						
Audio Compression				MPEG-1 Audio Layer II (ISO/ IEC 11172-3)	MPEG-1 Audio Layer II (ISO/ IEC 11172-3)	
Audio Input	0.5 V RMS	0.5 V RMS	0.5...1.0 V RMS	Stereo, HDMI	Stereo, HDMI	
Code rate					1/2, 2/3, 3/4, 5/6, 7/8	
COFDM					DVB-T	
Constellation					QPSK/16 QAM/ 64 QAM	
Guard Interval					1/4, 1/8, 1/16, 1/32	
MER				>36dB	>36dB	
Number of carriers					2K / 8K	
Input level			max. 70 dBµV	75 - 90dBµV	90dBµV	
Output level @ 60 dB IMD	max. 80 dBµV	max. 80 dBµV	72...82 dBµV	75 - 90dBµV	90dBµV	72 - 82 dBµV
Video Compression				H.264/AV	H.264/AC	
Video Input .. CVBS	1.0	1.0	0.8...1.0	HDMI	HDMI	0.8...1.0Vpp
Video resolution	Pal-B	Pal-G	Pal-G	Up to 1080p @30HzPixel	Up to 1080p @30HzPixel	
Modulator type	Double side band					
<b>FREQUENCY</b>						
Gain from out 1/out 2				2 @ Out1 10 @ Out2 dB		2 @ Out1 10 @ Out2 dB
Bandwidth				6/7/8MHz	6-8MHz	
Frequency range	175...335MHz	470...860MHz	470...860MHz	100 - 860MHz	100-860MHz	MHz
Output attenuation	0...10 dB	0...10 dB	0...10 dB			0...10 dB
<b>RETURN LOSS</b>						
LCN				Up to 1023	Up to 1023	
PID settings				PMT/Video & Audio / PCR	PMT/Video & Audio / PCR	
PSI				HID/ONID/ P.D.S./TS ID	HID/ONID/ P.D.S./TS ID	
Screen Resolution				800x600 / 1024x768 / 1280x600 / 1280x720 / 1280x768 / 1360x768 / 1366x768		
Through loss	4.0dB	4.0dB				
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
DC Operating voltage				12VDC	12VDC	
External PSU				Included		
AC Supply voltage	230VAC	230VAC	230VAC			230VAC
Power Consumption (typ.)	3.0W	3.0W	3.5W	8W	8W	3.5W
<b>CONNECTORS</b>						
Connector IN	1 x F-female	1 x F-female	1 x F-female	HDMI female	HDMI female	1 x F-female
Connector OUT	1 x F-female	1 x F-female	2 x F-female	F-female	F-female	1 x F-female
Input connector				HDMI, F-terrestrial loop through	Video/Audio: HDMI Type A	
<b>MECHANICAL</b>						
Product Depth	54mm	54mm	54mm	150mm	150mm	
Product Width	174mm	174mm	174mm	150mm	150mm	
Product Height	75mm	75mm	75mm	36.5mm	36.5mm	
Weight (kg)				0.48kg	0.48kg	0.5kg
Display	L			LCD panel and buttons	LCD panel and buttons	Buttons
Packing QTY	1	1	1	1	1	
Remarks	Use SCART cable art. no. 300743					Use SCART cable art. no. 300743

TERRESTRIAL  
RECEPTION

SATELLITE  
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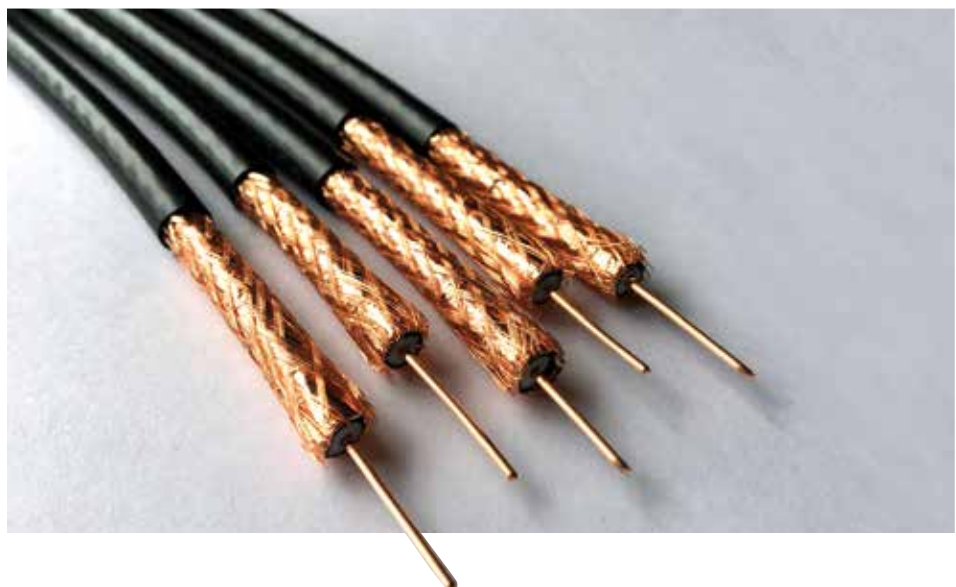
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# TRIAX® Cables

Superior quality cables for the most demanding networks

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# TRIAX® Cables

Futureproof. Fire safe.



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

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## Superior quality cables for the most demanding networks

TRIAX cables are designed to meet the standards of today and the network demands of tomorrow.

Specially crafted and highly shielded to minimise interference, each one has been meticulously updated and rigorously tested to conform to the new EN50575 fire safety standard.

### Maximum performance

Our cables are highly suited for the most demanding installations. Just take our flagship KOKA 110 coaxial cable as an example, which offers:

- The highest levels of interference protection
- Crystal clear HD & 4K TV images
- Up- and downstream data transmission
- Exceptional build quality and durability
- Safety in case of fire

### Maximum safety – EN50575 compliant

All TRIAX cables are fully tested and classified according to the EN50575 Construction Products Regulation, in force from 1 July 2017, so they:

- Meet the highest demands for safety in case of fire
- Are safe and suitable for all building projects across the EU and the world

### About Construction Products Regulation (EU) No 305/2011

This regulation, coming into force for cables from 1 July 2017, identifies a number of basic requirements to be met by products, including cables, used in construction works. One of these requirements, EN50575:2014+A1:2016, is 'safety in case of fire'.

All cables sold within the EU for the construction market must be CE marked, to show that they have been tested and classified accordingly and therefore meet these mandatory standards.

EN50575 defines a number of classes – Aca, B1ca, B2ca, Cca, Dca, Eca and Fca – which specify how a cable reacts to fire, based on heat release and the spread of flames. The classes and respective test methods are presented in the following table:

### CE markings for cables

In order to obtain the mandatory CE mark for cables, manufacturers must draw up a Declaration of Performance (DoP).

This must be made available in the language of each EU country where the product is to be sold, and contain specific information such as product identification, its intended use, and its declared performance.

The DoP – and consequently the CE mark - can only be issued once the product has been thoroughly and independently tested by a 'notified body,' i.e. an entity that has been accredited by an EU Member State to make the required assessments.



# TRIAX<sup>®</sup> fire safe cables

CE marked, meeting the new EU fire standard

	Euro-Class	Contribution to a fire	AVCP System	Additional test	Assessment and certification process
Not applicable to Data cables	A <sub>ca</sub>	No contribution	1+	Smoke Acidity Droplet	<i>Notified body issues attestation of conformity after:</i> <ul style="list-style-type: none"> <li>■ Initial type test</li> <li>■ Factory audit</li> <li>■ Biannual production inspection</li> <li>■ Annual audit test on samples taken from warehouse</li> </ul>
	B1 <sub>ca</sub>	Minimum contribution			
Data Cables for indoor application	B2 <sub>ca</sub>	Very limited contribution			
	C <sub>ca</sub>	Limited contribution			
	D <sub>ca</sub>	Average contribution			
Not acceptable in the buildings	E <sub>ca</sub>	High contribution	3	-	<i>Notified body issues attestation of conformity after:</i> Initial type test
	F <sub>ca</sub>	Undetermined fire properties	4	-	<i>Self-declaration by Manufacturer</i>

## TRIAX cables: fully tested and CE marked

We are happy to assure our customers that all TRIAX cables are now stamped with the CE mark, and the necessary DoPs are available for each product line. The cables have been variously classified B2ca, Cca, Dca & Eca, meeting all statutory demands, and satisfying the recommendations of ZVEI, the German Electrical and Electronic Manufacturers' Association.

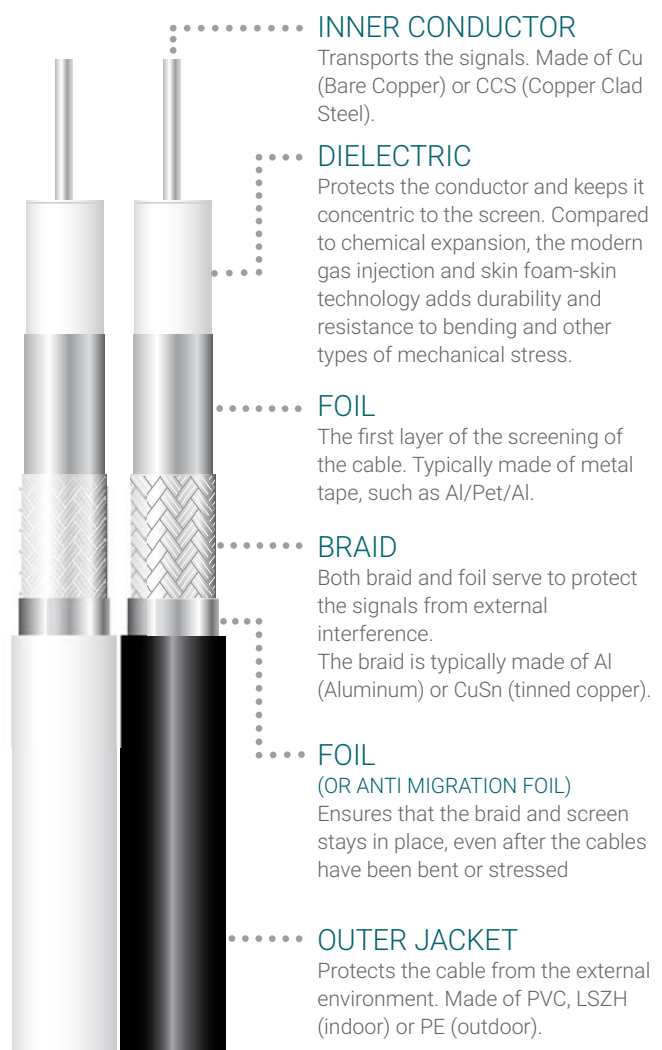
## Shielding of the cables is carried out according to EN 50117-2-X standard

EN 50117 Class	Transfer Impedance	Screening attenuation MHz		
MHz	5-30	30-1000	1000-2000	2000-3000
Class C	< 50 mΩ/m	> 75 dB	> 65 dB	> 55 dB
Class B	< 15 mΩ/m	> 75 dB	> 65 dB	> 55 dB
Class A	< 5.0 mΩ/m	> 85 dB	> 75 dB	> 65 dB
Class A+	< 2.5 mΩ/m	> 95 dB	> 85 dB	> 75 dB
Class A++	< 0.9 mΩ/m	> 105 dB	> 95 dB	> 85 dB

## List of abbreviations

Legend	
AL	Aluminium
AL/PET	Aluminium/Polyester
AL/PET/AL	Aluminium/Polyester/Aluminium
CU	Plain copper
CUSN	Tinned Copper
LSZH	Low smoke zero halogen
PE	Polyethylene
PVC	Polyvinylchloride
SRL	Structural return loss

## TRIAX cable range optimised for digital reception.



TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

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# TRIAX® KOKA 80 Plus, KOKA 600 cable range

for indoor and outdoor installation



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
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## TRIAX KOKA 80 Plus PVC/PE cable

The TRIAX KOKA 80 Plus is a premium cable for all types of indoor and outdoor installation. Due to the full copper inner conductor, the signal loss in the cable is very low and thereby less amplification is required in your installation.

For outdoor installations, we highly recommend the coax cables with PE jacket, as this material is simply more resistant to weather conditions.

## TRIAX KOKA 600 LSZH cable

TRIAX KOKA 600 is a premium cable for all types of indoor installation. Due to full copper inner conductor, the signal loss in the cable is very low and thereby less amplification is required in your installation.



**KOKA 80 Plus, PVC white,  
100m reel**

Art. No. 150261

EAN Number  
5702661502613



**KOKA 80 Plus, PE black,  
100m reel**

Art. No. 150266

EAN Number  
5702661502668



**KOKA 80 Plus, PE black,  
250m reel**

Art. No. 150267

EAN Number  
5702661502675



**KOKA 600, LSZH, white,  
100m reel**

Art. No. 150661

EAN Number  
5702661506611



**KOKA 600, LSZH, white,  
250m reel**

Art. No. 150662

EAN Number  
5702661506628



**KOKA 600, LSZH white,  
250m Pull box**

Art. No. 150663

EAN Number  
5702661506635

# TRIAX<sup>®</sup> fire safe cables

CE marked, meeting the new EU fire standard



Type:	KOKA 80 Plus PVC white 100m reel	KOKA 80 Plus PE black 100/250m reel	KOKA 600 A LSZH white 100/250/250m
Art. no.	150261	150266/150267	150661/150662/150663
<b>CONSTRUCTION</b>			
Inner conductor - material	Cu	Cu	Cu
Inner conductor - dimension	1.02 ± 0.01mm	1.02 ± 0.01mm	1.13mm
Dielectric - material	PE gas injected	PE gas injected	PE gas injected
Dielectric - dimension	4.8 ± 0.05mm	4.8 ± 0.05mm	4.80 ± 0.05mm
Shield (First) foil 1 – material	Al/P bonded foil	Al/P bonded foil	Al/Pet bonded
Shield (First) foil 1 – overlap	20%	20%	20%
Shield (Second) – braid material	CuSn	CuSn	CuSn
Shield (Second) – braid dimension	0,10x4x16mm	0,10x4x16mm	0.10x6x24mm
Shield (Second) – braid coverage	> 37%	> 37%	72%
Jacket – dimension	6.8 ± 0.1mm	6.8 ± 0.1mm	6.8 ± 0.1mm
Jacket - material	UV resistance PVC	UV resistance PVC	UV resistance LSZH
<b>SHIELDING</b>			
Screening attenuation @ 30-1000 MHz	> 78dB	> 78dB	> 85.0dB
Screening attenuation @ 1000-2000 MHz	> 95dB	> 95dB	> 90.0dB
Screening attenuation @ 2000-3000 MHz	> 105dB	> 105dB	> 80.0dB
<b>TRANSFER IMPEDANCE</b>			
Transfer Impedance @ 5-30 MHz	< 24mΩ/m	< 24mΩ/m	< 5mΩ/m
<b>LOSS</b>			
Attenuation (at 20°C) @ 5 MHz	2,1dB	2,1dB	1.6dB
Attenuation (at 20°C) @ 50 MHz	4,3dB	4,3dB	4.2dB
Attenuation (at 20°C) @ 200 MHz	8,8dB	8,8dB	8.2dB
Attenuation (at 20°C) @ 470 MHz	13,8dB	13,8dB	12.8dB
Attenuation (at 20°C) @ 862 MHz	19,1dB	19,1dB	17dB
Attenuation (at 20°C) @ 1000 MHz	20,7dB	20,7dB	18.9dB
Attenuation (at 20°C) @ 1350 MHz	24,4dB	24,4dB	22.4dB
Attenuation (at 20°C) @ 1750 MHz	28,8dB	28,8dB	25.5dB
Attenuation (at 20°C) @ 2150 MHz	31,6dB	31,6dB	28.7dB
<b>RETURN LOSS</b>			
Structural return loss @ 5-470 MHz	> 30dB	> 30dB	> 26dB
Structural return loss @ 470-1000 MHz	> 31dB	> 31dB	> 23dB
Structural return loss @ 1000-2400 MHz	> 31dB	> 31dB	dB
Structural return loss @ 2000-3000 MHz	> 31dB	> 31dB	> 20dB
<b>ELECTRICAL</b>			
Impedance	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω
Capacity	52 ± 1pF/m	52 ± 1pF/m	52 ± 3pF/m
Velocity ratio	82%	82%	82%
Inner DC resistance	< 21Ω/km	< 21Ω/km	< 18Ω/km
Outer DC resistance	< 23Ω/km	< 23Ω/km	< 13Ω/km
<b>OPERATIONAL</b>			
Application	Indoor	Outdoor	Indoor
Fire Class	E <sub>ca</sub>	F <sub>ca</sub>	C <sub>ca</sub>
<b>MECHANICAL</b>			
Tensile Strength - Outer Conductor 1 (∅)			230N/mm <sup>2</sup>
Colour	White	Black	White
Length (m)	100m	100/250m	100/250/250m
Minimum bending radius - single/repeated	35/70mm	35/70mm	35/70mm

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
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# TRIAX® KOKA 99 HD Plus cable range

optimised to meet your needs



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

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## TRIAX KOKA 99 HD Plus LSZH / PVC cable

TRIAX KOKA 99 HD Plus is a premium cable for all types of indoor installation. Due to the full copper inner conductor, the signal loss in the cable is very low and thereby less amplification is required in your installation.

For outdoor installations, we highly recommend the coax cables with PE jacket, as this material is simply more resistant to weather conditions.



**KOKA 99 HD Plus  
LSZH white  
100m reel**

Art. No. 151706

EAN Number  
5702661517068



**KOKA 99 HD Plus  
LSZH white  
250m reel**

Art. No. 151707

EAN Number  
5702661517075



**KOKA 99 HD Plus  
LSZH white  
500m drum**

Art. No. 151708

EAN Number  
5702661517082



**KOKA 99 HD Plus  
PVC white  
100m reel**

Art. No. 151701

EAN Number  
5702661517013



**KOKA 99 HD Plus  
PVC white  
250m reel**

Art. No. 151702

EAN Number  
5702661517020



**KOKA 99 HD Plus  
PVC white  
250m Pullbox**

Art. No. 151703

EAN Number  
5702661517037



**KOKA 99 HD Plus  
PVC white  
500m drum**

Art. No. 151705

EAN Number  
5702661517051

# TRIAX<sup>®</sup> fire safe cables

CE marked, meeting the new EU fire standard

Type:	KOKA 99 HD Plus LSZH white 100/250/500m	KOKA 99 HD Plus PVC white 100/250/500m	KOKA 99HD Plus PVC white 250m Pullbox
Art. no.	151706/151707/151708	151701/151702/151705	151703
<b>CONSTRUCTION</b>			
Inner conductor - material	Cu	Cu	Cu
Inner conductor - dimension	1.02 ± 0.02mm	1.02 ± 0.01mm	1.02 ± 0.01mm
Dielectric - material	PE gas injected	PE gas injected	PE gas injected
Dielectric - dimension	4.6 ± 0.05mm	4.57 ± 0.1mm	4.57 ± 0.1mm
Shield (First) foil 1 – material	Al/Pet/Al - bonded	Al/Pet/Al - bonded	Al/Pet/Al - bonded
Shield (First) foil 1 – overlap	20%	20%	20%
Shield (Second) – braid material	Al	Al	Al
Shield (Second) – braid dimension	0,12x6x16mm		
Shield (Second) – braid coverage	62%	77%	77%
Third shield – foil 2 – material	Al/Pet	Al/Pet	Al/Pet
Jacket – dimension	6.8 ± 0.1mm	6.9 ± 0.1mm	6.9 ± 0.1mm
Jacket - material	UV resistance LSZH	PVC	PVC
<b>SHIELDING</b>			
Screening attenuation @ 30-1000 MHz	≥ 105dB	≥ 105dB	≥ 105dB
Screening attenuation @ 1000-2000 MHz	≥ 100dB	≥ 100dB	≥ 100dB
Screening attenuation @ 2000-3000 MHz	≥ 100dB	≥ 100dB	≥ 100dB
<b>TRANSFER IMPEDANCE</b>			
Transfer Impedance @ 5-30 MHz	≤ 5mΩ/m	≤ 5mΩ/m	≤ 5mΩ/m
<b>LOSS</b>			
Attenuation (at 20°C) @ 5 MHz	1.7dB	1.9dB	1.9dB
Attenuation (at 20°C) @ 50 MHz	4.6dB	4.6dB	4.6dB
Attenuation (at 20°C) @ 200 MHz	8,6dB	9,0dB	9,0dB
Attenuation (at 20°C) @ 470 MHz	13.6dB	13.5dB	13.5dB
Attenuation (at 20°C) @ 800 MHz		18.3dB	18.3dB
Attenuation (at 20°C) @ 862 MHz	18.8dB	18.8dB	18.8dB
Attenuation (at 20°C) @ 1000 MHz	20.3dB	20.3dB	20.3dB
Attenuation (at 20°C) @ 1350 MHz	24,5dB	23.6dB	23.6dB
Attenuation (at 20°C) @ 1600 MHz		26.2dB	26.2dB
Attenuation (at 20°C) @ 1750 MHz	27.2dB	27.3dB	27.3dB
Attenuation (at 20°C) @ 2150 MHz	30.6dB	30.8dB	30.8dB
<b>RETURN LOSS</b>			
Structural return loss @ 5-470 MHz	>26dB	> 23dB	> 23dB
Structural return loss @ 470-862 MHz			
Structural return loss @ 470-1000 MHz	>23dB	> 20dB	> 20dB
Structural return loss @ 862-2400 MHz			
Structural return loss @ 1000-2000 MHz	>20dB	> 18dB	> 18dB
Structural return loss @ 1000-2400 MHz			
Structural return loss @ 2000-3000 MHz	>20dB	> 16dB	> 16dB
<b>ELECTRICAL</b>			
Insulation Resistance	>10000MΩ/km		
Impedance	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω
Capacity	52 ± 2pF/m	53 ± 2pF/m	53 ± 2pF/m
Velocity ratio	84%	83 ± 1%	83 ± 1%
Inner DC resistance	<22.5Ω/km	≤ 21.5Ω/km	≤ 21.5Ω/km
Outer DC resistance	<20Ω/km	<15Ω/km	<15Ω/km
Conductor DC resistance @ 20°C	Ohm/km	Ohm/km	Ohm/km
Mutual capacity @ 1kHz	pF/m	pF/m	pF/m
<b>OPERATIONAL</b>			
Application	Indoor	Indoor	Indoor
Fire Class	C <sub>ca</sub>	E <sub>ca</sub>	E <sub>ca</sub>
<b>MECHANICAL</b>			
Tensile Strength - Outer Conductor 1 (Ø)	230N/mm <sup>2</sup>		
Colour	White	White	White
Length (m)	100/250/500m	100/250/500m	250m
Minimum bending radius - single/repeated	23/70mm	35/70mm	35/70mm

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# TRIAX® KOKA 110 A+ and A++ cable range

for indoor and outdoor installation



## TRIAX KOKA 110 A+ LSZH / PVC cable



**KOKA 110 A+  
PVC white  
100m reel**

Art. No. 151611

EAN Number  
5702661516115



**KOKA 110 A+  
LSZH white  
100m reel**

Art. No. 151616

EAN Number  
5702661516160



**KOKA 110 A+  
PVC white  
250m reel**

Art. No. 151612

EAN Number  
5702661516122



**KOKA 110 A+  
LSZH white  
500m drum**

Art. No. 151617

EAN Number  
5702661516177



**KOKA 110 A+  
PVC white  
500m drum**

Art. No. 151615

EAN Number  
5702661516153



**KOKA 110 A+  
PE black  
100m reel**

Art. No. 151613

EAN Number  
5702661516139



**KOKA 110 A+  
PVC white  
250m Pullbox**

Art. No. 151620

EAN Number  
5702661516207



**KOKA 110 A+  
PE black  
250m reel**

Art. No. 151614

EAN Number  
5702661516146

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# TRIAX<sup>®</sup> fire safe cables

CE marked, meeting the new EU fire standard



**KOKA 110 A++  
LSZH white  
100m reel**

**Art. No. 151618**

**EAN Number  
5702661516184**



**KOKA 110 A++  
LSZH white  
500m drum**

**Art. No. 151619**

**EAN Number  
5702661516191**

Type:	KOKA 110 A+ PVC white	KOKA 110 A+ PVC white	KOKA 110 A+ LSZH white	KOKA 110 A+ PE black	KOKA 110 A++ LSZH white
Inner conductor - dimension	1.02 ± 0.01mm	1.02 ± 0.01mm	1.02 ± 0.01mm	1.02 ± 0.01mm	1.05 ± 0.01mm
Dielectric - material	PE gas injected	PE gas injected	PE gas injected	PE gas injected	PE gas injected
Dielectric - dimension	4.6(+0.2-0.3)mm	4.6(+0.2-0.3)mm	4.6(+0.2-0.3)mm	4.6(+0.2-0.3)mm	4.65 ± 0.01mm
Shield (First) foil 1 – material	Al/Pet/Copolymer bonded	Al/Pet/Copolymer bonded	Al/Pet/Copolymer bonded	Al/Pet/Copolymer bonded	Al/Pet/Copolymer bonded
Shield (First) foil 1 – overlap	20%	20%	20%	20%	20%
Shield (Second) – braid material	CuSn	CuSn	CuSn	CuSn	CuSn
Shield (Second) – braid coverage	60%	60%	60%	60%	82%
Third shield – foil 2 – material	AL/Pet bonded	AL/Pet bonded	AL/Pet bonded	AL/Pet bonded	AL/Pet bonded
Jacket – dimension	6.8 ± 0.1mm	6.8 ± 0.1mm	6.8 ± 0.1mm	6.8 ± 0.1mm	6.9 ± 0.1mm
Jacket - material	PVC	PVC	LSZH	PE	LSZH
<b>SHIELDING</b>					
Screening attenuation @ 30-1000 MHz	≥ 120dB	≥ 120dB	≥ 120dB	≥ 120dB	≥ 110dB
Screening attenuation @ 1000-2000 MHz	≥ 120dB	≥ 120dB	≥ 120dB	≥ 120dB	≥ 105dB
Screening attenuation @ 2000-3000 MHz	≥ 120dB	≥ 120dB	≥ 120dB	≥ 120dB	≥ 100dB
<b>TRANSFER IMPEDANCE</b>					
Transfer Impedance @ 5-30 MHz	< 2.5mΩ/m	< 2.5mΩ/m	< 2.5mΩ/m	< 2.5mΩ/m	< 0.9mΩ/m
<b>LOSS</b>					
Attenuation (at 20°C) @ 5 MHz	1.5dB	1.5dB	1.5dB	1.5dB	1.5dB
Attenuation (at 20°C) @ 50 MHz					4.6dB
Attenuation (at 20°C) @ 200 MHz	9.0dB	9.0dB	9.0dB	9.0dB	9.0dB
Attenuation (at 20°C) @ 470 MHz	13.5dB	13.5dB	13.5dB	13.5dB	13.6dB
Attenuation (at 20°C) @ 862 MHz	18.8dB	18.8dB	18.8dB	18.8dB	19.5dB
Attenuation (at 20°C) @ 1000 MHz	20.3dB	20.3dB	20.3dB	20.3dB	21.0dB
Attenuation (at 20°C) @ 1350 MHz					24.1dB
Attenuation (at 20°C) @ 1750 MHz					27.8dB
Attenuation (at 20°C) @ 2150 MHz					31.2dB
Struc. return loss @ 5-470 MHz	≥ 25dB	≥ 25dB	≥ 25dB	≥ 25dB	≥ 26dB
Struc. return loss @ 470-1000 MHz	≥ 23dB	≥ 23dB	≥ 23dB	≥ 23dB	≥ 23dB
Struc. return loss @ 1000-2400 MHz	≥ 20dB	≥ 20dB	≥ 20dB	≥ 20dB	≥ 20dB
Struc. return loss @ 2000-3000 MHz					≥ 20dB
<b>ELECTRICAL</b>					
Impedance	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω
Capacity	53 ± 2pF/m	53 ± 2pF/m	53 ± 2pF/m	53 ± 2pF/m	53 ± 2pF/m
Velocity ratio	83 ± 1%	83 ± 1%	83 ± 1%	83 ± 1%	83 ± 1%
Inner DC resistance	< 21.5Ω/km	< 21.5Ω/km	< 21.5Ω/km	< 21.5Ω/km	< 20Ω/km
Outer DC resistance	< 12.0Ω/km	< 12.0Ω/km	< 12.0Ω/km	< 12.0Ω/km	< 9.8Ω/km
<b>OPERATIONAL</b>					
Application	Indoor	Indoor	Indoor	Outdoor	Indoor
Fire Class	E <sub>ca</sub>	E <sub>ca</sub>	C <sub>ca</sub>	F <sub>ca</sub>	B <sub>2ca</sub>
<b>MECHANICAL</b>					
Colour	White	White	White	Black	White
Length (m)	100/250/500m	250m	100/500m	100/250m	100/500m

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# TRIAX® KOKA 6 and F6 Plus cable range

for indoor and outdoor installation



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## TRIAX KOKA 6 PVC white cable

TRIAX KOKA 6 is a premium cable for all types of indoor and outdoor installation. Due to the full copper inner conductor, the signal loss in the cable is very low and thereby less amplification is required in your installation.

For outdoor installations, we highly recommend the coax cables with PE jacket, as this material is simply more resistant to weather conditions.

## TRIAX KOKA F6 Plus PVC white cable

TRIAX KOKA 600 is a premium cable for all types of indoor installation. Due to the full copper inner conductor, the signal loss in the cable is very low and thereby less amplification is required in your installation.



**KOKA 6 - PVC white  
100m reel**

Art. No. 150121

EAN Number  
5702661501210



**KOKA F6 Plus PVC white  
100m reel**

Art. No. 151137

EAN Number  
5702661511370



**KOKA 6 - PVC white  
250m reel**

Art. No. 150122

EAN Number  
5702661501227



**KOKA F6 Plus PVC white  
305m reel**

Art. No. 151138

EAN Number  
5702661511387



**KOKA 6 - PVC white  
305m reel**

Art. No. 150129

EAN Number  
5702661501296



# TRIAX<sup>®</sup> fire safe cables

CE marked, meeting the new EU fire standard



Type:	KOKA 6 PVC white 100/250 m	KOKA 6 PVC white 305m reel	KOKA F6+ PVC white 100/305 m
Art. no.	150121 / 150122	150129	151137 / 151138
<b>CONSTRUCTION</b>			
Inner conductor - material	Cu	Cu	CCS
Inner conductor - dimension	1.02 ± 0.02mm	1.02 ± 0.02mm	1.02 ± 0.03mm
Dielectric - material	PE gas injected	PE gas injected	PE foam
Dielectric - dimension	4.8 ± 0.1mm	4.8 ± 0.1mm	4.57 ± 0.1mm
Shield (First) foil 1 – material	Al/P - unbonded	Al/P - unbonded	Al/Pet bonded
Shield (First) foil 1 – overlap	20%	20%	20%
Shield (Second) – braid material	Al wire	Al wire	Al
Shield (Second) – braid coverage	> 43%	> 43%	60 ± 3%
Third shield – foil 2 – material			Al/Pet
Jacket – dimension	6.8 ± 0.2mm	6.8 ± 0.2mm	6.9 ± 0.2mm
Jacket - material	PVC	PVC	LSZH
<b>SHIELDING</b>			
Screening attenuation @ 30-1000 MHz	> 75dB	> 75dB	> 100dB
Screening attenuation @ 1000-2000 MHz	> 65dB	> 65dB	> 90dB
Screening attenuation @ 2000-3000 MHz	> 55dB	> 55dB	> 95dB
<b>TRANSFER IMPEDANCE</b>			
Transfer Impedance @ 5-30 MHz	< 15mΩ/m	< 15mΩ/m	mΩ/m
<b>LOSS</b>			
Attenuation (at 20°C) @ 5 MHz	1.9dB	1.9dB	2.4dB
Attenuation (at 20°C) @ 50 MHz	5.0dB	5.0dB	5.0dB
Attenuation (at 20°C) @ 200 MHz	9.63dB	9.63dB	9.0dB
Attenuation (at 20°C) @ 470 MHz	13.5dB	13.5dB	15.2dB
Attenuation (at 20°C) @ 862 MHz	20.01dB	20.1dB	19.0dB
Attenuation (at 20°C) @ 1000 MHz	21.49dB	21.49dB	21.5dB
Attenuation (at 20°C) @ 1350 MHz	23.5dB	23.5dB	25.3dB
Attenuation (at 20°C) @ 1750 MHz	26.5dB	26.5dB	28.4dB
Attenuation (at 20°C) @ 2150 MHz	31.2dB	31.2dB	30.8dB
<b>RETURN LOSS</b>			
Structural return loss @ 5-470 MHz	> 21dB	> 21dB	
Structural return loss @ 470-1000 MHz	> 21dB	> 21dB	> 21dB
Structural return loss @ 1000-2000 MHz	> 18dB	> 18dB	> 18dB
Structural return loss @ 2000-3000 MHz	> 16dB	> 16dB	> 16dB
<b>ELECTRICAL</b>			
Impedance	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω
Capacity	53pF/m	53pF/m	pF/m
Velocity ratio	82%	82%	81%
Inner DC resistance	< 22Ω/km	< 22Ω/km	< 100Ω/km
Outer DC resistance	< 65Ω/km	< 65Ω/km	< 38Ω/km
<b>OPERATIONAL</b>			
Application	Indoor	Indoor	Indoor
Fire Class			E <sub>ca</sub>
<b>MECHANICAL</b>			
Colour	White	White	White
Length (m)	100/250m	305m	100/305m
Minimum bending radius - single/repeated	23/70mm	23/70mm	23/70mm

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# TRIAX® KOKA 30/50/780 and RG11 cables

for indoor and outdoor installation



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## Triax KOKA 30/50 and KOKA 780 Twin

is a universal coaxial cable for in-house TV broadcast cabling. Due to the full copper inner conductor, the signal loss in the cable is low so less amplification is required in your installation.

KOKA 780 is a Twin cable for SAT-IF cable systems, for use with 3 or 4-output outlets.

## Triax RG 11 Plus

are ideal for entry point feed systems running to a building and applications to each floor of residential buildings. The RG 11s are durable quality cables offering high stability for many years to come. To protect the signals from interferences, the cables are engineered with a high shielding efficiency – Class A according to EN 50117.



**KOKA 30**  
PVC white  
100m reel

Art. No. 150001

EAN Number  
5702661500015



**KOKA 50**  
PVC white  
100m reel

Art. No. 150151

EAN Number  
5702661501517



**KOKA 780 Twin**  
PVC white  
100m coil

Art. No. 150004

EAN Number  
5702661500046



**RG11 Plus**  
PE black 10.2mm  
500m drum

Art. No. 150240

EAN Number  
5702661502408



**RG11 Plus LSZH**  
White 10.2mm  
500m drum

Art. No. 150241

EAN Number  
5702661502415

# TRIAX<sup>®</sup> fire safe cables

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Type:	KOKA 30	KOKA 50	KOKA 780 Twin	RG11 Plus	RG11 Plus
	PVC white	PVC white	PVC white	PE black	LSZH white
	100m reel	100m reel	100 coil	500m	500m
Art. no.	150001	150151	150004	150240	150241
<b>CONSTRUCTION</b>					
Inner conductor - material	Cu	Cu	Cu	Cu	Cu
Inner conductor - dimension	0.41 ± 0.02mm	0.8 ± 0.02mm	0.8mm	1.7 ± 0.01mm	1.7 ± 0.01mm
Dielectric - material	PE gas injected	PE gas injected	PEG	PEG	PEG
Dielectric - dimension	1.9 ± 0.1mm	3.5 ± 0.1mm	3.5mm	7.2 ± 0.05mm	7.2 ± 0.05mm
Shield (First) foil 1 – material	Al/Pet/Al tape - unbonded	Al/Pet/Al tape - unbonded	Al/Pet/Al tape	Al/Pet/Al tape	Al/Pet/Al tape
Shield (First) foil 1 – overlap	20%	20%			
Shield (Second) – braid material	CuSn	CuSn	CuSn	CuSn	CuSn
Shield (Second) – braid coverage	58%	> 45%	65%	55%	55%
Third shield – foil 2 – material				Al/Pet	Al/Pet
Jacket – dimension	3.6 ± 0.1mm	5.0 ± 0.15mm	2 x 5 ± 0.2mm	10.2 ± 0.1mm	10.2 ± 0.1mm
Jacket - material	PVC	PVC	PVC	UV resistance PE	UV resistance LSZH
<b>SHIELDING</b>					
Screening attenuation @ 30-1000 MHz	> 75dB	> 75dB	> 90dB	> 120dB	> 120dB
Screening attenuation @ 1000-2000 MHz	> 85dB	> 85dB	> 80dB	> 115dB	> 115dB
Screening attenuation @ 2000-3000 MHz	> 75dB	> 80dB	> 70dB	> 100dB	> 100dB
<b>TRANSFER IMPEDANCE</b>					
Transfer Impedance @ 5-30 MHz			< 0.35mΩ/m	< 2,5mΩ/m	< 2,5mΩ/m
<b>LOSS</b>					
Attenuation (at 20°C) @ 5 MHz	3.9dB	2.5dB	2.1dB	0.9dB	0.9dB
Attenuation (at 20°C) @ 50 MHz	11.4dB	6.1dB	5.7dB	2.7dB	2,7dB
Attenuation (at 20°C) @ 200 MHz	21.4dB	11.2dB	11.0dB	5.6dB	5,6dB
Attenuation (at 20°C) @ 470 MHz	33.5dB	17.5dB	17.2dB	8.8dB	8,8dB
Attenuation (at 20°C) @ 862 MHz	46.5dB	23.9dB	23.6dB	12.3dB	12,3dB
Attenuation (at 20°C) @ 1000 MHz	50.6dB	25.9dB	25.5dB	13.1dB	13,1dB
Attenuation (at 20°C) @ 1350 MHz	59.6dB	30.4dB			
Attenuation (at 20°C) @ 1600 MHz			34.3dB		
Attenuation (at 20°C) @ 1750 MHz	66.5dB	34.8dB		18.0dB	18,0dB
Attenuation (at 20°C) @ 2150 MHz	72.0dB	39.0dB	38.0dB	20.2dB	20,2dB
<b>RETURN LOSS</b>					
Structural return loss @ 5-470 MHz	> 21dB	> 26dB	dB	> 26dB	> 26dB
Structural return loss @ 470-1000 MHz	> 20dB	> 23dB	> 28dB	> 23dB	> 23dB
Structural return loss @ 1000-2000 MHz	> 18dB	> 18dB	> 26dB	> 20dB	> 20dB
Structural return loss @ 2000-3000 MHz	> 16dB	> 16dB	> 22dB	> 20dB	> 20dB
<b>ELECTRICAL</b>					
Impedance	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω
Capacity	55 ± 1pF/m	52 ± 1pF/m	52 ± 2pF/m	52.0 ± 3pF/m	52.0 ± 3pF/m
Velocity ratio	82%	85%	85%	82%	82%
Inner DC resistance	130Ω/km	25Ω/km	35Ω/km	7,5Ω/km	7,5Ω/km
Outer DC resistance	40Ω/km	50Ω/km	18.6Ω/km	9Ω/km	9Ω/km
<b>OPERATIONAL</b>					
Application	Indoor	Indoor	Indoor	Outdoor	Indoor
Fire Class			E <sub>ca</sub>	F <sub>ca</sub>	D <sub>ca</sub>
<b>MECHANICAL</b>					
Colour	White	White	White	Black	White
Length (m)	100m	100m	100m	500m	500m
Minimum bending radius - single/repeated	25/50mm	25/50mm	25/50mm	50/100mm	50/100mm

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# TRIAX<sup>®</sup> RG11 cables

durable quality cable offering high stability for many years



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## Triax RG11 cables

RG 11 types are ideal for entry point feed systems running to a building and applications to each floor of residential buildings. The RG 11s are durable quality cables with CU or CCS inner conductors, offering high stability for many years to come. To protect the signals from electromagnetic

interference, the cable is engineered with a high shielding efficiency – Class A according to EN 50117. Installing TRIAX RG 11 types, end-users benefit by receiving higher quality TV pictures.



**KOKA 6**  
PE black  
100m coil

Art. No. 150125



**RG 11 - CCS**  
PE black  
305m drum

Art. No. 150118



**KOKA RG6**  
PE black  
305m reel

Art. No. 150026



**RG 11**  
PE black  
305m drum

Art. No. 150117



**RG 11**  
PE black  
500m drum

Art. No. 150115

# TRIAX® RG11 cables

cable range optimised to meet your needs!



Type:	KOKA 6 PE black 100m coil	KOKA RG6 CCS PE black 305m reel	RG 11 - CCS PE black 305m drum	RG 11 PE black 305/500m drum
Art. no.	150125	150026	150118	150115 / 150117
<b>CONSTRUCTION</b>				
Inner conductor - material	Cu	CCS	CCS	Cu
Inner conductor - dimension	1.02 ± 0.03mm	1.02 ± 0.01mm	1.63 ± 0.01mm	1.63 ± 0.01mm
Dielectric - material	PE gas injected	PE gas injected	PEG	PEG
Dielectric - dimension	4.8 ± 0.1mm	4.57 ± 0.05mm	7.2 ± 0.15mm	7.2 ± 0.15mm
Shield (First) foil 1 – material	Al/Pet - unbonded	Al/Pet - bonded	Al/Pet tape - bonded	Al/Pet tape - bonded
Shield (First) foil 1 – overlap	20%	20%	20%	20%
Shield (Second) – braid material	Al wire	Al wire	CuSn	CuSn
Shield (Second) – braid dimension	mm	mm	mm	mm
Shield (Second) – braid coverage	45 ± 3%	60 ± 3%	75 ± 3%	75 ± 3%
Third shield – foil 2 – material			Al/Pet/Al tape	Al/Pet/Al tape
Jacket – dimension	6.8 ± 0.2mm	6.86 ± 0.15mm	10.16 ± 0.15mm	10.16 ± 0.15mm
Jacket - material	PE	PE	PE	PE
<b>SHIELDING</b>				
Screening attenuation @ 30-1000 MHz	> 75dB	> 75dB	> 90dB	> 90dB
Screening attenuation @ 1000-2000 MHz	> 65dB	> 65dB	> 75dB	> 75dB
Screening attenuation @ 2000-3000 MHz	> 55dB	> 55dB	> 65dB	> 65dB
<b>TRANSFER IMPEDANCE</b>				
Transfer Impedance @ 5-30 MHz	< 15mΩ/m	mΩ/m	mΩ/m	mΩ/m
<b>LOSS</b>				
Attenuation (at 20°C) @ 5 MHz	1.9dB	2.66dB	1.25dB	1.25dB
Attenuation (at 20°C) @ 50 MHz	5.0dB	5.0dB	2.85dB	2.85dB
Attenuation (at 20°C) @ 200 MHz	9.0dB	9.0dB	5.84dB	5.84dB
Attenuation (at 20°C) @ 470 MHz	15.2dB	15.2dB	9.31dB	9.31dB
Attenuation (at 20°C) @ 862 MHz	20.1dB	19.0dB	13.15dB	13.15dB
Attenuation (at 20°C) @ 1000 MHz	21.49dB	21.5dB	14.27dB	14.27dB
Attenuation (at 20°C) @ 1350 MHz	23.5dB	25.33dB	16.99dB	16.99dB
Attenuation (at 20°C) @ 1750 MHz	26.5dB	28.4dB	19.80dB	19.80dB
Attenuation (at 20°C) @ 2150 MHz	31.2dB	30.5dB	22.40dB	22.40dB
<b>RETURN LOSS</b>				
Structural return loss @ 5-470 MHz	> 21dB	> 23dB	> 20dB	> 20dB
Structural return loss @ 470-1000 MHz	> 21dB	> 21dB	> 18dB	> 18dB
Structural return loss @ 1000-2000 MHz	> 18dB	> 18dB	> 16dB	> 16dB
Structural return loss @ 2000-3000 MHz	> 16dB	> 16dB	> 15dB	> 15dB
<b>ELECTRICAL</b>				
Impedance	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω	75 ± 3Ω
Capacity	53pF/m	52 ± 3pF/m	53pF/m	53pF/m
Velocity ratio	81%	81%	83%	83%
Inner DC resistance	< 23Ω/km	< 102Ω/km	< 40Ω/km	< 9Ω/km
Outer DC resistance	< 58Ω/km	< 60Ω/km	< 12Ω/km	< 12Ω/km
<b>OPERATIONAL</b>				
Application	Outdoor	Outdoor	Outdoor	Outdoor
Fire Class	F <sub>ca</sub>	F <sub>ca</sub>	F <sub>ca</sub>	F <sub>ca</sub>
<b>MECHANICAL</b>				
Colour	Black	Black	Black	Black
Length (m)	100m	305m	305m	305/500m
Minimum bending radius - single/repeated	23/70mm	23/70mm	38/100mm	38/100mm

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CONNECTORS

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# TRIAX® RG6 multi colour cables

individually colour coded for easy mounting of multiswitches



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## Triax Triple shielded multi colour cables

Triax Triple shielded multi colour cables are high quality cables for multiswitch installations. The colour codes of the cables can be used through the system and are suitable for Triax multiswitch colour coded connectors. Full copper inner conductors ensure low loss in your installation.



**18MULTI 4 color cable,  
6.7mm, PVC black,  
100m drum**

Art. No. 731073

EAN Number  
5702667310731



**18MULTI 5 color cable,  
6.7mm, PVC white,  
100m drum**

Art. No. 731074

EAN Number  
5702667310748



**18MULTI 9 color cable,  
6.7mm, PVC black,  
50m drum**

Art. No. 731075

EAN Number  
5702667310755



**18MULTI 9 color cable,  
6.7mm, PVC black,  
100m drum**

Art. No. 731076

EAN Number  
5702667310762



**18MULTI 4 color cable,  
6.7mm, PE color/PVC black,  
100m drum**

Art. No. 731077

EAN Number  
5702667310779

# TRIAX® RG6 multi colour cables

cable range optimised to meet your needs!



Type:	MULTI 4 colour cable, PVC black, 100m drum	MULTI 5 colour cable, PVC white, 100m drum	MULTI 9 colour cable, PVC black, 50 / 100m drum	MULTI 4 colour cable, PE color/PVC black, 100m drum
Art. no.	731073	731074	731075 / 731076	731077
<b>CONSTRUCTION</b>				
Inner conductor - material	Cu	Cu	Cu	Cu
Inner conductor - dimension	1.00 ± 0.01mm	1.00 ± 0.01mm	1.00 ± 0.02mm	1.02 ± 0.02mm
Dielectric - material	PE gas injected	PE gas injected	PE gas injected	PE gas injected
Dielectric - dimension	4.8 ± 0.15mm	4.8 ± 0.15mm	4.8 ± 0.15mm	4.8 ± 0.15mm
Shield (First) foil 1 – material	Al/Pet/Al	Al/Pet/Al	Al/Pet/Al	Al/Pet/Al
Shield (Second) – braid material	Al	Al	Al	Al
Shield (Second) – braid coverage	43 ± 2%	43 ± 2%	43 ± 2%	43 ± 2%
Third shield – foil 2 – material	Al/Pet	Al/Pet	Al/Pet	Al/Pet
Jacket – dimension	6.7 ± 0.2mm	6.7 ± 0.2mm	6.7 ± 0.2mm	6.7 ± 0.2mm
Jacket - material	PVC	PVC	PVC	PE
<b>SHIELDING</b>				
Screening attenuation @ 30-1000 MHz	> 85dB	> 85dB	> 85dB	> 85dB
Screening attenuation @ 1000-2000 MHz	> 75dB	> 75dB	> 75dB	> 75dB
Screening attenuation @ 2000-3000 MHz	> 65dB	> 65dB	> 65dB	> 65dB
<b>LOSS</b>				
Attenuation (at 20°C) @ 5 MHz	2.1dB	2.1dB	2.1dB	2.1dB
Attenuation (at 20°C) @ 50 MHz	4,9dB	4,9dB	4,9dB	4,9dB
Attenuation (at 20°C) @ 200 MHz	10dB	10dB	10dB	10dB
Attenuation (at 20°C) @ 800 MHz	19dB	19dB	19dB	19dB
Attenuation (at 20°C) @ 1000 MHz	22,5dB	22,5dB	22,5dB	22,5dB
Attenuation (at 20°C) @ 1350 MHz	25dB	25dB	25dB	25dB
Attenuation (at 20°C) @ 1750 MHz	29dB	29dB	29dB	29dB
Attenuation (at 20°C) @ 2150 MHz	32dB	32dB	32dB	32dB
<b>RETURN LOSS</b>				
Structural return loss @ 5-470 MHz	> 18 (return loss)dB	> 18 (return loss)dB	> 18 (return loss)dB	> 18 (return loss)dB
Structural return loss @ 470-1000 MHz	> 16 (return loss)dB	> 16 (return loss)dB	> 16 (return loss)dB	> 16 (return loss)dB
Structural return loss @ 1000-2000 MHz	> 12 (return loss)dB	> 12 (return loss)dB	> 12 (return loss)dB	> 12 (return loss)dB
Structural return loss @ 2000-3000 MHz	> 12 (return loss)dB	> 12 (return loss)dB	> 12 (return loss)dB	> 12 (return loss)dB
<b>ELECTRICAL</b>				
Impedance	75 ± 5Ω	75 ± 5Ω	75 ± 5Ω	75 ± 5Ω
Capacity	52.0 ± 3pF/m	52.0 ± 3pF/m	52.0 ± 3pF/m	52.0 ± 3pF/m
Inner DC resistance	< 21,3Ω/km	< 21,3Ω/km	< 21,3Ω/km	< 21,3Ω/km
Outer DC resistance	< 40Ω/km	< 40Ω/km	< 40Ω/km	< 40Ω/km
<b>OPERATIONAL</b>				
Application	Indoor	Indoor	Indoor	Outdoor
Fire Class	Eca	Eca	Eca	Fca
<b>MECHANICAL</b>				
Colour	Black	White	Black	Black
Length (m)	100m	100m	50m	100m
Minimum bending radius	190mm	185mm	205mm	250mm

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CONNECTORS

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# TRIAX® CAT6 cables

UTP connection cable



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## Triax CAT 6 twisted pair cables

These 4 twisted pair 23 AWG Cat 6 cables are used in data communication networks for transmission of telephone, internet and video/TV signals.

In the creation of high quality networks the Cat 6 cables are ideal where your installation requires high bandwidth. The bandwidth limit is 250 MHz.

Allowing 10/100/1000 use with up to 100 meter cable length, supporting speeds up to 10 gigabits per second over shorter distances.

- 23 AWG Solid Bare Copper
- High speed gigabit Ethernet
- Superior performance and quality



**Cat 6 - LSZH purple, 23AWG,  
250MHz, U/UTP, 305 m**

Art. No. 155002

EAN Number  
5702661550027



**Cat 6 - LSZH white, 23AWG,  
250MHz, U/UTP, 305 m**

Art. No. 155006

EAN Number  
5702661550065



**Cat 6 - PVC grey, 23AWG,  
250MHz, U/UTP, 305 m**

Art. No. 155001

EAN Number  
5702661550010



**Cat 6 - PE black, 23AWG,  
250MHz, U/UTP, 100 m**

Art. No. 155003

EAN Number  
5702661550034



**Cat 6 - PE brown, 23AWG,  
250MHz, U/UTP, 100 m**

Art. No. 155004

EAN Number  
5702661550041



# TRIAX® CAT6 cables

UTP connection cable

Type:	Cat 6 LSZH purple, 23AWG 250MHz U/UTP 305 m	Cat 6 LSZH white 23AWG 250MHz U/UTP 305 m	Cat 6 PVC grey 23AWG 250MHz U/UTP 305 m	Cat 6 PE black 23AWG 250MHz U/UTP 100 m	Cat 6 PE brown 23AWG 250MHz U/UTP 100 m
Art. no.	155002	155006	155001	155003	155004
<b>CONSTRUCTION</b>					
Inner conductor - material	Solid Bare Cu				
Inner conductor - dimension	0.53 ±0.005mm				
Flat filler - material	PE Spline				
Insulation material	Solid PE				
Jacket - dimension	6.0 ± 0.50mm				
Jacket - thickness	0.5mm				
Jacket - material	LSZH	LSZH	PVC	PE	PE
Colour code - Pair 1	Blue / White-Blue				
Colour code - Pair 2	Orange / White-Orange				
Colour code - Pair 3	Green / White-Green				
<b>NEXT</b>					
Next @ 1 MHz	74.30dB	74.30dB	74.30dB	74.30dB	74.30dB
Next @ 4 MHz	65.30dB	65.30dB	65.30dB	65.30dB	65.30dB
Next @ 10 MHz	59.30dB	59.30dB	59.30dB	59.30dB	59.30dB
Next @ 16 MHz	56.20dB	56.20dB	56.20dB	56.20dB	56.20dB
Next @ 25 MHz	53.30dB	53.30dB	53.30dB	53.30dB	53.30dB
Next @ 31.25 MHz	51.90dB	51.90dB	51.90dB	51.90dB	51.90dB
Next @ 100 MHz	44.30dB	44.30dB	44.30dB	44.30dB	44.30dB
Next @ 200 MHz	39.80dB	39.80dB	39.80dB	39.80dB	39.80dB
Next @ 250 MHz	38.30dB	38.30dB	38.30dB	38.30dB	38.30dB
<b>LOSS</b>					
Attenuation (at 20°C) @ 1 MHz	2.00dB	2.00dB	2.00dB	2.00dB	2.00dB
Attenuation (at 20°C) @ 4 MHz	3.80dB	3.80dB	3.80dB	3.80dB	3.80dB
Attenuation (at 20°C) @ 10 MHz	6.00dB	6.00dB	6.00dB	6.00dB	6.00dB
Attenuation (at 20°C) @ 16 MHz	7.60dB	7.60dB	7.60dB	7.60dB	7.60dB
Attenuation (at 20°C) @ 25 MHz	9.50dB	9.50dB	9.50dB	9.50dB	9.50dB
Attenuation (at 20°C) @ 31.25 MHz	10.70dB	10.70dB	10.70dB	10.70dB	10.70dB
Attenuation (at 20°C) @ 100 MHz	19.80dB	19.80dB	19.80dB	19.80dB	19.80dB
Attenuation (at 20°C) @ 200 MHz	29.00dB	29.00dB	29.00dB	29.00dB	29.00dB
Attenuation (at 20°C) @ 250 MHz	32.80dB	32.80dB	32.80dB	32.80dB	32.80dB
<b>RETURN LOSS</b>					
Return loss @ 1 MHz	20.00dB	20.00dB	20.00dB	20.00dB	20.00dB
Return loss @ 4 MHz	23.00dB	23.00dB	23.00dB	23.00dB	23.00dB
Return loss @ 10 MHz	25.00dB	25.00dB	25.00dB	25.00dB	25.00dB
Return loss @ 16 MHz	25.00dB	25.00dB	25.00dB	25.00dB	25.00dB
Return loss @ 25 MHz	24.30dB	24.30dB	24.30dB	24.30dB	24.30dB
Return loss @ 31.25 MHz	23.60dB	23.60dB	23.60dB	23.60dB	23.60dB
Return loss @ 100 MHz	20.10dB	20.10dB	20.10dB	20.10dB	20.10dB
Return loss @ 200 MHz	18.00dB	18.00dB	18.00dB	18.00dB	18.00dB
Return loss @ 250 MHz	17.30dB	17.30dB	17.30dB	17.30dB	17.30dB
<b>ELECTRICAL</b>					
Characteristic imp. (1-100 MHz)	100 ±15Ω	100 ±15Ω	100 ±15Ω	100 ±15Ω	100 ±15Ω
Characteristic imp. (100-250 MHz)	100 ±20Ω	100 ±20Ω	100 ±20Ω	100 ±20Ω	100 ±20Ω
Conductor DC resistance @ 20°C	< 950hm/km	< 950hm/km	< 950hm/km	< 950hm/km	< 950hm/km
Mutual capacity @ 1kHz	< 1500pF/m	< 1500pF/m	< 1500pF/m	< 1500pF/m	< 1500pF/m
<b>OPERATIONAL</b>					
Application	Indoor	Indoor	Indoor	Outdoor	Outdoor
Fire Class	D <sub>ca</sub>	D <sub>ca</sub>	E <sub>ca</sub>	F <sub>ca</sub>	F <sub>ca</sub>
<b>MECHANICAL</b>					
Colour	Purple	White	Grey	Black	Brown
Length (m)	305m	305m	305m	100m	100m
Min. bending radius - single/repeated	8xDmm	8xDmm	8xDmm	8xDmm	8xDmm

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CONNECTORS

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# TRIAx® CAT6 cables

patch leads – 250 MHz stranded copper 23 AWG



## Features and benefits

These 4 twisted pair 23 AWG Cat 6 cables are used in data communication networks for transmission of telephone, internet and video/TV signals.

In the creation of high quality networks the Cat 6 cables are ideal where your installation require high bandwidth. The bandwidth limit is 250 MHz.

Allowing 10/100/1000 use with up to 100 meter cable length, supporting speeds up to 10 gigabits per second over shorter distances.

- 23 AWG Solid Bare Copper
- High speed gigabit Ethernet
- Superior performance and quality



### Cat 6-White, 1.5m patch leads - Premium Grade

Art. No. 157063

Class



### Cat 6-White, 5.0m patch leads - Premium Grade

Art. No. 157066

Class



### Cat 6-White, 2.0m patch leads - Premium Grade

Art. No. 157064

Class



### Cat 6-White, 10.0m patch leads - Premium Grade

Art. No. 157067

Class



### Cat 6-White, 3.0m patch leads - Premium Grade

Art. No. 157065

Class



### Cat 6-White, 15.0m patch leads - Premium Grade

Art. No. 157068

Class

Technical data, please see the next pages

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CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

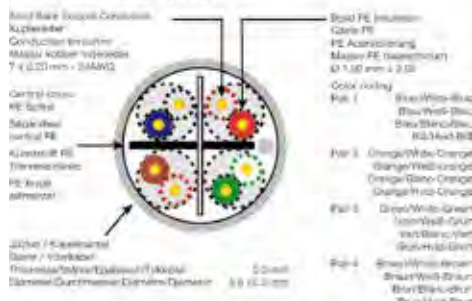
INSTRUMENTS  
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# TRIAX® CAT6 cables

patch leads – 250 MHz stranded copper 23 AWG

## Dimensions / Abmessungen Dimensions / Dimension



**Cat 6-Green, 0.5m patch leads - Premium Grade**

Art. No. 157041

Class



**Cat 6-Grey, 0.5m patch leads - Premium Grade**

Art. No. 157001

Class



**Cat 6-Green, 1.0m patch leads - Premium Grade**

Art. No. 157042

Class



**Cat 6-Grey, 1.0m patch leads - Premium Grade**

Art. No. 157002

Class



**Cat 6-Green, 1.5m patch leads - Premium Grade**

Art. No. 157043

Class



**Cat 6-Grey, 1.5m patch leads - Premium Grade**

Art. No. 157003

Class



**Cat 6-Green, 2.0m patch leads - Premium Grade**

Art. No. 157044

Class



**Cat 6-Grey, 2.0m patch leads - Premium Grade**

Art. No. 157004

Class



**Cat 6-Green, 3.0m patch leads - Premium Grade**

Art. No. 157045

Class



**Cat 6-Grey, 3.0m patch leads - Premium Grade**

Art. No. 157005

Class

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# TRIAX<sup>®</sup> CAT6 cables

patch leads – 250 MHz stranded copper 23 AWG

TERRESTRIAL  
RECEPTION



**Cat 6-Red, 0.5m patch leads  
- Premium Grade**

Art. No. 157021

Class



**Cat 6-Yellow, 0.5m patch leads - Premium Grade**

Art. No. 157051

Class

SATELLITE  
& FIBRE  
RECEPTION



**Cat 6-Red, 1.0m patch leads  
- Premium Grade**

Art. No. 157022

Class



**Cat 6-Yellow, 1.0m patch leads - Premium Grade**

Art. No. 157052

Class

CABLE TV  
(CATV)



**Cat 6-Red, 1.5m patch leads  
- Premium Grade**

Art. No. 157023

Class



**Cat 6-Yellow, 1.5m patch leads - Premium Grade**

Art. No. 157053

Class

HEADENDS  
CAS SYSTEM  
MODULATORS



**Cat 6-Red, 2.0m patch leads  
- Premium Grade**

Art. No. 157024

Class



**Cat 6-Yellow, 2.0m patch leads - Premium Grade**

Art. No. 157054

Class

CABLES &  
CONNECTORS



**Cat 6-Red, 3.0m patch leads  
- Premium Grade**

Art. No. 157025

Class



**Cat 6-Yellow, 3.0m patch leads - Premium Grade**

Art. No. 157055

Class

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS



**Cat 6-Blue, 0.5m patch leads  
- Premium Grade**

Art. No. 157031

Class



**Cat 6-Blue, 1.0m patch leads  
- Premium Grade**

Art. No. 157032

Class

TECHNICAL  
APPENDIX

# TRIAX® CAT6 cables

patch leads – 250 MHz stranded copper 23 AWG



**Cat 6-Blue, 1.5m patch leads - Premium Grade**

Art. No. 157033

Class



**Cat 6-Blue, 3.0m patch leads - Premium Grade**

Art. No. 157035

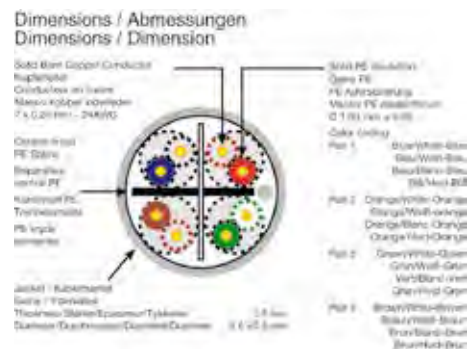
Class



**Cat 6-Blue, 2.0m patch leads - Premium Grade**

Art. No. 157034

Class



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

Type:	Cat 6, 0.5m patch leads Premium Grade	Cat 6, 1.0m patch leads Premium Grade	Cat 6, 1.5m patch leads Premium Grade	Cat 6, 2.0m patch leads Premium Grade	Cat 6, 3.0m patch leads Premium Grade
<b>CONSTRUCTION</b>					
Inner conductor - material	Stranded Bare Cu				
Inner conductor - dimension	7x 0.2mm				
Jacket - dimension	5.6 ± 0.30mm				
Jacket - material	PVC (UL approved)				
Jacket - thickness	0.5mm				
Colour code - Pair 1	Blue / White-Blue				
Colour code - Pair 2	Orange / White-Orange				
Colour code - Pair 3	Green / White-Green				
Colour code - Pair 4	Brown / White-Brown				
Flat filler - material	Flexible PE				
Insulation dimension	1.02 ±0.05mm				
Insulation material	Solid PE				
<b>NEXT</b>					
Next @ 4 MHz	65.0dB				
Next @ 8 MHz	65.0dB				
Next @ 10 MHz	65.0dB				
Next @ 20 MHz	59.1dB				
Next @ 31.25 MHz	55.4dB				
Next @ 62.5 MHz	49.6dB				
Next @ 100 MHz	45.7dB				
Next @ 200 MHz	40.1dB				
Next @ 250 MHz	38.3dB				
<b>RETURN LOSS</b>					
Return loss @ 4 MHz	21.6dB				
Return loss @ 8 MHz	22.5dB				
Return loss @ 10 MHz	22.8dB				
Return loss @ 20 MHz	23.7dB				
Return loss @ 31.25 MHz	23.1dB				
Return loss @ 62.5 MHz	20.0dB				
Return loss @ 100 MHz	18.0dB				
Return loss @ 200 MHz	15.0dB				
Return loss @ 250 MHz	14.0dB				
<b>ELECTRICAL</b>					
Characteristic imp. (1-100 MHz)	100 ±15Ω				
Characteristic imp. (100-250 MHz)	100 ±20Ω				
<b>CONNECTORS</b>					
Connector Type	RJ45				

# TRIAX® High and Standard Speed HDMI™

professional grade, high quality HDMI cable



## Features and benefits

- High Speed HDMI with Ethernet (1.5, 2, 3, 5m)
- Standard Speed HDMI with Ethernet (10,15, 20m)
- HDMI Ethernet Channel
- Audio Return Channel
- 24K Gold Plated Connectors
- 3D and 4K Resolution Support
- Compact EMI Interface suppressed
- High quality AWG cables to reduce attenuation
- Compatible with all HD resolutions including 720p, 1080i and 1080p video formats
- Expanded Support for Colour Spaces
- Fully Shielded
- For connecting HD set top boxes, DVD players, games consoles and all other HDMI AV equipment



**High Speed HDMI cable with Ethernet - 1.5m Blisterpack**

Art. No. 370715



**High Speed HDMI cable with Ethernet - 5.0m Blisterpack**

Art. No. 370718



**High Speed HDMI cable with Ethernet - 2.0 m Blisterpack**

Art. No. 370716



**High Speed HDMI cable with Ethernet - 3.0m Blisterpack**

Art. No. 370717



**x.v.Colour**

TERRESTRIAL  
RECEPTION

SATELLITE  
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RECEPTION

CABLE TV  
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HEADENDS  
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# TRIAX® High and Standard Speed HDMI™

professional grade, high quality HDMI cables with ethernet



**Standard Speed HDMI cable  
with Ethernet - 10.0m  
Blisterpack**

Art. No. 370719

Class



**Standard Speed HDMI cable  
with Ethernet - 20.0m  
Blisterpack**

Art. No. 370721

Class



**Standard Speed HDMI cable  
with Ethernet - 15.0m  
Blisterpack**

Art. No. 370720

Class



Type:	High Speed HDMI cable with Ethernet 1.5m / 2.0m / 3.0m / 5.0m Blisterpack	Standard Speed HDMI cable with Ethernet 10.0m / 15.0m / 20.0m Blisterpack
Art. no.	370715 / 370716 / 370717 / 370718	370719 / 370720 / 370721
<b>CHARACTERISTICS</b>		
Ferrite	2pcs.	2pcs.
<b>CONSTRUCTION</b>		
Inner conductor - dimension	28 AWGmm	26 AWGmm
Shield (Second) – braid material	Al. Alloy	Al. Alloy
Jacket – dimension	7.3mm	9.5mm
Jacket - material	PVC	PVC
Plug - material	Gold plated	Gold plated
<b>CONNECTORS</b>		
Connector - left	1 x 19-pin HDMI male	1 x 19-pin HDMI male
Connector - right	1 x 19-pin HDMI male	1 x 19-pin HDMI male



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# TRIAX® RF-Cable cables

IEC-male / IEC-female – Standard, Blister pack and High Grade



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## RF-cable – features and benefits

TRIAX's assortment of high grade RF-coax cables. To connect a TV or radio to an aerial socket with an straight IEC-male/IEC-female

- White, 75 ohms double shielded cable
- With IEC coax connectors and jacks
- Fully assembled
- High shielding (> 90 dB)

## Standard RF-cable in blister pack



**RF-Cable 1.5 m**  
IEC-male/IEC-female straight  
- blister

Art. No. 153500



**RF-Cable 2.5 m**  
IEC-male/IEC-female straight  
- blister

Art. No. 153501



**RF-Cable 5.0 m**  
IEC-male/IEC-female straight  
- blister

Art. No. 153502



**RF-Cable 10.0 m**  
IEC-male/IEC-female straight  
- blister

Art. No. 153504



**RF-Cable 15.0 m**  
IEC-male/IEC-female straight  
- blister

Art. No. 153505



# TRIAX<sup>®</sup> RF-Cable cables

IEC-male / IEC-female – Standard, Blister pack and High Grade

## High grade - RF-cables



High Grade Antenna Cable  
CTV A 1.5 m - IEC-male/  
IEC-female straight - blister

Art. No. 153530

Class A



High Grade Antenna Cable  
CTV A 5.0 m - IEC-male/  
IEC-female straight - blister

Art. No. 153532

Class A



High Grade Antenna Cable  
CTV A 3.0 m - IEC-male/  
IEC-female straight - blister

Art. No. 153531

Class A



High Grade Antenna Cable  
CTV A 10.0 m - IEC-male/  
IEC-female straight - blister

Art. No. 153534

Class A

## Standard RF-cable



RF-Cable 1.5 m  
IEC-male/IEC-female straight  
- polybag

Art. No. 153400



RF-Cable 7.5 m  
IEC-male/IEC-female straight  
- polybag

Art. No. 153403



RF-Cable 2.5 m  
IEC-male/IEC-female straight  
- polybag

Art. No. 153401



RF-Cable 10.0 m  
IEC-male/IEC-female straight  
- polybag

Art. No. 153404



RF-Cable 5.0 m  
IEC-male/IEC-female straight  
- polybag

Art. No. 153402

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# TRIAX® Connection cables

AV, HF and assembly kit



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## Connection cables for AV- and decoder connection

TRIAX's selection of connection cables for use with decoders and other electronic accessories.

Available in different combinations and length:

- 15 pol D-sub connector
- RCA phone male connector
- Scart male connector



AV cable 1.50 m  
15 pol D-Sub/3xRCA

Art. No. 300745



AV cable 1.50 m  
15 pol D-sub/Scart

Art. No. 300742



AV cable 1.50 m  
3xRCA/Scart

Art. No. 300743

# TRIAX® Connection cables

AV, HF and assembly kit

## Connection cables for HF connection



**CHF 015**  
Connecting lead black  
2 x F-male Quick angled  
15 cm

Art. No. 360408



**CHF 126**  
Connecting lead black  
2 x F-male Quick angled  
50 cm

Art. No. 724012



**CHF 125**  
Connecting lead black  
2 x F-male Quick angled  
25 cm

Art. No. 724006



**CHF 200**  
Connecting lead black  
2 x F-male Quick angled  
2.0 m

Art. No. 724010

## Cables assembly kit



**CC-SP 01**  
cable assembly kit

Art. No. 153540



**CFC 680**  
Plastic Dowels White

Art. No. 90680



**CC-SP 02**  
cable assembly kit

Art. No. 153542



**CFC 681**  
Plastic Dowels Black

Art. No. 90679

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# TRIAX® Connectors

F-compression types

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## F-compression connectors

Below you will find a selection of F-compression connectors suitable for TRIAX's cable portfolio.

We offer only the best for the installation of your high-quality distribution systems

- For indoor and outdoor installations
- Used by leading network operators
- High shielding
- Large range for all applications



**F-compression connector  
F56-CX3-4.9  
100 pcs. box**

Art. No. 153220  
EAN Number  
5702661532207



**F-compression connector  
F56-CX3-5.1 short  
100 pcs. box**

Art. No. 153221  
EAN Number  
5702661532214



**F-compression connector  
5.1/6.8  
100 pcs. bag**

Art. No. 360913  
EAN Number  
5702663609136



**F-compression connector  
CX3 7.0 QM (Quick-mount)  
with o-ring  
50 pcs. box**

Art. No. 360943  
EAN Number  
5702663609433



**F-compression connector  
CX3 6.0 QM  
100 pcs. box**

Art. No. 360945  
EAN Number  
5702663609457



**F-compression connector  
CX3 5.0 QM short  
50 pcs. box**

Art. No. 360949  
EAN Number  
5702663609495



**F-compression  
IEC-male 4.9  
100 pcs. box**

Art. No. 153025  
EAN Number  
5702661530258

# TRIAX<sup>®</sup> Connectors

F-compression types



**F-compression  
IEC-female 4.9  
100 pcs. box**

Art. No. 153026  
EAN Number  
5702661530265



**F-compression connector  
CX3 7.0 QM without o-ring,  
50 pcs. box**

Art. No. 360944  
EAN Number  
5702663609440

**F-compression  
IEC-male 4.9/6.8  
100 pcs. box**

Art. No. 153226  
EAN Number  
5702661532269



**F-compression  
CX3 5.1 SC short  
100 pcs. box**

Art. No. 360947  
EAN Number  
5702663609471



**F-compression connector  
F-56-CX3 4.9 short  
100 pcs. box**

Art. No. 153223  
EAN Number  
5702661532238



**F-compression  
CX3 4.9 SC short  
100 pcs. box**

Art. No. 360948  
EAN Number  
5702663609488



**F-compression connector  
5.1/6.8 short  
100 pcs. bag**

Art. No. 153224  
EAN Number  
5702661532245



**F-compression RG11  
CX3-10.5 QM  
25 pcs. box**

Art. No. 711571  
EAN Number  
5702667115718



**F-compression connectors  
3.8/5.2  
1 pcs.**

Art. No. 153225  
EAN Number  
5702661532252



**F-compression connector  
RG11-CX3-11.3 QM  
25 pcs. box**

Art. No. 711572  
EAN Number  
5702667115725



**F-compression connector  
7.5/11.5  
50 pcs. bag**

Art. No. 153227  
EAN Number  
5702661532276



**Compression Set 6- 49**

Art. No. 350265  
EAN Number  
5702663502659

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# TRIAX® Connectors

F-push on and self-install types

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## F-push on and Self install connectors

Below you will find F-push on connectors suitable for the TRIAX cable portfolio.

- Ideal for hard and cold cables
- Easy to mount
- Water protected by O-ring
- Class A +

You will also find F-Self install connectors suitable for the TRIAX cable portfolio.

- The ideal solution for home applications
- No assembly tool needed
- No wear on the bushes
- Class A +



**F-Push-On connector**  
5.1/6.8  
100 pcs. box

Art. No. 153250  
EAN Number  
5702661532504



**F-Self install connector**  
F56-3.9 black  
100 pcs. box

Art. No. 153268  
EAN Number  
5702661532689



**F-Self-install connector**  
F56-5.1 blue  
100 pcs. box

Art. No. 153264  
EAN Number  
5702661532641



**F-Self-install connector**  
F56-4.9 yellow  
100 pcs. box

Art. No. 153265  
EAN Number  
5702661532658



**F-Self Install connector**  
F-56 5.1/Tool Kit  
Blister

Art. No. 153266  
EAN Number  
5702661532665

# TRIAX® Connectors

F-crimp types

## F-crimp connectors

On this page you will find a selection of F-crimp connectors suitable for Triax cable portfolio.

We offer only the best for the installation of your high-quality distribution systems

- For indoor and outdoor installations
- CRP assembly tool needed
- Class A +



**F-crimp connector  
F56-ALM 5.1/8.4  
100 pcs. box**

Art. No. 153203

EAN Number  
5702661532030



**F-crimp connector  
ALM 3.7/6.4  
100 pcs. box**

Art. No. 153204

EAN Number  
5702661532047



**F-crimp connector  
UNIV 5.1/8.8  
100 pcs. box**

Art. No. 153211

EAN Number  
5702661532115



**F-crimp connector  
4.9/8.4 Triax  
100 pcs. bag**

Art. No. 153212

EAN Number  
5702661532122



**F-crimp connector  
5.1/8.4 Triax  
100 pcs. bag**

Art. No. 153213

EAN Number  
5702661532139



**F-crimp connector  
4.9/8.4  
100 pcs. bag**

Art. No. 153215

EAN Number  
5702661532320

**F-crimp connector  
ALM 7.6/11.7  
50 pcs. box**

Art. No. 153231

EAN Number  
5702661532313



**F-crimp connector  
RG11  
50 pcs. box**

Art. No. 153232

EAN Number  
5702661532320

**F-crimp connector  
SFC 250 Set  
100 pcs. box**

Art. No. 350294

EAN Number  
5702663502949

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# TRIAX<sup>®</sup> Connectors

F-twist on types



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## F-twist on connectors



F-twist on connector  
3.5/5.0  
5 pcs. bag

Art. No. 153048  
EAN Number  
5702661530487



F-twist on connector  
3.5/5.0  
100 pcs. bag

Art. No. 153072  
EAN Number  
5702661530722



F-twist on connector  
1.9/3.5  
5 pcs. bag

Art. No. 153049  
EAN Number  
5702661530494



F-twist on connector  
4.9/6.8  
100 pcs. bag

Art. No. 153073  
EAN Number  
5702661530739



F-twist on connector  
4.9/7.3  
5 pcs. bag

Art. No. 153052  
EAN Number  
5702661530524



F-twist on connector  
4.9/7.3  
100 pcs. bag

Art. No. 153074  
EAN Number  
5702661530746



F-twist on connector  
4.9/6.8  
5 pcs. bag

Art. No. 153053  
EAN Number  
5702661530531



F-twist on connector  
4.9/6.8 without logo  
100 pcs. bag

Art. No. 153078  
EAN Number  
5702661530784



# TRIAX® Connectors

IEC types

## IEC connectors

The popular and easy-to-install KOSWI/KOSWI designed for easy installation are available in a 90 degree angled version, with both male and female connectors ideal in tight spaces, such as a behind a flat-screen, where extra thin wall mounts make it impossible to use a straight version.

The angled IEC Self-Install™ connectors with the unique Self-Install™ system the connector is easily installed with a minimum of effort.

Common features:

- Reusable
- Class A screening
- No need for compression tools
- Two piece connector – no loose parts
- Professional quality and excellent performance
- Fits standard RG6 cables (connector size 4.9 and 5.1)



**KOSWI 4 IEC coax plug, angled, male in bag**

Art. No. 154110

EAN Number  
5702661541100



**KOSWI 4 IEC coax plug, angled, female in bag**

Art. No. 154111

EAN Number  
5702661541117



**KOSWI 3 IEC coax plug, angled, male**

Art. No. 153110

EAN Number  
5702661531101



**KOKWI 3 IEC coax plug, angled, female**

Art. No. 153111

EAN Number  
5702661531118



**KOS 3 IEC coax plug, male**

Art. No. 153120

EAN Number  
5702661531200



**KOK 3 IEC coax plug, female**

Art. No. 153121

EAN Number  
5702661531217



**IEC - Self Install plug 56/5.1, straight, male**

Art. No. 153130

EAN Number  
5702661531309



**IEC - Self Install plug 56/5.1, straight, female**

Art. No. 153131

EAN Number  
5702661531316



**IEC - Self Install plug 56/5.1, angle, male**

Art. No. 153132

EAN Number  
5702661531323



**IEC - Self Install plug 56/5.1, angle, female**

Art. No. 153133

EAN Number  
5702661531330

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# TRIAX® Adapters

F-types



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## F-adaptors



**F-female/F-female  
adaptor**  
100 pcs. bag

Art. No. 153076  
EAN Number  
5702661530760



**F-female/F-female  
adaptor with nuts**  
5 pcs. bag

Art. No. 153593  
EAN Number  
5702661535932



**F-female/F-female  
adaptor - A+**  
100 pcs. bag

Art. No. 153095  
EAN Number  
5702661530951



**F-male/F-male  
adaptor**  
5 pcs. bag

Art. No. 153596  
EAN Number  
5702661535963



**F-female/F-female  
adaptor**  
2 pcs. in blister

Art. No. 153292  
EAN Number  
5702661532924



**F-female/F-male  
Quick adaptor**  
10 pcs. bag

Art. No. 153612  
EAN Number  
5702661536120



**F-female/F-male  
adaptor angled**  
100 pcs.

Art. No. 153592  
EAN Number  
5702661535925



**F-male Quick/F-male  
Quick adaptor, KVFC 03**  
10 pcs. bag

Art. No. 350269  
EAN Number  
5702663502697

# TRIAX® Adapters

## IEC-types

### IEC-adapters

TRIAX have a wide range of adapters available for CATV applications. The price/performance ratio is superior even on our standard products – the finest available on the market.

The range of adapters are designed with many interface combinations and many special versions with or without extensions.

Common features:

- Reusable
- Class A screening
- One piece connector - no loose parts
- Professional quality and excellent performance
- Fits the highest standard on the market



#### IEC-male/F-female adaptor angled, 100 pcs. bag

Art. No. 153550

EAN Number  
5702661535505



#### IEC-female/F-female adaptor angled, 100 pcs. bag

Art. No. 153551

EAN Number  
5702661535512



#### IEC-male/F-male adaptor, 2 pcs. blister

Art. No. 153554

EAN Number  
5702661535543



#### IEC-female/F-male adaptor, 2 pcs. blister

Art. No. 153555

EAN Number  
5702661535550



#### IEC-male/F-male adaptor, 100 pcs. bag

Art. No. 153610

EAN Number  
5702661536106



#### IEC-female/F-male adaptor, 100 pcs. bag

Art. No. 153611

EAN Number  
5702661536113



#### IEC-male/F-female adaptor, 100 pcs. bag

Art. No. 153613

EAN Number  
5702661536137



#### IEC-female/F-female adaptor, 100 pcs. bag

Art. No. 153614

EAN Number  
5702661536144

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# TRIAX® Tools

cable stripper, crimp tools, cable cutter



## Cable stripper, crimp tools, cable cutter

**Cable Strippers** make it very simple and easy to prepare your cables for connection. Preparation is simply done in "one shot" only.

**Standard crimp tools** are available in different crimp size combinations

**Compression crimp tools.** TRIAX have different types of tools, easy to use with changeable plunger tips.

**Pocket Compression Tool** is inexpensive, easy to use and fits well in any pocket.

All tools supplied from TRIAX come with full instructions for correct use. You can also see how-to videos in the support section of our website – [www.triax.com](http://www.triax.com).

### Cable stripper RG11 cable types



Art. No. 153601

EAN Number  
5702661536014

### Cable Support Tool F-key



Art. No. 153608

EAN Number  
5702661536083

### Compression Tool CX3



Art. No. 153603

EAN Number  
5702661536038

### CRP 106F Crimp Tool (.324" & .475")



Art. No. 153609

EAN Number  
5702661536090

### CRP 106H Crimp Tool (.324" & .360")



Art. No. 153607

EAN Number  
5702661536076

### Pocket Compression Tool - for long & short connectors



Art. No. 153631

EAN Number  
5702661536311

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**Insertion Tool  
for F-connectors**

Art. No. 153633

EAN Number  
5702661536335



**Cable Support Tool**

Art. No. 153634

EAN Number  
5702661536342



**Universal Cable Cutter**

Art. No. 153636

EAN Number  
5702661536366



**Cabel stripper with  
HEX wrench**

Art. No. 153637

EAN Number  
5702661536373



**KABI Multi Tool for stripping  
and cutting cables  
blisterpack**

Art. No. 153638

EAN Number  
5702661536380



**Pocket Compression Tool  
VT 150 for short and long  
connectors**

Art. No. 350262

EAN Number  
5702663502628



**Cable stripper -  
DEN 6768 (RG 6, 17 VAtC ..)**

Art. No. 360918

EAN Number  
3700113426342



**Pocket Compression Tool  
Triax - for long connectors**

Art. No. 360919

EAN Number  
3700113426359



**Compression Tool Universal**

Art. No. 360920

EAN Number  
3700113426366



**MS 13 Mounting T-tool**

Art. No. 360921

EAN Number  
3700113426724

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CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Accessories

power cable, F-terminators, attenuator



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

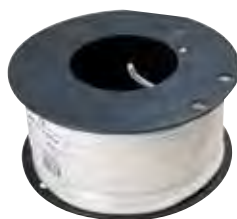
OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



**Power Cable 2 x 0.75 mm<sup>2</sup> - white - 100mtr**

Art. No. 152004

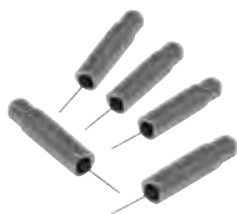
EAN Number  
5702661520044



**RFC 75  
F-male Terminator  
5 pcs. bag**

Art. No. 153054

EAN Number  
5702661530548



**R 77 (75 Ohm)  
F-male Termination resistor,  
no DC blocker**

Art. No. 302065

EAN Number  
5702663020658



**Terminator  
FM SC-R75 1/4 HQ  
100 pcs. bag**

Art. No. 360946

EAN Number  
5702663609464



**VA20F  
0...20 dB / 47...862 MHz**

Art. No. 153600

EAN Number  
5702661536007



**F-twist on connector  
SFC 052**

Art. No. 350257

EAN Number  
5702663502574



**True Lock Connector  
FM-TL444**

Art. No. 153583

EAN Number  
5702661535833

# TRIAX® Outlets, Taps & Splitters

– Making connectivity easy

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TERRESTRIAL  
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# TRIAX antenna wall outlets

- innovative, reliable and easy mounting



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## The advantages of the TRIAX antenna outlet sockets generation:

- comfortable mounting
- excellent electrical parameters
- reliable and durable

Antenna outlet sockets are used for the individual connection of subscriber terminal equipment such as TV receiver, FM radio, sat receiver or cable modem to the cable TV network or the house antenna system.

In view of their versatility Triax recommends universal antenna outlets for installation in general residential buildings. If the future application is limited to only one type of network operation such as direct satellite reception or cable TV with Internet access, specially designed satellite or wide-band socket boxes are the alternative.

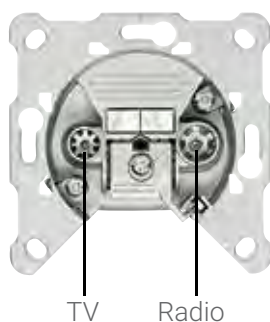
The connectors are designed as IEC connectors or F-connectors. The number and combination of the connectors of a outlet type depends on the subscriber terminal equipment that is common for the respective type of network. However, it is also influenced by specific national and operator requirements resulting in an increased variety of types.

The stable diecast frame of the Triax sockets has been optimized for installation in round size-55 flush-mounted socket boxes. The AR 20 frame (accessory) alternatively allows surface mounting. The AD 23 cover (accessory) is a cover available for 2- or 3-hole socket boxes. The retaining ring form of the socket inserts has been agreed with renowned switch manufacturers so that the decorative covers from their corresponding designer ranges can also be used.

## Socket types

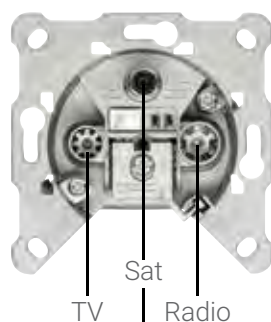
### Double antenna outlet sockets

Universal sockets, suitable for satellite, TERrestrial and broadband cable/CATV



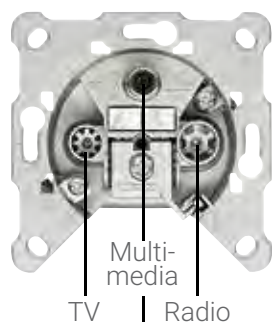
### Triple antenna outlet sockets - sat

For individual satellite and SMATV installations.



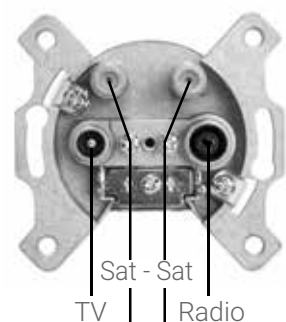
### Triple antenna outlet sockets - multimedia

For individual multimedia and SMATV installations.



### Quatro antenna outlet sockets

For use in some multiswitch installations (star or tree)





# Take only the best

## Mechanical advantages and assortment overview

### Hassle-free installation on all outlets

#### Push-lock terminal

Rapid mounting. Firmly secured.  
Released at the press of a button.

#### New retaining ring geometry

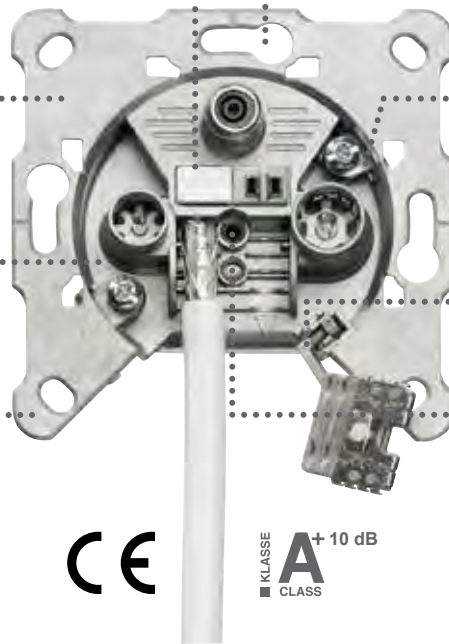
Universal for renowned ranges of switches. For easy aligning and improved mould closure.

#### Reduced depth and diameter

Easy to insert into flush-mounted socket box.

#### Waste edges at frame corners

Well equipped for ranges of round switches  
(Can be broken off if necessary).



#### Third keyhole

Improved fixing in hollow-wall flush-mounted socket box.

#### Novel claw fastening & close-fitting claw form

Trouble-free installation in and removal from flush-mounted socket box, also with cordless screwdriver (PZ 1-bolt).

#### Lockable hinged clamp

Comfortable in all mounting positions.

#### Inner conductor terminal in box center

Facilitates the connection of short cable ends when socket boxes are replaced.



### Assortment overview of all TRIAX outlet - inserts in push clamp technology

Application	Universal		SAT / MATV / SMATV			CATV / DOCSIS	
Stecker							
Antenna outlet type	Super Breitband	Sat/CATV Kombination	Sat-Filter	TWIN Sat	Sat-Filter	CATV Switchable DOCSIS filters	CATV Fix DOCSIS filters
Single type	EDU 04F	EDA 302F	EDS 01	EDS 322 F	FS 302 F	EDM 6 DS	EDM 1 EDM 6
Pass-through type	GEDU 10, 15, 20	GDA 313 F	GDS 08, 11			GDM 10 DS GDM 12 DS GDM 15 DS GDM 19 DS	GDM 10 GDM 12 GDM 15 GDM 19
Frequency range							
In/Out							
Tv							
Radio							
Sat/Data							
Terminal equipment	TV-set FM radio DVB-C/-T receiver	Sat receiver Tv-set FM radio DVB-C/-T receiver	Sat receiver DVB-T receive TV-set	Twin sat receiver DVB-T receiver Tv-set	Sat receiver DVB-T receive Tv-set	Tv-set FM radio Cable modem DVB-C receiver	Tv-set FM radio Cable modem DVB-C receiver

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

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# TRIAX CATV Multimedia outlets

- your choice for future proof installation



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## 3-port multimedia wall outlets - for DOCSIS operation

We're making it easy to prepare for the network of tomorrow, with our brand new range of 3-port multimedia wall outlets for TV, radio and data.

Our fully updated platform saves you time now and money in the future, bringing you cutting-edge electrical performance alongside our tried and trusted, hassle-free installation solution. Available in single terminated (EDM) and loop through (GDM) models.

### Your benefits:

- Superb electrical performance
- High shielding and expanded frequency range
- Quick and easy mounting
- Approved by Vodafone - Kabel Deutschland

As the demand for ever higher bandwidth grows, users expect a high quality, reliable service from their CATV provider. At TRIAX we're proud to have developed an outlet solution that exceeds technical demands while making the installation process a breeze. We're taking the pain out of your network upgrade.

Our expanded frequency range gives you all you need to exploit the blistering data speeds of future DOCSIS 3.1 network upgrades, whilst supporting today's standards.

By choosing to upgrade with our fully updated platform, you can expect:

### Future proof operation

- Frequency range of 5-1200-1800 MHz for all levels of DOCSIS 3.1 migration – still compatible with standards. (5-65 MHz Data return path, 87.5-108 MHz Radio, 109-862MHz TV)

### Unrivalled reliability

- High isolation between Data and TV ports, and low intermodulation, suppress TV signal interference caused by upstream modem traffic.
- Class A+ 10dB screening attenuation protects against ingress and LTE interference.
- IEC-standard contacts for cables and connectors guarantee reliable and long lasting operation.

### Clear cost savings

- Low insertion loss, finely graded tap losses: the flattest possible frequency response means less amplifier power in the network.
- Tried and trusted push-lock mechanism: unbeatably fast and efficient installation.

# 3-Port DOCSIS Switch Multimedia Outlets

flexible for DOCSIS 3.0 and 3.2 operation

## DOCSIS Switch Multimedia Wall Outlets - EDM/GDM xx DS

Our new DOCSIS Switch wall outlets are specially developed to operate with the current up to 65 MHz return path standard, as well as for the extension of the return path frequency range in future DOCSIS 3.1 implementation.

### The solution:

By using the small "DOCSIS Switch" located behind the outlet's cover plate, the return path filters in the multimedia outlet can be switched between two setups:

### Switch in base position

- Upstream 5-65 MHz:  
downstream FM +TV starting from 109 MHz
- Upstream 5-85 MHz:  
downstream no FM, TV starting from 109 MHz

### Switch in „+“ position

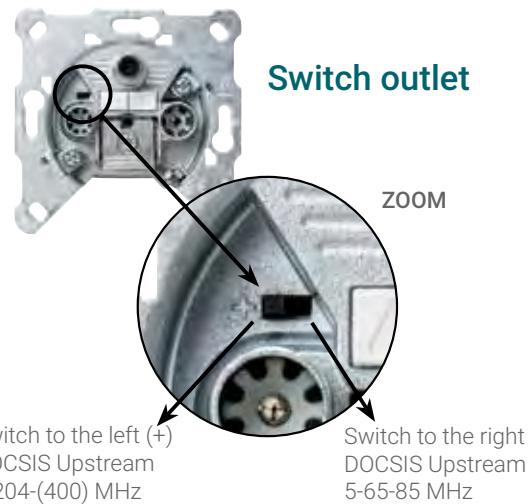
- Upstream 5-204 MHz:  
no FM, TV starting from 258 MHz
- Upstream 5-400 MHz:  
downstream no FM, TV starting from around 500 MHz

### Your benefits:

Save money and maintain a satisfied customer base when network upgrades to different levels of DOCSIS 3.1 take place during the coming years – our outlets won't need to be replaced or have unwelcome filters attached.

### Special characteristics:

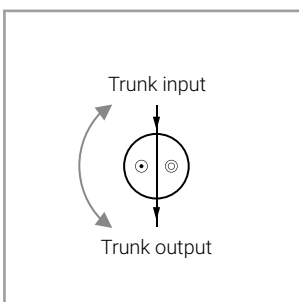
- Return path filter switchable between 65/85 MHz <-> 204 MHz – high isolation between Data and TV ports at all levels of DOCSIS operation levels suppresses TV signal interference caused by upstream modem traffic.
- Frequency range of 5...1.200...1.800 MHz – ready for all relevant frequency allocations of DOCSIS 2.0, 3.0 and 3.1.
- Enhanced screening attenuation Class A +10dB – protects against interference distortions such as ingress and LTE mobile radio.
- Low intermodulation – avoids composite beat distortions within the TV band caused by parallel operation of the cable modem.
- Tried and trusted TRIAX outlet mechanic with push-clamp connectors, Made in Denmark – for unbeatably fast and efficient installation.



### Attenuation in outlets

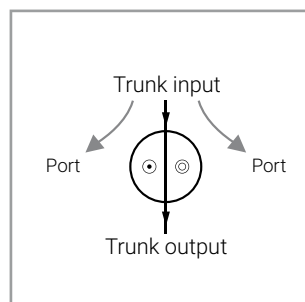
Insertion loss IN-OUT

Attenuation between trunk input and trunk output



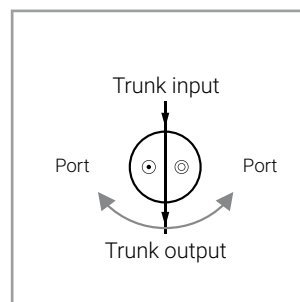
Insertion loss IN-Port

Attenuation between trunk input and port for TV, FM-R, SAT, DATA



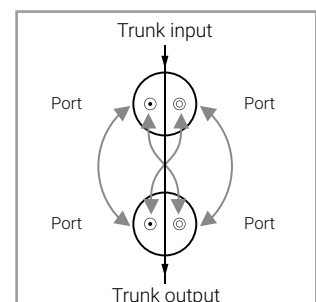
Isolation

Attenuation between ports and trunk output and ports



External isolation

(2 outlet method)  
Attenuation between the ports of two antenna outlets



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® Outlets for CATV applications

with switchable return path filters ready for DOCSIS 2.0/3.0 and 3.1 operation



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

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## Make the future possible today

- Return path filter switchable between 65/85 MHz <-> 204 MHz – high isolation between Data and TV ports at all levels of DOCSIS operation levels suppresses TV signal interference caused by upstream modem traffic.
- Frequency range of 5... 1.200...1.800 MHz – ready for all relevant frequency allocations of DOCSIS 2.0, 3.0 and 3.1.
- Enhanced screening attenuation Class A +10dB – protects against interference distortions such as ingress and LTE mobile radio.
- Low intermodulation – avoids composite beat distortions within the TV band caused by parallel operation of the cable modem.



**EDM 6 DS, 3-way  
Multimedia Wall Outlet**

Art. No. 306276

EAN Number  
5702663062764



**GDM 15 DS, 3-way  
Multimedia Wall Outlet**

Art. No. 306279

EAN Number  
5702663062795



**GDM 10 DS, 3-way  
Multimedia Wall Outlet**

Art. No. 306277

EAN Number  
5702663062771



**GDM 19 DS, 3-way  
Multimedia Wall Outlet**

Art. No. 306280

EAN Number  
5702663062801



**GDM 12 DS, 3-way  
Multimedia Wall Outlet**

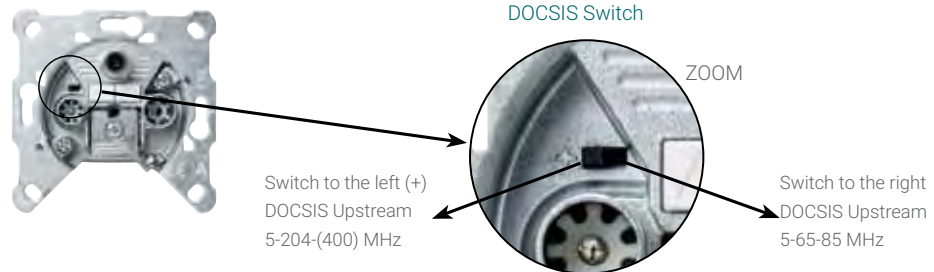
Art. No. 306278

EAN Number  
5702663062788



# 3-port DOCSIS Switch Multimedia Outlets

your access to all current and future services



Type		EDM 6 DS, 3-way. Switch Outlet	GDM 10 DS, 3-way Switch Outlet	GDM 12 DS, 3-way Switch Outlet	GDM 15 DS, 3-way Switch Outlet	GDM 19 DS, 3-way Switch Outlet
Art. No.		306276	306277	306278	306279	306280
Outlet Type		Terminated		Loop through		
<b>INSERTION LOSS</b>						
<b>IN &gt; OUT</b>						
5 - 1218 MHz	dB ± 1	-	3,8	2,8	1,6	1,6
1218 - 1794 MHz	dB ± 1.5	-	4,8	3,8	2,6	2,4
<b>IN &gt; DATA</b>						
5 - 1218 MHz	dB ± 1	6	10,2	12,5	15	19
1218 - 1794 MHz	dB ± 1	7	11,2	13,5	16	19
<b>DOCSIS Switch position</b>						
left on +		right (default)				
<b>IN &gt; TV</b>						
5 - 204 MHz	dB >	52	52	52	52	52
258 - 1000 MHz	dB ± 1	6,5	10,5	12,5	15,5	19,5
1000 - 1218 MHz	dB ± 1	6,5	10,5	12,5	16	20
<b>IN &gt; RF</b>						
not applicable	dB >	52	52	52	52	52
not applicable	dB ± 1.5	9	13	15,3	19	21,5
<b>ISOLATION</b>						
<b>DATA &lt;&gt; TV</b>						
5 - 204 MHz	dB >	60	60	60	60	60
204 - 400 MHz	dB >	35	40	40	45	45
400 - 862 MHz	dB >	30	30	30	30	30
862 - 1218 MHz	dB >	20	20	20	20	20
<b>TV &lt;&gt; R</b>						
not applicable	dB >	20	20	20	20	20
<b>OUT &gt; TV</b>						
5 - 204 MHz	dB >	-	55/60	55/60	55/60	55/60
204 - 862 MHz	dB >	-	30	22	22	25
862 - 1218 MHz	dB >	-	20	20	20	20
<b>OUT - DATA</b>						
5 - 204 MHz	dB >	-	20	30	30	40
204 - 1218 MHz	dB >	-	20	20	19	19
1218 - 1794 MHz	dB >	-	18	12	15	15
<b>RETURN LOSS minimum according to 47 MHz</b>						
IN, OUT	dB >	14-1.5/oct	18-1.5/oct	18-1.5/oct	18-1.5/oct	18-1.5/oct
DATA (F-female)	dB >	18-1.5/oct	18-1.5/oct	18-1.5/oct	18-1.5/oct	18-1.5/oct
TV (IEC-male)	dB >	14-1.5/oct	14-1.5/oct	14-1.5/oct	14-1.5/oct	14-1.5/oct
R (IEC-female)	dB >	10	10	10	10	10
IN, OUT, DATA 1218 - 1794 MHz	dB >	From 1218 MHz linearly decreasing to 8 dB at 1794 MHz				
<b>INTERMODULATION</b>						
all Ports	dB <	15 dBµV in DS @ US two tone 120 dBµV after surge				
<b>ELECTRICAL</b>						
Impedance		75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
EMC class	dB >	Class A +10 dB				
<b>STANDARDS OF REFERENCE</b>						
Passive broadband devices for coaxial networks		EN 60728-4				
IEC- connectors		IEC 61169-2				
F - connectors		IEC 61169-24				
CE Conformity EMC-D 2014/30/EU		EN 50083-2, RoHS 2011/65/EU				

TERRESTRIAL  
RECEPTION

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CABLE TV  
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# 3-port DOCSIS Multimedia outlets

with fix return path filter for DOCSIS 2.0/3.0/3.1 operation



TERRESTRIAL  
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## Making connectivity easy

We're making it easy to prepare for the network of tomorrow, with our brand new range of 3-port multimedia wall outlets for TV, radio and data. Our fully updated platform saves you time now and money in the future, bringing you cutting edge electrical performance alongside our tried and trusted, hassle-free installation solution.

Available in single terminated (EDM) and loop through (GDM) models.

## Your benefits

- Special antenna outlet sockets for connecting to cable TV networks (CATV) or common antenna networks (MATV/SMATV) up to 1 GHz.
- Superb electrical performance
- High shielding and expanded frequency range
- Quick and easy mounting
- Approved by Vodafone - Kabel Deutschland



**EDM 1, 3-way  
Multimedia Wall Outlet**

Art. No. 306270

EAN Number  
5702663062702



**EDM 6, 3-way  
Multimedia Wall Outlet**

Art. No. 306271

EAN Number  
5702663062719



**GDM 10, 3-way  
Multimedia Wall Outlet**

Art. No. 306272

EAN Number  
5702663062726



**GDM 12, 3-way  
Multimedia Wall Outlet**

Art. No. 306273

EAN Number  
5702663062733



**GDM 15, 3-way  
Multimedia Wall Outlet**

Art. No. 306274

EAN Number  
5702663062740



**GDM 19, 3-way  
Multimedia Wall Outlet**

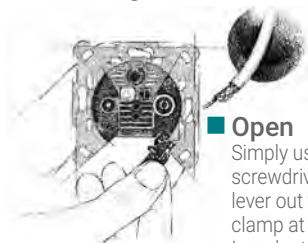
Art. No. 306275

EAN Number  
5702663062757

# TRIAX® CATV

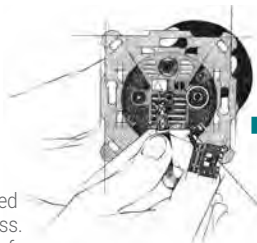
Multimedia - filter outlets

## Mounting in detail



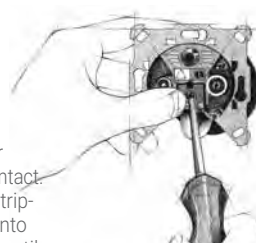
### Open

Simply use a screwdriver to lever out the hinged clamp at the recess. In order to allow a free mounting position, tilt the clamp into fixing position.



### Insert

The technology for inner conductor contact. Simply insert the stripped coaxial cable into the spring contact until it stops – it's held securely. In order to remove the cable, just press the button.



### Close

Close the hinged clamp and screw tight. Insert the socket body, align it using the straight edges and anchor it by tightening the claw screws. PZ 1 screws for cordless screwdrivers are required.

Type:	EDM 1	EDM 6	GDM 10	GDM 12	GDM 15	GDM 19
	3-way	3-way	3-way	3-way	3-way	3-way
	Wall Outlet	Wall Outlet	Wall Outlet	Wall Outlet	Wall Outlet	Wall Outlet
Art. no.	306270	306271	306272	306273	306274	306275
<b>CHARACTERISTICS</b>						
Outlet Type	Terminated	Terminated	Loop through	Loop through	Loop through	Loop through
<b>FREQUENCY</b>						
Frequency Range DATA	5...65/ 109...1794MHz	5...1794MHz	5...1794MHz	5...1794MHz	5...1794MHz	5...1794MHz
Frequency Range RF	87.5...108MHz	87.5...108MHz	87.5...108MHz	87.5...108MHz	87.5...108MHz	87.5...108MHz
Frequency Range TV	109...1218MHz	109...1218MHz	109...1218MHz	109...1218MHz	109...1218MHz	109...1218MHz
<b>SHIELDING</b>						
Shielding @ 470-1000 MHz	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB
Shielding @ 5...470 MHz	≥ 95.0dB	≥ 95.0dB	≥ 95.0dB	≥ 95.0dB	≥ 95.0dB	≥ 95.0dB
Shielding @ 1000...1794 MHz	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB
<b>LOSS</b>						
Through Loss IN-OUT 5...1218 MHz			3.6dB	2.6dB	1.5dB	1.5dB
Through Loss IN-OUT 1000...1218 MHz			3.8dB	2.8dB	1.6dB	1.6dB
Through Loss IN-OUT 1218...1794 MHz			4.8dB	3.8dB	2.6dB	2.4dB
Through Loss IN-DATA 5...1218MHz	4.0dB	6.0dB	10.2dB	12.0dB	15.0dB	19.0dB
Through Loss IN-DATA 1218...1794MHz	5.0dB	7.0dB	11.2dB	13.0dB	16.0dB	19.5dB
Through Loss IN-TV 1000...1218 MHz	4.0dB	6.0dB	10.0dB	12.0dB	15.5dB	19.5dB
<b>ISOLATION</b>						
Isolation DATA/TV/R 5...65MHz	52.0dB	60.0dB	60.0dB	60.0dB	60.0dB	60.0dB
Isolation DATA/TV/R 200...862MHz	20.0dB	30.0dB	30.0dB	30.0dB	30.0dB	30.0dB
Isolation DATA/TV/R 85...200MHz	20.0dB	36.0dB	40.0dB	40.0dB	45.0dB	45.0dB
Isolation OUT/DATA 5...200MHz			20.0dB	30.0dB	30.0dB	40.0dB
Isolation OUT/TV/R			30.0dB	30.0dB	30.0dB	30.0dB
Isolation DATA/TV/R 862...1218MHz	20.0dB	20.0dB	20.0dB	20.0dB	20.0dB	20.0dB
Isolation OUT/DATA 200...1218MHz			20.0dB	20.0dB	19.0dB	19.0dB
Isolation OUT/TV/R 5...65MHz			60.0dB	60.0dB	60.0dB	60.0dB
Isolation OUT/TV/R 65...862MHz			25.0dB	22.0dB	22.0dB	25.0dB
Isolation OUT/TV/R 862...1218MHz			20.0dB	21.0dB	20.0dB	22.0dB
Isolation OUT/DATA 1218...1794MHz			18.0dB	12.0dB	15.0dB	15.0dB
<b>RETURN LOSS</b>						
Return Loss IN/OUT	14.0 -1.5/octdB	16.0 -1.5/octdB	18.0 -1.5/octdB	18.0 -1.5/octdB	18.0 -1.5/octdB	18.0 -1.5/octdB
Return Loss DATA	14.0 -1.5/octdB	18.0 -1.5/octdB	18.0 -1.5/octdB	18.0 -1.5/octdB	18.0 -1.5/octdB	18.0 -1.5/octdB
Return Loss TV	14.0 -1.5/octdB	14.0 -1.5/octdB	14.0 -1.5/octdB	14.0 -1.5/octdB	14.0 -1.5/octdB	14.0 -1.5/octdB
Return Loss RF	10.0dB	10.0dB	10.0dB	10.0dB	10.0dB	10.0dB
Return Loss IN/OUT/DATA	8.0dB	8.0dB	8.0dB	8.0dB	8.0dB	8.0dB
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
Screening Efficiency	Class A +10dB	Class A +10dB	Class A +10dB	Class A +10dB	Class A +10dB	Class A +10dB
<b>CONNECTORS</b>						
Connector DATA			F-female (IEC 61 169-24)			
Connector IN-OUT			Spring Clamp Termination			
Connector RF	IEC-female	IEC-female	IEC-female	IEC-female	IEC-female	IEC-female
Connector TV	IEC-male	IEC-male	IEC-male	IEC-male	IEC-male	IEC-male

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# Universal MATV/SMATV antenna outlets

Improved functionality with forward-looking technology



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## 2-outlet super wide-band sockets

Wideband socket box with Sat IF range. Continuous frequency ranges 5 to 2400 MHz on both outlets (universal socket box). Advantage: Upgrading or retrofitting of the wideband house network with direct satellite reception always possible.

### Your benefits

- Designed for CATV (cable TV) and Sat IF distribution.
- Manifold connection alternatives for the terminal equipment.
- Continuous CATV frequency ranges with reverse channel capability.
- Advantage: Flexible in application and storage.



**EDU 04 F outlet**  
5...2400MHz  
terminated

Art. No. 306111  
EAN Number  
5702663061118



**GEDU 15 outlet**  
5...2400MHz  
loop through

Art. No. 306212  
EAN Number  
5702663062122



**GEDU 10 outlet**  
5...2400MHz  
loop through

Art. No. 306211  
EAN Number  
5702663062115



**GEDU 20 outlet**  
5...2400MHz  
loop through

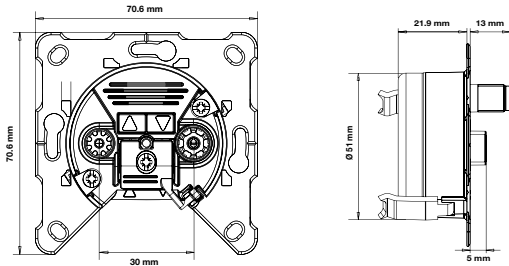
Art. No. 306213  
EAN Number  
5702663062139



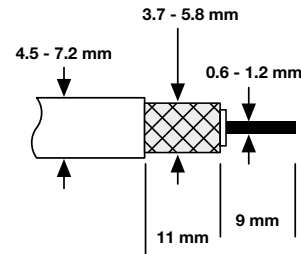
# TRIAX® MATV / SMATV

2-port Super wide-band outlets

## Outlet socket frame



## Recommended cable dimensions



Type:	EDU 04 F outlet 5...2400 MHz	GEDU 10 outlet 5...2400 MHz	GEDU 15 outlet 5...2400 MHz	GEDU 20 outlet 5...2400 MHz
Art. no.	306111	306211	306212	306213
<b>CHARACTERISTICS</b>				
Outlet Type	Terminated	Loop through	Loop through	Loop through
<b>FREQUENCY</b>				
Frequency Range IN-OUT		5...2150 (2400)MHz	5...2150 (2400)MHz	5...2150 (2400)MHz
Frequency Range TV	5...2150 (2400)MHz	5...2150 (2400)MHz	5...2150 (2400)MHz	5...2150 (2400)MHz
Frequency Range RF	5...2150 (2400)MHz	5...2150 (2400)MHz	5...2150 (2400)MHz	5...2150 (2400)MHz
<b>SHIELDING</b>				
Shielding @ 1000...2400 MHz	≥ 55.0dB	≥ 55.0dB	≥ 55.0dB	≥ 55.0dB
Shielding @ 300-470 MHz	≥ 80.0dB	≥ 80.0dB		≥ 80.0dB
Shielding @ 30-300 MHz	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB
Shielding @ 470-1000 MHz	≥ 75.0dB	≥ 75.0dB	≥ 75.0dB	≥ 75.0dB
<b>LOSS</b>				
Through Loss IN-FM	4.0dB	10.0dB	14.5dB	20.0dB
Through Loss IN-OUT @SAT		3.8 ±0.4dB	1.6 ±0.4dB	1.4 ±0.4dB
Through Loss IN-RF	4.0dB			
Through Loss IN-TV	4.0dB	10.0dB	14.5dB	20.0dB
<b>ISOLATION</b>				
Isolation OUT-FM		30.0dB	36.0dB	40.0dB
Isolation OUT-TV		30.0dB	36.0dB	40.0dB
Isolation TV-FM	20.0dB	>36.0dB	>24.0dB	>24.0dB
<b>RETURN LOSS</b>				
Return Loss FM	18.0...12.0dB	15.0dB	14.0dB	15.0dB
Return Loss IN	10.0dB	15.0dB	19.0dB	19.0dB
Return Loss OUT		18.0dB	20.0dB	20.0dB
Return Loss TV	18.0...12.0dB	15.0dB	14.0dB	15.0dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
DC Passthrough TV	Max. 24VDC / 0.5A			
Screening Efficiency	Class A	Class A	Class A	Class A
Operating temperature range	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
Temperature - shipping	-40...+70°C	-40...+70°C	-40...+70°C	-40...+70°C
Temperature - storage	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
<b>CONNECTORS</b>				
Adaptable Cable Dia.- Inner Conductor	0.58...1.15mm	0.58...1.15mm	0.58...1.15mm	0.58...1.15mm
Adaptable Cable Dia.- F-female	0.6...1.13mm	0.6...1.13mm	0.6...1.13mm	0.6...1.13mm
Adaptable Cable Dia.- Jacket	4.5...7.2mm	4.5...7.2mm	4.5...7.2mm	4.5...7.2mm
Adaptable Cable Dia.- Outer Conductor	3.7...5.8mm	3.7...5.8mm	3.7...5.8mm	3.7...5.8mm
Connector type data	F-female (IEC 60 169-24)			
Connector IN-OUT	Spring Clamp Termination			
Connector RF	IEC-female			
Connector TV	IEC-male			
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm
Main Material	Zinc die-cast	Zinc die-cast	Zinc die-cast	Zinc die-cast
Packing QTY	10	10	10	10
Weight (kg)	0.09kg	0.09kg	0.09kg	0.09kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# Selective MATV/SMATV antenna outlets

Selective spectrum and low insertion loss



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

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(CCTV)

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TOOLS &  
CABINETS

TECHNICAL  
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## 2-port MATV filter sockets

The filter principle used in most satellite and MATV/CATV outlets provides lowest distribution operating loss as well as additional selective decoupling. These advantages are achieved at the price of transition ranges between the frequency bands that cannot be used.

### Your benefits

- Special antenna outlet sockets for connecting to cable TV networks (CATV) or common antenna networks (MATV/SMATV) up to 1 GHz.
- Special outlets designs for different electrical requirements (further special antenna outlets on request).
- Advantage: Optimal electrical characteristics for the respective application.



**FS 01 - 1 GHz  
R/TV terminated outlet**

Art. No. 306191

EAN Number  
5702663061910



**FS 07 - 1 GHz  
R/TV loop through outlet**

Art. No. 306291

EAN Number  
5702663062917



**FS 12 - 1 GHz  
R/TV loop through  
TV-radio/data outlet**

Art. No. 306292

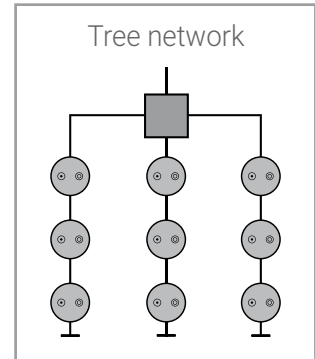
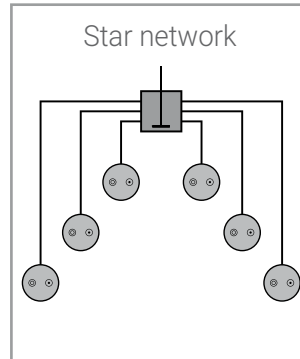
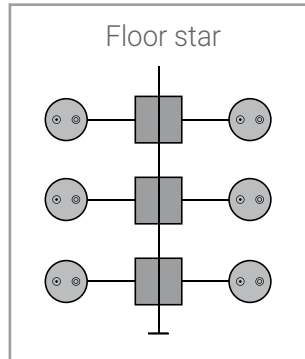
EAN Number  
5702663062924



# TRIAX<sup>®</sup> MATV / SMATV

2-port TV/Radio filter outlets

## Network structures



Type:	FS 01 outlet R/TV	FS 07 outlet R/TV	FS 12 outlet R/TV
Art. no.	306191	306291	306292
<b>CHARACTERISTICS</b>			
Outlet Type	Terminated	Loop through	Loop through
<b>FREQUENCY</b>			
Frequency Range IN-OUT	5...1000MHz	5...1000MHz	5...1000MHz
Frequency Range FM	87...108MHz	87...108MHz	87...108MHz
Frequency Range TV	5...68 / 118...1000MHz	5...68 / 118...1000MHz	5...68 / 118...1000MHz
<b>SHIELDING</b>			
Shielding @ 300-470 MHz	≥ 80.0dB		
Shielding @ 30-300 MHz	≥ 85.0dB	≥ 85.0 (@30...470MHz)dB	≥ 85.0 (@30...470MHz)dB
Shielding @ 470-1000 MHz	≥ 75.0dB	≥ 75.0dB	≥ 75.0dB
<b>LOSS</b>			
Through Loss IN-FM	1.0dB	9.0dB	12.0dB
Through Loss IN-TV	0.7dB	8.0dB	11.0dB
<b>ISOLATION</b>			
Isolation OUT-FM		> 30(@40MHz -1.5 dB/Oct.)dB	> 30(@40MHz -1.5 dB/Oct.)dB
Isolation OUT-TV		> 30(@40MHz -1.5 dB/Oct.)dB	> 30(@40MHz -1.5 dB/Oct.)dB
Isolation TV-FM	>10.0dB	>10.0dB	>10.0dB
<b>RETURN LOSS</b>			
Return Loss FM	> 10dB	> 10dB	> 10dB
Return Loss IN	> 14.0(@40 MHz -1.5/Oct.)dB	16.0...18.0dB	18.0dB
Return Loss OUT		26.0dB	24.0dB
Return Loss TV	> 14.0 (@ 40 MHz -1.5/ Oct.)dB	> 14.0 (@ 40 MHz -1.5/ Oct.)dB	> 14.0 (@ 40 MHz -1.5/ Oct.)dB
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
Screening Efficiency	Class A	Class A	Class A
Operating temperature range	-25...+55°C	-25...+55°C	-25...+55°C
Temperature - shipping	-40...+70°C	-40...+70°C	-40...+70°C
Temperature - storage	-25...+55°C	-25...+55°C	-25...+55°C
<b>CONNECTORS</b>			
Adaptable Cable Dia.- Inner Conductor	0.58...1.15mm	0.58...1.15mm	0.58...1.15mm
Adaptable Cable Dia.- F-female	0.6...1.13mm	0.6...1.13mm	0.6...1.13mm
Adaptable Cable Dia.- Jacket	4.5...7.2mm	4.5...7.2mm	4.5...7.2mm
Adaptable Cable Dia.- Outer Conductor	3.7...5.8mm	3.7...5.8mm	3.7...5.8mm
Connector IN-OUT		Spring Clamp Termination	
Connector FM		IEC-female	
Connector TV		IEC-male	
<b>MECHANICAL</b>			
Dimensions product (H x D x W)	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm
Main Material	Zinc die-cast	Zinc die-cast	Zinc die-cast
Packing QTY	10	10	10
Weight (kg)	0.09kg	0.09kg	0.09kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# Selective MATV/SMATV antenna outlets

Selective and low insertion loss



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Triax TOU standard tv/radio quality outlets

The Triax TOU series of outlets is made of diecast aluminium, the coax IEC connectors comply with DIN 45325 and IEC 169 standards.

The outlets can be built into a  $\varnothing 60$  mm round wall box or surface mounted by means of a TOU frame.

### Your benefits

- Designed for CATV (cable TV) and Sat IF distribution.
- Manifold connection alternatives for the terminal equipment.
- Continuous CATV frequency ranges with reverse channel capability.
- Advantage: Flexible in application and storage.



**TOU - 1 outlet R/TV terminated**

Art. No. 303621

EAN Number  
5702663036215



**TOU - 10 outlet R/TV loop through**

Art. No. 303630

EAN Number  
5702663036307



**TOU - 4 outlet R/TV loop through**

Art. No. 303624

EAN Number  
5702663036246



**TOU - 14 outlet R/TV loop through**

Art. No. 303614

EAN Number  
5702663036147



**TOU - 7 outlet R/TV loop through**

Art. No. 303627

EAN Number  
5702663036277

# TRIAX<sup>®</sup> MATV / SMATV

## 2-port TV/Radio filter outlets



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
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CABINETS

TECHNICAL  
APPENDIX

Type:	TOU - 1 outlet R/TV	TOU - 4 outlet R/TV	TOU - 7 outlet R/TV	TOU - 10 outlet R/TV	TOU - 14 outlet R/TV
Art. no.	303621	303624	303627	303630	303614
<b>CHARACTERISTICS</b>					
Outlet Type	Terminated	Loop through	Loop through	Loop through	Loop through
<b>FREQUENCY</b>					
Frequency Range FM	87.5...108MHz				
Frequency Range TV	5...74/120...862MHz				
<b>SHIELDING</b>					
Shielding factor UHF	> 75.0dB	> 75.0dB	> 75.0dB	> 75.0dB	> 75.0dB
Shielding factor VHF	> 85.0dB	> 85.0dB	> 85.0dB	> 85.0dB	> 85.0dB
<b>LOSS</b>					
Through Loss IN-FM	2.0dB	5.5dB	7.5dB	10.0dB	15.0dB
Through Loss IN-TV	1.5dB	4.5dB	7.5dB	10.0dB	14.0dB
<b>ISOLATION</b>					
Isolation OUT-FM		>20.0dB	>30.0dB	>30.0dB	>30.0dB
Isolation OUT-TV		>15.0dB	>18.0dB	>25.0dB	>25.0dB
Isolation TV-FM	>10.0dB	>10.0dB	>10.0dB	>10.0dB	>10.0dB
<b>RETURN LOSS</b>					
Return Loss FM	Cat. D *) EN 50083-4dB				
Return Loss TV	Cat. C *) EN 50083-4dB				
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Connector IN-OUT		Saddle & Clamp (S&C)	Saddle & Clamp (S&C)	Saddle & Clamp (S&C)	Saddle & Clamp (S&C)
Connector FM	IEC-female	IEC-female	IEC-female	IEC-female	IEC-female
Connector TV	IEC-male	IEC-male	IEC-male	IEC-male	IEC-male
<b>MECHANICAL</b>					
Main Material	Zinc die-cast	Zinc die-cast	Zinc die-cast	Zinc die-cast	Zinc die-cast
Remarks	*) According to CENELEC: B: 5-40 MHz > 18 dB, 40-862 MHz min. 18 dB - 1.5/oct. C: 5-40 MHz > 14 dB, 40-862 MHz min. 14 dB - 1.5/oct. D: 5-862 MHz > 10 dB. Standards CE: EN 50083-4. NB! excl. cover and frame				
Weight (kg)	0.146kg	0.146kg	0.146kg	0.146kg	0.146kg

# 3-port SAT/TV/Radio wide-band outlets

with gapless TV frequency range



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## 3-port SAT/CATV combination sockets

Sat IF socket box with reverse-channel capable wide-band MATV/CATV outlets (splitter-filter combination). GDA 313 F pass-through-socket with diode-decoupled DC circuit (13/18V, 22 kHz) for single-cable solution and satellite sub-distributions\* in the residential unit. Advantage: In addition to Sat IF operation, connection options to CATV cable network or terrestrial antenna systems (all-round antenna outlet socket). Note: Only one sat receiver can be operated actively at the socket box chain in case of a cascade of pass-through sockets in multi-switch operation.

### Your benefits

- Designed for CATV (cable TV) and Sat IF distribution.
- Manifold connection alternatives for the terminal equipment.
- Continuous CATV frequency ranges with reverse channel capability.
- Advantage: Flexible in application and storage.



**EDA 302 F SAT/CATV outlet terminated**

Art. No. 306121

EAN Number  
5702663061217



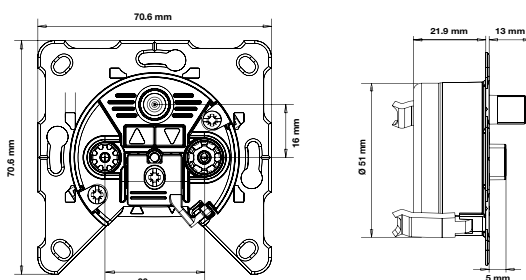
**GDA 313 F SAT/CATV outlet loop through**

Art. No. 306221

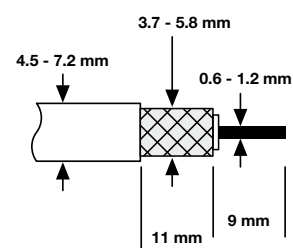
EAN Number  
5702663062214

### Installation dimensions

#### Outlet socket frame



### Recommended cable dimensions



# 3- port filter antenna outlets

multi-switch systems or single-cable solution

Type:	EDA 302 F SAT/CATV outlet	GDA 313 F SAT/CATV outlet
Art. no.	306121	306221
<b>CHARACTERISTICS</b>		
Outlet Type	Terminated	Loop through
<b>FREQUENCY</b>		
Frequency Range IN-OUT		5...2150 (2400)MHz
Frequency Range FM	5...118MHz	5...118MHz
Frequency Range TV	5...862MHz	5...862MHz
Frequency Range SAT	950...2150 (2400)MHz	950...2150 (2400)MHz
<b>SHIELDING</b>		
Shielding @ 1000...2400 MHz	≥ 55.0dB	≥ 55.0dB
Shielding @ 300-470 MHz	≥ 80.0dB	≥ 80.0dB
Shielding @ 30-300 MHz	≥ 85.0dB	≥ 85.0dB
Shielding @ 470-1000 MHz	≥ 75.0dB	≥ 75.0dB
<b>LOSS</b>		
Through Loss IN-FM	6.5dB	17.0 ±1.0dB
Through Loss IN-OUT @SAT		1.8±1.0dB
Through Loss IN-SAT	2.0dB	12.0 ±1.5dB
Through Loss IN-TV	2.5dB	12.5 ±1dB
<b>ISOLATION</b>		
Isolation FM-SAT	30.0dB	35.0dB
Isolation OUT-FM		35.0dB
Isolation OUT-TV		28.0dB
Isolation TV-FM	20.0dB	25.0dB
Isolation TV-SAT	>20.0dB	20.0dB
<b>RETURN LOSS</b>		
Return Loss FM	10.0dB	10.0dB
Return Loss IN	10.0dB	16.0 (@40MHz -1.5dB/Oct.)dB
Return Loss OUT		15.0dB
Return Loss SAT	9.0dB	10.0dB
Return Loss TV	12.0dB	12.0dB
<b>ELECTRICAL</b>		
Impedance	75Ω	75Ω
<b>OPERATIONAL</b>		
DC Passthrough FM	NO	NO - DC blocked at inner conductor
DC Passthrough IN-OUT	NO	Yes (max. 25VDC / 0.5A)
DC Passthrough SAT	Yes (max. 24VDC / 0.5A)	Yes (max. 25VDC / 0.5A directed)
DC Passthrough TV	NO	NO - DC blocked at inner conductor
Screening Efficiency	Class A	Class A
Operating temperature range	-25...+55°C	-25...+55°C
Temperature - shipping	-40...+70°C	-40...+70°C
Temperature - storage	-25...+55°C	-25...+55°C
<b>CONNECTORS</b>		
Adaptable Cable Dia. - Inner Conductor	0.58...1.15mm	0,58...1.15mm
Adaptable Cable Dia. - F-female	0.6...1.13mm	0.6...1.13mm
Adaptable Cable Dia.- Jacket	4.5...7.2mm	4.5...7.2mm
Adaptable Cable Dia. - Outer Conductor	3.7...5.8mm	3.7...5.8mm
Connector type data	F-female (IEC 60 169-24)	F-female (IEC 60 169-24)
Connector IN-OUT	Spring Clamp Termination	Spring Clamp Termination
Connector SAT	F-female	F-female
Connector TV	IEC-male	IEC-male
Connector FM	IEC-female	IEC-female
<b>MECHANICAL</b>		
Dimensions product (H x D x W)	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm
Main Material	Zinc die-cast	Zinc die-cast
Packing QTY	10	10
Weight (kg)	0.09kg	0.09kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# 3-port SAT/TV/Radio filter outlets

for multi-switch systems



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## 3-outlet SAT filter sockets

For sat IF systems (SMATV) with connection options for terrestrial terminal equipment such as FM radio and DVB-T television. Only one sat receiver can be operated actively at the socket.

### Your benefits

- Special SAT antenna outlets for sat IF distribution networks (multi-switch systems) as well as single satellite systems.

- FS 302 F with comfortable push in cable clamp
- F-connector for SAT IF range. Additional connection of terrestrial receiving devices such as DVB-T receiver possible via IEC connectors.
- Selective splitting of the frequency bands via filters with extremely low distribution operating loss.
- Advantages:  
Direct F-connection for SAT receiver. Cost-efficient.



**FS 302 F - SAT/TV/R outlet terminated**

Art. No. 306151

EAN Number  
5702663061514



**GAD 269 LTE - SAT/TV/R**

Art. No. 306269

EAN Number  
5702663062696



**GAD 269 LTE-P - SAT/TV/R**

Art. No. 306268

EAN Number  
5702663062689

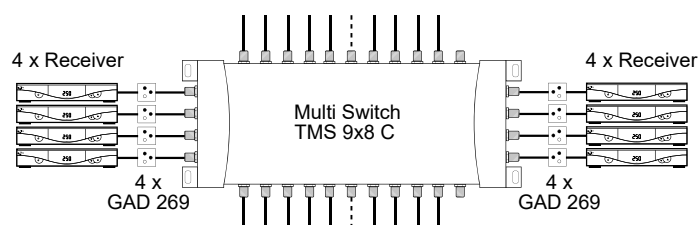




# 3- port filter antenna outlets

for multi-switch systems

Network structures



Type:	FS 302 F SAT/TV//R outlet	GAD 269 LTE SAT/TV/R outlet	GAD 269 LTE-P SAT/TV/R outlet
Art. no.	306151	306269	306268
<b>CHARACTERISTICS</b>			
Outlet Type	Terminated	Terminated	Terminated
<b>FREQUENCY</b>			
Frequency Range FM	87...108MHz	87.5 - 108MHz	87.5...108MHz
Frequency Range TV	5...75/118...862MHz	5 -74 / 125 - 694MHz	5 -74 / 125 - 694MHz
Frequency Range SAT	950...2150 (2400)MHz	950 -2150MHz	950 -2150MHz
<b>SHIELDING</b>			
Shielding factor UHF	> 85 (Klasse A)dB		
<b>LOSS</b>			
Through Loss IN-FM	1.5dB	2dB	2dB
Through Loss IN-SAT	2.0 (3.0 @2400Mhz))dB	2,5dB	2.5dB
Through Loss IN-TV	1.5dB	2dB	2dB
<b>ISOLATION</b>			
Isolation TV-RF	20.0dB		
<b>RETURN LOSS</b>			
Return Loss FM		11dB	11dB
Return Loss IN		14 @47MHz -1.5dB/Oct.dB	14 @47MHz -1.5dB/Oct.dB
Return Loss SAT		10...6dB	10...6dB
Return Loss TV		14 @47MHz -1.5dB/Oct. (10@68-75MHz)dB	14 @47MHz -1.5dB/Oct. (10@68-75MHz)dB
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
DC Passthrough SAT	Yes (max. 24VDC / 0.5A)	Yes (30VDC / 1A)	Yes (30VDC / 1A)
Screening Efficiency	Class A	Class A	Class A
<b>CONNECTORS</b>			
Adaptable Cable Dia. - Inner Conductor	0.58...1.15mm	mm	mm
Adaptable Cable Dia. - F-female	0.6...1.13mm	mm	mm
Adaptable Cable Dia.- Jacket	4.5...7.2mm	mm	mm
Adaptable Cable Dia. - Outer Conductor	3.7...5.8mm	mm	mm
Connector type data	F-female (IEC 60 169-24)		
Connector FM	IEC-female	IEC-female	IEC-female
Connector SAT	F-female	F-female	F-female
Connector TV	IEC-male	IEC-male	IEC-male
<b>MECHANICAL</b>			
Dimensions product (H x D x W)	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm
Main Material	Zinc die-cast		
Packing QTY	10	1	1
Weight (kg)	0.09kg	0.156kg	0.156kg

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# 3-port SAT/TV/Radio filter outlets

for multi-switch systems or single-cable solution



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Triax TOU satellite, tv/radio outlets

The Triax TOU series of outlets is made of diecast aluminium, the coax IEC connectors comply with DIN 45325 and IEC 169 standards.

The outlets can be built into a Ø60 mm round wall box or surface mounted by means of a TOU frame.

### Your benefits

- Special sat antenna outlets for sat IF distribution networks (multi-switch systems or single-cable solution) as well as single satellite systems.

- F connector for sat IF range. Additional connection of terrestrial receiving devices such as DVB-T receiver possible via IEC connectors.
- Selective splitting of the frequency bands via filters with extremely low distribution operating loss.
- Advantages:  
Direct F-connection for sat receiver.  
Cost efficient.



**TOU - 01S outlet SAT/TV/R terminated**

Art. No. 303693

EAN Number  
5702663036932



**TOU - 10S outlet SAT/TV/R loop through w/ white cover**

Art. No. 303694

EAN Number  
5702663036949



**TOU - 01S outlet SAT/TV/R terminated w/ white cover**

Art. No. 303661

EAN Number  
5702663036611



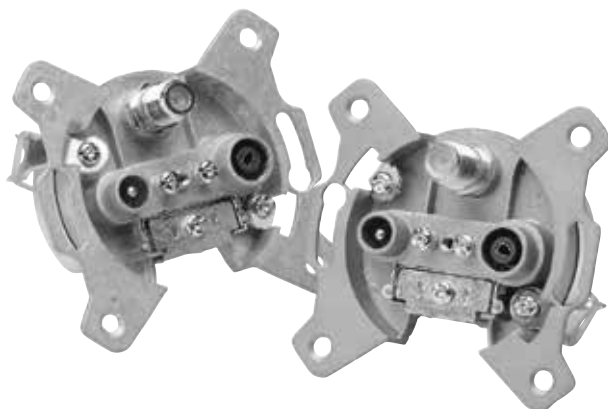
**TOU - 14S outlet SAT/TV/R loop through w/ white cover**

Art. No. 303674

EAN Number  
5702663036741

# 3-port filter outlets

for multi-switch systems



Type:	TOU - 01S outlet SAT/TV/R	TOU - 01S outlet SAT/TV/R w/ white cover	TOU - 10S outlet SAT/TV/R w/ white cover	TOU - 14S outlet SAT/TV/R w/ white cover
Art. No.	303693	303661	303694	303674
<b>CHARACTERISTICS</b>				
Outlet Type	Terminated	Terminated	Loop through	Loop through
<b>FREQUENCY</b>				
Frequency Range FM	87.5...108MHz	87.5...108MHz	87.5...108MHz	87.5...108MHz
Frequency Range TV	5...74/120...862MHz	5...74/120...862MHz	5...74/120...862MHz	5...74/120...862MHz
Frequency Range SAT	950...2250MHz	950...2250MHz	950...2250MHz	950...2250MHz
<b>SHIELDING</b>				
Shielding factor UHF	>75dB	>75dB	>75dB	>75dB
Shielding factor VHF	>85dB	>85dB	>85dB	>85dB
<b>LOSS</b>				
Through Loss IN-FM	1.5dB	1.5dB	10.0dB	14.0dB
Through Loss IN-SAT	2.0dB	2.0dB	10.0dB	14.0dB
Through Loss IN-TV	2.0dB	2.0dB	10.0dB	14.0dB
<b>ISOLATION</b>				
Isolation FM-SAT			>30.0dB	>30.0dB
Isolation OUT-TV	>10.0dB	>10.0dB	>10.0dB	>10.0dB
Isolation TV-FM	>15.0dB	>15.0dB	>20.0dB	>20.0dB
Isolation TV-SAT			>25.0dB	>25.0dB
<b>RETURN LOSS</b>				
Return Loss FM	Cat. D *)dB	Cat. D *)dB	Cat. D *)dB	Cat. D *)dB
Return Loss TV	Cat. C *)dB	Cat. C *)dB	Cat. C *)dB	Cat. C *)dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
DC Passthrough SAT	Yes (20VDC/500mA)	Yes (20VDC/500mA)	Yes (20VDC/500mA)	Yes (20VDC/500mA)
<b>CONNECTORS</b>				
Connector FM	IEC-female	IEC-female	IEC-female	IEC-female
Connector IN-OUT	Saddle & Clamp (S&C)	Saddle & Clamp (S&C)	Saddle & Clamp (S&C)	Saddle & Clamp (S&C)
Connector SAT	F-female	F-female	F-female	F-female
Connector TV	IEC-male	IEC-male	IEC-male	IEC-male
<b>MECHANICAL</b>				
Dimensions product (H x D x W)	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm
Main Material	Zinc die-cast	Zinc die-cast	Zinc die-cast	Zinc die-cast
Packing QTY	1	1	1	1
Remarks	*) According to CENELEC: C & D	*) According to CENELEC: C: 5-40 MHz > 14 dB, 40-862 MHz min. 14 dB - 1.5/oct. - D: 5-862 MHz > 10 dB. incl. cover and frame (white)	*) According to CENELEC: C: 5-40 MHz > 14 dB, 40-862 MHz min. 14 dB - 1.5/oct. - D: 5-862 MHz > 10 dB. incl. cover and frame (white)	*) According to CENELEC: C: 5-40 MHz > 14 dB, 40-862 MHz min. 14 dB - 1.5/oct. - D: 5-862 MHz > 10 dB. incl. cover plate (white)
Weight (kg)	0.156kg	0.156kg	0.156kg	0.156kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# 2-port SAT/TV filter outlets

for multi-switch systems or single-cable solution



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## 2-outlet SAT filter outlets

Special SAT antenna outlets for sat IF distribution networks (multi-switch systems or single-cable solution) as well as single satellite systems.

### Your benefits

- F-connector for SAT IF range. Additional connection of terrestrial receiving devices such as DVB-T receiver possible via IEC connectors.
- Selective splitting of the frequency bands via filters with extremely low distribution operating loss.
- Advantages:  
Direct F-connection for SAT receiver. Cost-efficient.



### EDS 01 F outlet terminated

Art. No. 306131

EAN Number  
5702663061316



### GDS 08 F outlet loop through

Art. No. 306231

EAN Number  
5702663062313



### GDS 11 F outlet loop through

Art. No. 306232

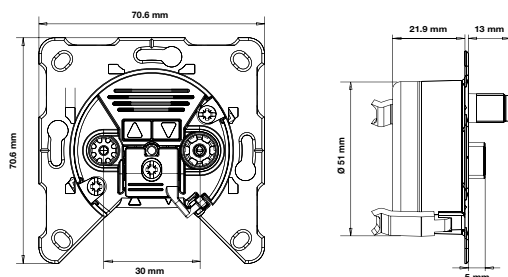
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# SAT/TV antenna outlets

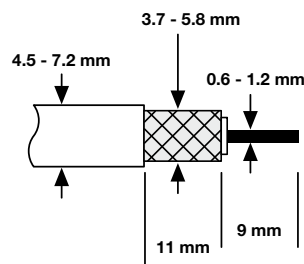
for multi-switch systems or single-cable solution

## Installation dimensions

### Outlet socket frame



### Recommended cable dimensions



Type:	EDS 01 F outlet	GDS 08 F outlet	GDS 11 F outlet
Art. no.	306131	306231	306232
<b>CHARACTERISTICS</b>			
Outlet Type	Terminated	Loop through	Loop through
<b>FREQUENCY</b>			
Frequency Range TV	5...862MHz	5...862MHz	5...862MHz
Frequency Range SAT	950...2400MHz	950...2150 (2400)MHz	950...2150 (2400)MHz
<b>SHIELDING</b>			
Shielding @ 1000...2400 MHz	≥ 55.0dB	≥ 55.0dB	≥ 55.0dB
Shielding @ 300-470 MHz	≥ 80.0dB	≥ 80.0dB	≥ 80.0dB
Shielding @ 30-300 MHz	≥ 85.0dB	≥ 85.0dB	≥ 85.0dB
Shielding @ 470-1000 MHz	≥ 75.0dB	≥ 75.0dB	≥ 75.0dB
<b>LOSS</b>			
Through Loss IN-SAT	1.2dB	8.0dB	11.5dB
Through Loss IN-TV	1.2dB	8.0dB	11.0dB
<b>ISOLATION</b>			
Isolation OUT-TV		30.0dB	30.0dB
Isolation TV-SAT	25.0dB	20.0dB	20.0dB
<b>RETURN LOSS</b>			
Return Loss IN	11.0dB	13.0dB	13.0dB
Return Loss OUT		14.0dB	14.0dB
Return Loss SAT	10.0dB	12.0dB	10.0dB
Return Loss TV	12.0dB	12.0dB	12.0dB
<b>ELECTRICAL</b>			
Impedance	75 Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
DC Passthrough IN-OUT		Yes (max. 24VDC / 0.5A)	Yes (max. 24VDC / 0.5A)
DC Passthrough SAT	Yes (max. 24VDC / 0.5A)	Yes (max. 24VDC / 0.5A)	Yes (max. 24VDC / 0.5A)
Screening Efficiency	Class A	Class A	Class A
Operating temperature range	-25...+55°C	-25...+55°C	-25...+55°C
Temperature - shipping	-40...+70°C	-40...+70°C	-40...+70°C
Temperature - storage	-25...+55°C	-25...+55°C	-25...+55°C
<b>CONNECTORS</b>			
Adaptable Cable Dia. - Inner Conductor	0.58...1.15mm	0.58...1.15mm	0.58...1.15mm
Adaptable Cable Dia. - F-female	0.6...1.13mm	0.6...1.13mm	0.6...1.13mm
Adaptable Cable Dia. - Jacket	4.5...7.2mm	4.5...7.2mm	4.5...7.2mm
Adaptable Cable Dia. - Outer Conductor	3.7...5.8mm	3.7...5.8mm	3.7...5.8mm
Connector IN-OUT		Spring Clamp Termination	
Connector type data		F-female	
Connector SAT		F-female	
Connector TV		IEC-male	
<b>MECHANICAL</b>			
Dimensions product (H x D x W)	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm
Main Material	Zinc die-cast	Zinc die-cast	Zinc die-cast
Weight (kg)	0.09kg	0.09kg	0.09kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# 3-port Twin & 4-port SAT outlets

for special SAT applications



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## 3-port TWIN SAT outlets

Two independent inputs and two separate F connectors for TWIN-sat receiver operation with connection option for DVB-T receiver or, via adapter coupling, for FM radio

### Your benefits

- Special sat antenna outlets for sat IF distribution networks (multi-switch systems) as well as single satellite systems.
- F connector for sat IF range. Additional connection of terrestrial receiving devices such as DVB-T receiver possible via IEC connectors.
- comfortable push in clamp connector for cable connection
- Selective splitting of the frequency bands via filters with extremely low distribution operating loss.
- Advantages: Direct F-connection for SAT receiver.



### EDS 322 F outlet single

Art. No. 306141

EAN Number  
5702663061415



## 4-port TWIN SAT outlets

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### GAD 404 S SAT/TV/R/DATA

Art. No. 389047

EAN Number  
5702663890473



### GAD 274 TV/Radio/2 x SAT

Art. No. 023274

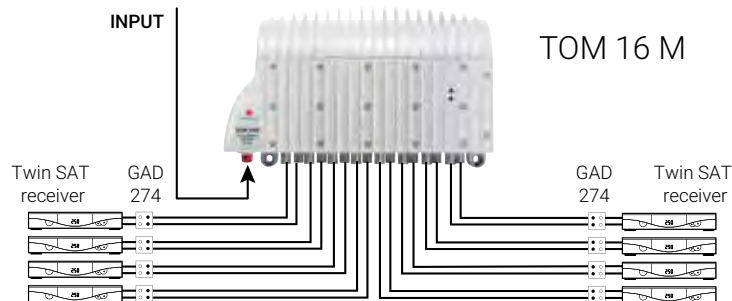
EAN Number  
5702660232740



# 3- and 4-port SAT outlets

for multi-switch or cable solution

Example on network structure



Type:	EDS 322 F single	GAD 404 S	GAD 274 TV-Radio/DAB / 2 x SAT
Art. No.	306141	389047	023274
<b>CHARACTERISTICS</b>			
Outlet Type	Terminated	Terminated	Terminated
<b>FREQUENCY</b>			
Frequency Range RF		87.5...108MHz	87.5...125MHz
Frequency Range TV	5...862MHz	109...862MHz	47...68/174...862MHz
Frequency Range SAT	950...2400MHz	950...2400MHz	950...2150MHz
Frequency Range SAT 2	5...2400MHz		
Frequency Range DATA		5...862MHz	
<b>SHIELDING</b>			
Shielding @ 30-300 MHz	≥ 85.0dB		
Shielding @ 300-470 MHz	≥ 80.0dB		
Shielding @ 470-1000 MHz	≥ 75.0dB		
Shielding @ 1000...2400 MHz	≥ 55.0dB		
<b>LOSS</b>			
Through Loss IN-DATA		4.0dB	
Through Loss IN-SAT	1.2dB	1.5dB	2.0dB
Through Loss IN-TV	1.2dB	4.0dB	1.5dB
<b>ISOLATION</b>			
Isolation TV-RF		24.0dB	
Isolation TV-SAT	>20.0dB		
<b>RETURN LOSS</b>			
Return Loss IN	11.0dB		
Return Loss SAT	10.0dB		
Return Loss TV	12.0dB		
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
Certification	EN 50 083-1, EN 50 083-2, EN 50 083-4		
DC Passthrough DATA	Yes (max. 24VDC / 0.5A)		
DC Passthrough SAT	Yes (max. 24VDC / 0.5A)		
Screening Efficiency	A	A	A
Operating temperature range	-25...+55°C	-25...+55°C	
Temperature - shipping	-40...+70°C	-40...+70°C	°C
<b>CONNECTORS</b>			
Connector FM	IEC-female (IEC 60 169-2)		IEC-female (IEC 60 169-2)
Connector SAT	F-female (IEC 60 169-24)		F-female (IEC 60 169-24)
Connector TV	IEC-male (IEC 60 169-2)		IEC-male (IEC 60 169-2)
<b>MECHANICAL</b>			
Dimensions product (H x D x W)	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm	70.6 x 70.6 x 21.9mm
Main Material	Zinc die-cast	Zinc die-cast	Zinc die-cast
Packing QTY	10	1	1
Weight (kg)	0.09 kg	0.156 kg	0.156 kg
Remarks			Incl. cover and frame

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® FUGA TV/Radio outlets

high-quality outlets ideal for CATV network



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## 2-port CATV filter outlets

Triax's FUGA antenna sockets have improved screening and have been much faster to mount. The diecast design, where backplate and templates are single-molded, sets new standards for screen shrinkage and mechanical stability.

### High shielding

Triax's FUGA antenna sockets fully meet the demands of increased screen shade (Class A requirements). Also the cable connection has been re-designed with effective HF shielding of the cable inner conductor, as well as the reflection attenuation in the return path has improved significant.

### Solid mechanics

In the new sockets, the connectors are precise and can not be twisted loose or out of shape, as the backplate and terminals are single-molded. At the same time, the fastening is stabilized and the pull relief is improved, so that uncovered cable ducts are exposed.

### Faster assembly

The Triax FUGA antenna sockets are simple and fast to mount, as the terminal lock can be parked in an open state while the cable is mounted. A new and stronger silicone tape effectively holds the claw pieces in place.

### Your benefits

- High HF density
- Ideal in CATV network
- Easy and quick assembly
- Solid mechanics quality
- Meets the technical requirements of the future for multimedia



**TD 212E white outlet,  
50x77 - TV/Radio  
Loopthrough**

Art. No. 302582

EAN Number  
5702663025820



**TD 263E white outlet,  
50x77 - TV/Radio  
Loopthrough**

Art. No. 302581

EAN Number  
5702663025813



**TD 260E white outlet,  
50x77 - TV/Radio  
Terminated**

Art. No. 302580

EAN Number  
5702663025806

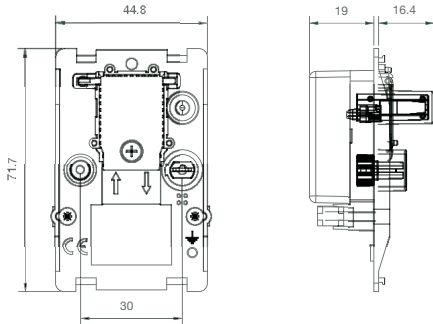


# TRIAX® FUGA TV/Radio outlets

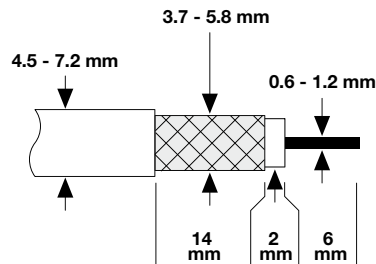
high-quality outlets ideal for CATV network

## Installation dimensions

### Outlet socket frame



### Recommended cable dimensions



Type:	TD 212E white outlet 50x77 - TV/R	TD 260E white outlet 50x77 - TV/R	TD 263E white outlet 50x77 - TV/R
Art. no.	302582	302580	302581
<b>CHARACTERISTICS</b>			
Outlet Type	Loop through	Single ended	Loop through
<b>FREQUENCY</b>			
Frequency Range IN-OUT	5...862MHz	5...1200MHz	5...1200MHz
Frequency Range FM	87.5...108MHz	87.5...108MHz	87.5...108MHz
Frequency Range TV	47...68/132...862MHz	5...68/132...1200MHz	5...68/132...1200MHz
<b>SHIELDING</b>			
Shielding @ 5-300 MHz	> 95dB	> 95dB	> 95dB
Shielding @ 300-470 MHz	> 90dB	> 90dB	> 90dB
Shielding @ 470-950 MHz	> 85dB	> 85dB	> 85dB
Shielding @ 950-1200 MHz	dB	> 85dB	> 85dB
<b>LOSS</b>			
Through Loss IN-FM	0.8dB		4.5dB
Through Loss IN-TV	0.8dB		4.5 (5.0 @862...1200MHz)dB
Through Loss IN-OUT			
Through Loss IN-SAT			
Through Loss IN-RF			
Through Loss IN-DATA			
<b>ISOLATION</b>			
Isolation OUT-FM	>31.0 (@40 MHz)dB		>20 (@40MHz)dB
Isolation OUT-TV	>31.0 (@40 MHz)dB		>20 (@40MHz)dB
Isolation TV-FM	>12.0dB	>12.0dB	>12.0dB
<b>RETURN LOSS</b>			
Return Loss FM	>10.0dB	>10.0dB	>10.0dB
Return Loss IN	>18 (@5...40MHz)dB	>18 (@5...40MHz)dB	>18 (@5...40MHz)dB
Return Loss OUT	>18 (@5...40MHz)dB	>18 (@5...40MHz)dB	>18 (@5...40MHz)dB
Return Loss TV	>14 (@5...40MHz)dB	>18 (@5...40MHz)dB	>18 (@5...40MHz)dB
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
Linearity	± 1dB	± 1dB	± 1dB
<b>OPERATIONAL</b>			
DC Passthrough TV		Yes (max. 100mA)	Yes (max. 100mA)
Screening Efficiency	Class A +10 dB	Class A +10 dB	Class A +10 dB
<b>CONNECTORS</b>			
Connector FM	IEC-female	IEC-female	IEC-female
Connector TV	IEC-male	IEC-male	IEC-male
<b>MECHANICAL</b>			
Dimensions product (H x D x W)	29 x 50 x 77mm	29 x 50 x 77mm	29 x 50 x 77mm
Weight net	0.117kg	0.115kg	0.115kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
& SPLITTER  
TAPS

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® FUGA Multimedia outlets

for satellite, CATV & terrestrial reception



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## 3-port SAT & TV/Radio filter sockets

FUGA antenna wall outlets fit to the socket and switch programs in FUGA form factor of leading electric vendors in Denmark.

The design, where backplate and terminals are die cast in one piece sets new standards to shielding and mechanical stability.

### Your benefits

- High HF-tightness
- Simple and quick mounting
- Solid mechanical quality
- Fulfil modern-day's technical multimedia requirements



**TD 253E white outlet, 50x77  
SAT/TV/Radio  
Loop through +Return**

Art. No. 302584

EAN Number  
5702663025844



**TD 272E white outlet, 50x77  
TV/Radio/DATA Multimedia  
Terminated**

Art. No. 302583

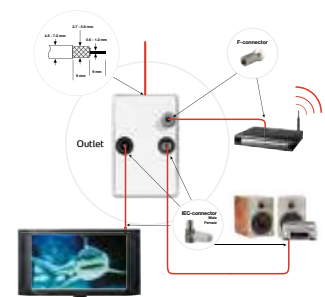
EAN Number  
5702663025837



**TD 254E white outlet, 50x77  
SAT/TV/Radio/DAB  
Loop through**

Art. No. 302585

EAN Number  
5702663025851



## Triax FUGA special outlets



**FV 01 outlet F-conn 50x50  
FUGA**

Art. No. 303481

EAN Number  
5702663034815



**FV 02 outlet F-conn 50x77  
FUGA**

Art. No. 303482

EAN Number  
5702663034822

# TRIAX<sup>®</sup> FUGA Special outlets

with F-connectors

Type:	TD 253E 50x77 SAT/TV/R+Return	TD 254E 50x77 SAT/TV/R/DAB	TD 272E 50x77 TV/R/DATA	FV 01 outlet F-conn 50x50 FUGA	FV 02 outlet F-conn 50x77 FUGA
Art. no.	302584	302585	302583	303481	303482
<b>CHARACTERISTICS</b>					
Outlet Type	Loop through	Loop through	Single ended		
Return Path	DC...2150 MHz		5...65 MHz		
<b>FREQUENCY</b>					
Frequency Range IN-OUT	0...2150MHz	47...2150MHz	5...1300MHz	0...2300 MHz	0...2300 MHz
Frequency Range FM	87.5...108MHz	87.5...108MHz	87,0...108MHz		
Frequency Range TV	47...68/ 132...862MHz	47...68/ 132...862MHz	87...1300MHz		
Frequency Range SAT	950...2150MHz	950...2150MHz			
Frequency Range DATA			118...1300MHz		
Frequency Range DAB		47...862MHz			
Frequency Range RF	0...2150 (return) MHz	47...862 (return) MHz	5...65 (return) MHz		
<b>SHIELDING</b>					
Shielding @ 5-300 MHz	> 95dB	> 95dB	> 95dB		
Shielding @ 300-470 MHz	> 90dB	> 90dB	> 90dB		
Shielding @ 470-950 MHz	> 85dB	> 85dB	> 85dB		
Shielding @ 950-1200 MHz	> 85dB	> 85dB	> 85dB		
Shielding @ 1200-2150 MHz	> 65dB	> 65dB	> 65dB		
Shielding factor SAT/return				50dB	50dB
Shielding factor UHF				65dB	65dB
Shielding factor VHF				75dB	75dB
<b>LOSS</b>					
Through Loss IN-RF	1.0 (return)dB				
Through Loss IN-TV				0.2...0.5dB	0.2...0.5dB
Through Loss IN-OUT					
Through Loss IN-SAT					
Through Loss IN-RF					
Through Loss IN-DATA					
<b>ISOLATION</b>					
Isolation FM-DATA			>30.0dB		
Isolation OUT-TV			>55.0dB		
Isolation TV-FM	>12.0dB	>12.0dB	>20.0dB		
Isolation TV-SAT	>18.0dB	>18.0dB			
<b>RETURN LOSS</b>					
Return Loss FM	>10.0dB	>10.0dB	>10.0dB		
Return Loss IN	>17 (@40MHz)dB	>17 (@40MHz)dB	>18 (@40MHz)dB	>18 (@40MHz)dB	>18 (@40MHz)dB
Return Loss TV	>14 (@40MHz)dB	>14 (@40MHz)dB	>18 (@40MHz)dB		
Return Loss OUT				>18 (@40MHz)dB	>18 (@40MHz)dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
Linearity	± 1dB	± 1dB	± 1dB		
<b>OPERATIONAL</b>					
DC Passthrough DATA			Yes (max. 100mA)		
DC Passthrough SAT	Yes (max. 100mA)	Yes (max. 100mA)			
DC Passthrough TV		Yes (max. 100mA)			
Screening Efficiency	Class A +10 dB	Class A +10 dB	Class A +10 dB		
<b>CONNECTORS</b>					
Connector DAB		F-female			
Connector DATA			F-female		
Connector FM	IEC-female	IEC-female	IEC-female		
Connector IN-OUT				F-female	F-female
Connector Return	F-female				
Connector SAT	F-female	F-female			
Connector TV	IEC-male	IEC-male	IEC-male		
<b>MECHANICAL</b>					
Colour				white	white
Dimensions product (H x D x W)	29 x 50 x 77mm	29 x 50 x 77mm	26 x 50 x 77mm	50 x 50 x 26mm	77 x 50 x 26mm
Weight net	0.122kg	0.122kg	0.120kg	0.67kg	0.67kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® OPUS outlet series

for satellite, CATV & terrestrial reception



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Triax OPUS high-quality outlets

Triax's range of OPUS TV/radio outlets have improved shielding factor and are much faster to mount.

The design, where backplate and terminals are die cast in one piece sets new standards to shielding and mechanical stability.

### Your benefits

- High HF-tightness
- Simple and quick mounting
- Solid mechanical quality
- Fulfil modern-day's technical multimedia requirements



**TD 301 OPUS outlet**  
TV/Radio terminated

Art. No. 302131

EAN Number  
5702663021310



**TD 352 OPUS outlet**  
SAT/TV/Radio terminated

Art. No. 302152

EAN Number  
5702663021525



**TD 304 OPUS outlet**  
TV/Radio loop through

Art. No. 302134

EAN Number  
5702663021341



**TD 372 OPUS outlet**  
TV/Radio/DATA terminated

Art. No. 302172

EAN Number  
5702663021723



**TD 312 OPUS outlet**  
TV/Radio loop through

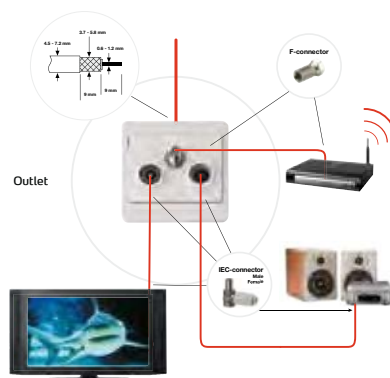
Art. No. 302132

EAN Number  
5702663021327

# TRIAX® OPUS outlet series

TV & radio, Satellite, Multimedia outlets

## Example TD 372 outlet



Type:	TD 301 outlet TV/R terminated OPUS	TD 304 outlet TV/R loop through OPUS	TD 312 outlet TV/R loop through OPUS	TD 352 outlet SAT/TV/R terminated OPUS	TD 372 outlet TV/R/DATA terminated OPUS
Art. no.	302131	302134	302132	302152	302172
<b>CHARACTERISTICS</b>					
Outlet Type	Single ended	Loop through	Loop through	Single ended	Single ended
<b>FREQUENCY</b>					
Frequency Range IN-OUT	MHz	47...862MHz	47...862MHz	MHz	MHz
Frequency Range FM	87.5...108MHz	87.5...108MHz	87.5...108MHz	87.5...108MHz	87.5...108MHz
Frequency Range TV	5.68/139...862MHz	47...68/139...862MHz	47...68/139...862MHz	47...68/139...862MHz	139...862MHz
Frequency Range SAT				950...2150MHz	
Frequency Range DATA					5.68/139...862MHz
<b>SHIELDING</b>					
Shielding @ 5-300 MHz	>75dB	>75dB	>75dB	>75dB	
Shielding @ 300-470 MHz	>75dB	>75dB	>75dB	>75dB	
Shielding @ 470-1000 MHz	>65dB	>65dB	>65dB		
Shielding @ 470-950 MHz				>65dB	
Shielding @ 950-1200 MHz				>50dB	
Shielding @ 1200-2150 MHz				>50dB	
<b>LOSS</b>					
Through Loss IN-DATA					1.0 @5...65MHz/4.5 @139...862MHzdB
Through Loss IN-FM	0,5dB	4,5dB	12,0dB	1,0dB	5,5dB
Through Loss IN-TV	0,5dB	4,5dB	12,0dB	dB	4,5dB
<b>ISOLATION</b>					
Isolation OUT-TV		> 20,0dB	> 30,0dB		
Isolation TV-FM	>12,0dB	>12,0dB	>12,0dB	>12,0dB	>12,0dB
Isolation TV-SAT	>12,0dB				
<b>RETURN LOSS</b>					
Return Loss DATA					> 18,0 dB
Return Loss FM	>10dB	>10dB	>10dB	>10dB	>10dB
Return Loss IN	> 18,0 dB	> 18,0 dB	> 18,0 dB	>10dB	> 18,0 dB
Return Loss OUT		> 18,0 dB	> 18,0 dB	>10dB	
Return Loss TV	>14,0/>10dB)dB	>14,0/>10dB)dB	>14,0/>10dB)dB	>10dB	>14,0/>10dB)dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
Linearity	± 1dB	± 1dB	± 1dB	± 1dB	± 1dB
<b>OPERATIONAL</b>					
DC Passthrough SAT				Yes (max. 250mA)	
DC Passthrough TV	Yes (max. 250mA)		Yes (max. 100mA)		
Connector DATA					F-female
Connector FM	IEC-female	IEC-female	IEC-female	IEC-female	IEC-female
Connector SAT				F-female	
Connector TV	IEC-male	IEC-male	IEC-male	IEC-male	IEC-male
<b>MECHANICAL</b>					
Colour	white	white	white	white	white
Design	OPUS	OPUS	OPUS	OPUS	OPUS
Dimensions product (H x D x W)	66 x 66 x 38mm	66 x 66 x 38mm	66 x 66 x 38mm	50 x 77 x 26mm	66 x 66 x 38mm
Weight net	0,95kg	0,95kg	0,95kg	0,100kg	0,95kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# Accessories

for TRIAX outlets



## Cover plates, on wall mounting frames for outlets in DIN-EU form factor



### AD 23 Cover, Oyster White

Art. No. 302061

EAN Number  
5702663020610

MECHANICAL

Packing QTY 10 pcs

Dimension 76 x 76 mm



### AR 20 Frame, Oyster White

Art. No. 302063

EAN Number  
5702663020634

MECHANICAL

Packing QTY 10 pcs

Dimension 76 x 76 mm



### AD 23 Cover, Pure White

Art. No. 302060

EAN Number  
5702663020603

MECHANICAL

Packing QTY 10 pcs

Dimension 76 x 76 mm



### AR 20 Frame, Pure White

Art. No. 302062

EAN Number  
5702663020627

MECHANICAL

Packing QTY 10 pcs

Dimension 76 x 76 mm



### TOU coverplate 2 holes - white

Art. No. 303680

EAN Number  
5702663036802

MECHANICAL

Packing QTY 10 pcs

Dimension 76 x 76 mm



### TOU coverplate SAT - white

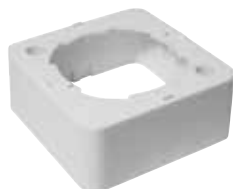
Art. No. 303695

EAN Number  
5702663036956

MECHANICAL

Packing QTY 10 pcs

Dimension 76 x 76 mm



### Surface mount - TOU outlets

Art. No. 303698

EAN Number  
5702663036987

MECHANICAL

Packing QTY 10 pcs

Dimension 76 x 76 mm



### R 77 DCB Termination resistor, w/DC blocker (75 W)

Art. No. 302066

EAN Number  
5702663020665

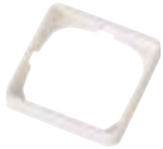
MECHANICAL

Packing QTY 5 pcs

# Accessories

for TRIAX outlets

## Frames and surface mount for FUGA TD outlets



### Frame 50 for TD - white

Art. No. 302025

EAN Number  
5702663020252

MECHANICAL

Packing QTY 10 pcs

Dimension 50 x 50 mm



### Frame 50 for TD - white

Art. No. 302026

EAN Number  
5702663020269

MECHANICAL

Packing QTY 10 pcs

Dimension 50 x 77 mm



### Frame 50 for TD - grey

Art. No. 303025

EAN Number  
5702663030251

MECHANICAL

Packing QTY 10 pcs

Dimension 50 x 50 mm



### Frame 50 for TD - grey

Art. No. 303026

EAN Number  
5702663030268

MECHANICAL

Packing QTY 10 pcs

Dimension 50 x 77 mm



### Frame 50 for TD - silver

Art. No. 304026

EAN Number  
5702663040267

MECHANICAL

Packing QTY 10 pcs

Dimension 50 x 77 mm



### Frame 50 surface mount for TD - white

Art. No. 302046

EAN Number  
5702663020467

MECHANICAL

Packing QTY 10 pcs

Dimension 50 x 77 mm

## Frames for OPUS TD outlets



### Frame 66x66 surface mount for OPUS TD - white

Art. No. 153140

EAN Number  
5702661531408

MECHANICAL

Packing QTY 10 pcs

Dimension 66x25x66 mm



### Frame 66x132 surface mount for OPUS TD - white

Art. No. 153143

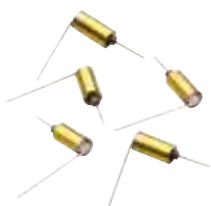
EAN Number  
5702661531439

MECHANICAL

Packing QTY 10 pcs

Dimension 66x25x132 mm

## Terminator for TRIAX outlets



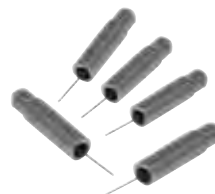
### R 75 Termination resistor, no DC blocker (75 W)

Art. No. 342503

EAN Number  
5702663425033

MECHANICAL

Packing QTY 5 pcs



### R 77 Termination resistor, no DC blocker (75 W)

Art. No. 302065

EAN Number  
5702663020658

MECHANICAL

Packing QTY 5 pcs

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Taps and Splitter series

Coaxial couplers for CATV, Terrestrial and Satellite distribution



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

## Selection of 5 ranges

Triax has upgraded its coaxial Tap and Splitter assortment with a selection of application specific product families.

- **BONITA** - which meets enhanced special characteristics for DOCSIS 3.1 operation in CATV networks. All ports on one side. extreme reliable brass NiTin F-connectors
- **PLATINUM** which meets enhanced special characteristics for DOCSIS 3.1 operation in CATV networks.
- **GOLD** for all-around use in SMATV, MATV and CATV applications untill 1 GHz
- **SILVER** preferred for SAT-IF and MATV applications.
- **OUTDOOR** fully weather proofed (IP54).

With TRIAX you can always find the right solution for your distribution system.

## BONITA Range 1.3 GHz

The 'Bonita' series of taps and splitters is especially designed to connect drop cables in a CATV network distribution cabinets located outdoor.

The highly robust F-connectors fit the enclosure of the tap or splitter, allowing the connection of thicker trunk cables such as the RG 11 directly onto the device. The unique form factor, with all ports in one line and on one side, saves on the space required in the cabinet for cabling, and reduces installation time and effort. The state of the art RF transmission performance makes your network ready for DOCSIS operation now and in the future.



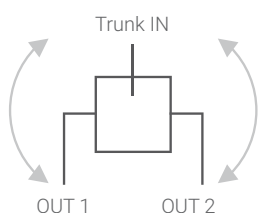
## Your benefits

- No maintenamce cost because of long term reliable working of the brass NiTin F-connectors over the full outdoor temperature fluctuation between Summer and Winter time.
- Future proof investment because ready for DOCSIS 3.1

## Taps and Splitters - The Basics

### Splitter

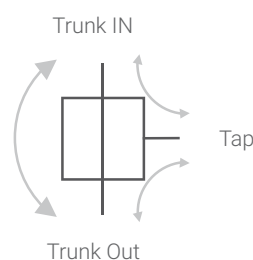
Splitters divide the signal from a trunk line into equal portions to the outputs.



**Insertion Loss**  
Attenuation between  
IN and OUT.

### Tap

Taps divide a small portion of the signal on the trunk line to tap lines.



**Insertion Loss**  
Attenuation between  
Trunk IN and Trunk OUT.

**Tap Loss**  
Attenuation between  
Trunk IN and Tap.



# TRIAX® Taps and Splitter series

the right choice

## PLATINUM Range 1.2 GHz



The TRIAX "PLATINUM" Taps and Splitters are State of the Art components for use in coaxial indoor networks of bi-directional CATV distribution systems. The enhanced product performance are preferred for use to future proofed networks with DOCSIS 2.0 / 3.0 / 3.1 operation.

- Extended frequency range to 1.2 GHz
- Low intermodulation in return path (EN 60728-4)
- All ports are AC/DC blocked to avoid hum modulations.
- Die-cast enclosures with CuSn coating and soldered back plates provide very high shielding.
- High-quality F-connectors combined with CuSn coating create reliable connectivity and high ingress protection in humid environments.

## GOLD Range 1.0 GHz



The TRIAX "GOLD" Taps and Splitters are used in standard coaxial CATV, SMATV and MATV networks operating with analogue PAL as well as digital DVB-C (QAM) and DTT (COFDM, DAB) signals.

- All ports are AC/DC blocked to avoid hum modulations.
- Die-cast enclosures with tin (Sn) coating and soldered back plates provide very high shielding.
- High-quality F-connectors combined with tin coating create reliable connectivity and high quality screening.
- Optional plastic brackets for passing the coaxial cable below the device and mounting vertically.

## SILVER Range 2.4 GHz



The TRIAX "SILVER" Indoor Taps and Splitters are used in coaxial SAT-IF distribution networks operating with DVB-S/S2 (QPSK, 8PSK) or/ and in MATV applications with DTT (COFDM, DAB) signals.

- All outputs of the splitters SCS are DC directed coupled via diodes to the input, the taps SCT pass DC power through the trunk path
- The die-cast enclosures are tin (Sn) coated and the back plates are soldered for very high shielding.
- Optional: plastic brackets for passing the coaxial cable below the device and for distribution of several SAT-IF lines by stacking of the splitters.

## OUTDOOR Range 1.0 GHz



The TRIAX "CA" Taps and Splitters are used in CATV broadband networks up to 1 GHz outdoor. They are fully weather protected (IP54) high RFI shielded and offer long reliability through an aluminium alloy 360 housing with powder paint coating, woven metallic gasket, neoprene sealed and nickel plated brass "F" ports and 5/8" threat ports for hard tail connectors.

- The 5/8" ports allow high current through pass until 12/15 AC.
- All "F" ports for "TAP" are DC blocked at the inner conductor.
- The "F" models are special Trunk Line types and Power Inserters with built-in switches to activate AC power passing to each port.

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® BONITA 1.3 GHz splitters

Premium DOCSIS 3.1 solution



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

<b>Cable TV</b>	<b>HD TV</b>	<b>EASY mounting</b>	<b>Warranty 2 Years</b>	<b>x 1</b>
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## Common Features - ABS Splitter series

- Ready for DOCSIS 2.0/3.0/3.1
- Frequency range 5...1300 MHz
- Low passive intermodulation
- All ports in one line and on one side
- Firm fixed F-connector NiTin inserts
- Connector inner-pin Beryllium Bronze
- Zinc die-cast housing with Cu/Sn plated with aluminium bottom plate
- Weatherproof housing and connectors

### ABS 2, 2-way Splitter 1.3GHz



Art. No. 343150  
EAN Number 5702663431508

### ABS 4, 4-way Splitter 1.3GHz



Art. No. 343152  
EAN Number 5702663431522

### ABS 3, 3-way Splitter 1.3GHz



Art. No. 343151  
EAN Number 5702663431515

### ABS 6, 6-way Splitter 1.3GHz



Art. No. 343154  
EAN Number 5702663431546

### ABS 3AS, 3-way Splitter 1.3GHz



Art. No. 343153  
EAN Number 5702663431539

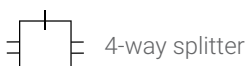
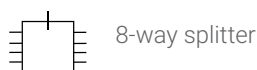
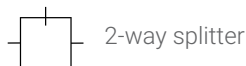
### ABS 8, 8-way Splitter 1.3GHz



Art. No. 343155  
EAN Number 5702663431553

# TRIAX® BONITA splitters

for upgrading of distribution networks to DOCSIS 3.1



Type:	ABS 2 2-way Splitter 1.3GHz	ABS 3 3-way Splitter 1.3GHz	ABS 3AS 3-way Splitter 1.3GHz	ABS 4 4-way Splitter 1.3GHz	ABS 6 6-way Splitter 1.3GHz	ABS 8 8-way Splitter 1.3GHz
Art. No.	343150	343151	343153	343152	343154	343155
<b>FREQUENCY</b>						
Frequency range	5...1300MHz	5...1300MHz	5...1300MHz	5...1300MHz	5...1300MHz	5...1300MHz
<b>LOSS</b>						
Insertion loss (in-out) 5-470 Mhz	≤3.7dB	≤5.8dB	≤5.8dB	≤7.1dB	≤9.3dB	≤10.7dB
Insertion loss (in-out) 470-862 MHz	≤3.9dB	≤6.1dB	≤6.1dB	≤7.6dB	≤10.0dB	≤11.4dB
Insertion loss (in-out) 862-1006 MHz	≤4.3dB	≤6.5dB	≤6.5dB	≤8.0dB	≤10.6dB	≤12.0dB
Insertion loss (in-out) 1006-1300 MHz	≤4.7dB	≤7.0dB	≤7.0dB	≤8.7dB	≤11.2dB	≤13.2dB
<b>ISOLATION</b>						
Isolation (tap-tap) 5-470 MHz	≥28dB	≥25dB	≥25dB	≥24dB	≥23dB	≥24dB
Isolation (tap-tap) 470-862 MHz	≥23dB	≥22dB	≥22dB	≥22dB	≥20dB	≥22dB
Isolation (tap-tap) 862-1006 MHz	≥22dB	≥20dB	≥20dB	≥20dB	≥20dB	≥20dB
Isolation (tap-tap) 1006-1300 MHz	≥20dB	≥18dB	≥18dB	≥20dB	≥18dB	≥20dB
<b>RETURN LOSS</b>						
Return Loss	22.0 (@47MHz 22-1.5/oct - min.14.5)dB					
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
EMC class	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB
Temperature - operating	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C
Weather Proof Rating	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
<b>CONNECTORS</b>						
Connector Type	F-female (IEC 61 169-24)					
Number of inputs	1	1	1	1	1	1
Number of outputs	2	3	3	4	6	8
<b>MECHANICAL</b>						
Product Depth	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm
Product Height	41.3mm	41.3mm	41.3mm	41.3mm	58mm	58mm
Product Width	86mm	110mm	110mm	151mm	220mm	220mm
Main Material	Zinc die-cast, Cu-Sn plated					
Packing QTY	1	1	1	1	1	1
Net Weight	0,102kg	0,129kg	0,129kg	0,175kg	0,286kg	0,304kg

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

# TRIAX® BONITA 1.3 GHz, 1-way tap

Premium DOCSIS 3.1 solution



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ABT Taps series

- Ready for DOCSIS 2.0/3.0/3.1
- Frequency range 5...1300 MHz
- Low passive intermodulation
- All ports in one line and on one side
- Firm fixed F-connector NiTin inserts
- Connector inner-pin Beryllium Bronze
- Zinc die-cast housing with Cu/Sn plated with aluminium bottom plate
- Weatherproof housing and connectors



### ABT 1-6, 1-way Tap 1.3GHz

Art. No. 343160  
EAN Number  
5702663431607



### ABT 1-12, 1-way Tap 1.3GHz

Art. No. 343163  
EAN Number  
5702663431638



### ABT 1-8, 1-way Tap 1.3GHz

Art. No. 343161  
EAN Number  
5702663431614



### ABT 1-16, 1-way Tap 1.3GHz

Art. No. 343164  
EAN Number  
5702663431645



### ABT 1-10, 1-way Tap 1.3GHz

Art. No. 343162  
EAN Number  
5702663431621



### ABT 1-20, 1-way Tap 1.3GHz

Art. No. 343165  
EAN Number  
5702663431652

# TRIAX® BONITA taps

for upgrading of distribution networks to DOCSIS 3.1

## ABT 1-24, 1-way Tap 1.3GHz

Art. No. 343166

EAN Number  
5702663431669



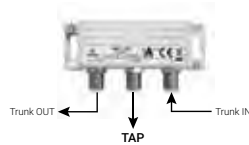
## ABT 1-28, 1-way Tap 1.3GHz

Art. No. 343167

EAN Number  
5702663431676



1-way tap



Type:	ABT 1-6, 1-way Tap 1.3GHz	ABT 1-8, 1-way Tap 1.3GHz	ABT 1-10, 1-way Tap 1.3GHz	ABT 1-12, 1-way Tap 1.3GHz	ABT 1-16, 1-way Tap 1.3GHz	ABT 1-20, 1-way Tap 1.3GHz	ABT 1-24, 1-way Tap 1.3GHz	ABT 1-28, 1-way Tap 1.3GHz
Art. No.	343160	343161	343162	343163	343164	343165	343166	343167
<b>FREQUENCY</b>								
Frequency range	5...1300MHz							
<b>LOSS</b>								
Insertion loss (in-out) 5-470 Mhz	2.8dB	2.0dB	1.4dB	1.1dB	0.9dB	0.9dB	0.9dB	0.9dB
Insertion loss (in-out) 470-862 MHz	3.3dB	2.6dB	2.0dB	1.5dB	1.1dB	1.1dB	1.1dB	1.1dB
Insertion loss (in-out) 862-1006 MHz	3.5dB	2.8dB	2.3dB	1.7dB	1.3dB	1.3dB	1.3dB	1.3dB
Insertion loss (in-out) 1006-1300 MHz	3.6dB	3.4dB	3.1dB	2.5dB	2.3dB	2.3dB	2.3dB	2.3dB
Tap loss (in-tap) 5-1300 MHz	6.6	8.3	10.2	12.1	16.0	20.0	23.9	30.0
	±1.2dB	±1.2dB	±1.2dB	±1.2dB	±1.2dB	±1.2dB	±1.2dB	±1.2dB
<b>ISOLATION</b>								
Isolation (out-tap) 5-470 MHz	22dB	22dB	24dB	24dB	28dB	28dB	28dB	28dB
Isolation (out-tap) 470-862 MHz	20dB	20dB	21dB	22dB	23dB	24dB	26dB	27dB
Isolation (out-tap) 862-1006 MHz	20dB	20dB	20dB	21dB	22dB	22dB	24dB	25dB
Isolation (out-tap) 1006-1300 MHz	20dB	20dB	20dB	20dB	21dB	21dB	21dB	22dB
<b>RETURN LOSS</b>								
Return Loss	22.0 (@47MHz 22-1.5/oct - min.14.5)dB							
<b>ELECTRICAL</b>								
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>								
EMC class	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB
Temperature - operating	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C
Weather Proof Rating	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
<b>CONNECTORS</b>								
Connector Type	F-female (IEC 61 169-24)							
Number of inputs	1	1	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1	1	1
Number of taps	1	1	1	1	1	1	1	1
<b>MECHANICAL</b>								
Product Depth	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm
Product Height	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm
Product Width	86mm	86mm	86mm	86mm	86mm	86mm	86mm	86mm
Main Material	Zinc die-cast, Cu-Sn plated							
Packing QTY	1	1	1	1	1	1	1	1
Net Weight	0,102kg	0,102kg	0,102kg	0,102kg	0,102kg	0,102kg	0,102kg	0,102kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® BONITA 1.3 GHz, 2-way taps

Premium DOCSIS 3.1 solution



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ABT Taps series

- Ready for DOCSIS 2.0/3.0/3.1
- Frequency range 5...1300 MHz
- Low passive intermodulation
- All ports in one line and on one side
- Firm fixed F-connector NiTin inserts
- Connector inner-pin Beryllium Bronze
- Zinc die-cast housing with Cu/Sn plated with aluminium bottom plate
- Weatherproof housing and connectors

### ABT 2-8, 2-way Tap 1.3GHz

Art. No. 343168

EAN Number  
5702663431683



### ABT 2-16, 2-way Tap 1.3GHz

Art. No. 343171

EAN Number  
5702663431713



### ABT 2-10, 2-way Tap 1.3GHz

Art. No. 343169

EAN Number  
5702663431690



### ABT 2-20, 2-way Tap 1.3GHz

Art. No. 343172

EAN Number  
5702663431720



### ABT 2-12, 2-way Tap 1.3GHz

Art. No. 343170

EAN Number  
5702663431706



# TRIAX® BONITA taps

for upgrading of distribution networks to DOCSIS 3.1

## ABT 2-24, 2-way Tap 1.3GHz

Art. No. 343173

EAN Number  
5702663431737



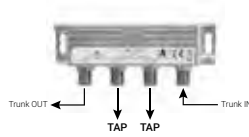
## ABT 2-28, 2-way Tap 1.3GHz

Art. No. 343174

EAN Number  
5702663431744



2-way tap



Type:	ABT 2-8, 2-way Tap 1.3GHz	ABT 2-10, 2-way Tap 1.3GHz	ABT 2-12, 2-way Tap 1.3GHz	ABT 2-16, 2-way Tap 1.3GHz	ABT 2-20, 2-way Tap 1.3GHz	ABT 2-24, 2-way Tap 1.3GHz	ABT 2-28, 2-way Tap 1.3GHz
Art. No.	343168	343169	343170	343171	343172	343173	343174
<b>FREQUENCY</b>							
Frequency range	5...1300MHz						
<b>LOSS</b>							
Insertion loss (in-out) 5-470 Mhz	3.7dB	2.9dB	1.7dB	1.5dB	1.5dB	1.5dB	1.5dB
Insertion loss (in-out) 470-862 MHz	4.0dB	3.4dB	2.1dB	1.8dB	1.8dB	1.8dB	1.8dB
Insertion loss (in-out) 862-1006 MHz	4.3dB	3.6dB	2.3dB	2.1dB	2.1dB	2.1dB	2.1dB
Insertion loss (in-out) 1006-1300 MHz	5.4dB	4.5dB	2.9dB	2.7dB	2.7dB	2.7dB	2.7dB
Tap loss (in-tap) 5-1300 MHz	8.5 ±1.2dB	10.2 ±1.2dB	12.4 ±1.2dB	16.3 ±1.2dB	20.0 ±1.2dB	24.0 ±1.2dB	28.0 ±1.2dB
<b>ISOLATION</b>							
Isolation (tap-tap) 5-470 MHz	28dB	32dB	34dB	34dB	35dB	35dB	35dB
Isolation (tap-tap) 470-862 MHz	25dB	30dB	32dB	34dB	35dB	35dB	35dB
Isolation (tap-tap) 862-1006 MHz	24dB	28dB	30dB	32dB	33dB	35dB	35dB
Isolation (tap-tap) 1006-1300 MHz	22dB	25dB	25dB	28dB	31dB	34dB	34dB
Isolation (out-tap) 5-470 MHz	26dB	26dB	26dB	26dB	28dB	30dB	32dB
Isolation (out-tap) 470-862 MHz	23dB	23dB	23dB	23dB	24dB	25dB	27dB
Isolation (out-tap) 862-1006 MHz	21dB	21dB	21dB	22dB	22dB	24dB	26dB
Isolation (out-tap) 1006-1300 MHz	20dB	20dB	20dB	20dB	20dB	22dB	22dB
<b>RETURN LOSS</b>							
Return Loss	22.0 (@47MHz 22-1.5/oct - min.14.5)dB						
<b>ELECTRICAL</b>							
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>							
EMC class	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB
Temperature - operating	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C
Weather Proof Rating	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
<b>CONNECTORS</b>							
Connector Type	F-female (IEC 61 169-24)						
Number of inputs	1	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1	1
Number of taps	2	2	2	2	2	2	2
<b>MECHANICAL</b>							
Product Depth	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm
Product Height	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm
Product Width	110mm	110mm	110mm	110mm	110mm	110mm	110mm
Main Material	Zinc die-cast, Cu-Sn plated						
Packing QTY	1	1	1	1	1	1	1
Net Weight	0,128kg	0,128kg	0,128kg	0,128kg	0,128kg	0,128kg	0,128kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® BONITA 1.3 GHz, 3 & 4-way taps

Premium DOCSIS 3.1 solution



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ABT Taps series

- Ready for DOCSIS 2.0/3.0/3.1
- Frequency range 5...1300 MHz
- Low passive intermodulation
- All ports in one line and on one side
- Firm fixed F-connector NiTin inserts
- Connector inner-pin Beryllium Bronze
- Zinc die-cast housing with Cu/Sn plated with aluminium bottom plate
- Weatherproof housing and connectors

### ABT 3-16, 3-way Tap 1.3GHz

Art. No. 343175

EAN Number  
5702663431751



### ABT 4-12, 4-way Tap 1.3GHz

Art. No. 343177

EAN Number  
5702663431775



### ABT 3-20, 3-way Tap 1.3GHz

Art. No. 343176

EAN Number  
5702663431768



### ABT 4-16, 4-way Tap 1.3GHz

Art. No. 343178

EAN Number  
5702663431782



### ABT 4-20, 4-way Tap 1.3GHz

Art. No. 343179

EAN Number  
5702663431799





# TRIAX® BONITA taps

for upgrading of distribution networks to DOCSIS 3.1

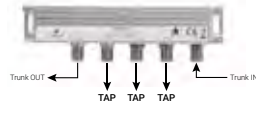
## ABT 4-24, 4-way Tap 1.3GHz

Art. No. 343180

EAN Number  
5702663431805



3-way tap



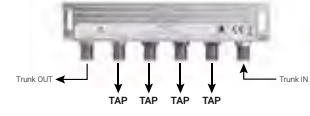
## ABT 4-28, 4-way Tap 1.3GHz

Art. No. 343181

EAN Number  
5702663431812



4-way tap



Type:	ABT 3-16, 3-way Tap 1.3GHz	ABT 3-20, 3-way Tap 1.3GHz	ABT 4-12, 4-way Tap 1.3GHz	ABT 4-16, 4-way Tap 1.3GHz	ABT 4-20, 4-way Tap 1.3GHz	ABT 4-24, 4-way Tap 1.3GHz	ABT 4-28, 4-way Tap 1.3GHz
Art. No.	343175	343176	343177	343178	343179	343180	343181
<b>FREQUENCY</b>							
Frequency range	5...1300MHz						
<b>LOSS</b>							
Insertion loss (in-out) 5-470 Mhz	1.8dB	1.8dB	4.5dB	2.3dB	2.3dB	2.3dB	2.3dB
Insertion loss (in-out) 470-862 MHz	2.0dB	2.0dB	4.7dB	2.6dB	2.6dB	2.6dB	2.6dB
Insertion loss (in-out) 862-1006 MHz	2.2dB	2.2dB	5.2dB	3.0dB	3.0dB	3.0dB	3.0dB
Insertion loss (in-out) 1006-1300 MHz	3.1dB	3.1dB	5.1dB	3.9dB	3.9dB	3.9dB	3.9dB
Tap loss (in-tap) 5-1300 MHz	16.1 ±1.2dB	20.1 ±1.2dB	12.4 ±1.5dB	16.2 ±1.5dB	20.0 ±1.5dB	24.0 ±1.5dB	28.0 ±1.5dB
<b>ISOLATION</b>							
Isolation (tap-tap) 5-470 MHz	34dB	34dB	34dB	36dB	38dB	38dB	40dB
Isolation (tap-tap) 470-862 MHz	32dB	32dB	32dB	34dB	36dB	36dB	38dB
Isolation (tap-tap) 862-1006 MHz	32dB	32dB	30dB	32dB	34dB	34dB	36dB
Isolation (tap-tap) 1006-1300 MHz	30dB	30dB	28dB	30dB	32dB	32dB	34dB
Isolation (out-tap) 5-470 MHz	24dB	28dB	24dB	24dB	24dB	25dB	25dB
Isolation (out-tap) 470-862 MHz	22dB	22dB	22dB	21dB	21dB	24dB	24dB
Isolation (out-tap) 862-1006 MHz	21dB	21dB	20dB	21dB	21dB	22dB	22dB
Isolation (out-tap) 1006-1300 MHz	20dB	20dB	20dB	20dB	20dB	20dB	20dB
<b>RETURN LOSS</b>							
Return Loss	22.0 (@47MHz 22-1.5/oct - min.14.5)dB						
<b>ELECTRICAL</b>							
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>							
EMC class	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB
Temperature - operating	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C	-20...60°C
Weather Proof Rating	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
<b>CONNECTORS</b>							
Connector Type	F-female (IEC 61 169-24)						
Number of inputs	1	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1	1
Number of taps	3	3	4	4	4	4	4
<b>MECHANICAL</b>							
Product Depth	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm	26.6mm
Product Height	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm	41.3mm
Product Width	151mm	151mm	151mm	151mm	151mm	151mm	151mm
Main Material	Zinc die-cast, Cu-Sn plated						
Packing QTY	1	1	1	1	1	1	1
Net Weight	0,000kg	0,128kg	0,179kg	0,179kg	0,179kg	0,179kg	0,179kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® BONITA 1.3 GHz, 4, 6 & 8-ways taps

Premium DOCSIS 3.1 solution



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ABT Taps series

- Ready for DOCSIS 2.0/3.0/3.1
- Frequency range 5...1300 MHz
- Low passive intermodulation
- All ports in one line and on one side
- Firm fixed F-connector NiTin inserts
- Connector inner-pin Beryllium Bronze
- Zinc die-cast housing with Cu/Sn plated with aluminium bottom plate
- Weatherproof housing and connectors

### ABT 4-12T, 4-way Tap 1.3GHz

Art. No. 343186  
EAN Number  
5702663431867



### ABT 8-16T, 8-way Tap 1.3GHz

Art. No. 343184  
EAN Number  
5702663431843



### ABT 6-14T, 6-way Tap 1.3GHz

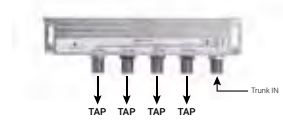
Art. No. 343182  
EAN Number  
5702663431829



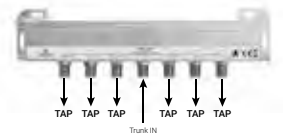
# TRIAX® BONITA taps

for upgrading of distribution networks to DOCSIS 3.1

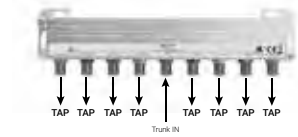
4-way T-tap



6-way T-tap



8-way T-tap



Type:	ABT 4-12T 4-way Tap 1.3GHz	ABT 6-14T 6-way Tap 1.3GHz	ABT 8-16T 8-way Tap 1.3GHz
Art. No.	343186	343182	343184
<b>FREQUENCY</b>			
Frequency range	5...1300MHz	5...1300MHz	5...1300MHz
<b>LOSS</b>			
Tap loss (in-tap) 5-1300 MHz	12,4 ±1.5dB	14,1 ±1.5dB	15,8 ±1.5dB
<b>ISOLATION</b>			
Isolation (tap-tap) 5-470 MHz	34dB	34dB	36dB
Isolation (tap-tap) 470-862 MHz	32dB	32dB	32dB
Isolation (tap-tap) 862-1006 MHz	30dB	30dB	30dB
Isolation (tap-tap) 1006-1300 MHz	28dB	28dB	28dB
<b>RETURN LOSS</b>			
Return Loss	22.0 (@47MHz 22-1.5/oct - min.14.5)dB		
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
EMC class	A +10dB	A +10dB	A +10dB
Temperature - operating	-20...60°C	-20...60°C	-20...60°C
Weather Proof Rating	IP 67	IP 67	IP 67
<b>CONNECTORS</b>			
Connector Type	F-female (IEC 61 169-24)		
Number of inputs	1	1	1
Number of outputs	1	1	1
Number of taps	4	6	8
<b>MECHANICAL</b>			
Product Depth	26.6mm	26.6mm	26.6mm
Product Height	41mm	58mm	58mm
Product Width	151mm	220mm	220mm
Extra high bracket	Optional		
Main Material	Zinc die-cast, Cu-Sn plated		
Packing QTY	1	1	1
Weight	0,174kg	0,289kg	0,305kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Platinum 1.2 GHz splitters

For CATV bi-directional distribution networks, with DOCSIS



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - VFC Splitter series

Enhanced product characteristics including low intermodulation, extended frequency range and mechanical performance for use in future proofed CATV networks.

- Excellent performance for CATV with DOCSIS 2.0/3.0/3.1 operation
- Frequency range 5 MHz up to 1.2 GHz
- High shielding of 110 dB

- Low intermodulation <15 dBμV after surge @ output level 120 dBμV on return path
- All ports AC/DC blocked at inner conductor
- Return loss Grade 2 (>18 dB)
- F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinplated
- Die-cast housing with high quality (CuSn) coating
- According EN 50083-2, EN 60728-4

### VFC 0421 - 2 way splitter

Art. No. 343012

EAN Number  
5702663430129



### VFC 1061 - 6 way splitter

Art. No. 343016

EAN Number  
5702663430167



### VFC 0631 - 3 way splitter

Art. No. 343013

EAN Number  
5702663430136



### VFC 1281 - 8 way splitter

Art. No. 343018

EAN Number  
5702663430181



### VFC 0741 - 4 way splitter

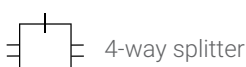
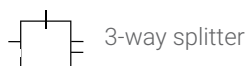
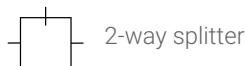
Art. No. 343014

EAN Number  
5702663430143



# TRIAX® Platinum splitters

for upgrading of distribution networks to DOCSIS 3.1



Type:	VFC 0421 2 way splitter	VFC 0631 3 way splitter	VFC 0741 4 way splitter	VFC 1061 6 way splitter	VFC 1281 8 way splitter
Art. No.	343012	343013	343014	343016	343018
<b>SHIELDING</b>					
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>FREQUENCY</b>					
Frequency range	5...1218MHz	5...1218MHz	5...1218MHz	5...1218MHz	5...1218MHz
<b>LOSS</b>					
Insertion loss (in-out) 5-40 Mhz	3.4 +0.5dB	5.4 +0.6dB	7.3 +0.5dB	10.1 +0.5dB	11.8 +0.5dB
Insertion loss (in-out) 40-470 MHz	3.4 +0.5dB	5.4 +0.6dB	7.3 +0.5dB	10.1 +0.5dB	11.8 +0.5dB
Insertion loss (in-out) 470-860 MHz	3.7 +0.7dB	5.5 +1.0dB	7.5 +1.0dB	10.2 +1.0dB	11.8 +0.7dB
Insertion loss (in-out) 860-1000 MHz	3.7 +0.7dB	5.8 +0.9dB	7.5 +1.0dB	11.0 +1.0dB	12.0 +1.0dB
Insertion loss (in-out) 1000-1200 MHz	4.1 +1.0dB	6.7 +1.3dB	8.3 +1.2dB	12.8 +1.2dB	13.8 +1.2dB
<b>ISOLATION</b>					
Isolation (tap-tap) 5-40 MHz	> 24dB	> 24dB	> 26dB	> 22dB	> 22dB
Isolation (tap-tap) 40-470 MHz	> 24dB	> 24dB	> 24dB	> 22dB	> 22dB
Isolation (tap-tap) 470-1000 MHz					
Isolation (tap-tap) 1000-1200 MHz	> 15dB	> 15dB	> 14dB	> 18dB	> 18dB
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	> 18dB	> 20dB	> 20dB	> 18dB	> 18dB
Return loss (in-out) 40-470 MHz	> 20dB	> 20dB	> 20dB	> 20dB	> 20dB
Return loss (in-out) 470-860 MHz	> 18dB	> 16dB	> 18dB	> 16dB	> 16dB
Return loss (in-out) 860-1000 MHz	> 18dB	> 16dB	> 18dB	> 16dB	> 16dB
Return loss (in-out) 1000-1200 MHz	> 12dB	> 12dB	> 12dB	> 12dB	> 12dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS, EN 60728-4				
DC Passthrough	NO - DC blocked at inner conductor				
DOCSIS	3.1	3.1	3.1	3.1	3.1
EMC class	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB
<b>CONNECTORS</b>					
Connector Type	F-female (IEC 61 169-24)				
Number of inputs	1	1	1	1	1
Number of outputs	2	3	4	6	8
<b>MECHANICAL</b>					
Product Depth	20mm	20mm	20mm	40.3mm	40.3mm
Product Width	40.6mm	69.7mm	69.7mm	135mm	135mm
Product Height	52.5mm	52.5mm	52.5mm	61.1mm	61.1mm
Main Material	Zinc Die-casting, CuSn plated				
Packing QTY	1	1	1	1	1
Net Weight	0,000kg	0,215kg	0,215kg	0,215kg	0,215kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> Platinum 1.2 GHz, 1-way tap

For CATV bi-directional distribution networks, with DOCSIS



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS
- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

<b>Cable TV</b>	<b>HD TV</b>	<b>ECO</b>	<b>EASY mounting</b>	<b>Warranty 2 Years</b>	<b>x 1</b>
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## Common Features - AFC Tap series

Enhanced product characteristics including low intermodulation, extended frequency range and mechanical performance for use in future proofed CATV networks.

- Excellent performance for CATV with DOCSIS 2.0/3.0/3.1 operation
- Frequency range 5 MHz up to 1.2 GHz
- High shielding of 110 dB
- Low intermodulation <15 dBμV after surge @ output level 120 dBμV on return path
- All ports AC/DC blocked at inner conductor
- Return loss Grade 2 (>18 dB)
- F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinplated
- Die-cast housing with high quality (CuSn) coating
- According EN 50083-2, EN 60728-4

### AFC 0611 - 1 way tap

Art. No. 343100

EAN Number  
5702663431003



### AFC 1611 - 1 way tap

Art. No. 343103

EAN Number  
5702663431034



### AFC 0811 - 1 way tap

Art. No. 343101

EAN Number  
5702663431010



### AFC 2011 - 1 way tap

Art. No. 343104

EAN Number  
5702663431041



### AFC 1211 - 1 way tap

Art. No. 343102

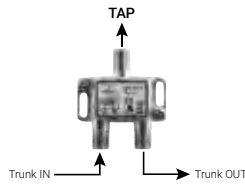
EAN Number  
5702663431027



# TRIAX<sup>®</sup> Platinum taps

frequency range 5...1200 MHz.

1-way tap



Type:	AFC 0611	AFC 0811	AFC 1211	AFC 1611	AFC 2011
Art. No.	343100	343101	343102	343103	343104
<b>SHIELDING</b>					
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>FREQUENCY</b>					
Frequency range	5...1218MHz	5...1218MHz	5...1218MHz	5...1218MHz	5...1218MHz
<b>LOSS</b>					
Insertion loss (in-out) 5-40 Mhz	2.1 +0.5dB	1.3 +0.5dB	0.7 +0.5dB	0.5 +0.4dB	0.5 +0.3dB
Insertion loss (in-out) 40-470 MHz	2.1 +0.5dB	1.3 +0.5dB	0.7 +0.5dB	0.5 +0.4dB	0.5 +0.3dB
Insertion loss (in-out) 470-860 MHz	2.3 +0.5dB	1.7 +0.3dB	0.9 +0.5dB	0.6 +0.5dB	0.6 +0.4dB
Insertion loss (in-out) 860-1000 MHz	2.4 +0.6dB	1.7 +0.5dB	0.9 +0.7dB	0.7 +0.4dB	0.6 +0.4dB
Insertion loss (in-out) 1000-1200 MHz	3.0 +0.7dB	2.0 +0.5dB	1.2 +0.6dB	1.0 +0.4dB	0.9 +0.4dB
Tap loss (in-tap) 5-1200 MHz	6.0dB	8.0dB	12.0dB	16.0dB	20.0dB
<b>ISOLATION</b>					
Isolation (out-tap) 5-40 MHz	28dB	30dB	32dB	36dB	40dB
Isolation (out-tap) 40-470 MHz	24dB	28dB	30dB	32dB	35dB
Isolation (out-tap) 470-1000 MHz					
Isolation (out-tap) 1000-1200 MHz	20dB	22dB	24dB	27dB	29dB
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	22dB	20dB	22dB	22dB	22dB
Return loss (in-out) 40-470 MHz	18dB	20dB	18dB	18dB	18dB
Return loss (in-out) 470-860 MHz	16dB	16dB	16dB	18dB	16dB
Return loss (in-out) 860-1000 MHz	16dB	16dB	14dB	18dB	16dB
Return loss (in-out) 1000-1200 MHz	14dB	14dB	12dB	14dB	14dB
Return loss (tap) 5-40 MHz	22dB	20dB	22dB	22dB	22dB
Return loss (tap) 40-470 MHz	22dB	20dB	22dB	18dB	22dB
Return loss (tap) 470-860 MHz	20dB	16dB	18dB	18dB	22dB
Return loss (tap) 860-1000 MHz	16dB	16dB	16dB	18dB	20dB
Return loss (tap) 1000-1200 MHz	14dB	14dB	12dB	14dB	18dB
<b>ELECTRICAL</b>					
Harmonic Distortion before / after 25V surge		0/<15 dBμV @ operation level 120 dBμVdBμV			
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS, EN 60728-4				
DC Passthrough	NO - DC blocked at inner conductor				
DOCSIS	3.1	3.1	3.1	3.1	3.1
EMC class	A +10dB	A +10dB	A +10dB	A +10dB	A +10dB
<b>CONNECTORS</b>					
Connector Type	F-female (IEC 61 169-24)				
Number of inputs	1	1	1	1	1
Number of outputs	1	1	1	1	1
Number of taps	1	1	1	1	1
<b>MECHANICAL</b>					
Product Depth	20mm	20mm	20mm	20mm	20mm
Product Width	47.8mm	47.8mm	47.8mm	47.8mm	47.8mm
Product Height	52.5mm	52.5mm	52.5mm	52.5mm	52.5mm
Main Material	Zinc Die-casting CuSn plated				
Packing QTY	1	1	1	1	1
Net Weight	0,055kg	0,055kg	0,055kg	0,055kg	0,055kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> Platinum 1.2 GHz, 2-way tap

For CATV bi-directional distribution networks, with DOCSIS



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - AFC Tap series

Enhanced product characteristics including low intermodulation, extended frequency range and mechanical performance for use in future proofed CATV networks.

- Excellent performance for CATV with DOCSIS 2.0/3.0/3.1 operation
- Frequency range 5 MHz up to 1.2 GHz
- High shielding of 110 dB

- Low intermodulation <15 dBμV after surge @ output level 120 dBμV on return path
- All ports AC/DC blocked at inner conductor
- Return loss Grade 2 (>18 dB)
- F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinplated
- Die-cast housing with high quality (CuSn) coating
- According EN 50083-2, EN 60728-4



### AFC 0921 - 2 way tap

Art. No. 343131

EAN Number  
5702663431317



### AFC 1621 - 2 way tap

Art. No. 343133

EAN Number  
5702663431331



### AFC 1221 - 2 way tap

Art. No. 343132

EAN Number  
5702663431324



### AFC 2021 - 2 way tap

Art. No. 343134

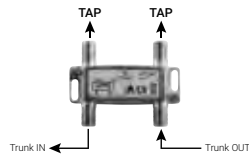
EAN Number  
5702663431348



# TRIAX® Platinum taps

frequency range 5...1200 MHz.

2-way tap



Type:	AFC 0921	AFC 1221	AFC 1621	AFC 2021
Art. No.	343131	343132	343133	343134
<b>SHIELDING</b>				
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB
<b>FREQUENCY</b>				
Frequency range	5...1218MHz	5...1218MHz	5...1218MHz	5...1218MHz
<b>LOSS</b>				
Insertion loss (in-out) 5-40 MHz	2.6 +-1.3dB	1.4 +-0.3dB	0.8 +-0.5dB	0.8 +-0.5dB
Insertion loss (in-out) 40-470 MHz	2.6 +-1.3dB	1.4 +-0.4dB	0.8 +-0.5dB	0.8 +-0.5dB
Insertion loss (in-out) 470-860 MHz	3.0 +-0.9dB	1.5 +-0.5dB	1.0 +-0.6dB	1.0 +-0.4dB
Insertion loss (in-out) 860-1000 MHz	3.2 +-1.1dB	1.6 +-0.6dB	1.2 +-0.6dB	1.0 +-0.6dB
Insertion loss (in-out) 1000-1200 MHz	4.3 +-0.7dB	1.9 +-0.6dB	1.7 +-0.5dB	1.6 +-0.7dB
Tap loss (in-tap) 5-1200 MHz	8.0dB	12.0dB	16.0dB	20.0dB
<b>ISOLATION</b>				
Isolation (out-tap) 5-40 MHz	28dB	30dB	36dB	36dB
Isolation (out-tap) 40-470 MHz	24dB	26dB	30dB	32dB
Isolation (out-tap) 470-1000 MHz				
Isolation (out-tap) 1000-1200 MHz	20dB	20dB	25dB	26dB
Isolation (tap-tap) 5-40 MHz	36dB	42dB	46dB	54dB
Isolation (tap-tap) 40-470 MHz	32dB	40dB	46dB	50dB
Isolation (tap-tap) 470-1000 MHz				
Isolation (tap-tap) 1000-1200 MHz	25dB	30dB	36dB	36dB
<b>RETURN LOSS</b>				
Return loss (in-out) 5-40 MHz	20dB	20dB	22dB	22dB
Return loss (in-out) 40-470 MHz	18dB	18dB	18dB	18dB
Return loss (in-out) 470-860 MHz	18dB	18dB	16dB	16dB
Return loss (in-out) 860-1000 MHz	16dB	16dB	16dB	16dB
Return loss (in-out) 1000-1200 MHz	12dB	12dB	12dB	12dB
Return loss (tap) 5-40 MHz	22dB	22dB	22dB	22dB
Return loss (tap) 40-470 MHz	18dB	18dB	18dB	18dB
Return loss (tap) 470-860 MHz	16dB	16dB	16dB	16dB
Return loss (tap) 860-1000 MHz	14dB	16dB	14dB	14dB
<b>ELECTRICAL</b>				
Harmonic Distortion before/after 25V surge		0/<15 dBµV @ operation level 120dBµV		
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
Certification		CE, RoHS, EN 60728-4		
DC Passthrough		NO - DC blocked at inner conductor		
DOCSIS	3.1	3.1	3.1	3.1
EMC class	A +10dB	A +10dB	A +10dB	A +10dB
<b>CONNECTORS</b>				
Connector Type		F-female (IEC 61 169-24)		
Number of inputs	1	1	1	1
Number of outputs	1	1	1	1
Number of taps	2	2	2	2
<b>MECHANICAL</b>				
Product Depth	20mm	20mm	20mm	20mm
Product Width	69.7mm	69.7mm	69.7mm	69.7mm
Product Height	52.5mm	52.5mm	52.5mm	52.5mm
Main Material		Zinc Die-casting CuSn plated		
Packing QTY	1	1	1	1
Net Weight	0,078kg	0,078kg	0,078kg	0,078kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Platinum 1.2 GHz, 4, 6, 8-way tap

For CATV bi-directional distribution networks, with DOCSIS



## Common Features - AFC Tap series

Enhanced product characteristics including low intermodulation, extended frequency range and mechanical performance for use in future proofed CATV networks.

- Excellent performance for CATV with DOCSIS 2.0/3.0/3.1 operation
- Frequency range 5 MHz up to 1.2 GHz
- High shielding of 110 dB

- Low intermodulation <15 dBμV after surge @ output level 120 dBμV on return path
- All ports AC/DC blocked at inner conductor
- Return loss Grade 2 (>18 dB)
- F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinplated
- Die-cast housing with high quality (CuSn) coating
- According EN 50083-2, EN 60728-4

### AFC 1241 - 4 way tap

Art. No. 343135

EAN Number  
5702663431355



### AFC 1661 - 6 way tap

Art. No. 343137

EAN Number  
5702663431379



### AFC 1641 - 4 way tap

Art. No. 343136

EAN Number  
5702663431362



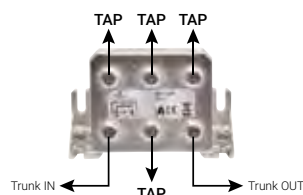
### AFC 1681 - 8 way tap

Art. No. 343138

EAN Number  
5702663431386



4-way tap



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

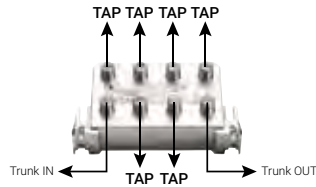
INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

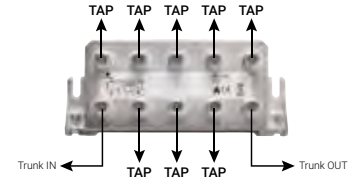
# TRIAx® Platinum taps

frequency range 5...1200 MHz.

6-way tap



8-way tap



Type:	AFC 1241 4 way tap	AFC 1641 4 way tap	AFC 1661 6 way tap	AFC 1681 8 way tap
Art. No.	343135	343136	343137	343138
<b>SHIELDING</b>				
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB
<b>FREQUENCY</b>				
Frequency range	5...1218MHz	5...1218MHz	5...1218MHz	5...1218MHz
<b>LOSS</b>				
Insertion loss (in-out) 5-40 MHz	4.6 +0.5dB	2.5 +0.5dB	6.0 +- 0.5dB	8.0 +0.5dB
Insertion loss (in-out) 40-470 MHz	4.6 +0.5dB	2.5 +0.5dB	6.0 +0.5dB	8.0 +0.7dB
Insertion loss (in-out) 470-860 MHz	4.6 +-1.0dB	3.0 +0.6dB	6.0 +-1.0dB	8.0 +-1.0dB
Insertion loss (in-out) 860-1000 MHz	4.6 +-1.2dB	3.0 +- 0.7dB	6.0 +-1.2dB	8.0 +-1.2dB
Insertion loss (in-out) 1000-1200 MHz	4.6 +-2.0dB	3.0 +-1.5dB	6.0 +-2.0dB	8.0 +-2.0dB
Tap loss (in-tap) 5-1200 MHz	12.0dB	16.0dB	16.0dB	16.0dB
<b>ISOLATION</b>				
Isolation (out-tap) 5-40 MHz	30dB	32dB	30dB	30dB
Isolation (out-tap) 40-470 MHz	26dB	28dB	30dB	26dB
Isolation (out-tap) 470-860 MHz	26dB	28dB	30dB	26dB
Isolation (out-tap) 860-1000 MHz	24dB	25dB	23dB	23dB
Isolation (out-tap) 1000-1200 MHz				30dB
Isolation (tap-tap) 5-40 MHz	38dB	40dB	40dB	40dB
Isolation (tap-tap) 40-470 MHz	38dB	40dB	40dB	36dB
Isolation (tap-tap) 470-1000 MHz				
Isolation (tap-tap) 1000-1200 MHz	28dB	30dB	32dB	30dB
<b>RETURN LOSS</b>				
Return loss (in-out) 5-40 MHz	20dB	20dB	20dB	20dB
Return loss (in-out) 40-470 MHz	18dB	18dB	18dB	18dB
Return loss (in-out) 470-860 MHz	18dB	16dB	16dB	16dB
Return loss (in-out) 860-1000 MHz	16dB	16dB	16dB	16dB
Return loss (in-out) 1000-1200 MHz	12dB	12dB	12dB	12dB
Return loss (tap) 5-40 MHz	20dB	20dB	20dB	20dB
Return loss (tap) 40-470 MHz	18dB	18dB	18dB	18dB
Return loss (tap) 470-860 MHz	16dB	16dB	16dB	16dB
Return loss (tap) 860-1000 MHz	16dB	16dB	16dB	16dB
Return loss (tap) 1000-1200 MHz	12dB	12dB	12dB	12dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
Certification	CE, RoHS, EN 60728-4			
DC Passthrough	NO - DC blocked at inner conductor			
DOCSIS	3.1	3.1	3.1	3.1
EMC class	A +10dB	A +10dB	A +10dB	A +10dB
<b>CONNECTORS</b>				
Connector Type	F-female (IEC 61 169-24)			
Number of inputs	1	1	1	1
Number of outputs	1	1	1	1
Number of taps	4	4	6	8
<b>MECHANICAL</b>				
Product Depth	40.3mm	40.3mm	40.3mm	40.3mm
Product Width	91mm	91mm	135mm	135mm
Product Height	60.9mm	60.9mm	61.1mm	61.1mm
Main Material	Zinc Die-casting CuSn plated			
Packing QTY	1	1	1	1
Net Weight	0,200kg	0,200kg	0,300kg	0,310kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Gold 1.0 GHz splitters

For Indoor CATV, SMATV, MATV distribution networks



TERRESTRIAL  
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SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

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CABINETS

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APPENDIX



## Common Features - ACS Splitter series

Excellent performance/price relation for use in all coaxial TV distribution networks without DC line feeding.

- All round performance for use in CATV, SMATV, MATV
- Frequency range 5 MHz up to 1.0 GHz
- All ports AC/DC blocked at inner conductor

- High shielding of 110 dB
  - Return loss Grade 2 (>18dB)
  - F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinned
  - Die-cast housing with tin (Sn) coating
  - According EN 50083-2 and EN 60728-4
- More data on webpage [www.triax.com](http://www.triax.com)

### ACS 2 - 2 way splitter

Art. No. 343242

EAN Number  
5702663432420



### ACS 6 - 6 way splitter

Art. No. 343246

EAN Number  
5702663432468



### ACS 3 - 3 way splitter

Art. No. 343243

EAN Number  
5702663432437



### ACS 8 - 8 way splitter

Art. No. 343248

EAN Number  
5702663432482



### ACS 4 - 4 way splitter

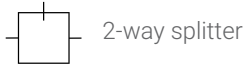
Art. No. 343244

EAN Number  
5702663432444



# TRIAX® Gold splitters

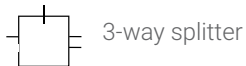
frequency range 5...1000 Mhz.



2-way splitter



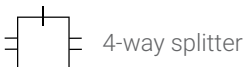
6-way splitter



3-way splitter



8-way splitter



4-way splitter

Type:	ACS 2 2 way splitter	ACS 3 3 way splitter	ACS 4 4 way splitter	ACS 6 6 way splitter	ACS 8 8 way splitter
Art. No.	343242	343243	343244	343246	343248
<b>FREQUENCY</b>					
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>SHIELDING</b>					
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>					
Tap loss (in-tap) 40-470 MHz	3.6dB	5.8dB	7.5dB	10.2dB	10.5dB
Tap loss (in-tap) 470-860 MHz	3.6dB	6.5dB	8.2dB	10.5dB	12.3dB
Tap loss (in-tap) 860-1000 MHz	4.0dB	6.5dB	8.2dB	11.5dB	12.8dB
<b>ISOLATION</b>					
Isolation (tap-tap) 5-40 MHz	30dB	25dB	27dB	25dB	25dB
Isolation (tap-tap) 40-470 MHz	32dB	30dB	30dB	26dB	26dB
Isolation (tap-tap) 470-860 MHz	28dB	24dB	26dB	26dB	26dB
Isolation (tap-tap) 860-1000 MHz	28dB	23dB	25dB	24dB	24dB
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	22dB	21dB	20dB	20dB	20dB
Return loss (in-out) 40-470 MHz	21dB	20dB	20dB	19dB	19dB
Return loss (in-out) 470-860 MHz	21dB	20dB	20dB	18dB	18dB
Return loss (in-out) 860-1000 MHz	20dB	20dB	18dB	17dB	17dB
Return loss (tap) 5-40 MHz	22dB	21dB	20dB	20dB	20dB
Return loss (tap) 40-470 MHz	21dB	20dB	20dB	19dB	19dB
Return loss (tap) 470-860 MHz	21dB	20dB	20dB	18dB	18dB
Return loss (tap) 860-1000 MHz	20dB	20dB	18dB	17dB	17dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS, EN 60728-4				
<b>CONNECTORS</b>					
Connector Type	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1
Number of outputs	2	3	4	6	8
<b>MECHANICAL</b>					
Product Depth	mm	mm	mm	mm	mm
Product Height	mm	mm	mm	mm	mm
Product Width	mm	mm	mm	mm	mm
Main Material	Zinc die-casting bright tin plated				
Packing QTY	1	1	1	1	1
Net Weight	0,040kg	0,050kg	0,000kg	0,000kg	0,000kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
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MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Gold 1.0 GHz splitters

For Indoor SMATV / MATV distribution networks



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

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CONNECTORS

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(CCTV)

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TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ACS Splitter series

Excellent performance/price relation for use in all coaxial TV distribution networks without DC line feeding.

- All round performance for use in CATV, SMATV, MATV
- Frequency range 5 MHz up to 1.0 GHz
- All ports AC/DC blocked at inner conductor

- High shielding of 110 dB
  - Return loss Grade 2 (>18dB)
  - F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinplated
  - Die-cast housing with tin (Sn) coating
  - According EN 50083-2 and EN 60728-4
- More data on webpage [www.triax.com](http://www.triax.com)

### ACV 4 - 4 way splitter

Art. No. 343252

EAN Number  
5702663432529



### ACV 12 - 12 way splitter

Art. No. 343255

EAN Number  
5702663432550



### ACV 6 - 6 way splitter

Art. No. 343253

EAN Number  
5702663432536



### ACV 16 - 16 way splitter

Art. No. 343256

EAN Number  
5702663432567



### ACV 8 - 8 way splitter

Art. No. 343254

EAN Number  
5702663432543

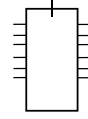


# TRIAX® Gold splitters

frequency range 5...1000 Mhz.



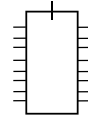
4-way splitter



12-way splitter



6-way splitter



16-way splitter



8-way splitter

Type:	ACV 4	ACV 6	ACV 8	ACV 12	ACV 16
	4 way splitter	6 way splitter	8 way splitter	12 way splitter	16 way splitter
Art. No.	343252	343253	343254	343255	343256
<b>FREQUENCY</b>					
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>SHIELDING</b>					
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>					
Tap loss (in-tap) 5-40 MHz					
Tap loss (in-tap) 40-470 MHz	7.2dB	9.8dB	10.7dB	12.5dB	14.8dB
Tap loss (in-tap) 470-860 MHz	8.0dB	10.7dB	11.8dB	14.5dB	16.2dB
Tap loss (in-tap) 860-1000 MHz	8.2dB	11.2dB	12.2dB	14.5dB	16.2dB
<b>ISOLATION</b>					
Isolation (tap-tap) 5-40 MHz					
Isolation (tap-tap) 40-470 MHz	27dB	27dB	27dB	26dB	25dB
Isolation (tap-tap) 470-860 MHz	30dB	28dB	28dB	26dB	26dB
Isolation (tap-tap) 860-1000 MHz	27dB	27dB	27dB	23dB	23dB
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz					
Return loss (in-out) 40-470 MHz	22dB	20dB	20dB	17dB	16dB
Return loss (in-out) 470-860 MHz	22dB	22dB	22dB	20dB	18dB
Return loss (in-out) 860-1000 MHz	22dB	20dB	20dB	17dB	17dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS, EN 60728-4				
DC Passthrough	NO - DC blocked at inner conductor				
<b>CONNECTORS</b>					
Connector Type	F-female				
Number of inputs	1	1	1	1	1
Number of outputs	4	6	8	12	16
<b>MECHANICAL</b>					
Product Depth	17mm	17mm	17mm	mm	mm
Product Width	70.5mm	92.5mm	114.5mm	mm	mm
Product Height	34.5mm	34.5mm	34.5mm	mm	mm
Main Material	Zinc die-casting, bright tin plated			Alu alloy die cast housing	
Packing QTY	1	1	1	1	1
Net Weight	0,150kg	0,200kg	0,230kg	0,540kg	0,560kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Gold 1.0 GHz, 1-way tap

For Indoor SMATV / MATV distribution networks



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SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ACS Taps series

Excellent performance/price relation for use in all coaxial TV distribution networks without DC line feeding.

- All round performance for use in CATV, SMATV, MATV
- Frequency range 5 MHz up to 1.0 GHz
- All ports AC/DC blocked at inner conductor

- High shielding of 110 dB
  - Return loss Grade 2 (>18dB)
  - F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinned
  - Die-cast housing with tin (Sn) coating
  - According EN 50083-2 and EN 60728-4
- More data on webpage [www.triax.com](http://www.triax.com)



### ACT 1-6 - 1 way tap

Art. No. 343258

EAN Number  
5702663432581



### ACT 1-16 - 1 way tap

Art. No. 343261

EAN Number  
5702663432611



### ACT 1-8 - 1 way tap

Art. No. 343259

EAN Number  
5702663432598



### ACT 1-20 - 1 way tap

Art. No. 343262

EAN Number  
5702663432628



### ACT 1-12 - 1 way tap

Art. No. 343260

EAN Number  
5702663432604



### ACT 1-24 - 1 way tap

Art. No. 343263

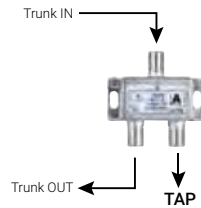
EAN Number  
5702663432635



# TRIAX® Gold taps

frequency range 5...1000 Mhz.

1-way tap



Type:	ACT 1-6	ACT 1-8	ACT 1-12	ACT 1-16	ACT 1-20	ACT 1-24
	1 way tap	1 way tap	1 way tap	1 way tap	1 way tap	1 way tap
Art. No.	343258	343259	343260	343261	343262	343263
<b>FREQUENCY</b>						
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>SHIELDING</b>						
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>						
Insertion loss (in-out) 5-40 Mhz	2.8dB	1.8dB	0.6dB	0.8dB	0.8dB	0.8dB
Insertion loss (in-out) 40-470 MHz	2.6dB	2.0dB	0.8dB	0.8dB	0.8dB	0.8dB
Insertion loss (in-out) 470-860 MHz	2.8dB	2.1dB	1.0dB	1.0dB	1.0dB	1.0dB
Insertion loss (in-out) 860-1000 MHz	3.0dB	2.2dB	1.0dB	1.0dB	1.0dB	1.2dB
Tap loss (in-tap) 5-40 MHz						
Tap loss (in-tap) 40-470 MHz	6.0dB	8.5dB	12.0dB	16.0dB	20.0dB	24.0dB
Tap loss (in-tap) 470-860 MHz	6.0dB	8.5dB	12.0dB	16.0dB	20.0dB	24.0dB
Tap loss (in-tap) 860-1000 MHz	6.0dB	8.5dB	12.5dB	16.0dB	20.0dB	24.0dB
<b>ISOLATION</b>						
Isolation (out-tap) 5-40 MHz	23dB	30dB	35dB	38dB	45dB	50dB
Isolation (out-tap) 40-470 MHz	23dB	32dB	32dB	36dB	36dB	42dB
Isolation (out-tap) 470-860 MHz						
Isolation (out-tap) 860-1000 MHz						
<b>RETURN LOSS</b>						
Return loss (in-out) 5-40 MHz	21dB	21dB	21dB	21dB	22dB	22dB
Return loss (in-out) 40-470 MHz	20dB	20dB	20dB	20dB	20dB	21dB
Return loss (in-out) 470-860 MHz	20dB	20dB	20dB	20dB	20dB	21dB
Return loss (in-out) 860-1000 MHz	17dB	17dB	17dB	17dB	17dB	17dB
Return loss (tap) 5-40 MHz	21dB	21dB	21dB	21dB	22dB	22dB
Return loss (tap) 40-470 MHz	20dB	20dB	20dB	20dB	20dB	21dB
Return loss (tap) 470-860 MHz	20dB	20dB	20dB	20dB	20dB	21dB
Return loss (tap) 860-1000 MHz	17dB	17dB	17dB	17dB	17dB	17dB
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
Certification	CE, RoHS, EN 60728-4					
DC Passthrough	NO - DC blocked at inner conductor					
<b>CONNECTORS</b>						
Connector Type	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1
Number of taps	1	1	1	1	1	1
<b>MECHANICAL</b>						
Product Depth	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm
Product Height	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Product Width	52 mm	52 mm	52 mm	52 mm	52 mm	52 mm
Main Material	Zinc die-casting, bright tin plated					
Packing QTY	1	1	1	1	1	1
Extra high bracket	Optional extra					
Net Weight	0,050kg	0,050kg	0,050kg	0,050kg	0,050kg	0,050kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
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MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Gold 1.0 GHz, 2-way taps

For Indoor SMATV / MATV distribution networks



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ACS Taps series

Excellent performance/price relation for use in all coaxial TV distribution networks without DC line feeding.

- All round performance for use in CATV, SMATV, MATV
- Frequency range 5 MHz up to 1.0 GHz
- All ports AC/DC blocked at inner conductor

- High shielding of 110 dB
  - Return loss Grade 2 (>18dB)
  - F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinned
  - Die-cast housing with tin (Sn) coating
  - According EN 50083-2 and EN 60728-4
- More data on webpage [www.triax.com](http://www.triax.com)

### ACT 2-8 - 2 way tap

Art. No. 343265

EAN Number  
5702663432659



### ACT 2-16 - 2 way tap

Art. No. 343268

EAN Number  
5702663432680



### ACT 2-10 - 2 way tap

Art. No. 343266

EAN Number  
5702663432666



### ACT 2-20 - 2 way tap

Art. No. 343269

EAN Number  
5702663432697



### ACT 2-12 - 2 way tap

Art. No. 343267

EAN Number  
5702663432673



### ACT 2-24 - 2 way tap

Art. No. 343270

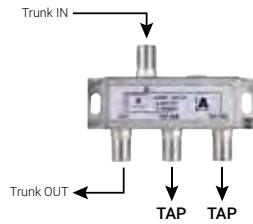
EAN Number  
5702663432703



# TRIAX® Gold taps

frequency range 5...1000 Mhz.

2-way tap



Type:	ACT 2-8	ACT 2-10	ACT 2-12	ACT 2-16	ACT 2-20	ACT 2-24
Art. No.	343265	343266	343267	343268	343269	343270
<b>FREQUENCY</b>						
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>SHIELDING</b>						
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>						
Insertion loss (in-out) 5-40 MHz	3.5dB	2.6dB	1.8dB	0.8dB	0.8dB	0.8dB
Insertion loss (in-out) 40-470 MHz	3.6dB	2.7dB	1.8dB	0.8dB	0.6dB	0.6dB
Insertion loss (in-out) 470-860 MHz	4.0dB	3.2dB	2.3dB	1.2dB	1.0dB	1.0dB
Insertion loss (in-out) 860-1000 MHz	4.2dB	3.4dB	2.3dB	1.5dB	1.2dB	1.2dB
Tap loss (in-tap) 5-40 MHz						
Tap loss (in-tap) 40-470 MHz	8.0dB	10.0dB	12.0dB	16.0dB	20.0dB	24.0dB
Tap loss (in-tap) 470-860 MHz	8.0dB	10.0dB	12.0dB	16.0dB	20.0dB	24.0dB
Tap loss (in-tap) 860-1000 MHz	8.0dB	10.0dB	12.0dB	16.0dB	20.0dB	24.0dB
<b>ISOLATION</b>						
Isolation (out-tap) 5-40 MHz	30dB	25dB	30dB	34dB	40dB	46dB
Isolation (out-tap) 40-470 MHz	28dB	26dB	28dB	32dB	36dB	42dB
Isolation (out-tap) 470-860 MHz						
Isolation (out-tap) 860-1000 MHz						
Isolation (tap-tap) 5-40 MHz	25dB	30dB	30dB	30dB	32dB	32dB
Isolation (tap-tap) 40-470 MHz	26dB	30dB	30dB	30dB	30dB	30dB
Isolation (tap-tap) 470-860 MHz	26dB	26dB	26dB	26dB	26dB	26dB
Isolation (tap-tap) 860-1000 MHz						
<b>RETURN LOSS</b>						
Return loss (in-out) 5-40 MHz	22dB	21dB	21dB	21dB	21dB	21dB
Return loss (in-out) 40-470 MHz	21dB	20dB	20dB	20dB	20dB	20dB
Return loss (in-out) 470-860 MHz	20dB	20dB	20dB	20dB	20dB	20dB
Return loss (in-out) 860-1000 MHz	17dB	17dB	17dB	17dB	17dB	17dB
Return loss (tap) 5-40 MHz	22dB	21dB	21dB	21dB	21dB	21dB
Return loss (tap) 40-470 MHz	21dB	20dB	20dB	20dB	20dB	20dB
Return loss (tap) 470-860 MHz	20dB	20dB	20dB	20dB	20dB	20dB
Return loss (tap) 860-1000 MHz	17dB	17dB	17dB	17dB	17dB	17dB
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
Certification	CE, RoHS, EN 60728-4					
DC Passthrough	NO - DC blocked at inner conductor					
<b>CONNECTORS</b>						
Connector Type	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1
Number of taps	2	2	2	2	2	2
<b>MECHANICAL</b>						
Product Depth	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm
Product Width	74 mm	74 mm	74 mm	74 mm	74 mm	74 mm
Product Height	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Main Material	Zinc die-casting, bright tin plated					
Packing QTY	1	1	1	1	1	1
Extra high bracket	Optional extra					
Net Weight	0,040kg	0,055kg	0,050kg	0,055kg	0,055kg	0,055kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Gold 1.0 GHz, 3-way taps

For Indoor SMATV / MATV distribution networks



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RECEPTION

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RECEPTION

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CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ACS Taps series

Excellent performance/price relation for use in all coaxial TV distribution networks without DC line feeding.

- All round performance for use in CATV, SMATV, MATV
- Frequency range 5 MHz up to 1.0 GHz
- All ports AC/DC blocked at inner conductor

- High shielding of 110 dB
  - Return loss Grade 2 (>18dB)
  - F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinned
  - Die-cast housing with tin (Sn) coating
  - According EN 50083-2 and EN 60728-4
- More data on webpage [www.triax.com](http://www.triax.com)



### ACT 3-8 - 3 way tap

Art. No. 343272

EAN Number  
5702663432727



### ACT 3-16 - 3 way tap

Art. No. 343275

EAN Number  
5702663432758



### ACT 3-10 - 3 way tap

Art. No. 343273

EAN Number  
5702663432734



### ACT 3-20 - 3 way tap

Art. No. 343276

EAN Number  
5702663432765



### ACT 3-12 - 3 way tap

Art. No. 343274

EAN Number  
5702663432741



### ACT 3-24 - 3 way tap

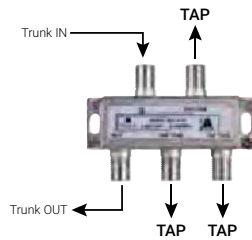
Art. No. 343277

EAN Number  
5702663432772

# TRIAX® Gold taps

frequency range 5...1000 Mhz.

3-way tap



Type:	ACT 3-8	ACT 3-10	ACT 3-12	ACT 3-16	ACT 3-20	ACT 3-24
	3 way tap	3 way tap	3 way tap	3 way tap	3 way tap	3 way tap
Art. No.	343272	343273	343274	343275	343276	343277
<b>FREQUENCY</b>						
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>SHIELDING</b>						
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>						
Insertion loss (in-out) 5-40 MHz		3.2dB	3.0dB	2.0dB	1.0dB	1.0dB
Insertion loss (in-out) 40-470 MHz		3.5dB	3.0dB	1.8dB	1.2dB	0.8dB
Insertion loss (in-out) 470-860 MHz		4.2dB	4.2dB	2.2dB	1.5dB	1.0dB
Insertion loss (in-out) 860-1000 MHz		4.5dB	4.5dB	2.5dB	1.5dB	1.2dB
Tap loss (in-tap) 5-40 MHz						
Tap loss (in-tap) 40-470 MHz	8.0dB	10.0dB	12.0dB	16.0dB	20.0dB	24.0dB
Tap loss (in-tap) 470-860 MHz	8.0dB	10.0dB	12.0dB	16.0dB	20.0dB	24.0dB
Tap loss (in-tap) 860-1000 MHz	8.0dB	11.0dB	12.0dB	16.0dB	20.0dB	24.0dB
<b>ISOLATION</b>						
Isolation (out-tap) 5-40 MHz		28dB	28dB	40dB	34dB	42dB
Isolation (out-tap) 40-470 MHz		30dB	25dB	32dB	32dB	36dB
Isolation (out-tap) 470-860 MHz						
Isolation (out-tap) 860-1000 MHz						
Isolation (tap-tap) 5-40 MHz		28dB	28dB	32dB	25dB	25dB
Isolation (tap-tap) 40-470 MHz		28dB	26dB	26dB	27dB	27dB
Isolation (tap-tap) 470-860 MHz		25dB	26dB	26dB	25dB	26dB
Isolation (tap-tap) 860-1000 MHz						
<b>RETURN LOSS</b>						
Return loss (in-out) 5-40 MHz		22dB	21dB	22dB	22dB	22dB
Return loss (in-out) 40-470 MHz		20dB	20dB	20dB	20dB	20dB
Return loss (in-out) 470-860 MHz		20dB	20dB	20dB	18dB	18dB
Return loss (in-out) 860-1000 MHz		16dB	16dB	16dB	16dB	16dB
Return loss (tap) 5-40 MHz		22dB	21dB	22dB	22dB	22dB
Return loss (tap) 40-470 MHz		20dB	20dB	20dB	20dB	20dB
Return loss (tap) 470-860 MHz		20dB	20dB	20dB	18dB	18dB
Return loss (tap) 860-1000 MHz		16dB	16dB	16dB	16dB	16dB
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
Certification	CE, RoHS, EN 60728-4					
DC Passthrough	NO - DC blocked at inner conductor					
<b>CONNECTORS</b>						
Connector Type	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1
Number of taps	3	3	3	3	3	3
<b>MECHANICAL</b>						
Product Depth	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm
Product Width	74 mm	74 mm	74 mm	74 mm	74 mm	74 mm
Product Height	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Main Material	Zinc die-casting, bright tin plated					
Packing QTY	1	1	1	1	1	1
Extra high bracket	Optional extra					
Net Weight	0,065kg	0,065kg	0,065kg	0,065kg	0,065kg	0,065kg

TERRESTRIAL  
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CABLE TV  
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CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Gold 1.0 GHz, 4-way taps

For Indoor SMATV / MATV distribution networks



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SATELLITE  
& FIBRE  
RECEPTION

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CAS SYSTEM  
MODULATORS

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CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ACS Taps series

Excellent performance/price relation for use in all coaxial TV distribution networks without DC line feeding.

- All round performance for use in CATV, SMATV, MATV
- Frequency range 5 MHz up to 1.0 GHz
- All ports AC/DC blocked at inner conductor

- High shielding of 110 dB
  - Return loss Grade 2 (>18dB)
  - F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinned
  - Die-cast housing with tin (Sn) coating
  - According EN 50083-2 and EN 60728-4
- More data on webpage [www.triax.com](http://www.triax.com)

### ACT 4-10 - 4 way tap

Art. No. 343279

EAN Number  
5702663432796



### ACT 4-20 - 4 way tap

Art. No. 343282

EAN Number  
5702663432826



### ACT 4-12 - 4 way tap

Art. No. 343280

EAN Number  
5702663432802



### ACT 4-24 - 4 way tap

Art. No. 343283

EAN Number  
5702663432833



### ACT 4-16 - 4 way tap

Art. No. 343281

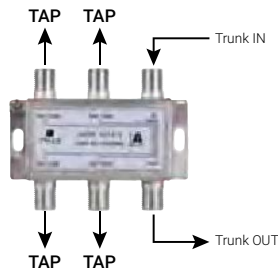
EAN Number  
5702663432819



# TRIAX® Gold taps

frequency range 5...1000 Mhz.

4-way tap



Type:	ACT 4-10	ACT 4-12	ACT 4-16	ACT 4-20	ACT 4-24
Art. No.	343279	343280	343281	343282	343283
<b>FREQUENCY</b>					
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>SHIELDING</b>					
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>					
Insertion loss (in-out) 5-40 MHz	3.5dB	3.5dB	1.8dB	1.0dB	1.0dB
Insertion loss (in-out) 40-470 MHz	3.6dB	3.6dB	1.8dB	1.1dB	0.8dB
Insertion loss (in-out) 470-860 MHz	4.0dB	4.0dB	2.4dB	1.3dB	1.0dB
Insertion loss (in-out) 860-1000 MHz	4.5dB	4.5dB	2.5dB	1.5dB	1.2dB
Tap loss (in-tap) 5-40 MHz					
Tap loss (in-tap) 40-470 MHz	10.0dB	12.0dB	16.0dB	20.0dB	24.0dB
Tap loss (in-tap) 470-860 MHz	10.2dB	12.5dB	16.5dB	20.5dB	24.5dB
Tap loss (in-tap) 860-1000 MHz	11.0dB	12.5dB	16.5dB	20.5dB	24.5dB
<b>ISOLATION</b>					
Isolation (out-tap) 5-40 MHz	30dB	26dB	36dB	40dB	45dB
Isolation (out-tap) 40-470 MHz	28dB	26dB	32dB	33dB	33dB
Isolation (out-tap) 470-860 MHz					
Isolation (out-tap) 860-1000 MHz					
Isolation (tap-tap) 5-40 MHz	28dB	30dB	30dB	30dB	30dB
Isolation (tap-tap) 40-470 MHz	27dB	28dB	28dB	28dB	28dB
Isolation (tap-tap) 470-860 MHz	27dB	26dB	26dB	26dB	26dB
Isolation (tap-tap) 860-1000 MHz					
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	21dB	21dB	22dB	22dB	22dB
Return loss (in-out) 40-470 MHz	20dB	20dB	20dB	20dB	20dB
Return loss (in-out) 470-860 MHz	18dB	18dB	18dB	18dB	18dB
Return loss (in-out) 860-1000 MHz	17dB	17dB	17dB	17dB	17dB
Return loss (tap) 5-40 MHz	21dB	21dB	22dB	22dB	22dB
Return loss (tap) 40-470 MHz	20dB	20dB	20dB	20dB	20dB
Return loss (tap) 470-860 MHz	18dB	18dB	18dB	18dB	18dB
Return loss (tap) 860-1000 MHz	17dB	17dB	17dB	17dB	17dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS, EN 60728-4				
DC Passthrough	NO - DC blocked at inner conductor				
<b>CONNECTORS</b>					
Connector Type	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1
Number of outputs	1	1	1	1	1
Number of taps	4	4	4	4	4
<b>MECHANICAL</b>					
Product Depth	16 mm	16 mm	16 mm	16 mm	16 mm
Product Width	74 mm	74 mm	74 mm	74 mm	74 mm
Product Height	55 mm	55 mm	55 mm	55 mm	55 mm
Main Material	Zinc die-casting, bright tin plated				
Packing QTY	1	1	1	1	1
Extra high bracket	Optional extra				
Net Weight	0,080kg	0,080kg	0,080kg	0,080kg	0,080kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
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CABLE TV  
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CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Gold 1.0 GHz, 6-way taps

For Indoor SMATV / MATV distribution networks



## Common Features - ACS Taps series

Excellent performance/price relation for use in all coaxial TV distribution networks without DC line feeding.

- All round performance for use in CATV, SMATV, MATV
- Frequency range 5 MHz up to 1.0 GHz
- All ports AC/DC blocked at inner conductor

- High shielding of 110 dB
  - Return loss Grade 2 (>18dB)
  - F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinned
  - Die-cast housing with tin (Sn) coating
  - According EN 50083-2 and EN 60728-4
- More data on webpage [www.triax.com](http://www.triax.com)

### ACT 6-12 - 6 way tap

Art. No. 343285

EAN Number  
5702663432857



### ACT 6-20 - 6 way tap

Art. No. 343287

EAN Number  
5702663432871



### ACT 6-16 - 6 way tap

Art. No. 343286

EAN Number  
5702663432864



### ACT 6-24 - 6 way tap

Art. No. 343288

EAN Number  
5702663432888



TERRESTRIAL  
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MODULATORS

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CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

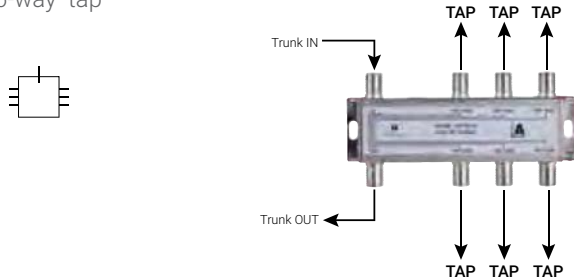
TECHNICAL  
APPENDIX



# TRIAX® Gold taps

frequency range 5...1000 Mhz.

6-way tap



Type:	ACT 6-12 6 way tap	ACT 6-16 6 way tap	ACT 6-20 6 way tap	ACT 6-24 6 way tap
Art. No.	343285	343286	343287	343288
<b>FREQUENCY</b>				
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>SHIELDING</b>				
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>				
Insertion loss (in-out) 5-40 Mhz	4.5dB	2.5dB	1.5dB	0.8dB
Insertion loss (in-out) 40-470 MHz	4.3dB	2.7dB	1.3dB	0.8dB
Insertion loss (in-out) 470-860 MHz	4.5dB	3.0dB	2.0dB	1.3dB
Insertion loss (in-out) 860-1000 MHz	4.5dB	3.5dB	2.5dB	1.5dB
Tap loss (in-tap) 5-40 MHz				
Tap loss (in-tap) 40-470 MHz	12.0dB	16.0dB	20.0dB	24.0dB
Tap loss (in-tap) 470-860 MHz	13.0dB	16.5dB	20.5dB	24.5dB
Tap loss (in-tap) 860-1000 MHz	13.0dB	16.5dB	20.5dB	24.5dB
<b>ISOLATION</b>				
Isolation (out-tap) 5-40 MHz	28dB	25dB	30dB	33dB
Isolation (out-tap) 40-470 MHz	26dB	26dB	32dB	33dB
Isolation (out-tap) 470-860 MHz				
Isolation (out-tap) 860-1000 MHz				
Isolation (tap-tap) 5-40 MHz	23dB	24dB	24dB	24dB
Isolation (tap-tap) 40-470 MHz	24dB	25dB	25dB	25dB
Isolation (tap-tap) 470-860 MHz	22dB	22dB	24dB	24dB
Isolation (tap-tap) 860-1000 MHz				
<b>RETURN LOSS</b>				
Return loss (in-out) 5-40 MHz	18dB	20dB	18dB	18dB
Return loss (in-out) 40-470 MHz	20dB	21dB	21dB	21dB
Return loss (in-out) 470-860 MHz	18dB	18dB	18dB	18dB
Return loss (in-out) 860-1000 MHz	16dB	17dB	17dB	17dB
Return loss (tap) 5-40 MHz	18dB	20dB	18dB	18dB
Return loss (tap) 40-470 MHz	20dB	21dB	21dB	21dB
Return loss (tap) 470-860 MHz	18dB	18dB	18dB	18dB
Return loss (tap) 860-1000 MHz	16dB	17dB	17dB	17dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
Certification	CE, RoHS, EN 60728-4			
DC Passthrough	NO - DC blocked at inner conductor			
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1
Number of outputs	1	1	1	1
Number of taps	6	6	6	6
<b>MECHANICAL</b>				
Product Depth	16 mm	16 mm	16 mm	16 mm
Product Width	118 mm	118 mm	118 mm	118 mm
Product Height	55 mm	55 mm	55 mm	55 mm
Main Material	Zinc die-casting, bright tin plated			
Packing QTY	1	1	1	1
Extra high bracket	Optional extra			
Net Weight	0,130kg	0,130kg	0,130kg	0,130kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
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MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Gold 1.0 GHz, 8-way & multi-taps

For Indoor SMATV / MATV distribution networks



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - ACS Taps series

Excellent performance/price relation for use in all coaxial TV distribution networks without DC line feeding.

- All round performance for use in CATV, SMATV, MATV
- Frequency range 5 MHz up to 1.0 GHz
- All ports AC/DC blocked at inner conductor

- High shielding of 110 dB
  - Return loss Grade 2 (>18dB)
  - F- female connectors compliant EN 61169-24, spring clips brazen of phosphor bronze tinned
  - Die-cast housing with tin (Sn) coating
  - According EN 50083-2 and EN 60728-4
- More data on webpage [www.triax.com](http://www.triax.com)



### ACT 8-16 - 8 way tap

Art. No. 343289

EAN Number  
5702663432895



### ACT 12 M - 12 way tap

Art. No. 343292

EAN Number  
5702663432925



### ACT 8-20 - 8 way tap

Art. No. 343290

EAN Number  
5702663432901



### ACT 16 M - 16 way tap

Art. No. 343293

EAN Number  
5702663432932



### ACT 8-24 - 8 way tap

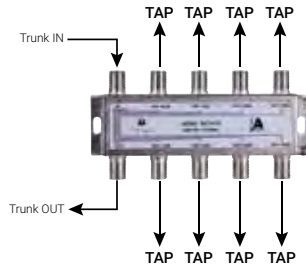
Art. No. 343291

EAN Number  
5702663432918

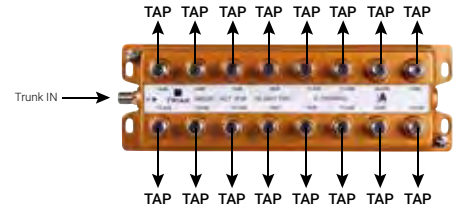
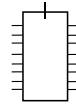
# TRIAX® Gold taps

frequency range 5...1000 Mhz.

8-way tap



Multi tap



Type:	ACT 8-1	ACT 8-20	ACT 8-24	ACT 12 M	ACT 16 M
Art. No.	343289	343290	343291	343292	343293
<b>FREQUENCY</b>					
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>SHIELDING</b>					
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>					
Insertion loss (in-out) 5-40 MHz	2.8dB	1.5dB	1.0dB		
Insertion loss (in-out) 40-470 MHz	2.8dB	1.3dB	0.8dB		
Insertion loss (in-out) 470-860 MHz	3.0dB	2.0dB	1.3dB		
Insertion loss (in-out) 860-1000 MHz	3.2dB	2.3dB	1.5dB		
Tap loss (in-tap) 5-40 MHz					
Tap loss (in-tap) 40-470 MHz	16.0dB	20.0dB	24.0dB		
Tap loss (in-tap) 470-860 MHz	16.5dB	20.5dB	24.5dB		
Tap loss (in-tap) 860-1000 MHz	16.5dB	20.5dB	24.5dB		
<b>ISOLATION</b>					
Isolation (out-tap) 5-40 MHz	30dB	30dB	35dB		
Isolation (out-tap) 40-470 MHz	28dB	32dB	36dB		
Isolation (out-tap) 470-860 MHz					
Isolation (out-tap) 860-1000 MHz					
Isolation (tap-tap) 5-40 MHz	25dB	26dB	26dB	31dB	31dB
Isolation (tap-tap) 40-470 MHz	26dB	26dB	26dB	31dB	31dB
Isolation (tap-tap) 470-86 MHz	24dB	24dB	26dB		
Isolation (tap-tap) 860-1000 MHz					
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	19dB	18dB	20dB	20dB	20dB
Return loss (in-out) 40-470 MHz	21dB	21dB	21dB	18dB	18dB
Return loss (in-out) 470-860 MHz	18dB	18dB	18dB	18dB	18dB
Return loss (in-out) 860-1000 MHz	17dB	17dB	17dB	15dB	15dB
Return loss (tap) 5-40 MHz	19dB	18dB	20dB		
Return loss (tap) 40-470 MHz	21dB	21dB	21dB		
Return loss (tap) 470-860 MHz	18dB	18dB	18dB		
Return loss (tap) 860-1000 MHz	17dB	17dB	17dB		
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS, EN 60728-4				
DC Passthrough	NO - DC blocked at inner conductor				
<b>CONNECTORS</b>					
Connector Type	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1
Number of outputs	1	1	1		
Number of taps	8	8	8	12	16
<b>MECHANICAL</b>					
Product Depth	16 mm	16 mm	16 mm	45 mm	45 mm
Product Width	118 mm	118 mm	118 mm	242 mm	242 mm
Product Height	55 mm	55 mm	55 mm	78 mm	78 mm
Main Material	Zinc die-casting, bright tin plated				
Packing QTY	1	1	1	1	1
Extra high bracket			Optional extra		
Net Weight	0,150kg	0,150kg	0,150kg	0,550kg	0,600kg

TERRESTRIAL  
RECEPTION

SATELLITE  
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CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Silver 2.4 GHz splitters

For SAT-IF, MATV distribution networks



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RECEPTION

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CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - SCS Splitter series

The TRIAX "SILVER" Indoor Taps and Splitters are used in coaxial SAT-IF distribution networks operating with DVB-S/S2 (QPSK, 8PSK) or/and in MATV applications with DTT (COFDM, DAB) signals.

- All outputs of the splitters SCS are DC directed coupled via diodes to the input, the taps SCT pass DC power through the trunk path

- The die-cast enclosures are tin (Sn) coated and the back plates are soldered for very high shielding.
- High shielding of 110 dB
- Return loss Grade 2 (>18dB)
- F- female connectors compliant EN 61169-24
- Die-cast housing with tin (Sn) coating
- According EN 50083-2 and EN 60728-4

### SCS 2 - 2 way splitter

Art. No. 349802

EAN Number  
5702663498020



### SCS 4 - 4 way splitter

Art. No. 349804

EAN Number  
5702663498044



### SCS 2B - 2 way splitter

Art. No. 349812

EAN Number  
5702663498129



### SCS 6 - 6 way splitter

Art. No. 349806

EAN Number  
5702663498068



### SCS 3 - 3 way splitter

Art. No. 349803

EAN Number  
5702663498037



### SCS 8 - 8 way splitter

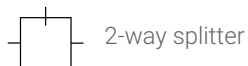
Art. No. 349808

EAN Number  
5702663498082



# TRIAX® Silver splitters

frequency range 5...2400 Mhz.



2-way splitter



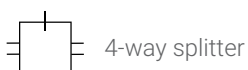
6-way splitter



3-way splitter



8-way splitter



4-way splitter

Type:	SCS 2	SCS 2B	SCS 3	SCS 4	SCS 6	SCS 8
	2 way splitter	2 way splitter	3 way splitter	4 way splitter	6 way splitter	8 way splitter
Art. No.	349802	349812	349803	349804	349806	349808
<b>FREQUENCY</b>						
Frequency range	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz
<b>SHIELDING</b>						
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>						
Insertion loss (in-out) 5-40 Mhz	4.4dB	4.4dB	6.5dB	8.0dB	10.8dB	11.8dB
Insertion loss (in-out) 40-1000 Mhz	4.0dB	4.0dB	7.5dB	8.5dB	11.5dB	13.0dB
Insertion loss (in-out) 1000-2150 MHz	5.5dB	5.5dB	10.0dB	10.5dB	15.5dB	16.5dB
Insertion loss (in-out) 2150-2400 Mhz	6.0dB	6.0dB	10.5dB	11.5dB	16.5dB	17.0dB
<b>ISOLATION</b>						
Isolation (tap-tap) 5-40 MHz	22dB	22dB	23dB	25dB	25dB	25dB
Isolation (tap-tap) 40-1000 MHz	25dB	25dB	22dB	23dB	25dB	23dB
Isolation (tap-tap) 1000-2150 MHz						
Isolation (tap-tap) 2150-2400 MHz	22dB	22dB	23dB	23dB	23dB	23dB
<b>RETURN LOSS</b>						
Return loss (in-out) 5-40 MHz	11.5dB	11.5dB	10.0dB	10.0dB	9.0dB	8.5dB
Return loss (in-out) 40-1000 MHz	15.0dB	15.0dB	12.0dB	11.5dB	13.0dB	11.0dB
Return loss (in-out) 1000-2150 MHz						
Return loss (in-out) 2150-2400 MHz	11.0dB	11.0dB	13.0dB	14.0dB	12.0dB	12.0dB
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
Certification	CE, RoHS II					
DC Passthrough	Yes (max. 500mA)					
DC Passthrough	1 output					
<b>CONNECTORS</b>						
Connector Type	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1	1
Number of outputs	2	2	3	4	6	8
<b>MECHANICAL</b>						
Product Depth	16mm	16mm	16mm	16mm	16mm	16mm
Product Width	53mm	52mm	74mm	74mm	119mm	119mm
Product Height	52mm	52mm	56mm	56mm	65mm	65mm
Main Material	Zinc die-casting, bright tin plated					
Packing QTY	1	1	1	1	1	1
Extra high bracket	2 x BS-Brackets Small 1-4 T&S (Art.No.342100)					
Net Weight	0,042kg	0,040kg	0,058kg	0,062kg	0,120kg	0,130kg

TERRESTRIAL  
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OUTLETS  
TAPS & SPLITTER

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CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Silver 2.4 GHz, 1-way taps

For SAT-IF, MATV distribution networks



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TAPS &  
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CONNECTIVITY

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(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - SCT Taps series

The TRIAX "SILVER" Indoor Taps and Splitters are used in coaxial SAT-IF distribution networks operating with DVB-S/S2 (QPSK, 8PSK) or/and in MATV applications with DTT (COFDM, DAB) signals.

- All outputs of the splitters SCS are DC directed coupled via diodes to the input, the taps SCT pass DC power through the trunk path

- The die-cast enclosures are tin (Sn) coated and the back plates are soldered for very high shielding.
- High shielding of 110 dB
- Return loss Grade 2 (>18dB)
- F- female connectors compliant EN 61169-24
- Die-cast housing with tin (Sn) coating
- According EN 50083-2 and EN 60728-4

### SCT 1-8 - 1 way tap

Art. No. 342108

EAN Number  
5702663421080



### SCT 1-16 - 1 way tap

Art. No. 342116

EAN Number  
5702663421165



### SCT 1-10 - 1 way tap

Art. No. 342110

EAN Number  
5702663421103



### SCT 1-20 - 1 way tap

Art. No. 342120

EAN Number  
5702663421202



### SCT 1-12 - 1 way tap

Art. No. 342112

EAN Number  
5702663421127



### SCT 1-24 - 1 way tap

Art. No. 342124

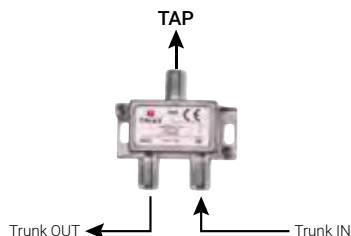
EAN Number  
5702663421240



# TRIAX® Silver taps

frequency range 5...2400 Mhz.

1-way tap



Type:	SCT 1-8	SCT 1-10	SCT 1-12	SCT 1-16	SCT 1-20	SCT 1-24
	1 way tap	1 way tap	1 way tap	1 way tap	1 way tap	1 way tap
Art. No.	342108	342110	342112	342116	342120	342124
<b>ORDER INFORMATION</b>						
<b>FREQUENCY</b>						
Frequency range	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz
<b>SHIELDING</b>						
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>						
Insertion loss (in-out) 5-40 Mhz	2.2dB	1.9dB	1.1dB	1.3dB	0.9dB	0.9dB
Insertion loss (in-out) 40-1000 Mhz	2.7dB	1.9dB	1.6dB	1.3dB	1.1dB	1.1dB
Insertion loss (in-out) 1000-2150 MHz	3.5dB	2.5dB	2.3dB	1.9dB	1.5dB	1.5dB
Insertion loss (in-out) 2150-2400 Mhz	4.5dB	2.7dB	2.3dB	2.1dB	1.7dB	1.7dB
<b>ISOLATION</b>						
Isolation (out-tap) 5-40 MHz	22dB	25dB	28dB	40dB	45dB	43dB
Isolation (out-tap) 40-1000 MHz	22dB	24dB	25dB	30dB	32dB	34dB
Isolation (out-tap) 1000-2150 MHz	22dB	23dB	25dB	24dB	24dB	30dB
Isolation (out-tap) 2150-2400 MHz	22dB	23dB	23dB	23dB	23dB	29dB
<b>RETURN LOSS</b>						
Return loss (in-out) 5-40 MHz	15.0dB	15.0dB	15.0dB	16.0dB	16.0dB	16.0dB
Return loss (in-out) 40-1000 MHz	15.0dB	15.0dB	15.0dB	16.0dB	15.0dB	16.0dB
Return loss (in-out) 1000-2150 MHz						
Return loss (in-out) 2150-2400 MHz	12.0dB	12.0dB	13.0dB	13.0dB	12.0dB	12.0dB
Return loss (tap) 5-40 MHz	15.0dB	15.0dB	14.0dB	17.0dB	17.0dB	17.0dB
Return loss (tap) 40-1000 MHz	17.0dB	15.0dB	14.0dB	16.0dB	16.0dB	16.0dB
Return loss (tap) 1000-2150 MHz	15.0dB	13.0dB	13.0dB	13.0dB	13.0dB	13.0dB
Return loss (tap) 2150-2400 MHz	13.0dB	13.0dB	13.0dB	13.0dB	13.0dB	13.0dB
<b>ELECTRICAL</b>						
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>						
Certification	CE, RoHS					
DC Passthrough	Yes IN-OUT (max. 500mA) TAPS DC blocked					
<b>CONNECTORS</b>						
Connector Type	F-female	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1	1
Number of outputs	1	1	1	1	1	1
Number of taps	1	1	1	1	1	1
<b>MECHANICAL</b>						
Product Depth	16mm	16mm	16mm	16mm	16mm	16mm
Product Width	53mm	53mm	53mm	53mm	53mm	53mm
Product Height	52mm	52mm	52mm	52mm	52mm	52mm
Main Material	Zinc die-casting, bright tin plated					
Packing QTY	1	1	1	1	1	1
Extra high bracket	2 x BS-Brackets Small 1-4 T&S (Art.No.342100)					
Net Weight	0,045kg	0,045kg	0,045kg	0,045kg	0,045kg	0,045kg

TERRESTRIAL  
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CABLE TV  
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CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Silver 2.4 GHz, 2-way taps

For SAT-IF, MATV distribution networks



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RECEPTION

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TAPS &  
SPLITTER

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(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - SCT Taps series

The TRIAX "SILVER" Indoor Taps and Splitters are used in coaxial SAT-IF distribution networks operating with DVB-S/S2 (QPSK, 8PSK) or/and in MATV applications with DTT (COFDM, DAB) signals.

- All outputs of the splitters SCS are DC directed coupled via diodes to the input, the taps SCT pass DC power through the trunk path

- The die-cast enclosures are tin (Sn) coated and the back plates are soldered for very high shielding.
- High shielding of 110 dB
- Return loss Grade 2 (>18dB)
- F- female connectors compliant EN 61169-24
- Die-cast housing with tin (Sn) coating
- According EN 50083-2 and EN 60728-4

### SCT 2-10 - 2 way tap

Art. No. 342210

EAN Number  
5702663422100



### SCT 2-16 - 2 way tap

Art. No. 342216

EAN Number  
5702663422162



### SCT 2-12 - 2 way tap

Art. No. 342212

EAN Number  
5702663422124



### SCT 2-20 - 2 way tap

Art. No. 342220

EAN Number  
5702663422209

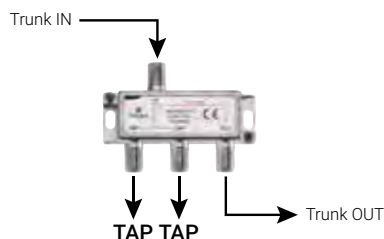




# TRIAX<sup>®</sup> Silver taps

frequency range 5...2400 Mhz.

2-way tap



Type:	SCT 2-10	SCT 2-12	SCT 2-16	SCT 2-20
Art. No.	342210	342212	342216	342220
<b>FREQUENCY</b>				
Frequency range	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz
<b>SHIELDING</b>				
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>				
Insertion loss (in-out) 5-40 Mhz	3.3dB	2.7dB	2.2dB	1.6dB
Insertion loss (in-out) 40-1000 Mhz	3.2dB	2.8dB	2.2dB	1.6dB
Insertion loss (in-out) 1000-2150 MHz	3.8dB	3.6dB	3.5dB	2.9dB
Insertion loss (in-out) 2150-2400 Mhz	4.5dB	4.4dB	3.8dB	3.5dB
<b>ISOLATION</b>				
Isolation (out-tap) 5-40 MHz	25dB	27dB	28dB	32dB
Isolation (out-tap) 40-1000 MHz	25dB	24dB	28dB	27dB
Isolation (out-tap) 1000-2150 MHz	22dB	23dB	23dB	23dB
Isolation (out-tap) 2150-2400 MHz	20dB	20dB	22dB	23dB
Isolation (tap-tap) 5-40 MHz	23dB	38dB	40dB	44dB
Isolation (tap-tap) 40-1000 MHz	30dB	33dB	38dB	41dB
Isolation (tap-tap) 1000-2150 MHz				
Isolation (tap-tap) 2150-2400 MHz	26dB	28dB	29dB	32dB
<b>RETURN LOSS</b>				
Return loss (in-out) 5-40 MHz	13.0dB	10.0dB	11.0dB	11.0dB
Return loss (in-out) 40-1000 MHz	14.0dB	14.0dB	14.0dB	14.0dB
Return loss (in-out) 1000-2150 MHz	14.0dB	14.0dB	14.0dB	14.0dB
Return loss (in-out) 2150-2400 MHz	12.0dB	12.0dB	12.0dB	12.0dB
Return loss (tap) 5-40 MHz	13.0dB	13.0dB	13.0dB	13.0dB
Return loss (tap) 40-1000 MHz	15.0dB	15.0dB	15.0dB	15.0dB
Return loss (tap) 1000-2150 MHz	13.0dB	13.0dB	13.0dB	13.0dB
Return loss (tap) 2150-2400 MHz	13.0dB	13.0dB	13.0dB	13.0dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
Certification	CE, RoHS			
DC Passthrough	Yes IN-OUT (max. 500mA) TAPS DC blocked			
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1
Number of outputs	1	1	1	1
Number of taps	2	2	2	2
<b>MECHANICAL</b>				
Product Depth	16mm	16mm	16mm	16mm
Product Width	74mm	74mm	74mm	74mm
Product Height	57mm	57mm	57mm	57mm
Main Material	Zinc die-casting, bright tin plated			
Packing QTY	1	1	1	1
Extra high bracket	2 x BS-Brackets Small 1-4 T&S (Art.No.342100)			
Net Weight	0,058kg	0,060kg	0,058kg	0,058kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
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MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX<sup>®</sup> Silver 2.4 GHz, 4-way taps

For SAT-IF, MATV distribution networks



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
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HEADENDS  
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CONNECTORS

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TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - SCT Taps series

The TRIAX "SILVER" Indoor Taps and Splitters are used in coaxial SAT-IF distribution networks operating with DVB-S/S2 (QPSK, 8PSK) or/and in MATV applications with DTT (COFDM, DAB) signals.

- All outputs of the splitters SCS are DC directed coupled via diodes to the input, the taps SCT pass DC power through the trunk path

- The die-cast enclosures are tin (Sn) coated and the back plates are soldered for very high shielding.
- High shielding of 110 dB
- Return loss Grade 2 (>18dB)
- F- female connectors compliant EN 61169-24
- Die-cast housing with tin (Sn) coating
- According EN 50083-2 and EN 60728-4



### SCT 4-12 - 4 way tap

Art. No. 342412

EAN Number  
5702663424128



### SCT 4-24 - 4 way tap

Art. No. 342424

EAN Number  
5702663424241



### SCT 4-16 - 4 way tap

Art. No. 342416

EAN Number  
5702663424166



### SCT 4-30 - 4 way tap

Art. No. 342430

EAN Number  
5702663424302



### SCT 4-20 - 4 way tap

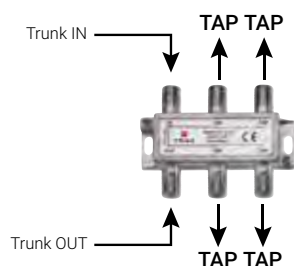
Art. No. 342420

EAN Number  
5702663424203

# TRIAX<sup>®</sup> Silver taps

frequency range 5...2400 Mhz.

4-way tap



Type:	SCT 4-12	SCT 4-16	SCT 4-20	SCT 4-24	SCT 4-30
Art. No.	342412	342416	342420	342424	342430
<b>FREQUENCY</b>					
Frequency range	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz
<b>SHIELDING</b>					
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>					
Insertion loss (in-out) 5-40 Mhz	3.7dB	2.5dB	1.5dB	0.8dB	0.8dB
Insertion loss (in-out) 40-1000 Mhz	4.3dB	2.5dB	1.4dB	0.9dB	0.9dB
Insertion loss (in-out) 1000-2150 MHz	4.5dB	3.2dB	1.7dB	1.8dB	1.5dB
Insertion loss (in-out) 2150-2400 Mhz	5.3dB	3.9dB	2.1dB	1.8dB	1.5dB
<b>ISOLATION</b>					
Isolation (out-tap) 5-40 MHz	28dB	27dB	28dB	33dB	38dB
Isolation (out-tap) 40-1000 MHz	27dB	27dB	27dB	28dB	33dB
Isolation (out-tap) 1000-2150 MHz	22dB	23dB	23dB	23dB	23dB
Isolation (out-tap) 2150-2400 MHz	23dB	22dB	23dB	22dB	23dB
Isolation (tap-tap) 5-40 MHz	24dB	28dB	28dB	28dB	30dB
Isolation (tap-tap) 40-1000 MHz	23dB	23dB	24dB	23dB	26dB
Isolation (tap-tap) 1000-2150 MHz					
Isolation (tap-tap) 2150-2400 MHz	23dB	24dB	23dB	23dB	23dB
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	11.0dB	13.0dB	13.0dB	16.0dB	16.0dB
Return loss (in-out) 40-1000 MHz	14.0dB	14.0dB	14.0dB	15.0dB	15.0dB
Return loss (in-out) 1000-2150 MHz					
Return loss (in-out) 2150-2400 MHz	12.0dB	12.0dB	12.0dB	12.0dB	12.0dB
Return loss (tap) 5-40 MHz	13.0dB	15.0dB	15.0dB	15.0dB	15.0dB
Return loss (tap) 40-1000 MHz	15.0dB	15.0dB	15.0dB	15.0dB	15.0dB
Return loss (tap) 1000-2150 MHz	13.0dB	13.0dB	13.0dB	13.0dB	13.0dB
Return loss (tap) 2150-2400 MHz	13.0dB	12.0dB	12.0dB	12.0dB	12.0dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS				
DC Passthrough	Yes IN-OUT (max. 500mA) TAPS DC blocked				
<b>CONNECTORS</b>					
Connector Type	F-female	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1	1
Number of outputs	1	1	1	1	1
Number of taps	4	4	4	4	4
<b>MECHANICAL</b>					
Product Depth	16mm	16mm	16mm	16mm	16mm
Product Width	74mm	74mm	74mm	74mm	74mm
Product Height	57mm	57mm	57mm	57mm	57mm
Main Material	Zinc die-casting, bright tin plated				
Packing QTY	1	1	1	1	1
Extra high bracket	2 x BS-Brackets Small 1-4 T&S (Art.No.342100)				
Net Weight	0,066kg	0,068kg	0,068kg	0,062kg	0,063kg

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX<sup>®</sup> Silver 2.4 GHz, 6 & 8-way taps

For SAT-IF, MATV distribution networks



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TAPS &  
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INHOUSE  
CONNECTIVITY

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(CCTV)

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CABINETS

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## Common Features - SCT Taps series

The TRIAX "SILVER" Indoor Taps and Splitters are used in coaxial SAT-IF distribution networks operating with DVB-S/S2 (QPSK, 8PSK) or/and in MATV applications with DTT (COFDM, DAB) signals.

- All outputs of the splitters SCS are DC directed coupled via diodes to the input, the taps SCT pass DC power through the trunk path

- The die-cast enclosures are tin (Sn) coated and the back plates are soldered for very high shielding.
- High shielding of 110 dB
- Return loss Grade 2 (>18dB)
- F- female connectors compliant EN 61169-24
- Die-cast housing with tin (Sn) coating
- According EN 50083-2 and EN 60728-4

### SCT 6-16 - 6 way tap

Art. No. 342616

EAN Number  
5702663426160



### SCT 8-16 - 8 way tap

Art. No. 342816

EAN Number  
5702663428164



### SCT 6-20 - 6 way tap

Art. No. 342620

EAN Number  
5702663426207



### SCT 8-20 - 8 way tap

Art. No. 342820

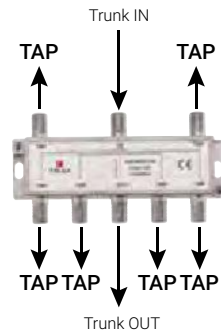
EAN Number  
5702663428201



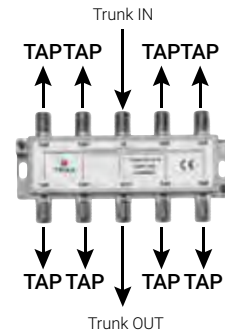
# TRIAX<sup>®</sup> Silver taps

frequency range 5...2400 Mhz.

6-way tap



8-way tap



Type:	SCT 6-16 6 way tap	SCT 6-20 6 way tap	SCT 8-16 8 way tap	SCT 8-20 8 way tap
Art. No.	342616	342620	342816	342820
<b>FREQUENCY</b>				
Frequency range	5...2400MHz	5...2400MHz	5...2400MHz	5...2400MHz
<b>SHIELDING</b>				
Shielding efficiency VHF/UHF	> 110dB	> 110dB	> 110dB	> 110dB
<b>LOSS</b>				
Insertion loss (in-out) 5-40 Mhz	3.5dB	2.1dB	3.8dB	2.1dB
Insertion loss (in-out) 40-1000 Mhz	3.8dB	2.3dB	3.8dB	2.2dB
Insertion loss (in-out) 1000-2150 MHz	4.8dB	3.9dB	4.6dB	3.9dB
Insertion loss (in-out) 2150-2400 Mhz	5.6dB	4.5dB	5.9dB	4.8dB
<b>ISOLATION</b>				
Isolation (out-tap) 5-40 MHz	28dB	27dB	28dB	31dB
Isolation (out-tap) 40-1000 MHz	28dB	27dB	28dB	28dB
Isolation (out-tap) 1000-2150 MHz	24dB	24dB	23dB	24dB
Isolation (out-tap) 2150-2400 MHz	23dB	24dB	23dB	24dB
Isolation (tap-tap) 5-40 MHz	26dB	28dB	24dB	33dB
Isolation (tap-tap) 40-1000 MHz				
Isolation (tap-tap) 1000-2150 MHz				
Isolation (tap-tap) 2150-2400 MHz	23dB	23dB	23dB	23dB
<b>RETURN LOSS</b>				
Return loss (in-out) 5-40 MHz	11.0dB	11.0dB	12.0dB	11.0dB
Return loss (in-out) 40-1000 MHz	12.0dB	13.0dB	12.0dB	13.0dB
Return loss (in-out) 1000-2150 MHz				
Return loss (in-out) 2150-2400 MHz	12.0dB	12.0dB	12.0dB	15.0dB
Return loss (tap) 5-40 MHz	13.0dB	13.0dB	15.0dB	13.0dB
Return loss (tap) 40-1000 MHz	13.0dB	13.0dB	15.0dB	15.0dB
Return loss (tap) 1000-2150 MHz	12.0dB	12.0dB	12.0dB	12.0dB
Return loss (tap) 2150-2400 MHz	12.0dB	12.0dB	12.0dB	12.0dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
Certification	CE, RoHS			
DC Passthrough	Yes IN-OUT (max. 500mA) TAPS DC blocked			
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female
Number of inputs	1	1	1	1
Number of outputs	1	1	1	1
Number of taps	6	6	8	8
<b>MECHANICAL</b>				
Product Depth	17mm	17mm	17mm	17mm
Product Width	119mm	119mm	119mm	119mm
Product Height	65mm	65mm	65mm	56mm
Main Material	Zinc die-casting, bright tin plated			
Packing QTY	1	1	1	1
Extra high bracket	2 x BS-Brackets Small 1-4 T&S (Art.No.342100)			
Net Weight	0,122kg	0,130kg	0,128kg	0,117kg

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# TRIAX® Outdoor 1.0 GHz splitters

For coax distribution networks



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## Common Features - OUTDOOR Range 1.0 GHz

The TRIAX "CA" Splitters are used in CATV broadband networks up to 1 GHz outdoor. They are fully weather protected (IP54) high RFI shielded and offer long reliability through an aluminium alloy 360 housing with powder paint coating, woven metallic gasket, neoprene sealed and nickel plated brass "F" ports and 5/8" threat ports for hard tail connectors.

- Outdoor range of taps and splitters for trunk and line distribution CATV networks
- Fully weather protected, class IP 54

- Frequency range 5 MHz up to 1.0 GHz
- High current capability: Line taps max.12 AC, F-models for Trunk max.15 AC
- AC paths selectable
- Surge protection 1kV 1,2/50 µs
- Shielding Class A (EN 50083-2)
- 5/8" threat connectors for hard tails and F-connectors DC-blocked
- High-quality aluminum alloy housing with powderer paint coating



**CA 1002-4**  
2 way splitter

Art. No. 343502

EAN Number  
5702663435025



**CA 1008-11**  
8-way Splitter

Art. No. 343513

EAN Number  
5702663435131



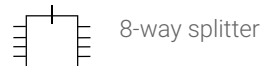
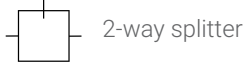
**CA 1004-8**  
4 way splitter

Art. No. 343508

EAN Number  
5702663435087

# TRIAX<sup>®</sup> Outdoor splitters

frequency range 5...1000 Mhz.



Type:	CA 1002-4 2 way splitter	CA 1004-8 4 way splitter	CA 1008-11 8-way Splitter
Art. No.	343502	343508	343513
<b>CHARACTERISTICS</b>			
Hum modulation @ 10A	-70 dB	-70 dB	
<b>FREQUENCY</b>			
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz
<b>LOSS</b>			
Insertion loss (in-out) 5-40 Mhz	4.0 ±1dB	8.0 ±1dB	11.5dB
Insertion loss (in-out) 40-470 MHz	4.0 ±1dB	8.0 ±1dB	11.5dB
Insertion loss (in-out) 470-860 MHz	4.0 ±1dB	8.0 ±1.5dB	11.5dB
Insertion loss (in-out) 860-1000 MHz	4.0 ±1.5dB	8.0 ±1.5dB	11.5dB
<b>ISOLATION</b>			
Isolation (tap-tap) 5-40 MHz	20dB	25dB	20dB
Isolation (tap-tap) 40-470 MHz	25dB	25dB	20dB
Isolation (tap-tap) 470-860 MHz			
Isolation (tap-tap) 860-1000 MHz			
<b>RETURN LOSS</b>			
Return loss (in-out) 5-40 MHz	18dB	18dB	
Return loss (in-out) 40-470 MHz	18dB	18dB	
Return loss (in-out) 470-860 MHz	16dB	16dB	
Return loss (in-out) 860-1000 MHz	16dB	16dB	
Return loss (tap) 5-40 MHz		18dB	
Return loss (tap) 40-470 MHz		18dB	
Return loss (tap) 470-860 MHz		16dB	
Return loss (tap) 860-1000 MHz		16dB	
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
Certification		CE, RoHS	
DC Passthrough	Yes AC (max. 12A) on IN-OUT - DC blocked at F-connectors	Yes AC (max. 12A) on IN-OUT - DC blocked at F-connectors	Yes AC (max. 12A) on IN-OUT - DC blocked at F-connectors
Screening Efficiency	Class A	Class A	Class A
<b>CONNECTORS</b>			
Connector Type		5/8" IN / F-female OUT	
Number of inputs	1	1	1
Number of outputs	2	4	8
<b>MECHANICAL</b>			
Product Depth	75mm	75mm	75mm
Product Width	100mm	100mm	125mm
Product Height	94mm	94mm	145mm
Main Material		Aluminum alloy die-cast, powder coating	
Packing QTY	1	1	1
Net Weight	0,028kg	0,300kg	0,516kg

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# TRIAX® Outdoor 1.0 GHz, 2-way tap

For coax distribution networks



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## Common Features - OUTDOOR Range 1.0 GHz

The TRIAX "CA" Splitters are used in CATV broadband networks up to 1 GHz outdoor. They are fully weather protected (IP54) high RFI shielded and offer long reliability through an aluminium alloy 360 housing with powder paint coating, woven metallic gasket, neoprene sealed and nickel plated brass "F" ports and 5/8" threat ports for hard tail connectors.

- Outdoor range of taps and splitters for trunk and line distribution CATV networks
- Fully weather protected, class IP 54
- Frequency range 5 MHz up to 1.0 GHz
- High current capability: Line taps max.12 AC, F-models for Trunk max.15 AC
- AC paths selectable
- Surge protection 1kV 1,2/50 µs

- Shielding Class A (EN 50083-2)
- 5/8" threat connectors for hard tails and F-connectors DC- blocked
- High-quality aluminum alloy housing with powderer paint coating



**CA 1002-8 - 2 way tap**

Art. No. 343503

EAN Number  
5702663435032



**CA 1002-11 - 2 way tap**

Art. No. 343504

EAN Number  
5702663435049



**CA 1002-14 - 2 way tap**

Art. No. 343505

EAN Number  
5702663435056



**CA 1002-17 - 2 way tap**

Art. No. 343506

EAN Number  
5702663435063



**CA 1002-20 - 2 way tap**

Art. No. 343507

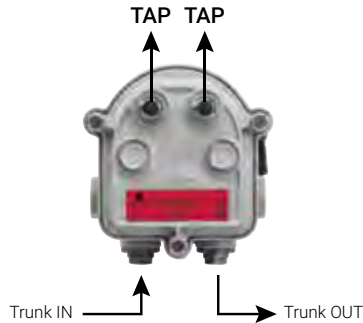
EAN Number  
5702663435070



# TRIAx® Outdoor taps

frequency range 5...1000 Mhz.

2-way tap



Type:	CA 1002-8	CA 1002-11	CA 1002-14	CA 1002-17	CA 1002-20
Art. No.	343503	343504	343505	343506	343507
<b>CHARACTERISTICS</b>					
Hum modulation @ 10A	-70 dB	-70 dB	-70 dB	-70 dB	-70 dB
<b>FREQUENCY</b>					
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>LOSS</b>					
Insertion loss (in-out) 5-40 MHz	3.1dB	1.3dB	0.7dB	0.6dB	0.4dB
Insertion loss (in-out) 40-470 MHz	4.0dB	1.5dB	0.9dB	0.9dB	0.6dB
Insertion loss (in-out) 470-860 MHz	4.7dB	2.4dB	1.5dB	1.5dB	1.1dB
Insertion loss (in-out) 860-1000 MHz	4.7dB	2.7dB	1.9dB	1.6dB	1.5dB
Tap loss (in-tap) 5-40 MHz					
Tap loss (in-tap) 40-470 MHz	8.0 ±1dB	11.0 ±1dB	14.0 ±1dB	17.0 ±1dB	20.0 ±1dB
Tap loss (in-tap) 470-860 MHz	8.0 ±1,5dB	11.0 ±1,5dB	14.0 ±1,5dB	17.0 ±1,5dB	20.0 ±1,5dB
Tap loss (in-tap) 860-1000 MHz	8.0 ±1,5dB	11.0 ±1,5dB	14.0 ±1,5dB	17.0 ±1,5dB	20.0 ±1,5dB
<b>ISOLATION</b>					
Isolation (out-tap) 5-40 MHz	24dB	26dB	24dB	30dB	34dB
Isolation (out-tap) 40-470 MHz	24dB	26dB	28dB	30dB	34dB
Isolation (out-tap) 470-860 MHz					
Isolation (out-tap) 860-1000 MHz					
Isolation (tap-tap) 5-40 MHz	24dB	22dB	22dB	25dB	28dB
Isolation (tap-tap) 40-470 MHz	24dB	25dB	25dB	25dB	25dB
Isolation (tap-tap) 470-860 MHz					
Isolation (tap-tap) 860-1000 MHz					
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	18dB	16dB	16dB	16dB	18dB
Return loss (in-out) 40-470 MHz	18dB	16dB	18dB	18dB	18dB
Return loss (in-out) 470-860 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (in-out) 860-1000 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (tap) 5-40 MHz	18dB	18dB	18dB	18dB	18dB
Return loss (tap) 40-470 MHz	18dB	18dB	18dB	18dB	18dB
Return loss (tap) 470-860 MHz	18dB	18dB	18dB	18dB	18dB
Return loss (tap) 860-1000 MHz	16dB	16dB	16dB	16dB	16dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS				
DC Passthrough	Yes AC (max. 12A) on IN-OUT - DC blocked at F-connectors				
Screening Efficiency	Class A	Class A	Class A	Class A	Class A
<b>CONNECTORS</b>					
Connector Type	5/8" @ IN-OUT / F-female @Tap				
Number of inputs	1	1	1	1	1
Number of outputs	1	1	1	1	1
Number of taps	2	2	2	2	2
<b>MECHANICAL</b>					
Product Depth	75mm	75mm	75mm	75mm	75mm
Product Width	100mm	100mm	100mm	100mm	100mm
Product Height	94mm	94mm	94mm	94mm	94mm
Main Material	Aluminum alloy die-cast, powder coating				
Packing QTY	1	1	1	1	1
Net Weight	0,279kg	0,279kg	0,279kg	0,279kg	0,279kg

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# TRIAX® Outdoor 1.0 GHz, 4-way tap

For coax distribution networks



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CABINETS

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## Common Features - OUTDOOR Range 1.0 GHz

The TRIAX "CA" Splitters are used in CATV broadband networks up to 1 GHz outdoor. They are fully weather protected (IP54) high RFI shielded and offer long reliability through an aluminium alloy 360 housing with powder paint coating, woven metallic gasket, neoprene sealed and nickel plated brass "F" ports and 5/8" threat ports for hard tail connectors.

- Outdoor range of taps and splitters for trunk and line distribution CATV networks
- Fully weather protected, class IP 54
- Frequency range 5 MHz up to 1.0 GHz
- High current capability: Line taps max.12 AC, F-models for Trunk max.15 AC
- AC paths selectable
- Surge protection 1kV 1,2/50 µs

- Shielding Class A (EN 50083-2)
- 5/8" threat connectors for hard tails and F-connectors DC-blocked
- High-quality aluminum alloy housing with powderer paint coating



### CA 1004-8 - 4 way splitter

Art. No. 343508

EAN Number  
5702663435087



### CA 1004-11 - 4 way tap

Art. No. 343509

EAN Number  
5702663435094



### CA 1004-14 - 4 way tap

Art. No. 343510

EAN Number  
5702663435100



### CA 1004-17 - 4 way tap

Art. No. 343511

EAN Number  
5702663435117



### CA 1004-20 - 4 way tap

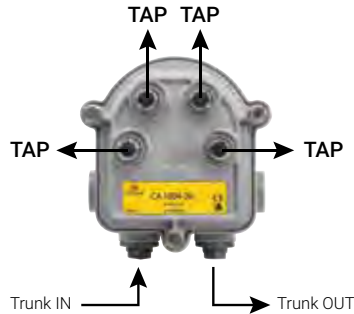
Art. No. 343512

EAN Number  
5702663435124

# TRIAx® Outdoor taps

frequency range 5...1000 Mhz.

2-way tap



Type:	CA 1004-8	CA 1004-11	CA 1004-14	CA 1004-17	CA 1004-20
	4 way splitter	4 way tap	4 way tap	4 way tap	4 way tap
Art. No.	343508	343509	343510	343511	343512
<b>CHARACTERISTICS</b>					
Hum modulation @ 10A	-70 dB	-70 dB	-70 dB	-70 dB	-70 dB
<b>FREQUENCY</b>					
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>LOSS</b>					
Insertion loss (in-out) 5-40 MHz	4.7dB	3.0dB	1.4dB	0.7dB	0.6dB
Insertion loss (in-out) 40-470 MHz	4.7dB	3.8dB	1.6dB	0.9dB	0.7dB
Insertion loss (in-out) 470-860 MHz	4.7dB	4.4dB	2.3dB	1.7dB	1.3dB
Insertion loss (in-out) 860-1000 MHz	4.7dB	4.6dB	3.4dB	2.8dB	2.1dB
Tap loss (in-tap) 5-40 MHz					
Tap loss (in-tap) 40-470 MHz	8.0 ±1dB	11 ±-1dB	14 ±-1dB	17 ±-1dB	20 ±-1dB
Tap loss (in-tap) 470-860 MHz	8.0 ±1.5dB	11 ±-1.5dB	14 ±-1.5dB	17 ±-1.5dB	20 ±-1.5dB
Tap loss (in-tap) 860-1000 MHz	8.0 ±1.5dB	11.5 ±-1.5dB	14 ±-1.5dB	17 ±-1.5dB	20 ±-1.5dB
<b>ISOLATION</b>					
Isolation (out-tap) 5-40 MHz	22dB	25dB	27dB	30dB	33dB
Isolation (out-tap) 40-470 MHz	22dB	25dB	27dB	30dB	33dB
Isolation (tap-tap) 5-40 MHz	25dB	25dB	25dB	25dB	25dB
Isolation (tap-tap) 40-470 MHz	25dB	25dB	25dB	25dB	25dB
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	18dB	17dB	17dB	17dB	18dB
Return loss (in-out) 40-470 MHz	18dB	18dB	18dB	18dB	18dB
Return loss (in-out) 470-860 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (in-out) 860-1000 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (tap) 5-40 MHz	18dB	17dB	17dB	17dB	18dB
Return loss (tap) 40-470 MHz	18dB	18dB	18dB	18dB	18dB
Return loss (tap) 470-860 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (tap) 860-1000 MHz	16dB	16dB	16dB	16dB	16dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS				
DC Passthrough	Yes AC (max. 12A) on IN-OUT - DC blocked at F-connectors				
Screening Efficiency	Class A	Class A	Class A	Class A	Class A
<b>CONNECTORS</b>					
Connector Type	5/8" @ IN-OUT / F-female @Tap				
Number of inputs	1	1	1	1	1
Number of outputs	1	1	1	1	1
Number of taps	4	4	4	4	4
<b>MECHANICAL</b>					
Product Depth	75mm	75mm	75mm	75mm	75mm
Product Width	100mm	100mm	100mm	100mm	100mm
Product Height	94mm	94mm	94mm	94mm	94mm
Main Material	Aluminum alloy die-cast, powder coating				
Packing QTY	1	1	1	1	1
Net Weight	0,300kg	0,292kg	0,290kg	0,296kg	0,290kg

TERRESTRIAL  
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# TRIAX® Outdoor 1.0 GHz, 8-way tap

For coax distribution networks



TERRESTRIAL  
RECEPTION

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RECEPTION

CABLE TV  
(CATV)

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CONNECTORS

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## Common Features - OUTDOOR Range 1.0 GHz

The TRIAX "CA" Splitters are used in CATV broadband networks up to 1 GHz outdoor. They are fully weather protected (IP54) high RFI shielded and offer long reliability through an aluminium alloy 360 housing with powder paint coating, woven metallic gasket, neoprene sealed and nickel plated brass "F" ports and 5/8" threat ports for hard tail connectors.

- Outdoor range of taps and splitters for trunk and line distribution CATV networks
- Fully weather protected, class IP 54

- Frequency range 5 MHz up to 1.0 GHz
- High current capability: Line taps max.12 AC, F-models for Trunk max.15 AC
- AC paths selectable
- Surge protection 1kV 1,2/50 µs
- Shielding Class A (EN 50083-2)
- 5/8" threat connectors for hard tails and F-connectors DC-blocked
- High-quality aluminum alloy housing with powderer paint coating



### CA 1008-14 - 8 way tap

Art. No. 343514

EAN Number  
5702663435148



### CA 1008-20 - 8 way tap

Art. No. 343516

EAN Number  
5702663435162



### CA 1008-17 - 8 way tap

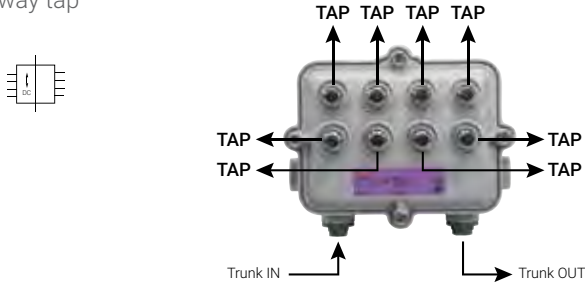
Art. No. 343515

EAN Number  
5702663435155

# TRIAX® Outdoor taps

frequency range 5...1000 Mhz.

8-way tap



Type:	CA 1008-14 8 way tap	CA 1008-17 8 way tap	CA 1008-20 8 way tap
Art. No.	343514	343515	343516
<b>CHARACTERISTICS</b>			
Hum modulation @ 10A	-70 dB	-70 dB	-70 dB
<b>FREQUENCY</b>			
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz
<b>LOSS</b>			
Insertion loss (in-out) 5-40 Mhz	3.1dB	1.4dB	0.9dB
Insertion loss (in-out) 40-470 MHz	3.7dB	1.5dB	1.3dB
Insertion loss (in-out) 470-860 MHz	4.4dB	3.0dB	1.9dB
Insertion loss (in-out) 860-1000 MHz	4.7dB	3.2dB	2.7dB
Tap loss (in-tap) 5-40 MHz			
Tap loss (in-tap) 40-470 MHz	14.0 ±1dB	17.5 ±1dB	20.0 ±1dB
Tap loss (in-tap) 470-860 MHz	15.0 ±1.5dB	18.0 ±1.5dB	20.0 ±1.5dB
Tap loss (in-tap) 860-1000 MHz	15.0 ±1.5dB	18.0 ±1.5dB	20.0 ±1.5dB
<b>ISOLATION</b>			
Isolation (out-tap) 5-40 MHz	25dB	25dB	26dB
Isolation (out-tap) 40-470 MHz	25dB	25dB	30dB
Isolation (out-tap) 470-860 MHz			
Isolation (out-tap) 860-1000 MHz			
Isolation (tap-tap) 5-40 MHz	23dB	23dB	23dB
Isolation (tap-tap) 40-470 MHz	23dB	23dB	23dB
Isolation (tap-tap) 470-860 MHz			
Isolation (tap-tap) 860-1000 MHz			
<b>RETURN LOSS</b>			
Return loss (in-out) 5-40 MHz	17dB	17dB	17dB
Return loss (in-out) 40-470 MHz	18dB	18dB	18dB
Return loss (in-out) 470-860 MHz	16dB	16dB	16dB
Return loss (in-out) 860-1000 MHz	16dB	16dB	16dB
Return loss (tap) 5-40 MHz	17dB	17dB	17dB
Return loss (tap) 40-470 MHz	18dB	18dB	18dB
Return loss (tap) 470-860 MHz	18dB	18dB	18dB
Return loss (tap) 860-1000 MHz	16dB	16dB	16dB
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
Certification		CE, RoHS	
DC Passthrough	Yes AC (max. 12A) on IN-OUT - DC blocked at F-connectors		
Screening Efficiency	Class A	Class A	Class A
<b>CONNECTORS</b>			
Connector Type	5/8" @ IN-OUT / F-female @Tap		
Number of inputs	1	1	1
Number of outputs	1	1	1
Number of taps	8	8	8
<b>MECHANICAL</b>			
Product Depth	75mm	75mm	75mm
Product Width	118mm	118mm	118mm
Product Height	139mm	139mm	139mm
Main Material	Aluminum alloy die-cast, powder coating		
Packing QTY	1	1	1
Net Weight	0,475kg	0,475kg	0,475kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Outdoor 1.0 GHz, taps

Taps with built-in switches to activate AC power at every output



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - OUTDOOR Range 1.0 GHz

The TRIAX "CA" Taps are used in CATV broadband networks up to 1 GHz outdoor. They are fully weather protected (IP54) high RFI shielded and offer long reliability through an aluminium alloy 360 housing with powder paint coating, woven metallic gasket, neoprene sealed and nickel plated brass "F" ports and 5/8" threat ports for hard tail connectors.

- The 5/8" ports allow high current through pass until 12/15 AC.
- All "F" ports for "TAP" are DC blocked at the inner conductor.
- The "F" models are special Trunk Line types and Power Inserters with built-in switches to activate AC power passing to each port.



### CA 1001-8 F - 1 way tap

Art. No. 343522

EAN Number  
5702663435223



### CA 1002-12 F - 2 way tap

Art. No. 343525

EAN Number  
5702663435254



### CA 1001-12 F - 1 way tap

Art. No. 343523

EAN Number  
5702663435230



### CA 1002-16 F - 2 way tap

Art. No. 343526

EAN Number  
5702663435261



### CA 1001-16 F - 1 way tap

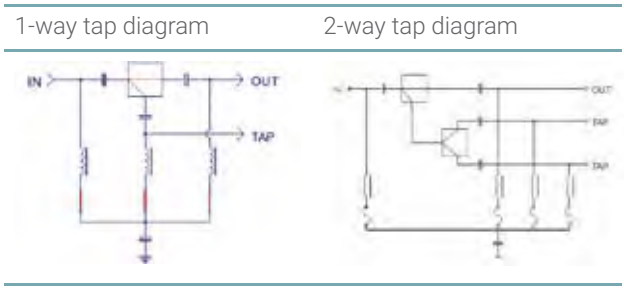
Art. No. 343524

EAN Number  
5702663435247

# TRIAx<sup>®</sup> Outdoor taps

frequency range 5...1000 Mhz.

TERRESTRIAL RECEPTION  
 SATELLITE & FIBRE RECEPTION  
 CABLE TV (CATV)  
 HEADENDS CAS SYSTEM MODULATORS  
 CABLES & CONNECTORS  
 OUTLETS TAPS & SPLITTER  
 INHOUSE CONNECTIVITY  
 SURVEILLANCE (CCTV)  
 INSTRUMENTS TOOLS & CABINETS  
 TECHNICAL APPENDIX



Type:	CA 1001-8 F	CA 1001-12 F	CA 1001-16 F	CA 1002-12 F	CA 1002-16 F
Art. No.	343522	343523	343524	343525	343526
<b>CHARACTERISTICS</b>					
Hum modulation @ 10A	-70 dB	-70 dB	-70 dB	-70 dB	-70 dB
<b>FREQUENCY</b>					
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz	5...1000MHz
<b>LOSS</b>					
Insertion loss (in-out) 5-40 Mhz	1.1dB	0.7dB	0.6dB	1.1dB	0.7dB
Insertion loss (in-out) 40-470 MHz	1.5dB	1.3dB	1.0dB	1.5dB	1.3dB
Insertion loss (in-out) 470-860 MHz	2.4dB	1.7dB	1.7dB	2.4dB	1.7dB
Insertion loss (in-out) 860-1000 MHz	2.6dB	1.9dB	1.7dB	2.6dB	1.9dB
Tap loss (in-tap) 5-40 MHz					
Tap loss (in-tap) 40-470 MHz	8.5 +1.5dB	12 +1.5dB	16 +-1.5dB	8.5 +1.5dB	12 +-1.5dB
Tap loss (in-tap) 470-860 MHz	8.5 +1.5dB	12 +-1.5dB	16 +-1.5dB	8.5 +1.5dB	12 +-1.5dB
Tap loss (in-tap) 860-1000 MHz	8.5 +1.5dB	12 +-1.5dB	16 +-1.5dB	8.5 +1.5dB	12 +-1.5dB
<b>ISOLATION</b>					
Isolation (out-tap) 5-40 MHz	28dB	23dB	25dB	28dB	23dB
Isolation (out-tap) 40-470 MHz	25dB	25dB	25dB	25dB	25dB
Isolation (out-tap) 470-860 MHz					
Isolation (out-tap) 860-1000 MHz					
Isolation (tap-tap) 5-40 MHz				22dB	22dB
Isolation (tap-tap) 40-470 MHz					21dB
Isolation (tap-tap) 470-860 MHz					
Isolation (tap-tap) 860-1000 MHz					
<b>RETURN LOSS</b>					
Return loss (in-out) 5-40 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (in-out) 40-470 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (in-out) 470-860 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (in-out) 860-1000 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (tap) 5-40 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (tap) 40-470 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (tap) 470-860 MHz	16dB	16dB	16dB	16dB	16dB
Return loss (tap) 860-1000 MHz	16dB	16dB	16dB	16dB	16dB
<b>ELECTRICAL</b>					
Impedance	75Ω	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>					
Certification	CE, RoHS				
DC Passthrough	Yes - Switchable AC (max. 15A) on ALL ports				
Screening Efficiency	Class A	Class A	Class A	Class A	Class A
<b>CONNECTORS</b>					
Connector Type	5/8" @ IN-OUT / F-female @Tap				
Number of inputs	1	1	1	1	1
Number of outputs	1	1	1	1	1
Number of taps	1	1	1	2	2
<b>MECHANICAL</b>					
Product Depth	75mm	75mm	75mm	75mm	75mm
Product Width	125mm	125mm	125mm	125mm	125mm
Product Height	145mm	145mm	145mm	145mm	145mm
Main Material	Aluminum alloy die-cast, powder coating				
Packing QTY	1	1	1	1	1
Net Weight	0,575kg	0,575kg	0,575kg	0,597kg	0,597kg

# TRIAX® Outdoor 1.0 GHz, Splitters

Splitters with built-in switches to activate AC power at every output



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Common Features - OUTDOOR Range 1.0 GHz

The TRIAX "CA" Splitters are used in CATV broadband networks up to 1 GHz outdoor. They are fully weather protected (IP54) high RFI shielded and offer long reliability through an aluminium alloy 360 housing with powder paint coating, woven metallic gasket, neoprene sealed and nickel plated brass "F" ports and 5/8" threat ports for hard tail connectors.

- Outdoor range of taps and splitters for trunk and line distribution CATV networks
- Fully weather protected, class IP 54

- Frequency range 5 MHz up to 1.0 GHz
- High current capability: Line taps max.12 AC, F-models for Trunk max.15 AC
- AC paths selectable
- Surge protection 1kV 1,2/50 µs
- Shielding Class A (EN 50083-2)
- 5/8" threat connectors for hard tails and F-connectors DC-blocked
- High-quality aluminum alloy housing with powderer paint coating



### CA 1002-4F - 2 way splitter

Art. No. 343520

EAN Number  
5702663435209



### CA 1065-14 - Power Inserter

Art. No. 389530

EAN Number  
5702663435308

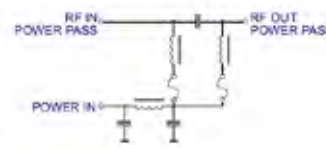


### CA 1003-8 F - 3 way splitter

Art. No. 343521

EAN Number  
5702663435216

Power inserter diagram



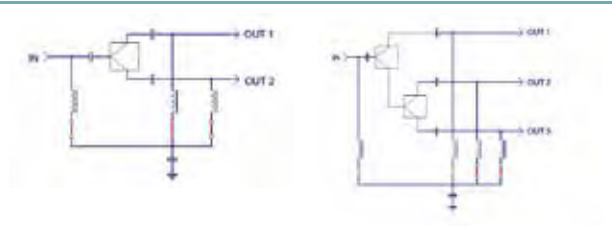


# TRIAx® Outdoor taps

frequency range 5...1000 Mhz.

2-way splitter diagram

3-way splitter diagram



Type:	CA 1002-4F 2 way splitter	CA 1003-8 F 3 way splitter	CA 1065-14 Power Inserter
Art. no.	343520	343521	343530
<b>CHARACTERISTICS</b>			
Hum modulation @ 10A	-70 dB	-70 dB	
<b>FREQUENCY</b>			
Frequency range	5...1000MHz	5...1000MHz	5...1000MHz
<b>LOSS</b>			
Insertion loss (in-out) 5-40 Mhz	3.7dB	7.0dB	dB
Insertion loss (in-out) 40-470 MHz	3.7dB	7.8dB	dB
Insertion loss (in-out) 470-860 MHz	4.3dB	8.5dB	dB
Insertion loss (in-out) 860-1000 MHz	4.8dB	9.0dB	dB
<b>ISOLATION</b>			
Isolation (tap-tap) 5-40 MHz	21dB	22dB	dB
Isolation (tap-tap) 40-470 MHz	25dB	22dB	dB
Isolation (tap-tap) 470-862 MHz	dB	dB	dB
Isolation (tap-tap) 862-1006 MHz	dB	dB	dB
Isolation (tap-tap) 1006-1300 MHz	dB	dB	dB
Isolation (out-tap) 5-40 MHz	dB	dB	dB
Isolation (out-tap) 40-470 MHz	dB	dB	dB
Isolation (out-tap) 470-862 MHz	dB	dB	dB
Isolation (out-tap) 862-1006 MHz	dB	dB	dB
Isolation (out-tap) 1006-1300 MHz	dB	dB	dB
<b>RETURN LOSS</b>			
Return loss (in-out) 5-40 MHz	18dB	16dB	dB
Return loss (in-out) 40-470 MHz	18dB	16dB	dB
Return loss (in-out) 470-862 MHz	16dB	16dB	dB
Return loss (in-out) 862-1006 MHz	16dB	16dB	dB
Return loss (in-out) 1006-1300 MHz	dB	dB	dB
Return loss (tap) 5-40 MHz	dB	16dB	dB
Return loss (tap) 40-470 MHz	dB	16dB	dB
Return loss (tap) 470-862 MHz	dB	16dB	dB
Return loss (tap) 862-1006 MHz	dB	16dB	dB
Return loss (tap) 1006-1300 MHz	dB	dB	dB
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
Remote feed current			2 x 10 A max/output
<b>OPERATIONAL</b>			
Certification	CE, RoHS	CE, RoHS	CE, RoHS
DC Passthrough	Yes AC (max. 15A) on ALL ports		
Screening Efficiency	Class A	Class A	
<b>CONNECTORS</b>			
Connector Type	5/8" - 24 UNEF - female	5/8" - 24 UNEF - female	
Number of inputs	1	1	1
Number of outputs	2	3	1
<b>MECHANICAL</b>			
Product Depth	75mm	75mm	75mm
Product Width	125mm	125mm	125mm
Product Height	145mm	145mm	145mm
Main Material	Aluminum alloy die-cast, powder coating		
Packing QTY	1	1	1
Net Weight	0,583kg	0,583kg	0,597kg

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® IEC splitters & delivery points

Indoor splitters and separators



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## Splitters with F- or IEC connector

102 series is easy to use splitters with F-male or F-female also only for indoor use.

Outdoor splitters with F-connectors in a waterproof shielded housing.

## Triax selective delivery point for separating TV/R and data signals

Mount a Triax TDP delivery point on the main connection cable to your SMATV system and get a stable and secure separation of your signal to your tv, radio and cable modem.

- High isolation
- Low insertion loss
- Class A shielding



### 102 FF/M - 2 way splitter

Art. No. 338365

EAN Number  
5702663383654



### 102 MM/F - 2 way splitter

Art. No. 338366

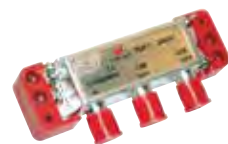
EAN Number  
5702663383661



### TDP-4 - delivery point

Art. No. 346094

Insertion loss (in-out)  
5-65 MHz > 43 (TV)/  
4.0 (Data) dB



### TDP-7 - delivery point

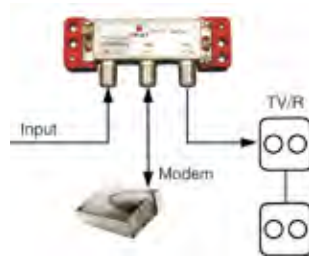
Art. No. 346097

Insertion loss (in-out)  
5-65 MHz > 43 (TV)/  
7.0 (Data) dB

# TRIAX® IEC splitters & delivery points

frequency range 5..1000 Mhz.

TDP example



Type:	102 FF/M 2 way splitter	102 MM/F 2 way splitter	TDP-4 delivery point	TDP-7 delivery point
Art. No.	338365	338366	346094	346097
<b>FREQUENCY</b>				
Frequency range	47...862MHz	47...862MHz	5-1000 MHz	5-1000 MHz
<b>LOSS</b>				
Insertion loss (in-out) 5-40 MHz				
Insertion loss (in-out) 40-470 MHz	3.5dB	3.5dB		
Insertion loss (in-out) 470-860 MHz	3.5dB	3.5dB		
Insertion loss (in-out) 5-65 MHz			> 43 (TV)/4.0 (Data)dB	> 43 (TV)/7.0 (Data)dB
Insertion loss (in-out) 65-87 MHz			4.0 (Data)dB	7.0 (Data)dB
Insertion loss (in-out) 87-1000 MHz			4.0 (TV)/4.0 (Data)dB	2.8 (TV)/7.0 (Data)dB
<b>ISOLATION</b>				
Isolation (out-tap) 5-40 MHz	dB	dB	47.0dB	47.0dB
Isolation (out-tap) 40-470 MHz	dB	dB		
Isolation (out-tap) 470-1000 MHz			23.0dB	23.0dB
<b>RETURN LOSS</b>				
Return loss (input) 5-40 MHz			> 22.0dB	> 23.0dB
Return loss (input) 40-1000 MHz			> 20.0dB	> 20.0dB
Return loss (data) 5-40 MHz			> 24.0dB	> 20.0dB
Return loss (data) 40-1000 MHz			> 23.0dB	> 20.0dB
Return loss (TV/R) 87-1000 MHz			> 18.0dB	> 18.0dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
DC Passthrough	Yes	Yes		
Screening Efficiency			A (>100.0)	A (>100.0)
<b>CONNECTORS</b>				
Connector Type	IEC-female	IEC-male	F-female	F-female
Number of inputs	1	1	1	1
Number of outputs	2	2	2	2
<b>MECHANICAL</b>				
Product Depth	mm	mm	16mm	16mm
Product Width	mm	mm	74mm	74mm
Product Height	mm	mm	50mm	50mm
Packing QTY	1	1	1	1
Net Weight	0,036kg	0,034kg	0,063kg	0,063kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® Taps & Splitter

## Accessories

### - for TRIAX Gold series

#### ACB-S bracket for ACS/ACT

Art. No. 343232

EAN Number  
5702663432321

Description

Small plastic bracket



#### ACB-M bracket for ACS/ACT

Art. No. 343233

EAN Number  
5702663432338

Description

Medium plastic bracket



#### ACB-L bracket for ACS/ACT

Art. No. 343234

EAN Number  
5702663432345

Description

Large plastic bracket



#### ACB-XL bracket for ACS/ACT

Art. No. 343235

EAN Number  
5702663432352

Description

XLarge plastic bracket



#### ACB-V bracket for ACV

Art. No. 343236

EAN Number  
5702663432369

Description

2 pcs Plastic bracket for AVC,  
vertical mounting



### - for TRIAX Silver series

#### BS Bracket small

Art. No. 342100

EAN Number  
5702663421004

Description

2 pcs Small plastic bracket  
with 2 screws



#### BS Bracket large

Art. No. 342102

EAN Number  
5702663421028

Description

2 pcs Large plastic bracket  
with 2 screws



### - for TRIAX CA outdoor series

#### CA 1000 B Mounting Bracket

Art. No. 389294

EAN Number  
5702663892941

Description

Steel mounting bracket



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
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# TRIAx<sup>®</sup> InHouse connectivity

Ethernet over Coax, UHD Video, Audio, Control Solutions

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■ EoC solution (Ethernet over Coax)	390
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SAT>IP [TSS 400]	
■ Satellite TV for SmartPhones, Tablets & other devices	396

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



# TRIAX<sup>®</sup> Excellent Wi-Fi coverage

Using existing coax installations



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

## TRIAX Ethernet over Coax solution

is the straightforward way of using existing coax networks to transport data signals and distribute over a reliable Wi-Fi connection.

No changes to the coax installation are required, while TV signals are not affected.

A controller is set up centrally or at points throughout the coax installation. End points can be set up in each room or each second room to maximise Wi-Fi coverage.

Hotelier benefits

- Better Wi-Fi coverage
- Save costs by reusing existing cables
- Easy installation means no room downtime
- Less maintenance

Installer benefits

- Competitive pricing for total installation
- Flexible and reliable network
- Easy installation
- Cloud configuration and monitoring



**Ethernet Controller 32  
EoC EP, Wi-Fi, Pro**

Art. No. 383101

EAN Number  
5702663831018



**End-Point EoC/Wi-Fi  
AC1300, Pro**

Art. No. 383200

EAN Number  
5702663832008



**Ethernet Controller 64  
EoC EP, Wi-Fi, Pro**

Art. No. 383103

EAN Number  
5702663831032



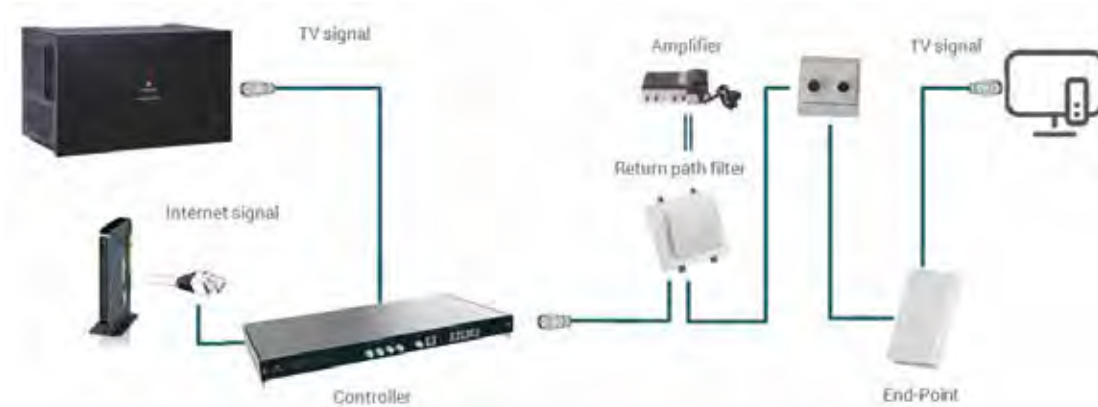
**5-200 MHz  
return path filter**

Art. No. 383900

EAN Number  
5702663839007

# TRIAX<sup>®</sup> Ethernet over Coax

Superfast, reliable broadband around the hotel .



Type:	Controller for 32/64 Ethernet over Coax End-Points and Wi-Fi, Pro
Art. No.	383101/383103
Standards	G.hn wave 2 controller support ITU-T G.9960, ITU-T G.9963 (G.hn PHY), ITU-T G.9961 and G.9962 (MAC and DLL) specifications.
Bandwidth	Up to 1,600 Mbit/s (shared with other end-points on the same coax cable)
Internet/IP operating frequency	1-200 Mhz.
<b>TRAFFIC MANAGEMENT</b>	
VLAN	802.1Q
Fairness	Possible
Client isolation	Possible
<b>NETWORKING INTERFACE</b>	
Ethernet port	4x 10/100/1000 (3 for switching, 1 for stacking)
G.hn out	2 or 4x 1,600 Mbit/s (supports up to 16 end-points per connector)
<b>CONNECTORS</b>	
Connector Type - TV-in	1 F-connector
Connector Type - G.hn out	2 or 4 F-connector
<b>REMARKS</b>	
Wi-Fi controller	
Supports VLAN tagging up to 4,096 VLAN ID's	
Co-existence with FM band or other devices operating in the 0-200 Mhz range.	

Type:	End-Point with Wi-Fi and Ethernet over Coax, AC, Pro
Art. No.	383200
Standards	G.hn wave 2 end-point Support ITU-T G.9960 and ITU-T G.9963 (G.hn PHY), ITU-T G.9961 and G.9962 (MAC and DLL) specifications.
Bandwidth	Up to 1,600 Mbit/s (shared with other end-points on the same coax cable)
Internet/IP operating frequency	1-200 Mhz.
WiFi types	WiFi 802.11ac wave 2 (802.11b/g/n 2.4GHz, 802.11a/n/ac 5GHz)
Antennas:	Single-Band Antennas, 2.4 GHz and 5 GHz, Dual-Polarity
Wireless security	WPA, WPA-2 with AES and TKIP, EAP authentication
Date rates 802.11ac	867 Mbit/s
Date rates 802.11n	300 Mbit/s
Managed access point	
<b>TRAFFIC MANAGEMENT</b>	
VLAN	802.1Q
Fairness	Possible
Client isolation	Possible
<b>NETWORKING INTERFACE</b>	
Ethernet port	1x 10/100/1000
<b>CONNECTORS</b>	
Connector Type - G.hn out	1x 1,600 Mbit/s F-con.
Connector Type - TV-out	1x F-connector

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# TRIAX<sup>®</sup> Internet over TV cables

The smart choice for home entertainment networks



TERRESTRIAL  
RECEPTION

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& FIBRE  
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## Using the latest MoCA<sup>®</sup> 2.0 (Multimedia over Coax Alliance) technology.

As the demand for home entertainment grows ever higher, customers have an insatiable appetite for faster and more reliable internet around the house.

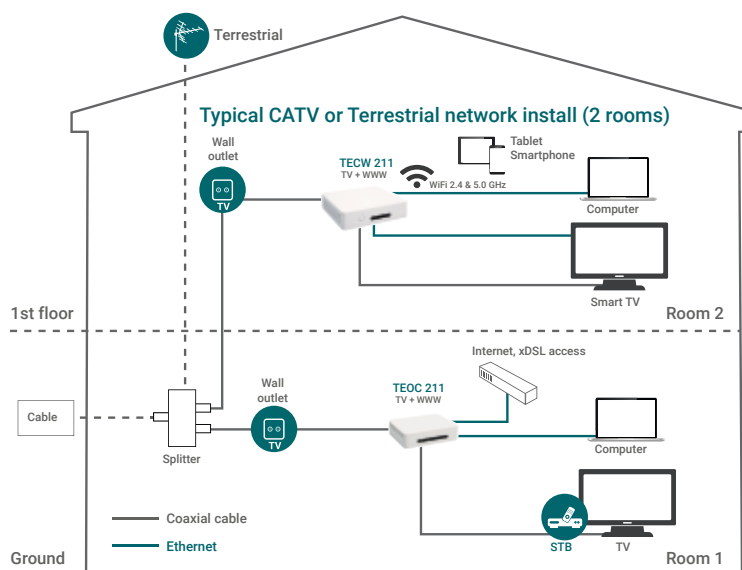
Whether they're streaming a 4K movie in the living room, catching up with the latest episode on a phone, online gaming in the bedroom – or all of these at once – they want data to be delivered to every corner of the house with minimal interference.

What they may not be aware of is the extent to which their traditional Wi-Fi setup can cause data bottlenecks within

the household, as single routers struggle to cope with the demands of multiple devices.

With our new range of MoCA<sup>®</sup> 2.0 Ethernet over Coax adapters, you can use existing home coaxial networks to deliver a fast, reliable data signal from every TV access point in the household.

Far more reliable than a single Wi-Fi access point or internet over power cables, it's the most effective way to deliver a home network solution that keeps you and your customers happy.



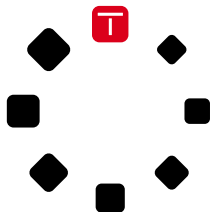
### MoCA<sup>®</sup> 2.0 compliant

Compatible with TV coax cable carrying terrestrial signals only (DTT or CATV). Cannot be used with satellite TV systems or any connection where Satellite and Terrestrial TV are combined on the same cable. Broadband speed and performance around the home is dependent on incoming speeds from the broadband provider at a particular location.

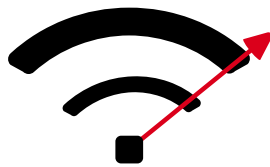


# TRIAX<sup>®</sup> Ethernet over Coax adapters

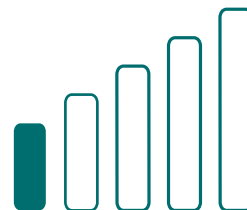
Superfast, reliable broadband around the home.



Improve your existing network.



Make your home network faster and better.



Fix your wireless dead zones

## Benefits for you:

- **No new cables required**  
Create a high-speed data network using existing TV coax cabling.
- **Stay connected**  
Wired connections are now possible around the entire home from up to 16 access points, ensuring maximum speed and reliability for each connected device. Dedicated wireless access points in each room are also now possible with our wireless model.
- **Immune from interference**  
Coaxial cables are shielded and therefore unaffected by other devices around the home, unlike an internet over power cable solution.
- **Simple to install with Plug and Play technology**  
Simply connect a device to our adapter with an Ethernet cable wherever a broadband connection is required. On our Wi-Fi model, Wi-Fi settings are a breeze thanks to our bespoke Triax configuration tool.
- **Create additional revenue streams**  
Quickly and easily improve the home entertainment and networking experience for your customers, who are sure to value reliable and high speed data and video streaming throughout the house.

## Benefits for your customer:

- **Maximise your devices' potential**  
Many manufacturers of home entertainment products recommend wired internet connections for optimal speed and connectivity – our adapters provide this in all rooms of the house with a TV outlet.
- **Improve Wi-Fi coverage**  
Eliminate dead spots where wired connectivity isn't possible or existing routers fail to reach. Our dual band Wi-Fi adapter supports 802.11 a/b/g/n/ac
- **Reduce buffering**  
Faster downloads, streaming and content sharing to other devices on the home network (minimum 400 Mbps, up to 600Mbps)
- **Smoother online gaming**  
Fast and stable connection with lower latency creates a more immersive experience for gamers, with smoother gameplay and faster response times.



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# TRIAX® TEOC 211 & TECW 211

The smart choice for home entertainment networks



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## Features and benefits

The TEOC 211 and TECW 211 are a multi-purpose Ethernet over coaxial cable bridge device. It can be used in a number of different ways to deliver Gigabit Ethernet connection via an existing coaxial (TV aerial or cable TV) connection.

The TECW 211 also offers Wi-Fi dual band 2.4 and 5GHz in order to improve your local WLAN Wi-Fi coverage in your home installation.

It can be used as either a sender or receiver but it will need to be used with at least one other TRIAX Ethernet over Coax compatible device.

Both devices delivering superfast, reliable broadband around the home using existing TV connections. Using the latest MoCA® 2.0 (Multimedia over Coax Alliance) technology, to satisfy the most data-hungry households.



TEOC 211 Multiband  
Ethernet/Coax

Art. No. 310401

EAN Number 5702663104013



TEOC 110 Ethernet Over  
Coax

Art. No. 310400

EAN Number  
5702663104006



TECW 211 Multiband  
Ethernet/Coax/Wi-Fi

Art. No. 310411

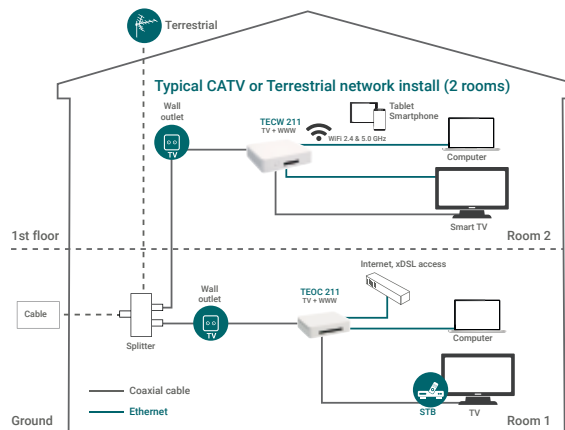
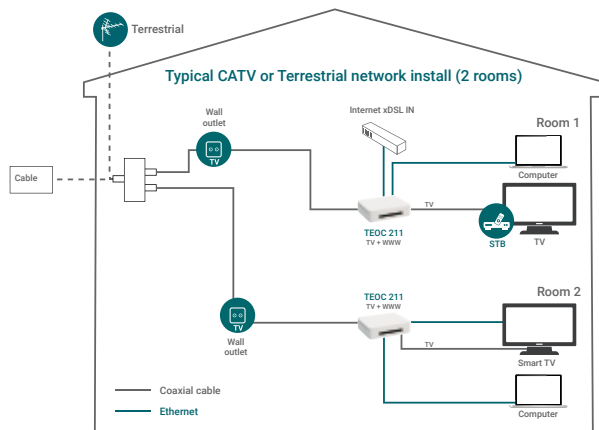
EAN Number 5702663104112



# TRIAx® Ethernet over Coax adapters

Superfast, reliable broadband around the home.

## TEOC 211 + TECW example



Type:	TEOC 211 Multiband Ethernet/coax	TECW 211 Multiband Ethernet/Coax/wifi	TEOC 110 Ethernet Over Coax
Art. No.	310401	310411	310400
<b>FREQUENCY</b>			
Frequency range	MoCA range : 1.15...1.6GHz		
Frequency range	DVB-T/C range : 5...1002MHz		
High pass	1125...1675MHz	1125...1525MHz	1125-1525MHz
Low pass	5...1002MHz	5...1002MHz	5-1002MHz
Network Center	1150...1600MHz	1150...1600MHz	1150-1500MHz
<b>LOSS</b>			
High pass - Insertion loss	< 5dB	< 5dB	Max. 3dB
Low pass - Insertion loss	< 5dB	< 5dB	Max. 2dB
<b>RETURN LOSS</b>			
High pass - Return loss	Min. 8dB	Min. 8dB	Min. 10dB
Low pass - Return loss	Min. 8dB	Min. 8dB	Min. 10dB
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
Certification	EMC/LVD, WEEE	EMC/LVD, WEEE	EMC/LVD, WEEE
DC Operating voltage	5VDC	12VDC	5VDC
External PSU	Included	Included	Included
Standard	MoCA® 2.0, 1.1 and 1.0 compliant	MoCA® 2.0, 1.1 and 1.0 compliant	Entropic, EN2510, MoCA® 1.1 compliant
AC Supply voltage	100...240 /50...60hzVAC	100...240 /50...60hzVAC	100...240 /50...60hzVAC
Power Consumption (typ.)	3.5W	13.2W	<4W
DC Current consumption (TYP)			2.0A
<b>CONNECTORS</b>			
Connector Type	F-female (IEC 60 169-24)	F-female (IEC 60 169-24)	F-female (IEC 60 169-24)
<b>MECHANICAL</b>			
Colour	White	White	White
Product Depth	30mm	35mm	28 mm
Product Height	101mm	142mm	80 mm
Product Width	122mm	155mm	125mm
Main Material	Plastic	Plastic	Plastic
Packing QTY	1	1	1
Weight (kg)	0.2kg	0.3kg	0.2kg
Remarks	2 Ethernet ports 10/100/1000 Mbps LED ON/OFF switch. 16 devices max. on the same network		

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# TRIAX® Sat>IP Server

Satellite TV for Smartphones, Tablets and other Devices



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## Features and benefits

The SAT>IP products from Triax make it possible to distribute satellite TV over cable connected (LAN, Power LAN) or cableless networks (WLAN). SAT>IP-compatible units such as TV sets, receivers, PCs, smartphones, tablets and other mobile units can be provided with all available free TV and radio programmes. Thanks to the web-based configurator the products are easily set up and controlled.

## Benefits

- SAT-distribution via cable connected and cableless networks
- Digital picture and audio quality – even in high-resolution HD-format
- Converts SAT into IPTV signals
- All digital additional options such as EPG, recording function and time shift can be used in the unit\*
- Live uncompressed SAT TV

## Easy set-up

- Supports different types of LNB
- Easy installation and control with the web-based configurator
- Can be used with compatible SAT>IP units
- Software update Online (via FTP) or via Web-configurator
- Compatible with 100/1.000-Megabit networks

## SAT>IP compatible devices

- Up to 4 units can access different TV programs at the same time
- Compatible with all SAT > IP compatible units such as: SAT>IP receiver, Tablets and smartphones, PCs and laptops, Video game consoles

\* - need the righ App. to provided the unit supports the function

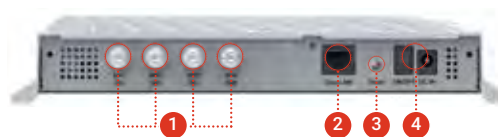
TSS 400 SAT>IP Converter

Art. No. 310101

EAN Number 5702663101012



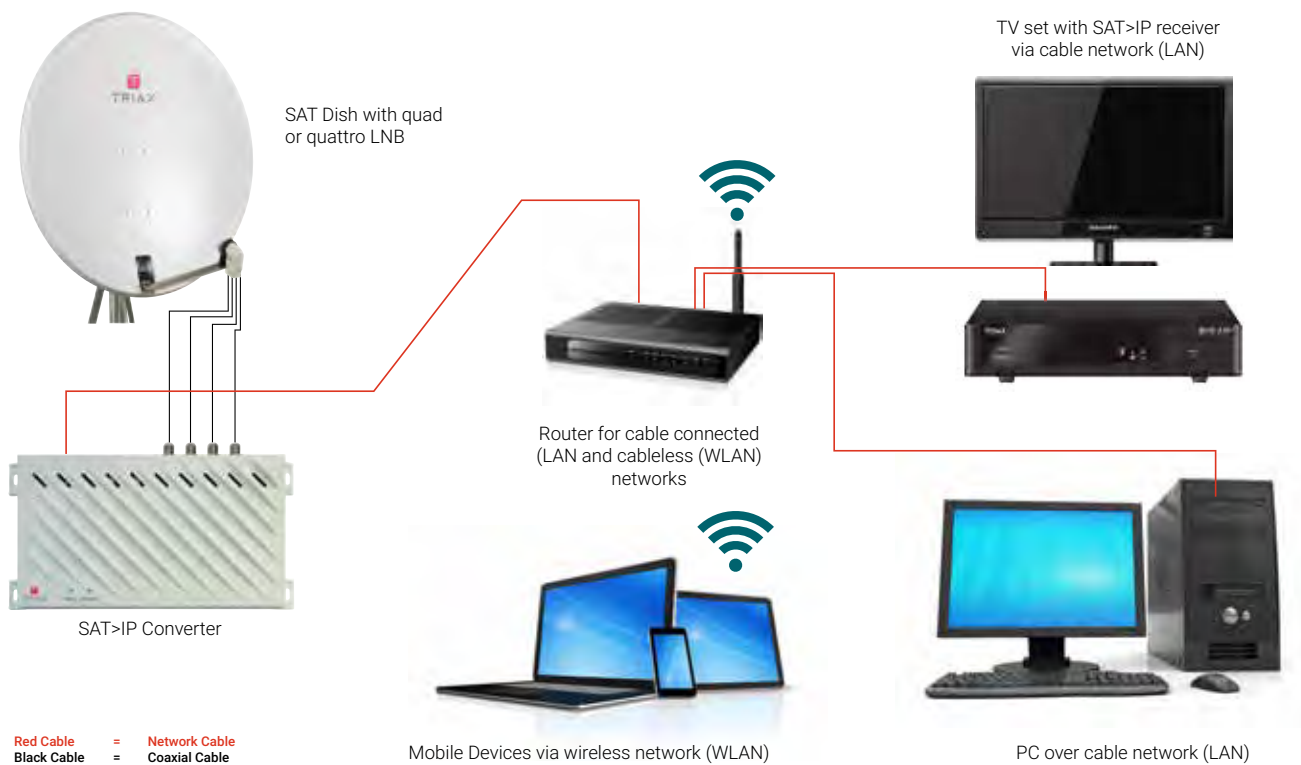
## Connections



- 1 F-connectors for LNB input
- 2 Network interface
- 3 Reset button
- 4 On/off switch and power supply

# TRIAX® TSS 400

Converts SAT-IF signals to IPTV signals



Type:	TSS 400 Mk. IISAT>IP Converter
Art. No.	310101
<b>CHARACTERISTICS</b>	
Tuner	DVB-S   DVB-S2 (HDTV)
Number of tuners (different units)	4
Supported LNBS	Quad, Quattro, Unicable LNB Optical Quad or Quattro reconverter
Plug & Play	Yes
Unicable capable	Yes
<b>OPERATIONAL</b>	
Updates via Web configurator	Yes
Supported protocols	SAT>IP Protocol Version 1.1 Unicast via HTTP 1.0/1.1 Multicast via UDP/RTP
<b>ELECTRICAL</b>	
Impedance	75Ω
<b>CONNECTORS</b>	
Connector Type	4x F-female, Ethernet 100/1000 MBit/s
<b>MECHANICAL</b>	
Colour	White
Product Dimension W x H x D	250 x 126 x 35mm
Packing QTY	1
Weight (kg)	0.75kg
Box contains	Converter   Power Supply   Quick Start Guide

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# TRIAX<sup>®</sup> surveillance solutions

help protect the safety and security of people and assets.

Content	Page
TVI 720 (1.3MP) Cameras	
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# TRIAX® surveillance solutions

– help protect the safety and security of people and assets.



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## Image quality is one of the most important factors when installing a CCTV system.

Our CCTV cameras provide sharp and detailed HD video footage (up to Full HD 1080p). As well as monitoring activity, they can also be used as a visual deterrent where appropriate. Cameras are available with fixed or varifocal lenses in dome or bullet housings.

## Advanced Functionality

Activity is recorded by connecting CCTV cameras with a Digital Recorder installed with a HDD for playback on a monitor or TV. They can be set for continuous or scheduled recording, motion detection or triggered alarm using the intuitive menu – the same menus are used across the TRIAX range enabling logical on-going installations. Our Digital Recorders are available with 4, 8 or 16 channels, allowing up to 16 cameras be connected to a system.

## TRIAX App - Monitor Anywhere, Anytime

As well as a great range of HD cameras suitable for every budget, when connected to one of our Digital Recorders, all our cameras can be accessed remotely via the dedicated TRIAX App (TRIAX Mobile HD) on iOS or Android enabled devices. Using network connectivity, the App offers a quick and easy way for your clients to monitor their CCTV system anywhere, anytime. Set up is simple using QR codes and the latest P2P technology meaning complicated port forwarding is not required.

## HD-TVI

- **High Image Quality** - HD-TVI delivers reliable high definition surveillance (up to 1080p Full HD) without video quality loss.
- **Lower Cost** - Employs the same installation method, cable and connectors as traditional analogue CCTV.
- **No Latency** - Monitor live video without time lags.
- **Longer Transmission** - Transmit HD video up to 500m (150m locally powered) over RG59 cabling making it the ideal HD format for long distance cable runs.
- **Analogue + IP Compatible** - HD-TVI recorders are capable of recording video from analogue and IP cameras meaning systems can be upgraded as required.
- **Composite Video Output** – That can be modulated onto the local TV system.

## HD - TVI products

- **Fixed / Varifocal Dome**  
720p and 1080p HD video with a 2.8mm or 3.6mm fixed lens or 2.8mm-12mm varifocal lens.
- **Fixed / Varifocal Bullet**  
720p and 1080p HD video with a 2.8mm or 3.6mm fixed lens or 2.8mm-12mm varifocal lens.
- **DVR**  
Digital Video Recorder capable of recording video from analogue, HD-TVI and IP cameras.





# TRIAX<sup>®</sup> surveillance solutions

– help protect the safety and security of people and assets.

## IP (internet protocol)

- **Superior image quality** - HD and higher megapixel IP cameras deliver superior image quality. The clearer the image, the easier it is to identify faces, objects and other details filmed by the camera.
- **Flexible** - Just a single network cable is required. TRIAX IP cameras can operate over the network using Power over Ethernet (PoE). The NVR or power supply, power the cameras over the CAT infrastructure.
- **Auto Detect** – TRIAX range of IP cameras automatically connect to our NVR's eliminating complex network settings.
- **Advanced Functionality** – Our NVR's feature advanced benefits such as face and perimeter detection.

## IP products

- **Fixed Turret / Varifocal Dome**  
2MP and 4MP cameras featuring PoE. White housings.
- **Fixed / Varifocal Bullet**  
2MP and 4MP cameras featuring PoE. White housings.
- **NVR**  
Network Video Recorder for recording high quality IP camera footage with advanced features.



## How do CCTV technologies compare?

We're often asked how different technologies within the CCTV sector compare? Our team have chosen both HD-TVI and IP solutions for broadcast quality images suitable for a wide range of installations and budgets. We feel these technologies offer you and your clients the best solutions currently available.

HD-TVI offers the best overall performance and most flexibility with detailed HD images, greater transmission distances, hybrid capabilities and is easily configured. HD-TVI DVR's are also unique as they are compatible with all existing analogue and HD-TVI cameras, while supporting IP cameras up to 2MP on any channel in any configuration.

	HD-TVI	Analogue
Resolution (TX5912)	720P / 1080P	960H (700TVL)
Coax Siamese Cable (TX5912)	300m	300m
Cat5.e Cabling	200m	100m
PTZ Functionality	Support over Coax	Extra Cabling (Twisted Pair)
720P Frame Rate	25 fps	Do not Support
1080P Frame Rate	15 fps	Do not Support
DVR Recording	Combination of 720P and 1080P	CIF/ D1/ WD1
	HD-TVI	HD-CVI
Coax Siamese Cable (TX5912)	300m	300m
Please note* 150m when powered remotely, 300m locally powered		
Cat5.e Cabling	200 meters	100 meters (Colour max. XX m)
720P Frame Rate	25	25
1080P Frame Rate	15	15
DVR combination using both 720P and 1080P Camera	YES	NO
	HD-TVI	HD-SDI
Resolution	720P / 1080P	720P / 1080P
Coax Siamese Cable (TX5912)	300m	150m
PTZ Functionality	Support Over Coax	Extra Cabling (Twisted Pair)
Cat5.e Cabling	Support 200m	Do not Support
	HD-TVI	IP
Coax Siamese Cable (TX5912)	300m	Not Compatible
Cat5.e Cabling	200m	100m
720P Frame Rate	25	25
1080P Frame Rate	15	25
DVR combination using both 720P and 1080P Camera	YES	YES
Image Delay	No Delay	Delay

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# TRIAX® TVI Fixed and Varifocal Dome Cameras

720p TVI Cameras 1.3 MP 2.8/3.6/2.8-12 mm



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## Features and benefits

- 1/4 Inch CMOS progressive scan sensor 720p
- Supports TVI high definition transfer
- 720p @ 25/30 FPS TVI output
- Long Distance, No delay
- Single DC 12V supply, suitable for various applications
- TRIAX P2P mobile App



**TDF720-28 720p  
TVI Camera  
1.3MP 2.8mm**

Art. No. 301100  
EAN Number  
5702663011007



**TDF 720G - Grey  
TVI Camera  
1.3MP 3.6mm**

Art. No. 301028  
EAN Number  
5702663010284



**TDF720-28G 720p  
TVI Camera  
1.3MP 2.8mm**

Art. No. 301101  
EAN Number  
5702663011014



**TDV 720 - White  
TVI Camera  
1.3MP 2.8-12mm**

Art. No. 301018  
EAN Number  
5702663010185



**TDF 720 - White  
TVI Camera  
1.3MP 3.6mm**

Art. No. 301027  
EAN Number  
5702663010277



**TDV 720G - Grey  
TVI Camera  
1.3MP 2.8-12mm**

Art. No. 301019  
EAN Number  
5702663010192



# TRIAX® TVI Fixed and Varifocal Dome Cameras

720p TVI Cameras 1.3 MP 2.8/3.6/2.8-12 mm

## What we mean by...

### ALC, Back Focus, CMOS, ONVIF, etc.

- for explanations of these and many more of the technical terms and abbreviations we use in this catalogue, scan the code and take a look at our handy online glossary [[www.triax.com/glossary](http://www.triax.com/glossary)]



Type	TDF 720-28 White	TDF 720-28G Grey	TDF 720 White	TDF 720G Grey	TDV 720 White	TDV 720G Grey
Art. no.	301100	301101	301027	301028	301018	301019
<b>CHARACTERISTICS</b>						
Lens	2.8 mm Fixed Lens		3.6 mm Fixed Lens		2.8-12mm Varifocal Lens	
Sensor	1/4" inch AR0141 720p		1/4" inch AR0141 720p (TP2803B + AR0141 + V20)		1/4" inch AR0141 720p (TP2803B + AR0141 + V20)	
Image System	PAL/NTSC		PAL/NTSC		PAL/NTSC	
Resolution	1280 (H)x720(V)		1280 (H)x720(V)		1280 (H)x720(V)	
Min.illumination	0.01Lux @ (F1.2 AGC ON) 0 Lux with IR		0.01Lux @ (F1.2 AGC ON) 0 Lux with IR		0.01Lux @ (F1.2 AGC ON) 0 Lux with IR	
Electronic Shutter			1/25s ~ 1/100,000s		1/25s ~ 1/100,000s	
Video Standard	HDTV		HDTV		HDTV	
Frame Rate	1280x720@25 fps 1280x720@30 fps		1280x720@25 fps 1280x720@30 fps		1280x720@25 fps 1280x720@30 fps	
D/N	ICR		ICR		ICR	
LED & IR Distance	Ø 5x24 pcs LED - Max IR View Distance 20m		Ø 5x24 pcs LED - Max IR View Distance 20m		Ø 5x36 pcs LED - Max IR View Distance 30m	
Video Out	1Ch. BNC TVI output		1Ch. BNC TVI output		1Ch. BNC TVI output	
SNR	39.1 dB		39.1 dB		39.1 dB	
White Balance	AWB		AWB		AWB	
DR	66.2 dB		66.2 dB		66.2 dB	
Digital Noise Reduction	2D DNR		2D DNR		2D DNR	
<b>OPERATIONAL</b>						
Power supply	12 VDC ±/-15%,		12 VDC ±/-15%,		12 VDC ±/-15%,	
<b>MECHANICAL</b>						
Working Environment	-10°C ~ +60°C, Humidity 95%		-10°C ~ +60°C, Humidity 95%		-10°C ~ +60°C, Humidity 95%	
Storage temperature	-20°C to +60°C, RH 90% Max		-20°C to +60°C, RH 90% Max		-20°C to +60°C, RH 90% Max	
Size	107mm(L) x 107mm(W) x 80mm(H)		107mm(L) x 107mm(W) x 80mm(H)		145mm(L) x 145mm(W) x 103mm(H)	
Weight (Kg)	0.4		0.4		0.7	

TERRESTRIAL  
RECEPTION

SATELLITE  
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CABLE TV  
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# TVI Fixed and Varifocal Bullet Cameras

720p TVI Cameras 1.3 MP 2.8/3.6/2.8-12 mm



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## Features and benefits

- 1/4 Inch CMOS progressive scan sensor 720p
- Supports TVI high definition transfer
- 720p @ 25/30 FPS TVI output
- Long Distance, No delay
- Single DC 12V supply, suitable for various applications
- TRIAX P2P mobile App



**TBF720-28 720p  
TVI Camera  
1.3MP 2.8mm**

Art. No. 301102  
EAN Number  
5702663011021



**TBF 720G  
TVI Camera  
1.3MP 3.6mm**

Art. No. 301017  
EAN Number  
5702663010178



**TBF720-28G 720p  
TVI Camera  
1.3MP 2.8mm**

Art. No. 301103  
EAN Number  
5702663011038



**TBV 720  
TVI Camera  
1.3MP 2.8-12mm**

Art. No. 301014  
EAN Number  
5702663010147



**TBF 720  
TVI Camera  
1.3MP 3.6mm**

Art. No. 301016  
EAN Number  
5702663010161



**TBV 720G  
TVI Camera  
1.3MP 2.8-12mm**

Art. No. 301015  
EAN Number  
5702663010154



# TVI Fixed and Varifocal Bullet Cameras

720p TVI Cameras 1.3 MP 2.8/3.6/2.8-12 mm

Type	TBF 720-28 White	TBF 720-28G Grey	TBF 720 White	TBF 720G Grey	TBV 720 White	TBV 720G Grey
Art. no.	301102	301103	301016	301017	301014	301015
<b>CHARACTERISTICS</b>						
Lens	2.8 mm Fixed Lens		3.6 mm Fixed Lens		2.8-12mm Varifocal Lens	
Sensor	1/4" inch AR0141 720p		1/4" inch AR0141 720p (TP2803B + AR0141 + V20)		1/4" inch AR0141 720p (TP2803B + AR0141 + V20)	
Image System	PAL/NTSC		PAL/NTSC		PAL/NTSC	
Resolution	1280 (H)×720(V)		1280 (H)×720(V)		1280 (H)×720(V)	
Min.illumination	0.01Lux @ (F1.2 AGC ON) 0 Lux with IR		0.01Lux @ (F1.2 AGC ON) 0 Lux with IR		0.01Lux @ (F1.2 AGC ON) 0 Lux with IR	
Electronic Shutter			1/25s ~ 1/100,000s		1/25s ~ 1/100,000s	
Video Standard	HDTV		HDTV		HDTV	
Frame Rate	1280×720@25 fps - 1280×720@30 fps		1280×720@25 fps - 1280×720@30 fps		1280×720@25 fps - 1280×720@30 fps	
D/N	ICR		ICR		ICR	
LED & IR Distance	Ø 5x42 pcs LED - Max IR View Distance 30m		Ø 5x30 pcs LED - Max IR View Distance 20m		Ø 5x42 pcs LED - Max IR View Distance 30m	
Video Out	1Ch. BNC TVI output		1Ch. BNC TVI output		1Ch. BNC TVI output	
SNR	39.1 dB		39.1 dB		39.1 dB	
White Balance	AWB		AWB		AWB	
DR	66.2 dB		66.2 dB		66.2 dB	
Digital Noise Reduction	2D DNR		2D DNR		2D DNR	
<b>OPERATIONAL</b>						
Power supply	12 VDC ±/-15%,		12 VDC ±/-15%,		12 VDC ±/-15%,	
<b>MECHANICAL</b>						
Working Environment	-10°C ~ +60°C, Humidity 95%		-10°C ~ +60°C, Humidity 95%		-10°C ~ +60°C, Humidity 95%	
Storage temperature	-20°C to +60°C, RH 90% Max		-20°C to +60°C, RH 90% Max		-20°C to +60°C, RH 90% Max	
Size	158mm(L) x 60mm(W) x 60mm(H)		158mm(L) x 60mm(W) x 60mm(H)		252mm(L) x 75mm(W) x 75mm(H)	
Weight (Kg)	0.38		0.38		0.8	

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# TVI Fixed and Varifocal Dome Cameras

1080p TVI Cameras 2.0 MP 3.6/2.8-12 mm



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## Features and benefits

- 1/3 Inch Sony CMOS progressive scan sensor 1080p
- Supports TVI high definition transfer
- 1080p @ 25/30 FPS TVI output
- Long Distance, No delay
- Single DC 12V supply, suitable for various applications
- TRIAX P2P mobile App



**TDF 1080 - White  
TVI Camera  
2.0MP 3.6mm**

Art. No. 301043  
EAN Number  
5702663010437



**TDV 1080 - White  
TVI Camera  
2.0MP 2.8-12mm**

Art. No. 301036  
EAN Number  
5702663010369



**TDF 1080G - Grey  
TVI Camera  
2.0MP 3.6mm**

Art. No. 301044  
EAN Number  
5702663010444



**TDV 1080G - Grey  
TVI Camera  
2.0MP 2.8-12mm**

Art. No. 301037  
EAN Number  
5702663010376



# TVI Fixed and Varifocal Dome Cameras

1080p TVI Cameras 2.0 MP 3.6/2.8-12 mm

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Type	TDF 1080 White	TDF 1080G Grey	TDV 1080 White	TDV 1080G Grey
Art. no.	301043	301044	301036	301037
<b>CHARACTERISTICS</b>				
Lens	3.6 mm Fixed Lens		2.8-12mm Varifocal Lens	
Sensor	1/3" inch Sony sensor 1080p (FH8531 + IMX322 + TP2801B)		1/3" inch Sony sensor 1080p (FH8531 + IMX322 + TP2801B)	
Image System	PAL/NTSC		PAL/NTSC	
Resolution	1920 (H)×1080(V)		1920 (H)×1080(V)	
Min.illumination	0.01Lux @ (F1.2 AGC ON) 0 Lux with IR		0.01Lux @ (F1.2 AGC ON) 0 Lux with IR	
Electronic Shutter	1/50s ~ 1/3.000s		1/50s ~ 1/3.000s	
Video Standard	HDTV		HDTV	
Frame Rate	1920×1080@25 fps 1920×1080@30 fps		1920×1080@25 fps 1920×1080@30 fps	
D/N	ICR		ICR	
LED & IR Distance	Ø 5x24 pcs LED - Max IR View Distance 20m		Ø 5x36 pcs LED - Max IR View Distance 30m	
Video Out	1Ch. BNC TVI output, Support Switch to Analogue output		1Ch. BNC TVI output, Support Switch to Analogue output	
SNR	39.1 dB		39.1 dB	
White Balance	AWB		AWB	
DR	66.2 dB		66.2 dB	
Digital Noise Reduction	2D DNR		2D DNR	
<b>OPERATIONAL</b>				
Power supply	12 VDC ±/-15%,		12 VDC ±/-15%,	
<b>MECHANICAL</b>				
Working Environment	-10°C ~ +60°C, Humidity 95%		-10°C ~ +60°C, Humidity 95%	
Storage temperature	-20°C to +60°C, RH 90% Max		-20°C to +60°C, RH 90% Max	
Size	107mm(L) x 107mm(W) x 80mm(H)		145mm(L) x 145mm(W) x 103mm(H)	
Weight (Kg)	0.4		0.7	

\* Switch between HD-TVI and CVBS mode, push the OSD button "UP" and hold for 5 seconds.

# TVI Fixed and Varifocal Bullet Cameras

1080p TVI Cameras 2.0 MP 3.6/2.8-12 mm



## Features and benefits

- 1/3 Inch Sony CMOS progressive scan sensor 1080p
- Supports TVI high definition transfer
- 1080p @ 25/30 FPS TVI output
- Long Distance, No delay
- Single DC 12V supply, suitable for various applications
- TRIAX P2P mobile App



**TBF 1080 - White**  
TVI Camera  
2.0MP 3.6mm

Art. No. 301034

EAN Number  
5702663010345



**TBV 1080 - White**  
TVI Camera  
2.0MP 2.8-12mm

Art. No. 301029

EAN Number  
5702663010291



**TBF 1080G - Grey**  
TVI Camera  
2.0MP 3.6mm

Art. No. 301035

EAN Number  
5702663010352



**TBV 1080G - Grey**  
TVI Camera  
2.0MP 2.8-12mm

Art. No. 301033

EAN Number  
5702663010338



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# TVI Fixed and Varifocal Bullet Cameras

1080p TVI Cameras 2.0 MP 3.6/2.8-12 mm

## What we mean by...

### ALC, Back Focus, CMOS, ONVIF, etc.

- for explanations of these and many more of the technical terms and abbreviations we use in this catalogue, scan the code and take a look at our handy online glossary [[www.triax.com/glossary](http://www.triax.com/glossary)]



Type	TBF 1080 White	TBF 1080G Grey	TBV 1080 White	TBV 1080G Grey
Art. no.	301034	301035	301029	301033
<b>CHARACTERISTICS</b>				
Lens	3.6 mm Fixed Lens		2.8-12mm Varifocal Lens	
Sensor	1/3" inch Sony sensor 1080p (FH8531 + IMX322 + TP2801B)		1/3" inch Sony sensor 1080p (FH8531 + IMX322 + TP2801B)	
Image System	PAL/NTSC		PAL/NTSC	
Resolution	1920 (H)×1080(V)		1920 (H)×1080(V)	
Min.illumination	0.01Lux @ (F1.2 AGC ON) 0 Lux with IR		0.01Lux @ (F1.2 AGC ON) 0 Lux with IR	
Electronic Shutter	1/50s ~ 1/3.000s		1/50s ~ 1/3.000s	
Video Standard	HDTV		HDTV	
Frame Rate	1920×1080@25 fps 1920×1080@30 fps		1920×1080@25 fps 1920×1080@30 fps	
D/N	ICR		ICR	
LED & IR Distance	Ø 5x30 pcs LED - Max IR View Distance 20m		Ø 5x42 pcs LED - Max IR View Distance 30m	
Lens	3.6 mm Fixed Lens		2.8-12mm Varifocal Lens	
Video Out	1Ch. BNC TVI output, Support Switch to Analogue output		1Ch. BNC TVI output, Support Switch to Analogue output	
SNR	39.1 dB		39.1 dB	
White Balance	AWB		AWB	
DR	66.2 dB		66.2 dB	
Digital Noise Reduction	2D DNR		2D DNR	
<b>OPERATIONAL</b>				
Power supply	12 VDC ±/-15%,		12 VDC ±/-15%,	
<b>MECHANICAL</b>				
Working Environment	-10°C ~ +60°C, Humidity 95%		-10°C ~ +60°C, Humidity 95%	
Storage temperature	-20°C to +60°C, RH 90% Max		-20°C to +60°C, RH 90% Max	
Size	158mm(L) x 60mm(W) x 60mm(H)		252mm(L) x 75mm(W) x 75mm(H)	
Weight (Kg)	0.38		0.8	

\* Switch between HD-TVI and CVBS mode, push the OSD button "UP" and hold for 5 seconds.

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# TRIAX® THDR Digital Video Recorder

4, 8 or 16 Channel HD-TVI



## Features and Benefits

- Compact tribrid Analogue, TVI, IP DVR
- H.264 720p real-time recording
- TRIAX P2P mobile App
- Support Coaxitron 500m control
- 1080p 15 fps recording
- TRIAX common menu structure
- Coax or CAT5e cabling supported
- Live view, Motion detection and Alarm activation
- Pre-installed HDD for convenience

Type	THDR 4	THDR 8	THDR 16
Art. No.	301045	301090	301091
Operating System	Embedded LINUX		
Pentaplex Function	Live monitoring, recording, playback, back up & remote access		
Control Mode	Front panel, USB mouse, IR remote control, network		
VIDEO			
CVBS / TVI Input (1080p)	4Ch BNC (1.0Vp-p, 75 Ω)	8Ch BNC (1.0Vp-p, 75 Ω)	16Ch BNC (1.0Vp-p, 75 Ω)
TVI Coaxitron control	Support	Support	Support
Video CVBS output	1 x CVBS, BNC (1.0Vp-p, 75 Ω)		
Video HDMI output	1 x HDMI 1920 x 1080p Resolution		
Video VGA output	1 x VGA, 1920 x 1080, 1280 x 1024, 1366 x 768, 1024 x 768 Resolution		
AUDIO			
Input	1CH, RCA (Line in 2Vpp @1kΩ)		
Output	1 x RCA (Line in 2Vpp @300Ω)		
Two-way	1st. Channel reuse		
DISPLAY			
Resolution	1080p(25fps), 720p (25fps), 960H		
Tour Display	Support		
Privacy Masking	For zone for privacy masking for each channel		
RECORDING			
Video Compression	H.264 Main Profile @ level 4.1	H.264 Main Profile @ level 5.0	H.264 HP4
Analogue TVI Video input	4Ch	8Ch	16Ch
IP Input	Yes	Yes	Yes
Audio Compression	G.711A	G.711A	G.711A
Image Encoding	Adjustable encoding quality, variable code stream / fixed code stream		
Dual Stream	Support		
Max. Compression	4Ch. 1080p @15fps / 720p @25fps	8Ch. 1080p @15fps / 720p @25fps	16Ch. 1080p @15fps / 720p @25fps
Recording Mode	Manual, auto, motion detection, stop		
PLAYBACK RESOLUTION			
Synchronous Playback	4Ch 960H, 720p@25fps, 4Ch 1080p@15fps	8Ch 960H, 720p@25fps, 8Ch 1080p@15fps	16Ch 960H, 720p@25fps, 16Ch 1080p@15fps
Backup mode	USB, HDD, Network Backup		

# TRIAX® THDR Digital Video Recorder

4, 8 or 16 Channel HD-TVI



Download the mobile surveillance app



Warranty  
2 Years

Type	THDR 4	THDR 8	THDR 16
<b>VIDEO DETECTION &amp; ALARM</b>			
Trigger Events	Recording, PTZ, Tour, Email		
Motion Detection	396 (22x18) detection zone, variable sensitivity levels		
Capture	JPEG capture		
Alarm Input	4Ch	8Ch	16Ch
Alarm output	1Ch	4Ch	4Ch
<b>NETWORK</b>			
Ethernet	1 x RJ45 socket (10m/100m)	1 x RJ45 socket (10m/100m/1000m)	
Network Protocol	TCP/IP, UDP, HTTP, RTTP/RTSP		
Network Functions	DHCP, PPOE, DDNS, SMTP, SNTP, FTP, UPnP, P2P		
Remote Operations	Monitoring, PTZ control, playback, system setting, file download, log information		
Smart Phone	iPhone, iPad, Android		
SATA	1	1	2
Capacity	1TB installed (6TB max)	2TB installed (6TB max per SATA)	4TB installed (6TB max per SATA)
HDD Management	Hard disk hibernation technology, HDD faulty alarm		
CVBS / TVI Input (1080p)	4Ch BNC (1.0Vp-p, 75 Ω)	8Ch BNC (1.0Vp-p, 75 Ω)	16Ch BNC (1.0Vp-p, 75 Ω)
<b>EXTERNAL INTERFACE</b>			
USB Interface	2 USB 2.0 ports		
RS 485	Standard RS 485, half duplex. PTZ control		
<b>ENVIRONMENT</b>			
Power Supply	12 VDC 1.5A	12 VDC 2A	12 VDC 4A
Consumption	8W (without HDD)	10W (without HDD)	20W (without HDD)
Working Temperature	0°C ~ +55°C		
Working Humidity	10 ~ 90% RH		
Dimensions (mm)	1U:50(H) x 320 (W) x245 (D)	1U:50(H) x 320 (W) x245 (D)	1U:48(H) x 360 (W) x260 (D)
Weight (Kg)	2.0 (without HDD)	2.0 (without HDD)	2.0 (without HDD)
EAN	5702663010451	5702663010901	5702663010918

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# TRIAX<sup>®</sup> IP Turret and Dome Cameras

2.0 MP and 4.0 MP



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## IP Fixed Turret features and benefits

TTF 2IP - 1/2.8" 2.0 Mega progressive scan

TTF 4IP - 1/3" 4.0 Mega progressive scan CMOS

- H.264 960p Real time recording (TTF 2IP)
- H.264, H.265 4.0 Mega Real time recording (TTF 4IP)
- 2D/3D DNR, DWDR, Anti-fog
- Long Distance, No delay
- Support PoE, Support reset Button IR Array
- Support ONVIF
- Support intrusion detection
- Dual Stream (TTF 2IP), Triple Stream (TTF 4IP)
- IP66
- TRIAX P2P mobile App

## IP Varifocal Dome features and benefits

TDV 2IP - 1/2.8" 2.0 Mega progressive scan

TDV 4IP - 1/3" 4.0 Mega progressive scan CMOS

- H.264 1080p Real time recording
- 2D/3D DNR, DWDR, Anti-fog - 4IP has IR Cut, ROI
- Support PoE, Support reset Button 4IP has IR Array, TF Card
- Support ONVIF
- Support intrusion detection
- Dual Stream, Triple Stream (TDV 2IP and TDV 4IP)
- IP66
- TRIAX P2P mobile App



**TTF 2IP 2MP  
IP Camera  
3.6mm**

Art. No. 301094

EAN Number  
5702663010949



**TDV 2IP 2MP  
IP Camera  
2.8-12mm**

Art. No. 301098

EAN Number  
5702663010987



**TTF 4IP 4MP  
IP Camera  
3.6mm**

Art. No. 301095

EAN Number  
5702663010956



**TDV 4IP 4MP  
IP Camera  
3.3-10.5mm**

Art. No. 301099

EAN Number  
5702663010994



# TRIAX® IP Turret and Dome Cameras

2.0 MP and 4.0 MP

Type	TTF 2IP White	TTF 4IP White	TDV 2IP White	TDV 4IP White
Art. No.	301094	301095	301098	301099
Lens	3.6mm M12 lens	3.6mm M12 lens	2.8~12mm varifocal lens	3.3~10.5mm varifocal lens
Sensor	1/2.8" 2.0 Mega progressive scan CMOS	1/3" 4.0 Mega progressive scan CMOS	1/2.8" 2.0 MP progressive scan CMOS	1/3" 4.0 Mega progressive scan CMOS
IR distance	1PC IR Array, 30m	1PC IR Array, 30m	30 PCs, 30m	30 PCs, 30m
Electronic shutter	Auto (1/10s ~ 1/10000s Adjustable)			
Day/Night	Auto/Colour/B&W (IR_CUT)			
Noise Reduction	2D/3D Digital Noise Reduction			
WDR	Digital WDR	Digital WDR, Real WDR	Digital WDR	Digital WDR
Image Adjustment	Sharpness, Brightness, Saturation, Contrast Adjustable			
Video Encoding	H.264	H.264, H.265	H.264	H.264, H.265
Encoding Type	High Profile/ Main Profile/ BaseLine Profile	H.264 High Profile/ Main Profile/ BaseLine Profile/ H.265 High Profile	High Profile/ Main Profile/ BaseLine Profile	H.264 High Profile/ Main Profile/ BaseLine Profile/ H.265 High Profile
Record Resolution	Main Stream : 1920*1080@25/30fps Sub Stream : 704*576@25/30fps	Main Stream: 2560*1440@20 Sub Stream: 704*576@20	1920*1080, 1280*960, 1280*720, 704*576, 352*288@25/30fps	Main Stream: 2560*1440@20 Sub Stream: 704*576@20
Video Bitrate Control	Support VBR/CBR			
Video Bitrate Range	192Kbps ~ 12Mbps	32Kbps ~ 8Mbps	192Kbps ~ 8Mbps	32Kbps ~ 8Mbps
Reset Button	Front set reset button			
Network Interface	RJ45 10M/100M adaptive Ethernet interface			
Motion Detection	Multiple detection zones, variable sensitivity levels			
Privacy Masking	Four zones for privacy masking			
Snapshot	JPEG capture, capture resolution is the max coding resolution			
Security Features	Support password protection, watermarking features			
Text Overlay	Support (Channel name and time title)			
Alarm	Support network anomaly, mask alarm			
Intelligent Function	Support line-crossing detection			
Mobile APP.	IOS, Android			
Network Function	TCP/IP, UDP, HTTP, IGMP, ICMP, DHCP, RTP/RTSP, DNS, DDNS, FTP, NTP, PPPOE, UPNP, SMTP, SNMP			
Protocol	Support ONVIF and CGI protocol			
Protection Grade	IP66		IP66	IP66, IK10
PoE	Yes			
Power	DC 12V			
Operation temp.	-10°C ~ +60°C			
Operation humidity	10 ... 90%			
Power supply	3W max		6.5W max	8.0W max
Size	122 x 93 (mm)	122 x 93 (mm)	126.7 x 140 (mm)	154.3 x 120.8 (mm)
Weight (Kg)	0.390	0.390	0.975	1.150

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# TRIAX® IP Fixed and Varifocal Bullet Cameras

2.0 MP and 4.0 MP



## IP Fixed Bullet features and benefits

TBF 2IP - 1/2.8" 2.0 Mega progressive scan CMOS  
 TBF 4IP - 1/3" 4.0 Mega progressive scan CMOS

- 2IP has H.264 1080p Real time recording  
 4IP has H.264 H.265 4.0 Mega Real time recording
- 2D/3D DNR, DWDR, Anti-fog
- Long Distance, No delay
- Support PoE
- Support reset Button IR Array
- Support ONVIF
- Support intrusion detection
- Dual-Stream
- IP66
- TRIAX P2P mobile App

## IP Varifocal Bullet features and benefits

TBV 2IP - 1/2.8" 2.0 Mega progressive scan  
 TBV 4IP - 1/3" 4.0 Mega progressive scan CMOS

- 2IP has H.264 1080p Real time recording  
 4IP has H.264, H.265 1080p Real time recording
- 2D/3D DNR, DWDR, Anti-fog (4IP also has ROI)
- Long Distance, No delay
- Support PoE
- Support reset Button (4IP supports IP Array, TF Card)
- Support ONVIF
- Support intrusion detection
- Triple-Stream
- IP66
- TRIAX P2P mobile App

**TBF 2IP 2MP  
 IP Camera  
 3.6mm**



Art. No. 301092  
 EAN Number  
 5702663010925



**TBV 2IP 2MP  
 IP Camera  
 2.8-12mm**



Art. No. 301096  
 EAN Number  
 5702663010963



**TBF 4IP 4MP  
 IP Camera  
 3.6mm**



Art. No. 301093  
 EAN Number  
 5702663010932



**TBV 4IP 4MP  
 IP Camera  
 3.3-10.5mm**



Art. No. 301097  
 EAN Number  
 5702663010970



TERRESTRIAL  
 RECEPTION

SATELLITE  
 & FIBRE  
 RECEPTION

CABLE TV  
 (CATV)

HEADENDS  
 CAS SYSTEM  
 MODULATORS

CABLES &  
 CONNECTORS

OUTLETS  
 TAPS &  
 SPLITTER

INHOUSE  
 CONNECTIVITY

SURVEILLANCE  
 (CCTV)

INSTRUMENTS  
 TOOLS &  
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TECHNICAL  
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# TRIAX® IP Fixed and Varifocal Bullet Cameras

2.0 MP and 4.0 MP

Type	TBF 2IP White	TBF 4IP White	TBV 2IP White	TBV 4IP White
Art. No.	301092	301093	301096	301097
Lens	3.6mm M12 lens	3.6mm M12 lens	2.8~12mm varifocal lens	3.3~10.5mm varifocal lens
Sensor	1/2.8" 2.0 Mega progressive scan CMOS	1/3" 4.0 Mega progressive scan CMOS	1/2.8" 2.0 Mega progressive scan CMOS	1/3" 4.0 Mega progressive scan CMOS
Min. illumination	-	Colour: 0.05 Lux/ F1.2; 0 Lux / F1.2 (IR ON)	Colour: 0.01 Lux/ F1.2; 0 Lux / F1.2 (IR ON)	Colour: 0.01 Lux/ F1.2; 0 Lux / F1.2 (IR ON)
IR distance	30PCs, 30m	30PCs, 30m	6PCs, 50m	6PCs, 50m
Electronic shutter	Auto (1/10s ~ 1/10000s Adjustable)		Auto (1/25s ~ 1/10000s Adjustable)	
Day/Night	Auto/Colour/B&W (IR_CUT)			
Noise Reduction	2D/3D Digital Noise Reduction			
WDR	Digital WDR	Digital WDR, Real WDR	Digital WDR	Digital WDR
Image Adjustment	Sharpness, Brightness, Saturation, Contrast Adjustable			
Video Encoding	H.264	H.264, H.265	H.264, H.265	H.264, H.265
Encoding Type	High Profile/ Main Profile/ BaseLine Profile	H.264 High Profile/ Main Profile/ BaseLine Profile/ H.265 High Profile	H.264 High Profile/ Main Profile/ BaseLine Profile/ H.265 High Profile	H.264 High Profile/ Main Profile/ BaseLine Profile/ H.265 High Profile
Record Resolution	Main Stream : 1920*1080, 1280*960, 1280*720, 704*576, 352*288@25/30fps	Main Stream : 2560*1440@20fps; Sub Stream 704*576@20fps, Third Stream 1280*720@15fps	Main Stream: 1280*720@25fps	Main Stream : 2560*1440@20fps; Sub Stream 704*576@20fps, Third Stream 1280*720@15fps
Video Bitrate Control	Support VBR/CBR			
Video Bitrate Range	32Kbps ~ 12Mbps	32Kbps ~ 8Mbps	32Kbps ~ 8Mbps	32Kbps ~ 8Mbps
Reset Button	Front set reset button		Built-in reset button	
Network Interface	RJ45 10M/100M adaptive Ethernet interface			
Motion Detection	Multiple detection zones, variable sensitivity levels			
Privacy Masking	Four zones for privacy masking			
Snapshot	JPEG capture, capture resolution is the max coding resolution			
Security Features	Support password protection, watermarking features			
Text Overlay	Support (Channel name and time title)			
Alarm	Support network anomaly, mask alarm			
Intelligent Function	Support line-crossing detection			
Mobile APP.	IOS, Android			
Network Function	TCP/IP, UDP, HTTP, IGMP, ICMP, DHCP, RTP/RTSP, DNS, DDNS, FTP, NTP, PPPOE, UPNP, SMTP, SNMP			
Protocol	Support ONVIF and CGI protocol			
Protection Grade	IP66			
PoE	Yes			
Power	DC 12V			
Operation temp.	-10°C ~ +60°C			
Operation humidity	10 ... 90%			
Power supply	5.5W max		10.0W max	
Size	69 x 69 x 155 (mm)	69 x 69 x 155 (mm)	98 x 96 x 265 (mm)	98 x 96 x 265 (mm)
Weight (Kg)	0.530	0.390	1.200	1.200

TERRESTRIAL  
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# TRIAX® NVR Digital Network Video Recorder

4, 8 or 16 Channel IP



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

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## Features and Benefits

- Compact IP NVR
- H.264 720p real-time recording
- TRIAX P2P mobile App
- Support ONVIF
- Compatible with High Resolution 4MP cameras
- TRIAX common menu structure
- CAT5e cabling 90m
- Live view, Motion detection and Alarm activation
- Choice of HDD

Type	NVR 4	NVR 8	NVR 16
Art. No.	301046	301047	301048
Operating System	Embedded LINUX		
Pentaplex Function	Live monitoring, recording, playback, back up & remote access		
Control Mode	Front panel, USB mouse, IR remote control, network		
<b>VIDEO</b>			
IP Camera Input	4Ch. (40Mbps)	8Ch. (80Mbps)	16Ch. (160Mbps)
Decoding Capability	4Ch. D1@25fps	8Ch. D1@25fps	16Ch. D1@25fps
	4Ch. 720p@25fps	8Ch. 720p@25fps	13Ch. 720p@25fps
	4Ch. 1080p@25fps	6Ch. 1080p@25fps	6Ch. 1080p@25fps
Support Protocol	ONVIF	ONVIF	ONVIF
Standard	PAL (625 lines, 50f/s Hz), NTSC (525 lines, 60 f/s 60Hz)		
Output	1 CVB, BNC (1.0Vp-p, 75Ω)		
	1 x HDMI, 1.3a support 1920 x 1080 Resolution		
	1 x VGA, 1920 x 1080, 1440 x 900, 1280 x 1024, 1024 x 768, 800 x 600 Resolution		
<b>AUDIO</b>			
Output	1 x BNC ( 2.0Vpp @300Ω)		
Two-way	1st. Channel reuse		
<b>DISPLAY</b>			
IP Resolution	5MP/3MP/1080p/UXGA/720p/VGA/4CIF/DCF/2CIF/CIF/QCIF		
Frame	1 ~ 30fps		
Tour Display	Support		
Privacy Masking	For zone for privacy masking for each channel		
<b>RECORDING</b>			
Video Compression	MPEG 4 / H.264 Main Profile @ level 4.2		
Audio Compression	G.711A		
Image Encoding	Adjustable encoding quality, variable code stream / fixed code stream		
Dual Stream	Support		
Recording Mode	Manual, auto, motion detection, stop		
Time bar	Support		



# TRIAX® NVR Digital Network Video Recorder

4, 8 or 16 Channel IP



Download the mobile surveillance app



- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
- HEADENDS CAS SYSTEM MODULATORS

- CABLES & CONNECTORS
- OUTLETS TAPS & SPLITTER
- INHOUSE CONNECTIVITY
- SURVEILLANCE (CCTV)
- INSTRUMENTS TOOLS & CABINETS
- TECHNICAL APPENDIX

Type	NVR 4	NVR 8	NVR 16
<b>VIDEO DETECTION &amp; ALARM</b>			
Trigger Events		Recording, PTZ, Tour, Email	
Motion Detection	396 (22x18) detection zone, variable sensitivity levels		
Capture	JPEG capture		
<b>PLAYBACK RESOLUTION</b>			
Max Playback	1/2/4 Ch.	1/2/4/8 Ch.	1/2/4/8/16 Ch.
Backup mode	USB, HDD, Network Backup		
<b>NETWORK</b>			
Ethernet	1 x RJ45 socket (10M/100M/1000M)		
Network Protocol	TCP/IP, UDP, HTTP, RTTP/RTSP		
Network Functions	DHCP, PPOE, DDNS, SMTP, SNTP, FTP, UPnP, P2P, 3G		
Remote Operations	Monitoring, PTZ control, playback, system setting, file download, log information		
Smart Phone	iPhone, iPad, Android		
SATA	1	2	2
Capacity	6TB Max per SATA	6TB Max per SATA	6TB Max per SATA
HDD Management	Hard disk hibernation technology, HDD faulty alarm		
<b>EXTERNAL INTERFACE</b>			
USB Interface	2 USB 2.0 ports		
RS 485	Standard RS 485, half duplex. PTZ control		
PoE Function	4Ch.	8Ch.	8Ch.
		IEEE 802.3af	
		RJ45 (10M/100M)	
<b>ENVIRONMENT</b>			
Power Supply	48 VDC 1.35A (PoE)		
Consumption	6W (without HDD & PoE)	7W (without HDD & PoE)	8W (without HDD & PoE)
Working Temperature	0°C ~ +55°C		
Working Humidity	10 ~ 90% RH		
Dimensions (mm)	45(H) x 215 (W) x235 (D)	1U: 48(H) x 360 (W) x260 (D)	1U: 48(H) x 360 (W) x260 (D)
Weight (Kg)	0.9 (without HDD)	2.0 (without HDD)	2.0 (without HDD)
EAN	5702663010468	5702663010475	5702663010482

# TRIAX<sup>®</sup> Accessories

For a professional installation



TERRESTRIAL  
RECEPTION

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## WD Hard Drives features and benefits

- Built for 24/7 always on high temperature surveillance systems
- Improved performance
- Built for compatibility with industry leading chassis and chip set manufacturers for seamless integration

- Optimised to support up to 32 high definition surveillance cameras
- Lower power consumption, crucial in high temperature always on surveillance

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### 1TB WD10PURX WD Purple™

Interface: SATA - 6GB/S  
Form Factor: 3.5 inch

Art. No. 301057

EAN Number  
5702663010574



### 4TB WD40PURX WD Purple™

Interface: SATA - 6GB/S  
Form Factor: 3.5 inch

Art. No. 301059

EAN Number  
5702663010598



### 2TB WD20PURX WD Purple™

Interface: SATA - 6GB/S  
Form Factor: 3.5 inch

Art. No. 301058

EAN Number  
5702663010581

## Power Extension DC Cable



### DC1x5 Split Power Extension DC Cable

Connectors: 1 x Female - 5 x Male  
Splits DC voltage upto 5 cameras

Art. No. 301071

EAN Number  
5702663010710



### DC1x8 Split Power Extension DC Cable

Connectors: 1 x Female - 8 x Male  
Splits DC voltage upto 8 cameras

Art. No. 301072

EAN Number  
5702663010727

# TRIAX® Accessories

- for a professional installation

- TERRESTRIAL RECEPTION
- SATELLITE & FIBRE RECEPTION
- CABLE TV (CATV)
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- TECHNICAL APPENDIX

## Connectors for TX5912 Cable + Tool



### MPP 1 Male Power Plug

Connectors: 1 x DC-male/2 x Screw terminal  
Plugs into CCTV camera to deliver power from source

Art. No. 301073

EAN Number  
5702663010734



### FPP 1 Female Power Plug

Connectors: 1 x DC-male/2 x Screw terminal  
Plugs into CCTV camera to deliver power from source

Art. No. 301074

EAN Number  
5702663010741



### BNC C1 Connector [Compression]

1 x Female  
Professional connector to deliver video from your CCTV camera to your DVR

Art. No. 301075

EAN Number  
5702663010758



### CBT1 BNC Compression Tool

Professional compression tool for use with BNC C1 connector 301075

Art. No. 301086

EAN Number  
5702663010864

## Converters



### VTC C1 Converter Video RG59 > CAT5 Converter Pair

BNC (on 30mm fly lead), RJ-45, screw audio terminals

Remarks: Enables CAT cable to be used between CCTV camera and DVR for video

Art. No. 301077

EAN Number  
5702663010772



### VAP B1 Converter Video Audio Power RG59 > CAT5 Balun Pair

BNC, Phono, DC (Male), RJ-45 / BNC (on 80mm fly lead), Phono, DC (Female), RJ-45

Remarks: Enables CAT cable to be used between CCTV camera and DVR for video, audio and power

Art. No. 301078

EAN Number  
5702663010789

# TRIAX® Accessories

- for a professional installation



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## Power Supplies



**PSU 1218/12**  
**12VDC - 12A PTC Protection**

Art. No. 301081

EAN Number  
5702663010819



**PSU 125**  
**12VDC - 5A Single O/Put**

Art. No. 301087

EAN Number  
5702663010772



**PSU 249/8**  
**24VAC - 8A**

Art. No. 301082

EAN Number  
5702663010826

Type	PSU 1218/12 12VDC - 12A PTC Protection	PSU 249/8 24VAC - 8A	PSU 125 12VDC - 5A Single O/Put
Art. No.	301081	301082	301087
Ports for connecting cameras	18 *)	9 x PTZ *)	
DC	12 VDC	24 VAC	12 VDC
Amp	12	9	5
Remarks	Connects upto 18 CCTV cameras	Connects upto 9 PTZ CCTV cameras	Use with DC 1x5 Split (art. no. 301071) and DC 1x8 Split (art. no. 301072) to provide power for CCTV cameras up to 5 amps.

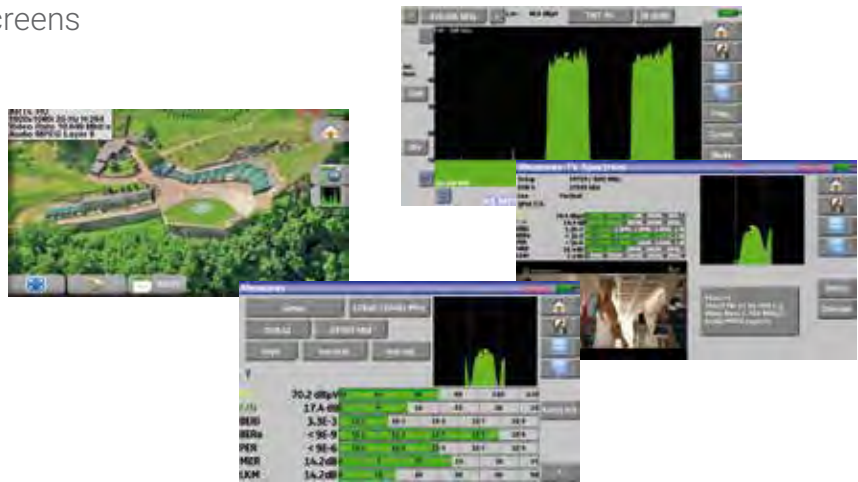
\*) Depending on camera power requirements.

# TRIAX<sup>®</sup> Meters

measurement instruments

Content	Page
Satellite, Terrestrial, Cable	
■ MCT 048	XX
■ MCT 049	XX
■ MCT 059	XX
■ MCT 072	XX
■ MCT 075	XX
■ SPM 1200 HD	XX
■ SPM 1600 HD	XX
■ CPM 1700	XX
■ UPM 2350	
■ UPM 3500	
Optical power meter	
■ TOM 011	XX
■ TSO 1315	XX

## MCT Screens



## UPM Screens



TERRESTRIAL  
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# TRIAX<sup>®</sup> Meters

measurement instruments



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## The latest technology for the perfect installation

Testing and measurement is an essential part of today's digital distribution of high quality television and data signals. TRIAX offers an array of satellite, antenna, cable and fibre optic testing and measurement instruments for installers, allowing you to install a distribution network that's always running at peak performance.

For service purposes and fault finding on existing networks, the right instrument is more than half the job. When commissioning the installation of a distribution network, insist on a thorough test report from the installer. This is the only way to make sure no hidden flaws will come back to haunt you later, and is also a valuable tool in later service cases.



# TRIAX<sup>®</sup> Meters

measurement instruments

## FEATURE COMPARISON CHART - TRIAX MCT RANGE

Selection guide	MCT 048	MCT 049	MCT 059	MCT 072	MCT 075
Art. no.	812950	812960	812970	812894	812895
<b>TERRESTRIAL FEATURES</b>					
Frequency range 45 to 900 MHz	X				
Frequency range 5 to 900 MHz		X	X	X	X
DAB / DAB+ measurements				0	0
DVB-T, DVB-T2 measurements	X	X	X	X	X
DVB-T2 Lite measurements		X	X	X	X
DVB-C, DVB-C2 measurements		X	X	X	X
LTE function				X	X
Real time echoes measurement with zoom	X	X	X	X	X
Spectrum analysis in "expert" mode					X
<b>SATELLITE FEATURES</b>					
Frequency range 900 to 2200 MHz	X	X	X	X	X
DVB-S, DVB-S2	X	X	X	X	X
SAT finder with SAT identification	X	X	X	X	X
Spectrum analysis in "expert" mode					X
<b>OPTICAL FEATURES</b>					
Optical power measurement			X	0	0
Optical to RF conversion			X		0
<b>OTHERS FUNCTIONS</b>					
50 channels measurement, text or graphical mode		TXT	TXT	GRAPH	GRAPH
Constellation diagram		X	X	X	X
Measurement storage		X	X	X	X
Monitoring in graphical mode				X	X
Triple display : measurement, picture, mini spectrum				X	X
Measurement location storage		X	X	X	X
Data export and saving on USB stick		X	X	X	X
Integrated electronic compass				X	X
PVR					X
GPS and Multistream					X
<b>IN / OUT</b>					
Interface USB A, ETHERNET	X	X	X	X	X
Interface USB mini B				X	X
HDMI output				X	X
Input Wi-Fi antenna				0	0
Input / output ASI					X
Warranty	2 YEARS	2 YEARS	2 YEARS	2 YEARS	2 YEARS
<b>MECHANICAL FEATURES</b>					
Steel housing	X	X	X		
Aluminium housing				X	X
Touch screen display 7" TFT	X	X	X		
Touch screen display 10" TFT				X	X
Kit including a sun protector + rain protector + belt hanger (sun protector and belt hanger by default)	0	0	0	X	X
Car cigar lighter adapter	0	0	0	0	0
Rain protector	0	0	0		

X = Feature available by default

0 = Feature available on option

TERRESTRIAL  
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# TRIAX® MCT Meter

the ideal companions for DVB T/T2/T2Lite

DVB-S/S2 - DVB-C in SD and HD Quality



TERRESTRIAL  
RECEPTION

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TECHNICAL  
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Touch  
screen

HD  
TV

EASY  
thumbs up icon

Warranty  
2 Years

## MCT 048 & MCT 049 - Features and benefits

With its panoramic 7-inch display, you experience the full benefit of touch screen technology: intuitive access to functions, menus and measurements. The rugged new housing with protective bumpers is designed for extensive field use and protecting the sensitive parts of the instrument.

- Touch screen, compact, robust and easy to use
- All digital measurements in DVB-T/T2/T2Lite (MCT 049 only) , DVB-S/S2, DVB-C (MCT 049 only)
- Panoramic LCD, with display of MPEG2 and MPEG4 TV programmes
- Checksat and tool to align antennas
- USB and ethernet interface



### MCT 048 DVB-T/T2; DVB-S/S2 combi meter

Art. No. 812950

EAN Number  
5702668129509



### MCT 049 DVB-T/T2/T2 Lite; DVB-S/S2 - DVB-C/C2 combi meter

Art. No. 812960

EAN Number  
5702668129608

## MCT 048/049/059 accessories

- Art. No. 812953 Sun & rain protector + belt hanger kit for MCT 048/049/059 with S/N < 3000
- Art. No. 812957 Sun & rain protector + belt hanger kit for MCT 048/049/059 with S/N > 3000
- Art. No. 812952 Rain protector MCT 048/049/059
- Art. No. 812956 Sun protector for MCT 048/049/059 with S/N < 3000
- Art. No. 812958 Sun protector for MCT 048/049/059 with S/N > 3000
- Art. No. 812912 Car cigar lighter adaptor





# TRIAX® MCT 048, MCT049 & MCT 059

for DVB-T/T2/T2Lite - DVB-S/S2 - DVB-C in SD and HD Quality

## MCT 059 - Features and benefits

The MCT 059 has the same features as the MCT 049, plus an optical input which can be used for measuring signals from fibre. The optical to RF converter allows all measurements and functions on the optical signal, just like the terrestrial or satellite regular signal.

- Touch screen, compact, robust and easy to use
- Panoramic LCD with display of MPEG2 and MPEG4 TV programmes
- Check alignment of antennas
- Optical input for terrestrial and satellite, including optical power measurement
- USB for data saving & export



## MCT 059 DVB-T/T2/T2Lite/ S/S2 and C/C2 Optical Measurement

Art. No. 812970

EAN Number  
5702668129707

Type:	MCT 048 meter	MCT 049 meter	MCT 059 meter
Art. no.	812950	812960	812970
<b>CHARACTERISTICS</b>			
Audio decoding	MPEG-1, MPEG-2, AAC, HE AAC, Dolby Digital, Dolby Digital Plus		
Video decoding	MPEG-2 SD & MPEG-4 HD (H264)		
MER	DVB-T: (5...35dB) (5...35dB) DVB-S: (0...20dB) DVB-S2: (0...20dB)	DVB-T2: (5...35dB) DVB-S: (0...20dB) DVB-S2: (0...20dB) DVB-C: (20...40dB) DVB-C2 (5...35dB)	DVB-T: (5...35dB) DVB-T2: (5...35dB) DVB-S: (0...20dB) DVB-S2: (0...20dB) DVB-C: (20...40dB) DVB-C2 (5...35dB)
Colour-TV standard	DVB-T/T2, BG, I, L, MN, Carrier, DVB-S/S2, DSS, PAL, SECAM, NTSC	DVB-T/T2, BG, I, L, MN, Carrier, DVB-S/S2, DSS, PAL, SECAM, NTSC	DVB-T/T2/T2 lite/H, BG, D, K, I, L, M, N, FM, DVB-C/C2, PAL, SECAM, NTSC, DVB-S, DVB-S2, DSS
Sound reproduction	MPEG-1, MPEG-2, AAC, HE AAC, Dolby® Digital, Dolby® Digital Plus		
<b>FREQUENCY</b>			
Measurement Terrestrial	DVB-T/T2	DVB-T/T2/T2Lite	DVB-T/T2/T2 Lite
Measurement Satellite	DVB-S/S2	DVB-S/S2	DVB-S/S2
Frequency range	45-900 / 900-2200MHz	5 ... 2200MHz	5 ... 2200MHz
Measurement sensitivity VHF/UHF	20...120 (30...120 @5...45MHz)dBµV		
Measurement sensitivity SAT	30...110 dBµV		
Measuring accuracy	±2dB +/- 0.05dB/°CdB		
<b>OPERATIONAL</b>			
Battery	Lithium Ion (25W)	Lithium Ion (25W)	Lithium Ion (25W)
Remote voltage - DVB-T/SAT	5/13/18/24V, 500 mA max	5/13/18/24V, 500 mA max	5/13/18/24V, 500 mA max (300mA max. for 24V)
Remote voltage - SAT	13V/18V, 500mA max	13V/18V, 500mA max	13V/18V, 500mA max
AC Supply voltage	100...240VAC	100...240VAC	100...240VAC
DC Operating voltage	15VDC	15VDC	15VDC
DC Current consumption (typ.)	1000mA	1000mA	1000mA
External PSU	Included	Included	Included
Accessories included	Main wall plug adapter, user manual CD, carrying belt and carrying pouch	Main wall plug adapter, user manual CD, carrying belt and carrying pouch	Main wall plug adapter, user manual CD, carrying belt and carrying pouch, F/BNC adapter, F/F right angle cable, FC/FC optical cable, FC/SC optical cable, SC/SC to APC & FC/FC connectors
Temperature - operating	-5 ... +45°C	-5 ... +45°C	-5 ... +45°C
Temperature - storage	-10 ...+60°C	-10 ...+60°C	-10 ...+60°C
<b>CONNECTORS</b>			
Connector IN	F-female / BNC	F-female / BNC	F-female / BNC
<b>MECHANICAL</b>			
Remarks	Delivered with carry bag	Delivered with carry bag	Delivered with carry bag
Display	7" color LCD 16:9 with back light		
Dimensions product (H x D x W)	165 x 65 x 250mm	165 x 65 x 250mm	165 x 65 x 250mm
Weight (including batterie and pouch)	1.35 Kg	1.35 Kg	1.35 Kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX

# TRIAX® MCT 072 & MCT 075 Meters

DVB-T/T2/T2Lite - DVB-S/S2 - DVB-C/C2 in HD Quality



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
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CABINETS

TECHNICAL  
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## MCT 072 & MCT 075 - Features and benefits

With state of the art specifications for HDTV, MCT meters are a new way to measure, saving time and money. Set up a TV reception system in no time, with fast spectrum analysis, checksat mode with electronic compass and NIT, Cell ID function, real time echoes and pre-echoes, MER per carrier, constellation diagram, fast Autoset, and an LTE function to help diagnose spurious filtering,

- Panoramic LCD touch screen : 10 inches (16:9)
- Display free to air programmes for digital terrestrial, cable and satellite
- Display High Definition TV programs MPEG4-H.264
- All measurements for DVB-T/T2/T2 Lite, DVB-C/C2, DVB-S and DVB-S2
- All measurements for MPEG-2 and MPEG-4
- DAB measurement (option)
- Ultra fast spectrum analysis

- Checksat mode with NIT (satellite recognition)
- LTE function to help the diagnosis of filters
- Real time echoes and pre-echoes measurement with zoom
- Constellation diagram with zoom
- Three in one display: measurement, TV picture, mini spectrum
- Graphical display of measurements
- Electronic compass for dish alignment
- Memorise and export/import data using a USB memory stick
- Battery with 1 hour charging time and 4 hours autonomy
- Supplied with carrying bag and protection pouch
- Weight: 2.9kg



**MCT 072 DVB-T/T2,  
DVB-S/S2, DVB-C  
combi meter**

Art. No. 812894

EAN Number  
5702668128946



**MCT 075 DVB-T/T2,  
DVB-S/S2, DVB-C  
meter incl. PVR**

Art. No. 812895

EAN Number  
5702668128953

## MCT 072/075 accessories

- Art. No. 812932 Optical power measurement (OPM)
- Art. No. 812912 Car cigar lighter adaptor
- Art. No. 812933 WiFi option (factory option)
- Art. No. 812896 Transportation bag

# TRIAX® MCT 072 & MCT 075 Meters

DVB-T/T2 - DVB-S/S2 - DVB-C/C2

Selection guide	MCT 072	MCT 075
DVB-T/T2/T2 Lite	✓	✓
DVB-S/S2	✓	✓
DVB-C/C2	✓	✓
MPEG2 TV decoding**	✓	✓
MPEG4 - H264 TV decoding**	✓	✓
Fast spectrum analysis	✓	✓
Expert spectrum analysis	-	✓
Checksat mode with NIT	✓	✓
LTE function	✓	✓
HDMI interface	✓	✓
TS-ASI input and output	-	✓
PVR (1) function	-	✓
GPS and Multistream capability	-	-
Optical power measurement	✓*	✓*
Wi-Fi network measurement	✓*	✓*
DAB / DAB+ measurements	✓*	✓*

Type:	MCT 072	MCT 075
	DVB-T/T2/T2Lite, DVB-S/S2, DVB-C	DVB-T/T2/T2Lite, DVB-S/S2, DVB-C incl. PVR
Art. no.	812894	812895
<b>CHARACTERISTICS</b>		
Audio decoding	MPEG-1, MPEG-2, AAC, HE AAC, Dolby Digital, Dolby Digital Plus	
Video decoding	MPEG-2 (SD) & MPEG-4 (HD - H264)	MPEG-2 (SD) & MPEG-4 (HD-H.264)
MER	DVB-T: (5...35dB) DVB-T2: (5...35dB) DVB-S: (0...20dB) DVB-S2: (0...20dB) DVB-C: (20...40dB)dB	
Colour-TV standard	DVB-T/T2/T2lite, BG, I, L, MN, Carrier, FM/RDS, DAB/DAB+, DVB-S/S2, DSS, PAL, SECAM, NTSC	
Sound reproduction	MPEG-1, MPEG-2, AAC, HE AAC, Dolby® Digital, Dolby® Digital Plus	
<b>FREQUENCY</b>		
Measurement Terrestrial	DVB-T/T2	DVB-T/T2
Measurement Satellite	DVB-S/S2	DVB-S/S2
Measurement Cable	DVB-C/C2	DVB-C/C2
Frequency range	5-2200MHz	
Measurement sensitivity VHF/UHF	20...120 (30...120 @5...45MHz)dBµV	20...120 (30...120 @5...45MHz)dBµV
Measurement sensitivity SAT	30...110dBµV	30...110dBµV
Measuring accuracy	±2dB +/- 0.05dB/°C dB	
<b>OPERATIONAL</b>		
Battery	LiOn (70W)	
Remote voltage - DVB-T/SAT	5/13/18/24V, 500 mA max (300mA max. for 24V)	5/13/18/24V, 500 mA max (300mA max. for 24V)
Remote voltage - SAT	13V/18V, 500mA max	13V/18V, 500mA max
AC Supply voltage	100...240VAC	
DC Operating voltage	15VDC	
DC Current consumption (typ.)	5000mA	
External PSU	Included	
External PSU item ID		
Accessories included	Main wall plug adapter, user manual CD, carrying belt and carrying pouch, F/BNC adapter, F/F right angle cable	
Temperature - operating	-5 ... +45°C	
Temperature - storage	-10 ...+60°C	
<b>CONNECTORS</b>		
Connector IN	F-female / BNC	
HDMI out	Yes	
<b>MECHANICAL</b>		
Packing QTY	1	
Remarks	Optional: Optical power/ Wi-Fi network/DAB measurement	
Display	LCD touch screen 10 inches (16:9)	
Dimensions product (H x D x W)	165 x 65 x 280mm	
Weight (including batterie and pouch)	2.90 Kg	

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAX® 1200HD & SPM 1600HD Meters

DVB-S/S2 measurement instruments



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

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CONNECTORS

OUTLETS  
TAPS &  
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(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
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## SPM 1200 HD - Features and benefits

- Plug and play with pre-installed transponder
- 3" display
- Optical and acoustic guidance
- DVB-S/S2 picture and sound generation.
- Automatic SAT-identification (NIT-search)
- Suitable for unicable
- Supports DiSEqC 1.0, 1.1, 1.2, auto
- Practical wristband included. LNB test function
- Numeric key-pad for easy use.

### SPM 1200 HD, Satellite meter DVB-S/S2

Art. No. 304532

EAN Number  
5702663045323



### SPM 1600 HD Standard, Satellite meter DVB-S/S2

Art. No. 304604

EAN Number  
5702663046047



## SPM 1600 HD Std. - Features and benefits

- Satellite measuring receiver with 5.7" TFT
- Frequency range 910 to 2,150 MHz
- Level/BER/MER/Packet errors for DVB-S/S2
- MPEG 4 decoder with 1 x Common-Interface (CI) and DVI out/NIT evaluation
- Analyse function full-band/narrow-band
- Scan function for satellite and transponder search
- USB for data transfer, screenshots and software updates. DVI out, DiSEqC 1.0/1.1/1.2/2.0
- Unicable, JESS, programming function for addressable antenna outlets
- Lithium ion battery 7.4 V/6.6 Ah
- Transport case, measuring cable, external power supply, USB stick

## SPM 1600 HD Lead - Features and benefits

Same as SPM 1600 »STANDARD« plus

- Constellation diagram and optical measurement module

### SPM 1600 HD Lead, Satellite meter DVB-S/S2

Art. No. 304605

EAN Number  
5702663046047



# TRIAX<sup>®</sup> Meters

measurement instruments

## Accessories



### OMM 1600 Optical input for SPM 1600

Art. No. 304580

EAN Number  
5702663045804

Optical input for SPM 1600



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

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Type:	SPM 1200 HD Satellite meter DVB-S/S2	SPM 1600 HD Standard Satellite meter DVB-S/S2	SPM 1600 HD Lead Satellite meter DVB-S/S2 incl. OMM 1600 & K-Diagram
Art. no.	304532	304604	304605
<b>CHARACTERISTICS</b>			
Audio decoding	MPEG-1, MPEG-2	MPEG-2, MPEG-4, AAC	
Video decoding	MPEG2	MPEG-2 (SD) & MPEG-4 (HD-H.264)	
Modulation scheme	DVB-S: (QPSK) DVB-S2: (QPSK, 8SPK)	DVB-S: (QPSK) DVB-S2: (QPSK, 8SPK)	
Symbol Rate (S/R)	DVB-S: (2...45) DVB-S2 (2...30)Mbit/s	DVB-S: (2...45) DVB-S2 (2...45)Mbit/s	
BER/CBER/LBER/VBER		DVB-S: (VBER 10-2...10-8, LBER 10-2...10-8)	
MER		DVB-S: (2...20dB) DVB-S2: (1...20dB)dB	
Sound reproduction		AAC, Dolby Digital AC3, Dolby Digital Plus	
<b>FREQUENCY</b>			
Measurement Range	DVB-S/S2	DVB-S/S2	DVB-S/S2
Frequency range	950...2400MHz	910...2150MHz	910...2150MHz
Measurement sensitivity SAT	44...84dBμV	30...100dBμV	30...100dBμV
Measuring accuracy		+/- 2.0 (20°C) +/- 2.5 (0 -40°C)dB	
<b>ELECTRICAL</b>			
Impedance	75Ω	75 Ω	75 Ω
<b>OPERATIONAL</b>			
Battery	12V/2AH LI-ION-Battery	7.2V/6.6Ah LI-ION (min. 3.5 hours operation)	7.2V/6.6Ah LI-ION (min. 3.5 hours operation)
LNB supply voltage	13/18 V, 500 mA max	14/18 V, 500 mA max	14/18 V, 500 mA max
AC Supply voltage	110...240VAC		
DC Operating voltage	13.3VDC	11...15 /2.5AVDC	11...15 /2.5AVDC
DC Current consumption (typ.)	2000mA	2500mA	2500mA
External PSU	Included	Included	Included
Accessories included	User manual, magnetic compass, Bag included	Transport Case, Protective bag, IEC measuring cable 75 Ohm, USB stick, manual	
<b>CONNECTORS</b>			
Connector IN	F-female (IEC 60 169-24)	IEC-female (IEC 60 169-2)	IEC-female (IEC 60 169-2)
<b>MECHANICAL</b>			
Packing QTY	1	1	1
Display	3" LCD 16:9-Display	5.7" color LCD TFT	5.7" color LCD TFT
Dimensions product (H x D x W)	99 x 37 x 139 mm	266 x 70 x 164 mm	266 x 70 x 164 mm
Weight (including batterie)	0.44 Kg	1.3 kg	1.3 kg

# TRIAX® CPM 1700 Meters

DVB-T/T2 - DVB-S/S2 - DVB-C/C2



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS &  
SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



## CPM 1700 Standard - Features and benefits

CATV measuring receiver with 5.7" TFT

- Frequency range 5 to 867 MHz
- Return channel, FM, TV analogue, DVB-C/T/T2.
- Level/BER/MER/Packet errors/constellation diagram for DVB-C/-T/-T2
- MPEG 4 decoder with 1 × Common-Interface (CI) and DVI out/NIT evaluation
- Spectrum analyser for all ranges

- TILT function
- DOCSIS analyser (DOCSIS 3.0)
- EMI measurement
- USB for data transfer, screenshots and software updates
- Lithium ion battery 7.4 V/6.6 Ah
- Transport case, measuring cable, external power supply, USB stick



### CPM 1700 Standard DVB-C meter

Art. No. 304585

EAN Number  
5702663045859



### CPM 1700 WORKX DVB-C meter

Art. No. 304586

EAN Number  
5702663045866



### CPM 1700 LEAD DVB-C/T2 meter

Art. No. 304587

EAN Number  
5702663045873

## CPM 1700 WORKX - Features and benefits

Same as CPM 1700 »STANDARD« plus

- S/N measurement module for evaluation of ATV signals and Optical measurement module

## CPM 1700 Lead - Features and benefits

Same as CPM 1700 »WORKX« plus

- expanded CATV frequency range up to 1,214 MHz

## Accessories



### OMM 1700 Optical input for CPM 1700 Standard

Art. No. 304576

EAN Number  
5702663045767

# TRIAX® CPM 1700 Meters

DVB-T/T2 - DVB-S/S2 - DVB-C/C2

## Accessories



### S/N module for CPM 1700 Standard

Art. No. 304577

EAN Number  
55702663045774



### Option DVB-T2 for CPM 1700 Standard, Workx and Lead

Art. No. 304589

EAN Number  
5702663045897



### CATV frequency range 1200 MHz for CPM1700 Standard & Workx

Art. No. 304588

EAN Number  
5702663045880

### Bag for CPM 1700 green

Art. No. 304591

EAN Number  
5702663045910

Type:	CPM 1700 Standard DVB-C meter	CPM 1700 WORKX DVB-C meter	CPM 1700 LEAD DVB-C meter
Art. no.	304585	304586	304587
<b>CHARACTERISTICS</b>			
Modulation scheme	DVB-C: 16...256 QAM	DVB-C: 16...256 QAM	DVB-C: (16...256 QAM) DVB-T2: (QPSK, 16QAM, 64QAM, 256QAM)
Symbol Rate (S/R)	DVB-C: (0.5...7.2)Mbit/s	DVB-C: (0.5...7.2)Mbit/s	DVB-C: (0.5...7.2)Mbit/s
Guard Interval			DVB-T2: 1/4, 19/128, 1/8, 19/256, 1/16, 1/32, 1/128
FFT mode			DVB-T2: (1k, 2k, 4k, 8k, 16k, 32k)
BER/CBER/LBER/VBER	DVB-C: (BER: 1.00x10-8 / 1.00x10-9)	DVB-C: (BER: 1.00x10-8 / 1.00x10-9)	DVB-C: (BER 1.00x10-8 / 1.00x10-9) DVB-T: (CBER: 1.00x10-6, VBER: 1.00x10-8) DVB-T2: (CBER: 1.00x10-6, VBER: 1.00x10-8)
MER	DVB-C: (≤40dB)dB	DVB-C: (≤40dB)dB	DVB-T: (≤35dB) DVB-T2: (≤35dB) DVB-C: (≤40dB)dB
Colour-TV standard	Standards B/G, I, L, M/N, D/K/ PAL/SECAM/NTSC	Standards B/G, I, L, M/N, D/K/ PAL/SECAM/NTSC	Standards B/G, I, L, M/N, D/K/ PAL/SECAM/NTSC
Sound reproduction	Build in speaker, Headphone connection, Acoustic level indicator		
<b>FREQUENCY</b>			
Measurement Range A	DVB-C	DVB-C	DVB-C
Measurement Range B	CATV	CATV	DVB-T/T2
Frequency range	5...867MHz	5...867MHz	5...1050MHz
Measurement sensitivity VHF/UHF	25...120dBμV	25...120dBμV	25...120dBμV
Measuring accuracy	±1.5 (20°C)	±1.5 (20°C)	±1.5 (20°C)
<b>OPERATIONAL</b>			
Battery	Li-Ion, 7.2 V/6.6 Ah	Li-Ion, 7.2 V/6.6 Ah	Li-Ion, 7.2 V/6.6 Ah
DOCSIS	3.0	3.0	3.0
DC Operating voltage	11...15VDC	11...15VDC	11...15VDC
DC Current consumption (typ.)	<3000mA	<3000mA	<3000mA
Power Consumption (typ.)	<36W	<36W	<36W
External PSU	Included	Included	Included
Temperature - operating	0...+45°C	0...+45°C	0...+45°C
Temperature - storage	-10...+55°C	-10...+55°C	-10...+55°C
<b>CONNECTORS</b>			
Connector IN	IEC-female (IEC 60 169-2)	IEC-female (IEC 60 169-2)	IEC-female (IEC 60 169-2)
<b>MECHANICAL</b>			
Packing QTY	1	1	1
Display	5.7" color LCD TFT	5.7" color LCD TFT	5.7" color LCD TFT
Dimensions product (H x D x W)	297 x 84 x 206mm	297 x 84 x 206mm	297 x 84 x 206mm
Weight (including batterie)	2.5 Kg	2.5 Kg	2.5 Kg

TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

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(CCTV)

INSTRUMENTS  
TOOLS &  
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# TRIAX® UPM 2350 combi meter

DVB-T/T2 - DVB-S/S2 - DVB-C/C2



TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

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## UPM 2350 Standard - Features and benefits

- Combo measuring meter with 5.7" TFT
- Frequency range TV 5 to 867 MHz, SAT 910 to 2,150 MHz
- Level and image representation for analogue TV signals, FM, return channel
- Level/BER/MER/Packet errors/constellation diagram for DVB-S/-S2/-C/-T/-T2
- MPEG 4 decoder with 1 x Common-Interface (CI)/NIT evaluation

- Spectrum analyser for all ranges
- TILT function – EMI measurement
- USB for data transfer, screenshots and software updates, DVI out
- DiSEqC 1.0/1.1/1.2/2.0, UNICABLE, JESS, programming function for addressable antenna outlets
- Lithium ion battery 7.4 V/6.6 Ah
- Transport case, measuring cable, external power supply, USB stick



### UPM 2350 Standard combi meter

Art. No. 304592

EAN Number  
5702663045927



### UPM 2350 WORKX meter w. optical module

Art. No. 304593

EAN Number  
5702663045934



### UPM 2350 LEAD combi meter w. expanded CATV frequency rang

Art. No. 304594

EAN Number  
5702663045941

## UPM 2350 WORKX - Features and benefits

Same as UPM 2350 »STANDARD« plus

- Optical measurement module and DAB/DAB+ measurement module

## UPM 2350 Lead - Features and benefits

Same as UPM 2350 »WORKX« plus

- expanded CATV frequency range up to 1,214 MHz
- S/N measurement module for evaluation of ATV signals



# TRIAX® UPM 2350 Meters

DVB-T/T2 - DVB-S/S2 - DVB-C/C2

## Accessories

### UPM 2350 STANDARD options

- Art. No. 304595 DAB/DAB+ module
- Art. No. 304596 S/N module for evaluation of ATV signals
- Art. No. 304601 OMM optical input module

### UPM 2350 STANDARD, WORKX & LEAD options

- Art. No. 304603 Bag for UPM 2350 green for protection transportation
- Art. No. 304602 WLAN option for UPM 2350 Network scan with reception level measurement
- Art. No. 304598 DVB-T2 module - HEVC image decoder for all UPM 2350 instruments

### UPM 2350 STANDARD & WORKX options

- Art. No. 304597 Frequency 1200 MHz module - expansion module up to 1.214 MHz

Type:	UPM 2350 START combi meter	UPM 2350 WORKX meter w. opt.	UPM 2350 LEAD combi meter
Art. no.	304592	304593	304594
<b>OPTICAL CHARACTERISTICS</b>			
Measurement sensitivity Optical	40...55dBm		40...55dBm
<b>CHARACTERISTICS</b>			
Audio decoding	MPEG-2, MPEG-2 AAC, MPEG-4, Dolby Digital, Doloby Digital +, AC3, (Opt: DAB/DAB+ audio dec., Chinese character set GB2312)		
Video decoding	MPEG-2, MPEG-4, ITU-T H.264, (Opt: MPEG-H L5.1, AVS/AVS+)		
Modulation scheme	DVB-T: (COFDM, QPSK, 16QAM, 64QAM) / DVB-T2: (COFDM, QPSK, 16QAM, 64QAM, 256QAM) DVB-S: (QPSK) DVB-S2: (QPSK, 8SPK, 16APSK, 32APSK) / DVB-C: (16...256QAM)		
Symbol Rate (S/R)	DVB-S: (2...45) DVB-S2 (2...45) DVB-C: (1...7.2)Mbit/s		
Guard Interval	DVB-T: (1/4, 1/8, 1/16, 1/32) DVB-T2: 1/4, 19/128, 1/8, 19/256, 1/16, 1/32, 1/128		
FFT mode	DVB-T: (2k, 8k) DVB-T2: (1k, 2k, 4k, 8k, 16k, 32k)		
BER/CBER/LBER/VBER	DVB-C: (BER: 1.00x 10-8) DVB-T/T2: (CBER: 1.00x10-6, VBER: 1.00x10-8) DVB-S/S2: (CBER: 1.00x10-8, VBER: 1.00x10-8)		
MER	DVB-T/T2: (< 35dB) / DVB-S: (2...20dB) / DVB-S2: (1...20dB) / DVB-C: (< 40dB)dB		
Colour-TV standard	PAL, NTSC, B/G, D/K, L, I, M/N		
<b>FREQUENCY</b>			
Measurement Range A	DVB-C	DVB-C	DVB-C
Measurement Range B	DVB-S/S2	DVB-S/S2	DVB-S/S2
Measurement Range C	DVB-T/T2	DVB-T/T2	DVB-T/T2
Measurement Range D	Return channel	Return channel	Return channel
Measurement Range E	FM	FM/DAB/DAB+	FM/DAB/DAB+/CATV <1214MHz
Measurement Range F		Optical 800-1700 nm	Optical 800-1700 nm
Frequency range	5...2150MHz	5...2150MHz	5...2150MHz
Measurement sensitivity VHF/UHF	20...120dBµV	20...120dBµV	20...120dBµV
Measurement sensitivity SAT	30...110dBµV	30...110dBµV	30...110dBµV
Measuring accuracy	+/- 1,5 dB (20°C) +/- 2,0 dB (0 -40°C)		
<b>ELECTRICAL</b>			
Impedance	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>			
Battery	LiOn 7.4V/6.6AH	LiOn 7.4V/6.6AH	LiOn 7.4V/6.6AH
Remote voltage - DVB-T/SAT	5...20Vdc / 22KHz / max. 500mA / DiSEqC: V 1.0, 1.1, 1.2, 2.0 / Unicable / JESS / EN50607		
DC Operating voltage	11...15VDC	11...15VDC	11...15VDC
Power Consumption (typ.)	< 36W	< 36W	< 36W
External PSU	Included	Included	Included
Accessories included	Transport case, IEC cable 75Ω, Adapter+ext powercable, USB stick, Manual,	Transport case, IEC cable 75Ω, Adapter+ext powercable, USB stick, Manual, Fibrecable SC/APC-SC/APC-SC/APC	Transport case, IEC cable 75Ω, Adapter+ext powercable, Manual, Fibrecable SC/APC-SC/APC USB stick
Temperature - operating	0...+45°C	0...+45°C	0...+45°C
Temperature - storage	-10...+55°C	-10...+55°C	-10...+55°C
<b>CONNECTORS</b>			
Connector IN	IEC-female	IEC-female	IEC-female
<b>MECHANICAL</b>			
Packing QTY	1	1	1
Display	5.7" VGA color TFT	5.7" VGA color TFT	5.7" VGA color TFT
Dimensions product (H x D x W)	297 x 84 x 206mm	297 x 84 x 206mm	297 x 84 x 206mm
Weight (including batterie)	2.50	2.50	2.50

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# TRIAX® UPM 3500 Meters

DVB-T/T2 - DVB-S/S2 - DVB-C/C2



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## UPM 3500 Standard – Features and benefits

Antenna measuring receiver with 5.5" TFT

- Frequency range TV 5 to 1214 MHz, SAT 910 to 2150 MHz
- Level measurement and video for TV analogue, FM, return channel
- S/N measurement module for evaluation of analogue TV signals with SCOPE/HUM indication
- Level/BER/MER/Packet errors/Constellation diagram for DVB-S/S2/C/T/T2

- MPEG 4 decoder with 2 × Common-Interface (CI)/NIT evaluation
- DVI-out, ASI in/out via BNC, SCART in/out
- Spectrum analyser for all ranges
- TILT function
- Hum and phase jitter verification in CATV
- Printer/USB for data transfer and protocols
- DiSEqC 1.0/1.1/1.2/2.0, UNICABLE, JESS, programming function for addressable antenna outlets
- Lithium ion battery 14.4 V/6.6 Ah
- Leather protection bag, measurement cable, power cord, USB stick



### UPM 3500 Standard combi meter

Art. No. 304610

EAN Number  
5702663046108



### UPM 3500 CATV combi meter

Art. No. 304611

EAN Number  
5702663046115



### UPM 3500 LEAD combi meter

Art. No. 304612

EAN Number  
5702663046122

## UPM 3500 CATV – Features and benefits

As UPM 3500 Standard, plus:

- EMI measurement module and DOCSIS analyser (DOCSIS 3.0)



### UPM 3500 HEADEND combi meter

Art. No. 304613

EAN Number  
5702663046139

# TRIAX® UPM 3500 Meters

DVB-T/T2 - DVB-S/S2 - DVB-C/C2

## UPM 3500 Lead - Features and benefits

As UPM 3500 CATV, plus:

- DAB/DAB+ measurement module and Optical measurement module

## UPM 3500 HEADEND - Features and benefits

As UPM 3500 Standard, plus:

- remote/SNMP management software (activation code), but without SAT, DVB-T, printer, leather bag, battery

## Extra option for UPM 3500



### Optical input for UPM 3500 for Standard & CATV option

Art. No. 304575

EAN Number  
5702663045750

### DVB-T HEVC image decoder for all UPM 3500 instruments

Art. No. 304614

EAN Number  
5702663046146

### DOCSIS 3.0 analyzer for UPM 3500

Art. No. 389824

EAN Number  
5702663898240



### DAB/DAB+ module for UPM 3500

Art. No. 304569

EAN Number  
5702663045699

### DLE 70 for UPM 3500

Distance measuring equipment (manufacturer Bosch)

Art. No. 389830

EAN Number  
5702663898301

### EMI for UPM 3500

Electro-magnetic interference measurement/leakage detection, required for use of EMI2 240 and EMI 241

Art. No. 389827

EAN Number  
5702663898271

### EMI 240 for UPM 3500

301 MHz calibrated antenna set to display electromagnetic interference

Art. No. 389828

EAN Number  
5702663898288

### EMI 241 for UPM 3500

Leakage detection antenna with built in 301 MHz preamplifier

Art. No. 389829

EAN Number  
5702663898295

### EMI 242 for UPM 3500

Significant frequency generator 301 MHz – Adjustable from 301.0–301.7 MHz – 13 digit adjustable ID (FM modulated) – Output level adjustable from 90–108 dBµV

Art. No. 389841

EAN Number  
5702663898417

UPM 3500 - accessories and technical data, please see the following pages

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# TRIAX® UPM 3500 Meters

add-ons and accessories



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## Accessories for UPM 3500

### Bag for UPM 3500 - leather

Art. No. 389831

EAN Number  
5702663898318

### Measurement cable for UPM 3500

Art. No. 304875

EAN Number  
5702663045682

### Battery pack for UPM 3500 Li/Ion 14.4V/6.600 Ah

Art. No. 389882

EAN Number  
5702663898820

### Printer paper roll for UPM 3500

Art. No. 304544

EAN Number  
5702663045446

### Power cable for UPM 3500

Art. No. 389658

EAN Number  
5702663896581



# TRIAX® UPM 3500 Meters

add-ons and accessories

Type:	UPM 3500 START combi meter	UPM 3500 CATV combi meter	UPM 3500 LEAD combi meter	UPM 3500 HEADEND combi meter
Art. no.	304610	304611	304612	304613
<b>CHARACTERISTICS</b>				
Modulation scheme	DVB-T: (COFDM, QPSK, 16QAM, 64QAM) DVB-S: (QPSK) DVB-S2: (QPSK, 8SPK) DVB-C: (16...256QAM)			
Symbol Rate (S/R)	DVB-S: (2...45) DVB-S2 (2...45) DVB-C: (0.5...7.2)Mbit/s			
Guard Interval	DVB-T: (1/4, 1/8, 1/16, 1/32)		DVB-T: (1/4, 1/8, 1/16, 1/32) DVB-T2: 1/4, 19/128, 1/8, 19/256, 1/16, 1/32, 1/128	
FFT mode	DVB-T2: (1k, 2k, 4k, 8k, 16k, 32k)			
BER/CBER/LBER/VBER	DVB-C: (BER: 10-2...10-8) DVB-T: (CBER: 1.00x10-6, VBER: 1.00x10-8) DVB-S: (CBER: 1.00x10-8, VBER: 1.00x10-8) DVB-S2: (CBER: 1.00x10-8, LBER: 1.00x10-8)		DVB-C: (BER:10-2...10-8) DVB-C: (BER:10-2...10-8) DVB-T: (CBER:1.00x10-6, VBER: 1.00x10-8) DVB-S: (CBER: 1.00x10-8, VBER: 1.00x10-8) DVB-S2: (CBER:1.00x10-8 LBER: 1.00x10-8) DVB-T2: (CBER: 1.00x10-6 LBER: 1.00x10-8)	
MER	DVB-T: (≤35dB) DVB-S: (≤20dB) DVB-S2: (≤20dB) DVB-C: (≤40dB)dB		DVB-T: (≤35dB) DVB-S: (≤20dB) DVB-S2: (≤20dB) DVB-C: (≤40dB) DVB-T2: (≤35dB)dB	
Colour-TV standard	B/G, I, L, M/N, D/K, PAL, SECAM, NTSC			
Spectrum analyzer	Digital Analyser with switchable measuring bandwidths on all levels			
<b>FREQUENCY</b>				
Measurement Range A	DVB-C	DVB-C	DVB-C	DVB-C
Measurement Range B	DVB-S/S2	DVB-S/S2	DVB-S/S2	DVB-S/S2
Measurement Range C	DVB-T	DVB-T	DVB-T/T2	
Measurement Range D	Return channel	Return channel	Return channel	
Measurement Range E	CATV ≤1050MHz	CATV ≤1050MHz	CATV ≤1050MHz	CATV ≤1050MHz
Measurement Range F			FM/DAB/DAB+	
Frequency range	5...2150MHz	5...2150MHz	5...2150MHz	5...2150MHz
Measurement sensitivity VHF/UHF	20...120dBµV	20...120dBµV	20...120dBµV	20...120dBµV
Measurement sensitivity SAT	30...120dBµV	30...120dBµV	30...120dBµV	30...120dBµV
Measuring accuracy	+/- 1,5 (20°C)dB	+/- 1,5 (20°C)dB	+/- 1,5 (20°C)dB	+/- 1,5 (20°C)dB
<b>ELECTRICAL</b>				
Impedance	75Ω	75Ω	75Ω	75Ω
<b>OPERATIONAL</b>				
Battery	LiOn 14.4/6.6AH	LiOn 14.4/6.6AH	LiOn 14.4/6.6AH	LiOn 14.4/6.6AH
Remote voltage - SAT	5-20V in 0,1V-Steps	5-20V in 0,1V-Steps	5-20V in 0,1V-Steps	5-20V in 0,1V-Steps
DOCSIS	3.0	3.0	3.0	
AC Supply voltage	100...120/200...240VAC		100...120/200...240VAC	
DC Operating voltage	10...15VDC	10...15VDC	10...15VDC	10...15VDC
Power Consumption (typ.)	< 45W	< 45W	< 45W	< 45W
Accessories included	Leather bag, power cable, IEC measuring cable, instruction manual, 24-character thermo printer			
Temperature - operating	0...+45°C	0...+45°C	0...+45°C	0...+45°C
Temperature - storage	-10...+55°C	-10...+55°C	-10...+55°C	-10...+55°C
<b>CONNECTORS</b>				
Connector IN	IEC-female	IEC-female	IEC-female	IEC-female
<b>MECHANICAL</b>				
Packing QTY	1	1	1	1
Remarks	Int. loudspeaker, Headphone plug, Acoustic leveldisplay			
Display	5.5" color TFT (680x480 pixel)	5.5" color TFT (680x480 pixel)	5.5" color TFT (680x480 pixel)	5.5" color TFT (680x480 pixel)
Dimensions product (H x D x W)	160 x 300 x 360mm	160 x 300 x 360mm	160 x 300 x 360mm	160 x 300 x 360mm
Net Weight	6.1 kg	6.1 kg	6.1 kg	6.1 kg

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# TRIAX® Optical power meter/light source



An optical power meter is an indispensable tool for any fibre-optic installer. Only by measuring the result and quality of the installed cable immediately upon installation, can you be certain that it will work as expected when powering on the system. The risks of finding faults with the installation in the future is thereby reduced to a minimum.



## TOM 011 Optical power meter

Art. No. 307967

EAN Number  
5702663079670



## TSO 1315 Optical light source

Art. No. 367310

EAN Number  
5702663673106

Type:	TOM 011 Optical Power Meter	TSO 1315 Optical light source
Art. no.	307967	367310
<b>OPTICAL CHARACTERISTICS</b>		
Measurement sensitivity Optical	-50 ... +30 dBm	-6 to -7 dBm
<b>CHARACTERISTICS</b>		
Detector type	InGaAs	Fabry Perrot laser diode
Detector size	Ø 1.0 mm	
Modulation scheme		270Hz, 1KHz, 2KHz, (@1310/1550)
<b>FREQUENCY</b>		
Measurement Range	Optical 800-1700 nm	
Calibrated wavelength	850, 1300, 1310, 1490, 1550, 1625 nm	1310, 1550 nm
Uncertainty	+/- 5 %	
Measuring accuracy	+/- 5 %	
<b>OPERATIONAL</b>		
Battery	3 x 1.5V AA-batteries (app. 140 hours)	3x AA
DC Operating voltage	9VDC	
Temperature - operating	-10 ..+60°C	-10 ..+60°C
External PSU		Included
External PSU item ID		9V adapter
Temperature - storage	-25 ..+70°C	-25 ..+70°C
<b>CONNECTORS</b>		
Connector IN	Optical - FC/PC - SC/APC	Optical - FC/PC
<b>MECHANICAL</b>		
Display	LCD with backlight, Auto-standby after 10 minutes	LCD with backlight, Auto-standby
Dimensions product (H x D x W)	190 x 50 x 100mm	185 x 84 x 48mm
Weight (including batterie)	0.370 kg	0.180kg
Remarks	Self-calibration function 140 hours autonomy powered with 3 x AA batteries (not included)	45 hours batteries autonomy

# TRIAX<sup>®</sup> technical appendix

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# Terrestrial aerials

## Introduction

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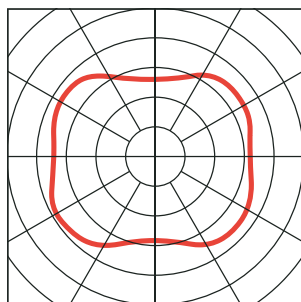
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### Television antennas for DVB-T

DVB-T reception is possible with any antenna that is suitable for the related frequency band and polarization. In the catalogue all antennas suitable for the reception of DVB-T signals in VHF III and UHF IV/V bands are marked with the DVB logo.



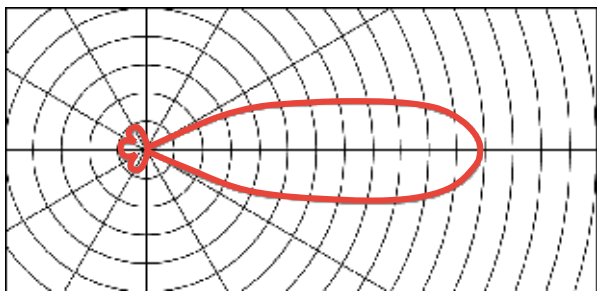
Antennas are suitable for the reception of digital terrestrial signals (DVB-T)

### Omnidirectional reception

The omnidirectional radio antenna has approximately the same sensitivity for all directions and can only be recommended for well supplied reception areas.

### Directional reception

The directional antenna receives signals from one main direction better than omnidirectional antennas, but has poorer reception of signals from other directions. A directional antenna is absolutely necessary for areas where signals are weak, or in areas where a particular weak transmitter is to be received.

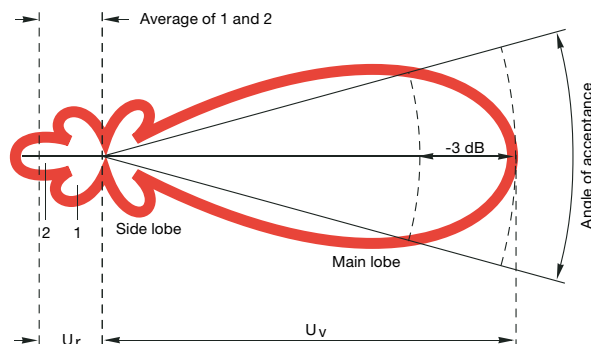


### Antennas

Stereo signals can be received using any FM antenna.

Because, however, a higher signal level and greater freedom from reflection are needed for clear stereo reception than for mono reception, it is usually necessary to use a directional antenna.

### Radiation pattern – The most important terms



### Gain

Ratio of an antenna's reception power in its main receiving direction to receive power of a 1/2 dipole at the same installation site (logarithmic measure expressed in dB).

### Angle of acceptance

Angular aperture of the major lobe between the points where the gain is lower by 3 dB than its maximum value.

### Major lobe

Section of the radiation pattern in the direction of the maximum gain.

### Side lobe

Lateral and rearward lobe-shaped sections of the radiation pattern that have a lower gain than in the main receiving direction.

### Front to back ratio\*

Ratio of the voltage  $U_v$  in the main receiving direction to an average  $U_r$  generated on the basis of the voltages of the side lobe 2 in the back direction ( $180^\circ$ ) and of the larger side lobe 1 in the rear sector ( $90^\circ$ - $270^\circ$ ) (logarithmic measure expressed in dB).

\* Corresponding to a definition by the Technical Commission of the "Receiving Antennas" association in ZVEI



# Mast calculation

designed for superior TV reception

The sum of the moments resulting from the intrinsic moment of the mast and the bending moments caused by the mounted antennas must not exceed the maximum permitted bending moments of the mast itself.

The bending moment caused by an antenna is calculated by the following formula:

$$\text{Wind load (N)} \times \text{distance (m)} = \text{bending moment (Nm)}$$

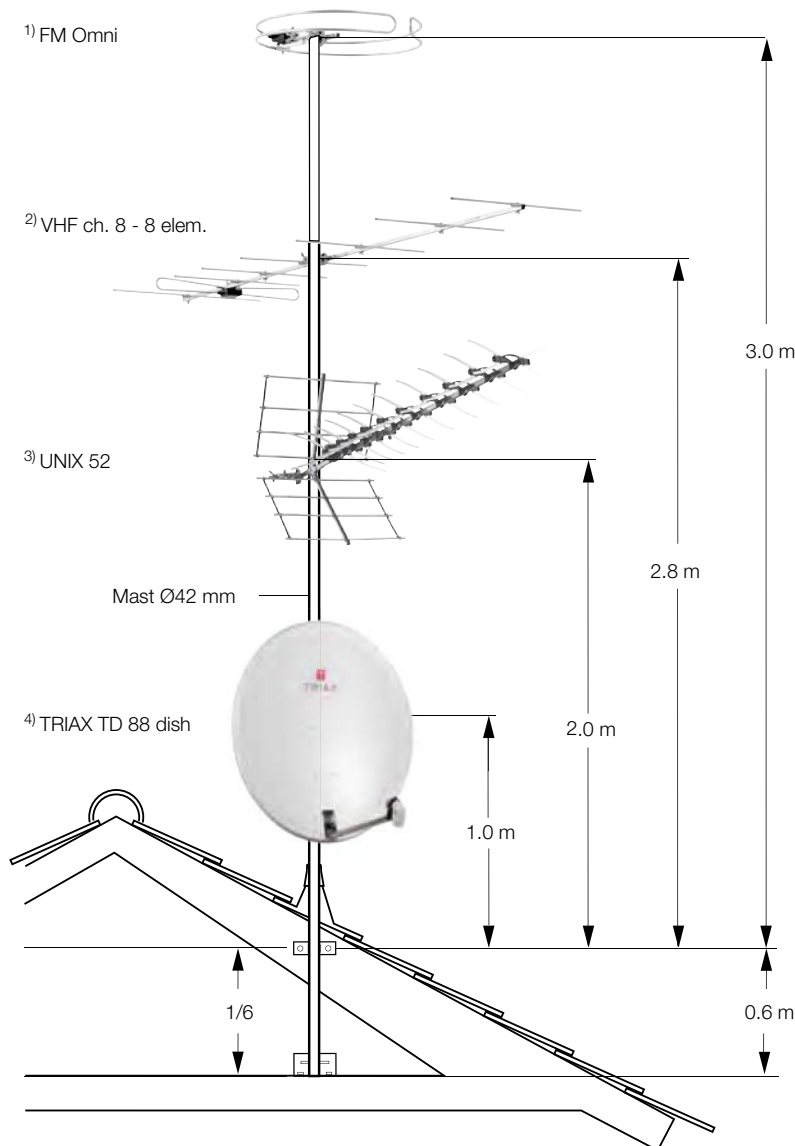
The distance and bending moment refer to the top clamping point. Bending moments in excess of 1650 Nm require proof of structural stability.

Wind load x	distance	=	bending moment
1) 16 N	x 3,6 m	=	57.6 Nm
2) 56 N	x 2,8 m	=	156.8 Nm
3) 96 N	x 2,0 m	=	192,0 Nm
4) 619 N	x 1 m	=	619,0 Nm

Total bending moment of the antennas 1025,4 Nm

The total bending moment for the antenna at 1025.4 Nm is less than the usable bending moment for the antenna to be mounted of 1250 Nm.

Therefore the intended configuration is permitted!



In accordance with DIN EN 50083-1 the clamped length of the mast must be at least 1/6 of the mast length

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# TRIAX<sup>®</sup> technical appendix

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## 1. Basic technical requirements

All equipment and components in this catalogue meet, unless otherwise stated, the European standards for "Cable networks for television signals, sound signals and interactive services" from the standardisation organisation CENELEC, which have been adopted in national versions.

- EN 50083-1** Safety requirements
- EN 50083-1/A1**
- EN 50083-1/A2**
- EN 50083-2** Electromagnetic compatibility (EMC) of equipment

The equipment conforms to the uniform European "EMC directive" in accordance with legal requirements. For the majority of the product groups in this catalogue, EN 50083-2 is relevant. In relation to the "Low voltage directive".

EN 60065 is the basis to which reference is made in EN 50083-1 "Safety requirements".

The CE marking for products in relation to EMC and the low voltage directive is based on these standards.

In addition, CENELEC committee TC 209 has ratified European standards for equipment and system requirements for "Cable networks for television signals, sound signals and interactive services".

- EN 50083-3** Active broadband equipment for coaxial cable networks
- EN 50083-4** Passive broadband equipment for coaxial cable networks
- EN 50083-5** Headend equipment
- EN 50083-6** Optical equipment
- EN 50083-7** System requirements
- EN 50083-8** Electromagnetic compatibility of cable networks
- EN 50083-9** Interfaces for CATV/SMATV headends and similar professional equipment for DVB/MPEG-2 transport streams
- EN 50083-10** System performance for return paths

The system and equipment requirements are matched to each other in such a way that the minimum requirements for signal quality at the subscriber's outlet can be met with a minimum of technical effort. In addition, requirements that result from use of both analogue and digital signal transmission have also been taken into account. The EN 50083 standards provide the network operator, planner and installer with concrete guidelines for network design and selection of appropriate network components. TRIAX network components are developed to these standards and are marked in the catalogue by the relevant EN standard. The equipment standards (EN 50083 Parts 3...6) include fulfillment of the safety and EMC requirements (EN 50083 Parts 1 + 2).

The legally required CE marking for antenna and telecommunication products refers to adherence to electromagnetic compatibility (EMC) limits and, from 1 Jan 1997, to adherence to the low voltage directive.

The CE marking does not therefore imply fulfilment of the product and system requirements according to EN 50083-3...-10.

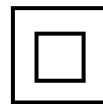
For this reason Triax indicates compliance with these basic requirements on equipment (EN 50083-3...6) by explicitly noting the corresponding EN standard in the catalogue and in the operating instructions.

### 1.1 Marking of components for TV cable networks

With the CE marking Triax confirms the compliance of its products with the applicable EU directives (currently EMC and low voltage directives) as well as with the standards EN 50083-1, EN 50083-2 and EN 60065. For receivers the standards EN 55013, EN 55020 and EN 61000 are applied. The CE marking is placed on the product, on the packaging and/or included in the operating instructions.

To prevent interference between TV cable networks and radio services, it is necessary to use components with sufficient shielding. Due to the varying conditions in European countries, the shielding rate was defined in the European standard EN 50083-2 in two stages, the high quality class A and class B with reduced shielding rate values.

For compliance with the legal EMC requirements for TV cable networks, we expressly recommend the use of class A components, including connecting cables so marked for terminal equipment.



Protection class 2 according to IEC 60417-5172 for components with power connection 230 V ~.

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## 2. Technical data in the catalogue

### 2.1. Characteristic impedance

Unless otherwise expressly mentioned, all technical data in the catalogue refer to a 75Ω impedance for RF connections.

### 2.2. Operating temperature

All passive units in the catalogue can be used within an operating temperature range of -20 °C to +60 °C. The mains-operated units meet the requirements of the EN 60065 standard within the temperature range from -20 °C to +50 °C.

Operability of these units is nevertheless also maintained fully in the temperature range from -20 °C to +60 °C. Individual units that deviate with regard to the above operating temperature range are specifically mentioned.

### 2.3. Mains voltage

All mains-operated units in the catalogue already meet the requirements of the IEC 60038 standard. with a rated voltage of 230 V~ +6% /-10%.

### 2.4. Wind load

For antenna locations, safety regulations according to EN 50083-1 differentiate between two heights above ground (up to 20 m and above 20 m).

They specify different dynamic pressure values for each height.  $q = 800 \text{ N/m}^2$ . and  $q = 1100 \text{ N/m}^2$  respectively. The wind load values (horizontal and vertical) specified in this catalogue were determined using a dynamic pressure of  $q = 800 \text{ N/m}^2$ . If a value for  $q = 1100 \text{ N/m}^2$  is needed. the value in the catalogue has to be multiplied by 1.37.

### 2.5. Permissible output level for active electronic equipment

Specification of the permissible output level is made according to EN 50083-3 "Active broadband equipment for coaxial cable networks" for a signal-to-noise ratio of:

- IMD = 60 dB for amplifiers for AM, QAM and FM signals (in SMATV/MATV, broadband cable, CATV installations)
- IMD = 35 dB for amplifiers for FM signals only (satellite IF transmission)

Now that this measurement method is standard throughout Europe, this important parameter has become transparent and comparable. With the aid of this information, the network planner and installer are able to determine the optimum amplifier gain (refer also to the planning instructions) to maintain the required minimum signal-to-noise ratios for a given number of channels.

This procedure provides considerable advantages wherever new networks with a minimum number of amplifiers (cost advantage) are planned or where overriding regulations apply to certain parts of the network.

For example the permissible output level for a house connection amplifier to a house connection point is explicitly specified at  $\text{CTB/CSO} \geq 66 \text{ dB}$ .

This means that the required signal quality ( $\text{CTB/CSO} \geq 57 \text{ dB}$  according to EN 50083-7) can be maintained up to the subscriber's connection. Other permissible output levels are also given on the one hand for the CENELEC spacing (EN 50083-3) and on the other hand for full adjacent channel load of TV bands.

Maintaining the latter control limits allows for any channel load with analogue and digital TV signals (worst case: complete channel load with analogue and digital TV channels). Assigning only digital TV channels in the frequency range < 606 MHz makes it possible to raise the output level of the house connection amplifier by up to 2 dB.

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### 3. Planning and installation instructions

#### 3.1. Permissible output level for house connection amplifiers, multiple band amplifiers, and postamplifiers

It is always recommended to carry out these calculations on a Windows PC using:

- AND by CDS Germany (www.cdsgmbh.de)
- CACAO by PTE-software (www.ptesoftware.dk)

The following explanations can be an additional help for solving problems and for understanding the underlying relationships.

The permissible output level is dependent on:

- The required signal-to-noise ratio CTB, CSO
- The number of TV channels to be transmitted
- The frequency distribution of the channels

The signals of the FM radio band can be treated as a single TV channel if their levels are 6-8 dB below the level of the TV channels. The first selection criterion is the number of TV channels to be transmitted.

##### 3.1.1 Maximum number of TV channels: 10 (MATV systems)

- Determine the permissible output level from the technical data: for IMD2 (60dB 2nd order intermodulation products according to EN 50083-5), for IMR3 (60dB 3rd order intermodulation products according to EN 50083-5)
- Reduce the IMR3 value according to the number of channels

The smaller of the two output levels (with respect to IMD2, IMR3) is the permissible output level (dB(μV)) for a signal-to-interference ratio of IMD=60 dB.

Number of channel loads	Correction to the catalog value in dB
2	0
3	- 2
4	- 3
5	- 4
6	- 5
7	- 5.5
8	- 6
10	- 7

*Table 1:  
Level reduction as a function of the number of channels loaded*

##### 3.1.2 More than 10 TV channels (broadband cable, MATV, CATV)

In order to obtain optimal gain from amplifiers with many channels loaded, it is necessary to use the permissible output levels specifically defined for each such case (for a CSO and CTB ratio of 60 dB) and a channel raster as close as possible to a defined one.

##### 3.1.3 Approximate calculation for the permissible output level:

- a) Permissible output level dependent on required CSO and CTB values that are different from catalogue values:

###### CSO

Question: "How high is the permissible output level for a CSO value D a dB above the catalogue value (CSO = 60 dB)?"

$n_{a1}$  = output level in dB(μV) for CSO = 60 dB (catalogue value)  
 $n_{a2}$  = output level in dB(μV) for CSO = (60 + D) dB

$$n_{a2} = n_{a1} - \Delta a$$

i. e. on an increase in the CSO requirement by Δ a dB, the permissible output level is reduced by Δ a dB.

###### CTB

Question: "How high is the permissible output level for a CTB value D a dB above the catalogue value (CTB = 60 dB)?"

$n_{a3}$  = output level in dB(μV) for CTB = 60 dB (catalogue value)  
 $n_{a4}$  = output level in dB(μV) for CTB = (60 + Δ) dB

$$n_{a4} = n_{a3} - \Delta a/2$$

i. e. on an increase in the CTB requirement by Δ a dB, the permissible output level is reduced by Δ a/2 dB.

- b) Permissible output level for channel loads deviating from catalogue specifications

The individual Triax operating instructions list the maximum permissible output level for a signal-to-interference ratio of 60 dB for three different channel spacings:

- up to 450 MHz: 36 TV + 24 FM channels.
  - up to 606 MHz: 29 TV channels ("CENELEC raster")
  - up to 862 MHz: 42 TV channels ("CENELEC raster")
- Refer to "Channel spacing" table

These conditions are critical with respect to the development of non-linear distortion (CTB, CSO). For small deviations of the actual channel spacing from the standard ones, it is not necessary to reduce the output level shown in the operating instructions. For larger deviations, the following rules of thumb can help to obtain a rough approximation for the adjustment:

1. Select the catalogue values corresponding to the highest channel frequency.
2. For a channel pattern with twice the number of channels specified in the catalogue, reduce the output level by **about 3 dB**.

## 3. Planning and installation instructions

- continued from last page

If the frequency band contains only one half of the number of channels (with constant channel spacing), it is possible to raise the output level by 3 dB. If the configuration lies somewhere in between these extremes, it is possible to make a rough interpolation.

- c) Maximum output level for frequency pre-compensation (line equaliser)

A frequency pre-compensation value for example of 10 dB using a line equaliser permits driving the amplifier approximately 2 dB higher. This value can also be treated as output reserve. It should be noted, however, that the signal-to-interference ratio at low frequencies will deteriorate by the amount of compensation attenuation. For extreme cases, optimisation by a planning specialist is therefore required.

- d) Permissible output level when cascading amplifiers

For cascades, reduce the output level by 3 dB each time you double the number of cascaded amplifiers.

### 3.2. Radiated interference power and max. operating level

The radiated interference power of an antenna system according to EN 50083-2 may not exceed:

- 20 dB(pW) = 39 dB(μV) at 75W in the frequency range 30-950 MHz
- 43 dB(pW) = 62 dB(μV) at 75W in the frequency range 950-2500 MHz

Thus, in conjunction with the shielding rate specified for the equipment, the maximum operating level is as follows:  
Maximum operating level =

- Shielding rate+ 39 dB(μV)  
(in the 30-950 MHz frequency range)
- Shielding rate + 62 dB(μV)  
(in the 950-2500 MHz frequency range)

### 3.3. Shielding rate

The passive TRIAX components in this catalogue meet as a minimum the shielding rates required by EN 50083-2. class B:

- 5-470 MHz 75 dB min
- 470-950 MHz 65 dB min
- 950-3000 MHz 50 dB min

Class A components meet the increased requirements of EN 50083-2

- 5-300 MHz 85 dB min
- 300-470 MHz 80 dB min
- 470-950 MHz 75 dB min
- 950-3000 MHz 55 dB min



For active units, the class A marking also documents compliance with EN 50083-2.

### 3.4. Signal-to-noise ratio, noise factor

The signal-to-noise ratio is the ratio of the used signal power to the noise power expressed in decibels. The noise factor defines by how much the signal-to noise ratio at the output of an active unit (e. g. amplifier) is less than the signal-to-noise ratio at the input.

The thermal noise level on a 75 W resistor amounts - for a bandwidth of 5 MHz (TV channel) and - for a temperature of 293 K to approximately 2 dB(μV).

The signal-to-noise ratio of the received signal is the decisive factor for the video quality of a TV set (see below). The signal-to-noise ratio at the output of an individual amplifier (for ideal. i.e. noise-free input signal) can be determined as follows:

Operating level at the output

- gain
- noise factor
- noise level

Example:

An amplifier with the following output parameters: 94 dB(μV) operating level, 21 dB gain, and 7 dB noise factor.

The signal-to-noise ratio at the output of an individual amplifier would then be:

94	dBμV	operating level
-	21	dB
-	7	dB
-	2	dBμV
=	64	dB
		s/n out

### 3.5. Signal-to-noise ratio / noise / picture quality

Signal-to-noise ratio	Noise	Picture quality
> 46 dB	invisible	very good
37 dB	visible, but not interfering	good
30 dB	clearly visible, interfering	unsatisfactory
< 26 dB	dominant compared to required signal	unusable

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# TRIAX<sup>®</sup> technical appendix

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## 4. Earthing and equipotential bonding cables

EN 50083-1 specifies the following earthing and equipotential bonding cables for antenna systems:

### Earthing cables:

Material	Cross-section	Ø	Condition	Example
Copper	> 16 mm <sup>2</sup>	> 4.6 mm	bare or insulated	Koka
Aluminium	> 25 mm <sup>2</sup>	> 5.7 mm	bare (indoors only) or insulated	
Aluminium	> 50 mm <sup>2</sup>	> 8.0 mm	(wrought) alloy	
Steel wire	-	8.0 mm	galvanised	-
Steel strip	2.5 x 20 mm	-	galvanised	-

Cable types: single conductor or multi-conductor, but no fine wires

### Equipotential bonding cables:

Material	Cross-section	Ø	Condition	Example
Copper	4 mm <sup>2</sup>	2.3 mm	bare or insulated	Koka

### Frequency ranges of radio waves

Frequency range	Int. abb.	Abb.	Modulation Picture/ sound	Channel width	Channels	Frequency	Wave- length	Polarisation
Long wave	LF	L	AM	9 kHz	2-4	150 - 285 kHz	2000 - 1050 m	V
Medium wave	MF	M	AM	9 kHz		510 - 1605 kHz	590 - 187 m	V
Short wave	HF	K	AM	9 kHz		3.95 - 26.1 MHz	76 - 11.5 m	V
Band I	VHF	F I	AM FM	7 MHz	2-4	47 - 68 MHz	6.35 - 4.4 m	H/V
Band II (radio)	VHF	UKW	FM	300 kHz	2-70	87.5 - 108 MHz	3.4 - 2.8 m	H
S-channels	VHF	USB	AM FM	7 MHz	S2 - S10	111 - 174 MHz	2.7 - 1.7 m	- <sup>1)</sup>
Band III	VHF	F III	AM FM	7 MHz	5-12	174 - 230 MHz	1.7 - 1.3 m	H/V
S-channels	VHF	OSB	AM FM	7 MHz	S11 - S20	230 - 300 MHz	1.3 - 1.0 m	- <sup>1)</sup>
S-channels	UHF	ESB	AM FM	8 MHz	S21 - S38	302 - 446 MHz	99 - 68 cm	- <sup>1)</sup>
Band IV	UHF	F IV	AM FM	8 MHz	21-39	470 - 622 MHz	64 - 68 cm	H/V
Band V	UHF	F V	AM FM	8 MHz	40-60	622 - 790 MHz	48 - 38 cm	H/V

-1) in wideband installation

## 5. TV standards

Standard	No. of lines	Channel width (MHz)	Video bandwidth (MHz)	Video/audio separation (MHz)	Vestigial sideband (MHz)	Video modulation	Audio modulation
B (CCIR)	625	7	5	+ 5.5 (+5.742)	0.75	negative	FM, FM <sup>1)</sup>
D (OIRT)	625	8	6	+ 6.5	0.75	negative	FM
G (CCIR)	625	8	5	+ 5.5 (+5.742)	0.75	negative	FM, FM <sup>1)</sup>
H (B)	625	8	5	+ 5.5	1.25	negative	FM
I (GB)	625	8	5.5	+ 6.0	1.25	negative	FM
K (OIRT)	625	8	6	+ 6.5	0.75	negative	FM
K1 (CCIR)	625	8	6	+ 6.5	1.25	negative	FM
L (F)	625	8	6	+ 6.5	1.25	positive	AM
M (FCC)	525	6	4.2	+ 4.5	0.75	negative	FM
N (South America)	625	6	4.2	+ 4.5	0.75	negative	FM

<sup>1)</sup> Second audio carrier for dual or stereo operation

## 6. Frequency ranges and channel allocation

Unit	Channel number	Frequency range MHz	Channel centre MHz	Picture carrier MHz	1st sound
Return/data communication		4 - 30			
Return/data communication		5 - 65			
Return-TV	R 1	14.75-21.75			
	R 2	21.75-28.75			
Band I	2	47 - 54	50.50	48.25	53.75
	3	54 - 61	57.50	55.25	60.75
	4	61 - 68	64.50	62.25	67.75
Data channel		70 - 75			
Band II / FM	2 - 70	87.5 - 108			
Digital-sound	S 2	111 - 118			
1st channel	S 3	118 - 125			
Lower	S 4	125 - 132	128.50	126.25	131.75
S-channels	S 5	132 - 139	135.50	133.25	138.75
	S 6	139 - 146	142.50	140.25	145.75
USB	S 7	146 - 153	149.50	147.25	152.75
	S 8	153 - 160	156.50	154.25	159.75
	S 9	160 - 167	163.50	161.25	166.75
	S 10	167 - 174	170.50	168.25	173.75
Band III	5	174 - 181	177.50	175.25	180.75
TV/DAB	6	181 - 188	184.50	182.25	187.75
	7	188 - 195	191.50	189.25	194.75
	8	195 - 202	198.50	196.25	201.75
	9	202 - 209	205.50	203.25	208.75
	10	209 - 216	212.50	210.25	213.75
	11	216 - 223	219.50	217.25	222.75
	12	223 - 230	226.50	224.25	229.75
Upper	S 11	230 - 237	233.50	231.25	236.75
S-channels	S 12	237 - 244	240.50	238.25	243.75
	S 13	244 - 251	247.50	245.25	250.75
	S 14	251 - 258	254.50	252.25	257.75
	S 15	258 - 265	261.50	259.25	264.75
	S 16	265 - 272	268.50	266.25	271.75
	S 17	272 - 279	275.50	273.25	278.75
	S 18	279 - 286	282.50		
	S 19	286 - 293	289.50	287.25	
	S 20	293 - 300	296.50	294.25	299.75
S-channels	S 21	302 - 310	306.00	303.25	308.75
	S 22	310 - 318	314.00	311.25	316.75
	S 23	318 - 326	322.00	319.25	324.75
	S 24	326 - 334	330.00	327.25	332.75
	S 25	334 - 342	338.00	335.25	340.75
	S 26	342 - 350	346.00	343.25	348.75
	S 27	350 - 358	354.00	351.25	356.75
	S 28	358 - 366	362.00	359.25	364.75
	S 29	366 - 374	370.00	367.25	372.75
	S 30	374 - 382	378.00	375.25	380.75
	S 31	382 - 390	386.00	383.25	388.75
	S 32	390 - 398	394.00	391.25	396.75
	S 33	398 - 406	402.00	399.25	404.75
	S 34	406 - 414	410.00	407.25	412.75
	S 35	414 - 422	418.00	415.25	420.75
	S 36	422 - 430	426.00	423.25	428.75
	S 37	430 - 438	434.00	431.25	436.75
	S 38	438 - 446	442.00	439.25	444.75

Unit	Channel number	Frequency range MHz	Channel centre MHz	Picture carrier MHz	1st sound
Band IV	21	470 - 478	474.00	471.25	476.75
	22	478 - 486	482.00	476.25	484.75
	23	486 - 494	490.00	487.25	492.75
	24	494 - 502	498.00	495.25	500.75
	25	502 - 510	506.00	503.25	508.75
	26	510 - 518	514.00	511.25	516.75
	27	518 - 526	522.00	519.25	524.75
	28	526 - 534	530.00	527.25	532.75
	29	534 - 542	538.00	535.25	540.75
	30	542 - 550	546.00	543.25	548.75
	31	550 - 558	554.00	551.25	556.75
	32	558 - 566	562.00	559.25	564.75
	33	566 - 574	570.00	567.25	572.75
	34	574 - 582	578.00	575.25	580.75
	35	582 - 590	586.00	583.25	588.75
	36	590 - 598	594.00	591.25	596.75
	37	598 - 606	602.00	599.25	604.75
	38	606 - 614	610.00	607.25	612.75
	39	614 - 622	618.00	615.25	618.75
Band V	40	622 - 630	626.00	623.25	626.75
	41	630 - 638	634.00	631.25	636.75
	42	638 - 646	642.00	639.25	644.75
	43	646 - 654	650.00	647.25	652.75
	44	654 - 662	658.00	655.25	660.75
	45	662 - 670	666.00	663.25	668.75
	46	670 - 678	674.00	671.25	676.75
	47	678 - 686	682.00	679.25	684.75
	48	686 - 694	690.00	687.25	692.75
	49	694 - 702	698.00	695.25	700.25
ECN/LTE 700	50	702 - 710	706.00	703.25	708.75
Band V	51	710 - 718	714.00	711.25	716.75
	52	718 - 726	722.00	719.25	724.75
	53	726 - 734	730.00	727.25	732.75
	54	734 - 742	738.00	735.25	740.75
	55	742 - 750	746.00	743.25	748.75
	56	750 - 758	754.00	751.25	756.75
	57	758 - 766	762.00	759.25	764.75
	58	766 - 774	770.00	767.25	772.75
	59	774 - 782	778.00	775.25	780.75
	60	782 - 790	786.00	783.25	788.75
ECN/LTE 800	61	790 - 798	794.00	791.25	796.75
Band V	62	798 - 806	802.00	799.25	804.75
	63	806 - 814	810.00	807.25	812.75
	64	814 - 822	818.00	815.25	820.75
	65	822 - 830	826.00	823.25	828.75
	66	830 - 838	834.00	831.25	836.75
	67	838 - 846	842.00	839.25	844.75
	68	846 - 854	850.00	847.25	852.75
	69	854 - 862	858.00	855.25	860.75

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# TRIAx<sup>®</sup> technical appendix

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## 6. Channels and frequencies

Channel	Channel limits (MHz)	Video carrier (MHz)	Audio carrier (MHz)
<b>Standard B. Italy</b>			
VHF I A	52.5-59.5	53.75	59.25
B	61-68	62.25	67.75
VHF II C	81-88	82.25	87.75
VHF III D	174-181	175.25	180.75
E	182.5- 189.5	183.75	189.25
F	191-198	192.25	197.75
G	200-207	201.25	206.75
H	209-216	210.25	215.75
H 1	216-223	217.25	222.75
H 2	223-230	224.25	229.75
<b>Standard D. OIRT</b>			
VHF I R I	48.5-56.5	49.75	56.25
R II	58-66	59.25	65.75
R III	76-84	77.25	83.75
(VHF II) R IV	84-92	85.25	91.75
R V	92-100	93.25	99.75
s1	110-118	111.25	117.75
s2	118-126	119.23	125.75
s3	126-134	127.25	133.75
s4	134-142	135.25	141.75
s5	142-150	143.25	149.75
s6	150-158	151.25	157.75
s7	158-166	159.25	165.75
s8	166-174	167.25	173.75
(VHF III) R VI	174-182	175.25	181.75
R VII	182-190	183.25	189.75
R VIII	190-198	191.25	197.75
R IX	198-206	199.25	205.75
R X	206-214	207.25	213.75
R XI	214-222	215.25	221.75
R XII	222-230	223.25	229.75
s9	230-238	231.25	237.75
s10	238-246	239.25	245.75
s11	246-254	247.25	253.75
s12	254-262	255.25	261.75
s13	262-270	263.25	269.75
s14	270-278	271.25	277.75
s15	278-286	279.25	285.75
s16	286-294	287.25	293.75
s17	294-302	295.25	301.75
s18	302-310	303.25	309.75
s19	310-318	311.25	317.75
s20	318-326	319.25	325.75
s21	326-334	327.25	333.75
s22	334-342	335.25	341.75
s23	342-350	343.25	349.75
..	.....	.....	.....
s38	462-470	463.25	469.75

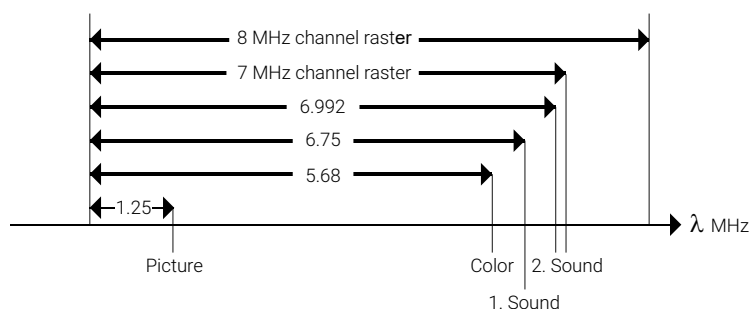
Channel	Channel limits (MHz)	Video carrier (MHz)	Audio carrier (MHz)
<b>Standard D. China</b>			
VHF I 1	48.5-56.5	49.75	56.25
2	56.5-64.5	57.75	64.25
3	64.5-72.5	65.75	72.25
4	76.0-84.0	77.25	83.75
5	84.0-92.0	85.25	91.75
VHF III 6	167-175	168.25	174.75
7	175-183	176.25	182.75
8	183-191	184.25	190.75
9	191-199	192.25	198.75
10	199-207	200.25	206.75
11	207-215	208.25	214.75
12	215-223	216.25	222.75
<b>Standard I. Ireland</b>			
VHF I IA	44.5-52.5	45.75	51.75
IB	52.5-60.5	53.75	59.75
IC	60.5-68.5	61.75	67.75
VHF III ID	174-182	175.25	181.25
IE	182-190	183.25	189.25
IF	190-198	191.25	197.25
IG	198-206	199.25	205.25
IH	206-214	207.25	213.25
IJ	214-222	215.25	221.25
<b>Standard L. France</b>			
VHF I A	41.00-49.00	47.75	41.25
B	49.00-57.00	55.75	49.25
C	57.00-65.00	63.75	57.25
C 1	53.75-61.75	60.50	54.00
VHF III 5	174.75-182.75	176.00	182.50
6	182.75-190.75	184.00	190.50
7	190.75-198.75	192.00	198.50
8	198.75-206.75	200.00	206.50
9	206.75-214.75	208.00	214.50
10	214.75-222.75	216.00	222.50
<b>Standard K1. (France)</b>			
VHF III 4	174-182	175.25	181.75
5	182-190	183.25	189.75
6	190-198	191.25	197.75
7	198-206	199.25	205.75
8	206-214	207.25	213.75
9	214-222	215.25	221.75

## 7. Carrier frequencies for radio and TV channels

Frequencies of a TV-signal (Norm B. G/Pal)

7 MHz raster:  
FI. USB. F III. OSB

8 MHz raster:  
ESB. F IV. F V





# TRIAx<sup>®</sup> technical appendix

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## 8. Analogue colour and broadcasting systems by country

Country	TV	Colour system	Stereo	Subtitles
Albania	B/G	PAL		
Argentina	N	PAL-N		
Australia	B/G	PAL	FM-FM	Teletext
Austria	B/G	PAL	FM-FM	Teletext
Azores (Portugal)	B	PAL		
Bahamas	M	NTSC		
Bahrain	B	PAL		
Barbados	M	NTSC		
Belgium	B/G	PAL	Nicam	Teletext
Bermuda	M	NTSC		
Brazil	M	PAL-M	MTS	
Bulgaria	D	SECAM		
Canada	M	NTSC	MTS	CC
Canary Is	B	PAL		
China	D	PAL		
Colombia	M	NTSC		
Cyprus	B	PAL		
Czechoslovakia	D/K	SECAM/PAL		
Denmark	B	PAL	Nicam	Teletext
Egypt	B	SECAM		
Faroe Islands (DK)	B	PAL		
Finland	B/G	PAL	Nicam	Teletext
France	E/L	SECAM		Teletext
Gambia	I	PAL		
Germany	B/G	PAL	FM-FM	Teletext
Germany (old East)	B/G	SECAM/PAL		
Gibraltar	B	PAL		
Greece	B/G	PAL		
Hong Kong	I	PAL	Nicam	
Hungary	B/G & D/K	PAL	Nicam (Budapest)	
Iceland	B	PAL		
India	B	PAL		
Indonesia	B	PAL		
Iran	H	SECAM		
Ireland	I	PAL	Nicam	Teletext
Israel	B/G	PAL	Nicam	Teletext
Italy	B/G	PAL	FM/FM	Teletext
Jamaica	N	SECAM		
Japan	M	NTSC	Matrix	
Jordan	B	PAL		
Kenya	B	PAL		
Korea	M	NTSC		
Luxembourg	B/G	PAL	NICAM	Teletext
Madeira	B	PAL		
Madagascar	B	SECAM		
Malaysia	B	PAL		
Malta	B/G	PAL		
Mauritius	B	SECAM		
Mexico	M	NTSC	MTS	CC
Monaco	L/G	SECAM/PAL		
Morocco	B	SECAM		

Country	TV	Colour system	Stereo	Subtitles
Netherlands	B/G	PAL	FM-FM	Teletext
New Zealand	B/G	PAL	Nicam	Teletext
North Korea	D/K	SECAM		
Norway	B/G	PAL	Nicam	
Pakistan	B	PAL		
Paraguay	N	PAL		
Peru	M	NTSC		
Philippines	M	NTSC		
Poland	D/K	PAL		Teletext
Portugal	B/G	PAL	Nicam	Teletext
Romania	G	PAL		
Russia	D/K	SECAM		
Saudi Arabia	B	SECAM		
Seychelles	I	PAL		
Singapore	B	PAL		
South Africa	I	PAL		
South Korea	M	NTSC		
Spain	B/G	PAL	Nicam	Teletext
Sri Lanka	B/G	PAL		
Sweden	B/G	PAL	Nicam	Teletext
Switzerland	B/G	PAL	FM-FM	Teletext
Tahiti	KI	SECAM		
Taiwan	M	NTSC		
Thailand	B	PAL		
Trinidad	M	NTSC		
Tunisia	B	SECAM		
Turkey	B	PAL	-	Teletext
United Arab Emirates	B/G	PAL		
United Kingdom	I	PAL	Nicam	Teletext
Uruguay	N	PAL	MTS	
USA	M	NTSC	MTS	CC
Venezuela	M	NTSC		
Yugoslavia	B/H	PAL		
Zimbabwe	B	PAL		

TERRESTRIAL RECEPTION

SATELLITE & FIBRE RECEPTION

CABLE TV (CATV)

HEADENDS CAS SYSTEM MODULATORS

CABLES & CONNECTORS

OUTLETS TAPS & SPLITTER

INHOUSE CONNECTIVITY

SURVEILLANCE (CCTV)

INSTRUMENTS TOOLS & CABINETS

TECHNICAL APPENDIX

# TRIAx<sup>®</sup> technical appendix

Triax Main Catalogue

## 9. Signal level - mV to dBμV

Signal level - mV to dBμV				Voltage ratio in dB		
mV v/75 W		dBμV		*) Factor -dB		*) Factor +dB
0.100	40	20.0	86	1.0	0.0	1.0
0.112	41	22.5	87	0.95	0.5	1.06
0.125	42	25.0	88	0.89	1.0	1.12
0.140	43	28.0	89	0.84	1.5	1.19
0.160	44	31.5	90	0.8	2.0	1.25
0.180	45	35.5	91	0.75	2.5	1.33
0.200	46	40.0	92	0.71	3.0	1.41
0.225	47	45.0	93	0.67	3.5	1.5
0.250	48	50.0	94	0.63	4.0	1.6
0.280	49	56.0	95	0.60	4.5	1.67
0.315	50	63.0	96	0.56	5.0	1.78
0.355	51	70.0	97	0.53	5.5	1.88
0.400	52	80.0	98	0.50	6.0	2.0
0.450	53	90.0	99	0.47	6.5	2.12
0.500	54	100	100	0.45	7.0	2.24
0.560	55	112	101	0.42	7.5	2.37
0.630	56	125	102	0.4	8.0	2.5
0.700	57	140	103	0.38	8.5	2.66
0.800	58	160	104	0.35	9.0	2.82
0.900	59	180	105	0.33	9.5	3.00
1.00	60	200	106	0.32	10	3.16
1.12	61	225	107	0.28	11	3.55
1.25	62	250	108	0.25	12	4.00
1.40	63	280	109	0.22	13	4.5
1.60	64	315	110	0.2	14	5.00
1.80	65	355	111	0.18	15	5.62
2.00	66	400	112	0.16	16	6.3
2.25	67	450	113	0.14	17	7.1
2.50	68	500	114	0.125	18	8.0
2.80	69	560	115	0.11	19	8.9
3.15	70	630	116	0.10	20	10.0
3.55	71	700	117	0.089	21	10.0
4.00	72	800	118	0.08	22	12.5
4.50	73	900	119	0.071	23	14.1
5.00	74	1000	120	0.063	24	16.0
5.60	75	1120	121	0.056	25	17.8
6.30	76	1250	122	0.050	26	20.0
7.00	77	1400	123	0.045	27	22.4
8.00	78	1600	124	0.04	28	25.0
9.00	79	1800	125	0.035	29	28.2
10.0	80	2000	126	0.032	30	31.6
11.2	81	2250	127	0.028	31	35.5
12.5	82	2500	128	0.025	32	40
14.0	83	2800	129	0.022	33	45
16.0	84			0.020	34	50
18.0	85			0.018	35	56
				0.016	36	63
				0.014	37	71
				0.0125	38	80
				0.011	39	89
				0.01	40	100
				0.0056	45	178
				0.0032	50	316
				0.0018	55	562
				0.001	60	1000

\*) The numbers are dB value calculated to times.

Signal level is often stated in dBμV which is to be understood as the number of dB the signal exceeds 1μV.

## 10. Power level dBm to mV to dBm

dBm		mW		dBm		mW	
-20	0,01	-20,00	0,01	-20,00	0,01	-20,00	0,01
-19	0,01	-16,99	0,02	-16,99	0,02	-16,99	0,02
-18	0,02	-15,23	0,03	-15,23	0,03	-15,23	0,03
-17	0,02	-13,98	0,04	-13,98	0,04	-13,98	0,04
-16	0,03	-13,01	0,05	-13,01	0,05	-13,01	0,05
-15	0,03	-12,22	0,06	-12,22	0,06	-12,22	0,06
-14	0,04	-11,55	0,07	-11,55	0,07	-11,55	0,07
-13	0,05	-10,97	0,08	-10,97	0,08	-10,97	0,08
-12	0,06	-10,46	0,09	-10,46	0,09	-10,46	0,09
-11	0,08	-10,00	0,1	-10,00	0,1	-10,00	0,1
-10	0,10	-6,99	0,2	-6,99	0,2	-6,99	0,2
-9	0,13	-5,23	0,3	-5,23	0,3	-5,23	0,3
-8	0,16	-3,98	0,4	-3,98	0,4	-3,98	0,4
-7	0,20	-3,01	0,5	-3,01	0,5	-3,01	0,5
-6	0,25	-2,22	0,6	-2,22	0,6	-2,22	0,6
-5	0,32	-1,55	0,7	-1,55	0,7	-1,55	0,7
-4	0,40	-0,97	0,8	-0,97	0,8	-0,97	0,8
-3	0,50	-0,46	0,9	-0,46	0,9	-0,46	0,9
-2	0,63	-0,00	1	-0,00	1	-0,00	1
-1	0,79	3,01	2	3,01	2	3,01	2
0	1,00	4,77	3	4,77	3	4,77	3
1	1,26	6,02	4	6,02	4	6,02	4
2	1,58	6,99	5	6,99	5	6,99	5
3	2,00	7,78	6	7,78	6	7,78	6
4	2,51	8,45	7	8,45	7	8,45	7
5	3,16	9,03	8	9,03	8	9,03	8
6	3,98	9,54	9	9,54	9	9,54	9
7	5,01	10,00	10	10,00	10	10,00	10
8	6,31	10,41	11	10,41	11	10,41	11
9	7,94	10,79	12	10,79	12	10,79	12
10	10,00	11,14	13	11,14	13	11,14	13
11	12,59	11,46	14	11,46	14	11,46	14
12	15,85	11,76	15	11,76	15	11,76	15
13	19,95	12,04	16	12,04	16	12,04	16
14	25,12	12,30	17	12,30	17	12,30	17
15	31,62	12,55	18	12,55	18	12,55	18
16	39,81	12,79	19	12,79	19	12,79	19
17	50,12	13,01	20	13,01	20	13,01	20
18	63,10	13,22	21	13,22	21	13,22	21
19	79,43	13,42	22	13,42	22	13,42	22
20	100,00	13,62	23	13,62	23	13,62	23
21	125,89	13,80	24	13,80	24	13,80	24
22	158,49	13,98	25	13,98	25	13,98	25
23	199,53	14,15	26	14,15	26	14,15	26
24	251,19	14,31	27	14,31	27	14,31	27
25	316,23	14,47	28	14,47	28	14,47	28
26	398,11	14,62	29	14,62	29	14,62	29
27	501,19	14,77	30	14,77	30	14,77	30

# Notes

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TERRESTRIAL  
RECEPTION

SATELLITE  
& FIBRE  
RECEPTION

CABLE TV  
(CATV)

HEADENDS  
CAS SYSTEM  
MODULATORS

CABLES &  
CONNECTORS

OUTLETS  
TAPS & SPLITTER

INHOUSE  
CONNECTIVITY

SURVEILLANCE  
(CCTV)

INSTRUMENTS  
TOOLS &  
CABINETS

TECHNICAL  
APPENDIX



# TRIAX

*connecting the future*

## Contact

[triax.com](http://triax.com) / [contact](#)

Headquartered in Denmark, TRIAX is an international supplier of innovative, high-tech solutions for the reception and distribution of video, audio and data signals. The company's products and solutions are used by broadcasters, cable operators, local closed networks and domestic dwelling.

TRIAX has 9 sales subsidiaries generating a turnover of approx. €90M and operates in more than 60 distributor countries. The TRIAX team consists of 350 employees and is owned Polaris Private Equity.

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