Networking Solutions
Fiber Optic Systems
TV and satellite systems

CATALOGUE 2024

FRACARRO

INDEX

Company and services

Fracarro

Since 1933, Fracarro has been designing and manufacturing solutions for the reception and distribution of audio, video, and data signals in individual, communal and hospitality installations, using coaxial, fibre optic and IP technology.

We specialise in end to end processing of signals on GPON (Gigabit Passive Optical Network), IP and coaxial networks, managing all digital technologies: TV (DVB-T2), SAT (DVB-S2), cable (DVB-C) and IP (DVB-IP).
The commitment has always been to guarantee high quality products, with particular attention to a series of services specifically designed for industry operators.

Certifications

Fracarro products comply, where applicable, with the following European directives:

- 2014/53/EU (RED – Radio Equipment)
- 2014/30/EU (EMC – Electromagnetic Compatibility)
- 2014/35/EU (LVD – Low Voltage)
- 2011/65/EU (RoHS – Restriction of Hazardous Substances),
- 305/2011 (CPR – Construction Products).

These products are marked with the CE marking. The EU declarations of conformity are public and available at the web address: ce.fracarro.com.

Respect for the envionment

We respect and support the European Directive 2012/19 / EU on waste electrical and electronic equipment (WEEE) and Directive 2013/56 / EU on waste batteries and accumulators.

To guarantee this we have chosen to join Consorzio ReMedia, a primary Collection Organisation that guarantees consumers the correct treatment and recovery of WEEE and batteries and the promotion of policies aimed at protecting the environment.

Quality Management System Certifications

The Fracarro Quality Management System is orientated towards satisfying requirements of all the interested parties. To guarantee the achievement of this goal, we have chosen to certify the Quality Management System, according to the requirements of ISO9001: 2015, with a primary Certification Body such as CSQ.

Web site and social networking

The Fracarro website ensures users are constantly updated on company news and initiatives. In particular, the Technical Assistance section provides useful information to support operators in their professional activities, providing a direct link to the staff at headquarters. Fracarro is also present on all of the major social media networks to be able to interact more closely with professionals within the industry.

Technical assistance

Within each Fracarro company specialised staff are able to provide technical assistance to help resolve installation problems as quickly as possible on projects as well as assist with system designs using our design software.

Fracarro also offers ongoing training initiatives in collaboration with our customers and partners.

General sales conditions

Prices

The price list comes into effect from the date shown on it. Prices are expressed in Euros, net of VAT. Fracarro Radioindustrie SRL reserves the right to make changes to the current price list at any time, for technical improvements or for requirements of a constructive or commercial nature, giving the appropriate notice to its Sales Network.

Delivery

The delivery period, indicated on the order confirmation, is indicative, so it is not an essential condition of the contract. The products are sold Ex Works (Castelfranco). However, all risks arising from transportation remain the responsibility of the buyer, even in the event that a different delivery term is agreed upon. Transportation may be insured at the purchaser's express request, at the purchaser's expense. Complaints for missing or damaged goods must be made immediately in writing, on the delivery note and countersigned by the carrier.

Payments

On amounts due to Fracarro Radioindustrie SRL not paid by the purchaser within the agreed terms, late payment interest will be charged, as per current regulations, without prejudice to the right to compensation for further damages and expenses. Fracarro Radioindustrie SRL reserves the right to suspend the supply of products and services in cases of deferred payment, in cases in which it detects irregularities or delays in payment or if the total amount of the buyer's exposure exceeds the overdraft limit assigned to the buyer, at the sole discretion of Fracarro Radioindustrie SRL.

Complaints

Any claims must be received by Fracarro Radioindustrie SRL within the strict limit of 8 days from receipt of the goods. Returns of goods will not be accepted unless previously authorised by Fracarro Radioindustrie SRL. Products returned and received by Fracarro Radioindustrie SRL without prior authorisation with be rejected immediately and sent back to the sender.

Warranty

FRACARRO RADIOINDUSTRIE SRL guarantees the material supplied for two or four years from the date of purchase, provided that it is duly certified by a valid fiscal document (invoice, or receipt with packing slip) showing the details of the products installed, under the following conditions:

The warranty shall consist of free repair or replacement of parts recognised as defective in manufacture, at the sole discretion of Fracarro Radioindustrie SRL.

Fracarro Radioindustrie SRL provides the warranty directly or through its own repair centers.

- Material under warranty must be shipped to the reference repair point, freight prepaid and will be returned freight collect. The replaced material remains the property of Fracarro Radioindustrie SRL.
- The warranty does not include any call-out charges and labour costs.
- There is no compensation for the period of inoperability of the system/product.
- Repair does not extend the warranty term of the system.
- For the return and repair procedure, ask the retailer.

The warranty also does not include:

- Failures or damage caused by transportation.
- Failures or damage caused by defects in the electrical system and/or negligence or unsuitability of the system/product for its intended use and any case of abnormal use.
- Failures or damage caused by tampering by unauthorised personnel or use of components not manufactured by Fracarro Radioindustrie SRL and/or non-original spare parts.
- Defects caused by chemical agents or atmospheric phenomena.
- The consumable material.
- Normal consumption due to component wear and tear.
- Interventions for alleged defects.

CCIR - Standard

Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz	Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz	Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz
Standard B + G Europe											
Band I				S23	318-326	322	319.25	**Band V**			
E 2	47-54	50.5	48.25	S24	326-334	330	327.25	E38	606-614	610	607.25
E 3	54-61	57.5	55.25	S25	334-342	338	335.25	E39	614-622	618	615.25
E 4	61-68	64.5	62.25	S26	342-350	346	343.25	E40	622-630	626	623.25
Band S				S27	350-358	354	351.25	E41	630-638	634	631.25
S 1	104-111	107.5	105.25	S28	358-366	362	359.25	E42	638-646	642	639.25
S 2	111-118	114.5	112.25	S29	366-374	370	367.25	E43	646-654	650	647.25
S 3	118-125	121.5	119.25	S30	374-382	378	375.25	E44	654-662	658	655.25
S 4	125-132	128.5	126.25	S31	382-390	386	383.25	E45	662-670	666	663.25
S 5	132-139	135.5	133.25	S32	390-398	394	391.25	E46	670-678	674	671.25
S 6	139-146	142.5	140.25	S33	398-406	402	399.25	E47	678-686	682	679.25
S 7	146-153	149.5	147.25	S34	406-414	410	407.25	E48	686-694	690	687.25
S 8	153-160	156.5	154.25	S35	414-422	418	415.25	5G (694MHz)			
S 9	160-167	163.5	161.25	S36	422-430	426	423.25				
S10	167-174	170.5	168.25	S37	430-438	434	431.25	E49	694-702	698	695.25
Band III				S38	438-446	442	439.25	E50	702-710	706	703.25
E 5	174-181	177.5	175.25	S39	446-454	450	447.25	E51	710-718	714	711.25
E 6	181-188	184.5	182.25	S40	454-462	458	455.25	E52	718-726	722	719.25
E 7	188-195	191.5	189.25	S41	462-470	466	463.25	E53	726-734	730	727.25
E 8	195-202	198.5	196.25	**Band IV**				E54	734-742	738	735.25
E 9	202-209	205.5	203.25	E21	470-478	474	471.25	E55	742-750	746	743.25
E10	209-216	212.5	210.25	E22	478-486	482	479.25	E56	750-758	754	751.25
E11	216-223	219.5	217.25	E23	486-494	490	487.25	E57	758-766	762	759.25
E12	223-230	226.5	224.25	E24	494-502	498	495.25	E58	766-774	770	767.25
Band S				E25	502-510	506	503.25	E59	774-782	778	775.25
S11	230-237	233.5	231.25	E26	510-518	514	511.25	E60	782-790	786	783.25
S12	237-244	240.5	238.25	E27	518-526	522	519.25	4G (790MHz)			
S13	244-251	247.5	245.25	E28	526-534	530	527.25				
S14	251-258	254.5	252.25	E29	534-542	538	535.25	E61	790-798	794	791.25
S15	258-265	261.5	259.25	E30	542-550	546	543.25	E62	798-806	802	799.25
S16	265-272	268.5	266.25	E31	550-558	554	551.25	E63	806-814	810	807.25
S17	272-279	275.5	273.25	E32	558-566	562	559.25	E64	814-822	818	815.25
S18	279-286	282.5	280.25	E33	566-574	570	567.25	E65	822-830	826	823.25
S19	286-293	289.5	287.25	E34	574-582	578	575.25	E66	830-838	834	831.25
S20	293-300	296.5	294.25	E35	582-590	586	583.25	E67	838-846	842	839.25
S21	302-310	306	303.25	E36	590-598	594	591.25	E68	846-854	850	847.25
S22	310-318	314	311.25	E37	598-606	602	599.25	E69	854-862	858	855.25

Analogue and Digital Audio Distribution

FM Radio 87.50 - 108MHz

DAB Digital Radio 216 - 240MHz

CCIR - Standard

Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz	Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz	Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz
Standard D Russia - OIRT				**Standard I South Africa**				**Standard K French overseas territories**			
R 1	48.5-56.5	52.5	49.75	**Band III**				**Band III**			
R 2	58-66	62	59.25	I 4	174-182	178	175.25	K 4	174-182	178	175.25
R 3	76-84	80	77.25	I 5	182-190	186	183.25	K 5	182-190	186	183.25
Band II				I 6	190-198	194	191.25	K 6	190-198	194	191.25
R 4	84-92	88	85.25	I 7	198-206	202	199.25	K 7	198-206	202	199.25
R 5	92-100	96	93.25	I 8	206-214	210	207.25	K 8	206-214	210	207.25
Band III				I 9	214-222	218	215.25	K 9	214-222	218	215.25
R 6	174-182	182	175.25	I 10	222-230	226	223.25				
R 7	182-190	190	183.25	I 11	230-238	234	231.25				
R 8	190-198	198	191.25	I (12)	238-246	242	239.25				
R 9	198-206	206	199.25	I 13	246-254	250	247.25				
R 10	206-214	214	207.25								
R 11	214-222	222	215.25								
R 12	222-230	230	223.25								

Level conversion table (75Ω)

mV	dBµV	dBm	mV	dBµV	dBm
0.10	40	-68.8	12.59	82	-26.8
0.12	42	-66.8	15.85	84	-24.8
0.16	44	-64.8	19.95	86	-22.8
0.20	46	-62.8	25.12	88	-20
0.25	48	-60.8	31.62	90	-18.8
0.31	50	-58.8	39.81	92	-16.8
0.39	52	-56.8	50.12	94	-14.8
0.50	54	-54.8	63.10	96	-12.8
0.63	56	-52.8	79.43	98	-10.8
0.79	58	-50.8	100.00	100	-8.8
1.00	60	-48.8	125.89	102	-6.8
1.26	62	-46.8	158.49	104	-4.8
1.58	64	-44.8	199.53	106	-2.8
2.00	66	-42.8	251.19	108	-0.8
2.51	68	-40.8	316.23	110	1.2
3.16	70	-38.8	398.11	112	3.2
3.98	72	-36.8	501.19	114	5.2
5.01	74	-34.8	630.96	116	7.2
6.31	76	-32.8	794.33	118	9.2
7.94	78	-30.8	1000.00	120	11.2
10.00	80	-28.8			

Comparison noise figure and signal-noise ratio

Noise figure	K	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
	dB	4.8	5.4	6.0	6.5	7.0	7.4	7.8	8.1	8.4	8.7	9.0
Noise voltage at 75 Ohm	dBµV	7.1	7.7	8.3	8.8	9.3	9.7	10.1	10.4	10.7	11.0	11.3

Countries which have completed Analogue Switch Off (ASO)

Country	Standard	Compression	Country	Standard	Compression
Austria	DVB-T/DVB-T2	MPEG-2	Latvia	DVB-T/ DVB-T2	MPEG-4 AVC
Belgium	DVB-T	MPEG-2	Luxemburg	DVB-T	MPEG-2
Croatia	DVB-T	MPEG-2	Norway	DVB-T	MPEG-4 AVC
Czech rep.	DVB-T/DVB-T2	MPEG-2	Netherlands	DVB-T	MPEG-2
Denmark	DVB-T	MPEG-2/MPEG-4 AVC	Portugal	DVB-T	MPEG-4 AVC
Estonia	DVB-T/DVB-T2	MPEG-4 AVC	Slovak rep.	DVB-T/DVB-T2	MPEG-2
Finland	DVB-T/DVB-T2	MPEG-2	Slovenia	DVB-T	MPEG-4 AVC
France	DVB-T	MPEG-2/MPEG-4 AVC	Spain	DVB-T/DVB-T2	MPEG-2
Germany	DVB-T	MPEG-2	Sweden	DVB-T/DVB-T2	MPEG-2
Ireland	DVB-T	MPEG-2	Switzerland	DVB-T	MPEG-2
Italy	DVB-T/ DVB-T2	MPEG-4 AVC	UK	DVB-T/DVB-T2	MPEG-2
Lithuania	DVB-T/ DVB-T2	MPEG-4 AVC			

Sources: www.digitag.org - www.dvb.org

Main transmission standards

DTT	DVB-T	DVB-T2
Modulation	COFDM	COFDM
Number of sub carriers	2K, 8K	1K, 2K, 4K, 8K, 16K, 32K
Sub carriers modulation	QPSK , 16QAM, 64QAM	QPSK, 16QAM, 64QAM, 256QAM
FEC	1/2 , 2/3 , 3/4 , 5/6 , 7/8	1/2, 3/5, 2/3, 3/4, 4/5 , 5/6
Guard interval	1/4, 1/8, 1/16, 1/32	1/4, 19/256, 1/8, 19/128, 1/16, 1/32
Bandwidth	6, 7 or 8MHz	1.7, 5, 6, 7, 8, 10MHz
Maximum useful bit-rate	Around 31.6Mbps	Around 50Mbps
SAT	**DVB-S**	**DVB-S2**
Modulation	QPSK	QPSK, 8PSK, 16APSK, 32APSK
FEC	1/2 , 2/3 , 3/4 , 5/6 , 7/8	1/4 , 1/3 , 1/2 , 3/5 , 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

Available bit rates for a DVB-T system in 8MHz channels

Modulation	FEC	Guard interval				Modulation	FEC	Guard interval			
		1/4	1/8	1/16	1/32			1/4	1/8	1/16	1/32
QPSK	1/2	4.98	5.53	5.85	6.03	64QAM	1/2	14.93	16.59	17.56	18.10
	2/3	6.64	7.37	7.81	8.04		2/3	19.91	22.12	23.42	24.13
	3/4	7.46	8.29	8.78	9.05		3/4	22.39	24.88	26.35	27.14
	5/6	8.29	9.22	9.76	10.05		5/6	24.88	27.65	29.27	30.16
	7/8	8.71	9.68	10.25	10.56		7/8	26.13	29.03	30.74	31.67
16QAM	1/2	9.95	11.06	11.71	12.06						
	2/3	13.27	14.75	15.61	16.09						
	3/4	14.93	16.59	17.56	18.10						
	5/6	16.59	18.43	19.52	20.11						
	7/8	17.42	19.35	20.49	21.11						

NETWORKING

GPON

OLT

Optical Line Terminal (OLT) for data distribution over Passive Optical Network (PON).

- Layer 3
- 4 GE ports
- 2 x SFP+ ports for communications up to 10Gbps
- Up to 256 Multicast groups
- IGMP snooping
- Up to 4096 VLANs
- Up to 16k MAC addresses

DATA GPON 4 TX

DATA GPON 8 TX

OLTG-1P2G1S

		OLTG-1P2G1S	DATA GPON 4 TX	DATA GPON 8 TX
Code		287787	287558	287559
Uplink port		2 x 10/100/1000M auto-negotiation, 1 x 1GE/10G SFP+	4 x 10/100/1000M auto-negotiation, 2 x SFP 1GE/SFP+ 10GE	4 x 10/100/1000M auto-negotiation, 2 x SFP 1GE, 2 x SFP+ 10GE
Optical Output				
Connector type		Internal SFP Class C++ (SC/UPC connector)	SFP Class C++ (SC/UPC connector)	SFP Class C++ (SC/UPC connector)
PON ports		1 x Internal GPON SFP	4	8
Max. PON splitting		1:128 (max 1:32 recommended in business market)	1:128	1:128
Wavelength	nm	Tx: 1490 / Rx: 1310	Tx: 1490 / Rx: 1310	Tx: 1490 / Rx: 1310
Max. speed	Gbps	1.244 (Uplink) / 2.488 (Downlink)-	1.244 (Uplink) / 2.488 (Downlink)	1.244 (Uplink) / 2.488 (Downlink)
Max. PON distance	km	20	20	20
Optical power	dBm	3 to 7 (@1490nm)	3 to 7 (@1490nm)	3 to 7 (@1490nm)
Optical saturation	dBm	-12 (@1310nm)	-12 (@1310nm)	-12 (@1310nm)
Optical sensitivity	dBm	Up to -30 (@1310nm)	Up to -30 (@1310nm)	Up to -30 (@1310nm)
Management				
Management mode		Telnet, CLI, Web interface	SNMP, Telnet, CLI, Web interface, EMS	SNMP, Telnet, CLI, Web interface, EMS
Options		• Status, configuration and monitoring of ports • Online configuration of ONT receivers • User and alarm management	• Status, configuration and monitoring of ports • Ventilation control • Online configuration of ONT receivers • User and alarm management	• Status, configuration and monitoring of ports • Ventilation control • Online configuration of ONT receivers • User and alarm management
Functionality				
Layer 2 specifications		• Up to 16k MAC Addresses • Supports up to 4096 VLANs • Supports VLAN ports and VLAN protocols • VLAN Tag/Untag support, VLAN transparent transmission • VLAN translation and QinQ support • Port based storm control • Supports port isolation • Supports single port traffic limiting • 802.1d and 802.1w support • Static LACP support • Port based QoS, VID, TOS and MAC address • Access control list • IEEE802.x flow control • Statistical port stability monitoring	• Up to 16k MAC Addresses • Supports up to 4096 VLANs • Supports VLAN ports and VLAN protocols • VLAN Tag/Untag support, VLAN transparent transmission • VLAN translation and QinQ support • Port based storm control • Supports port isolation • Supports single port traffic limiting • 802.1d and 802.1w support • Static LACP support • Port based QoS, VID, TOS and MAC address • Access control list • IEEE802.x flow control • Statistical port stability monitoring	• Up to 16k MAC addresses • Supports up to 4096 VLANs • Supports VLAN ports and VLAN protocols • VLAN Tag/Untag support, VLAN transparent transmission • VLAN translation and QinQ support • Port based storm control • Supports port isolation • Supports single port traffic limiting • 802.1d and 802.1w support • Static LACP support • Port based QoS, VID, TOS and MAC address • Access control list • IEEE802.x flow control • Statistical port stability monitoring

	OLTG-1P2G1S	DATA GPON 4 TX	DATA GPON 8 TX
Layer 3 specifications	-	• Layer 3 routing • ARP proxy • Static route • 1024 hardware host routes • 512 hardware subnet routes	• Layer 3 routing • ARP proxy • Static route • 1024 hardware host routes • 512 hardware subnet routes
Software functionality	• Tcont Dynamic Bandwidth Allocation (DBA) • Port Traffic GEM • Compliance with the ITUT984.x standard • Transmission distance up to 20km. • Support data encryption, multicast, VLAN port, separation, etc. • Support ONT auto detection/link detection/remote software update • Support VLAN splitting and user separation to avoid broadcast storms • Support for Broadcasting Storm functionality	• IGMP snooping • Up to 256 multicast groups • DHCP server, DHCP relay, DHCP snooping • Dynamic Band Allocation (DBA) • Gemport traffic • Compliance with the ITUT984.x standard • Transmission distance up to 20km. • Support data encryption, multicast, port VLAN, separation, RSTP, etc. • Support ONT auto-discovery/link detection/software update remote • Support for VLAN splitting and user separation to avoid a broadcast storm • Power failure alarm to alert system operator • Support for Broadcasting Storm functionality • Support for isolation between different ports • ACL and SNMP support for configuration and packet filtering data • Designed to keep the system running and maintain system stability • Support for RSTP, IGMP Proxy	• IGMP snooping • Up to 256 multicast groups • DHCP server, DHCP relay, DHCP snooping • Dynamic Band Allocation (DBA) • Gemport traffic • Compliance with the ITUT984.x standard • Transmission distance up to 20km. • Support data encryption, multicast, port VLAN, separation, RSTP, etc. • Support ONT auto-discovery/link detection/software update remote • Support for VLAN splitting and user separation to avoid a broadcast storm • Power failure alarms to alert system operator • Support for Broadcasting Storm functionality • Support for isolation between different doors • ACL and SNMP support for configuration and packet filtering data • Designed to keep the system running and maintain system stability • Support for RSTP, IGMP Proxy

Specifications				
Power supply	Vac/Hz	100-240/50-60	100 - 240/50 - 60	100 - 240/50 - 60
Consumption	W	24	35	45
Operating temperature	°C	0 to +50	0 to +50	0 to +50
Dimensions	mm	210 x 173 x 43.6	442 x 220 x 43.6	442 x 220 x 43.6

SFP MODULES

SFP (Small Form-Factor Pluggable) modules for installation on OLTs and switches for data transmission over fibre optics.
DATA SFP C++ (code 287560) is useful only for DATA GPON 4 TX and DATA GPON 8 TX optical line terminals.

	DATA SFP GE	SFP 10G LC SM	DATA SFP C++
Code	287555	287761	287560
Connectors	LC Duplex	LC/UPC Duplex	SC/UPC (Class C++)
Max. PON splitting	-	-	1:128
Wavelength nm	Tx (downlink): 1310/Rx (uplink) from 1100 to 1600	Tx (downlink): 1310/Rx (uplink): 1310	Tx (downlink): 1490/Rx (uplink): 1310
Max. speed Gbps	1.25	10.3	2.488 (downlink) / 1.244 (uplink)
Max. PON distance km	20	10	20
Optical power dBm	-10 to -3 (@1310nm)	-10 to -3 (@1310nm)	3 to 7 (@1490nm)
Optical saturation dBm	-	-	-12 (@1310nm)
Specifications			
Current consumption mA	300	350	400
Operating temperature °C	0 to +70	0 to +70	0 to +70
Dimensions mm	57 x 12.8 x 13.6	57 x 12.8 x 13.6	64 x 13.4 x 13.6

GPON

ONT and ONU

Series of GPON optical receivers for data distribution over Passive Optical Network (PON) networks. To be installed in premises where various IP devices such as IPTV, CCTV, access points, VOIP phones, home automation etc. are located.

- Automatic detection and configuration within network
- VLAN management
- IGMP multicast snooping
- RJ45, RJ11 and CATV ports depending on model

		GPON-RX WAC 4GE	GPON-RX WAC-P	GPON RX BASIC
Code		287615	287561	287616
PON Section				
Connector type		SC/UPC single-mode	SC/PC single-mode	SC/UPC single-mode
Wavelength	nm	Rx: 1490 / Tx: 1310	Rx: 1490 / Tx: 1310	Rx: 1490 / Tx: 1310
Max. speed	Gbps	1.25 (Uplink) / 2.5 (Downlink)	1.25 (Uplink) / 2.5 (Downlink)	1.25 (Uplink) / 2.5 (Downlink)
Optical saturation	dBm	-	-8 (@1310nm)	-
Optical sensitivity	dBm	Down to -28 (@1490nm)	Down to -28 (@1490nm)	Down to -28 (@1490nm)
Ethernet Section				
LAN ports		• 4 x 10/100/1000M (auto negotiation in full/ half duplex mode) • RJ45 connector	• 2 x 10/100/1000M (auto negotiation in full/ half duplex mode) • RJ45 connector, Auto MDI/MDI X	• 1 x 10/100/1000M (auto negotiation in full/ half duplex mode) • RJ45 Connector, Auto MDI/MDI X
WiFi Section				
Operating mode		-	Router or Bridge	-
Standard compatibility		IEEE 802.11b/g/n/ac	IEEE 802.11b/g/n/ac	-
Bitrate	Mbps	-	Up to 1167	-
2.4GHz frequency range	GHz	2.400 - 2.483	2.400 - 2.483	-
5GHz frequency range	GHz	5.150 - 5.825	5.150 - 5.825	-
Aerial specifications		Supports MIMO, 4T4R, 5dBi external aerials, up to 1.167Gbps	Supports MIMO, 5dBi external aerials, up to 1.167Gbps	-
Encryption		-	802.11i security: WEP-64/128, TKIP (WPA-PSK) and AES (WPA2-PSK)	-
POTS Section				
Connector type		1 x RJ11	RJ11 (1 x FWS)	-
Standard		G.711A/G.711U/G.723/G.729 codec T.30/T.38/G.711 Fax mode, DTMF Relay		-
Management				
Options		• The receiver can be remotely managed via DATA GPON TX • Remote management support via SNMP and Telnet • Local network management from command line and WEB interface • Status monitoring, configuration, alarm management, log management (events)	• The receiver can be remotely managed via DATA GPON TX • Remote management support via SNMP and Telnet • Local network management from command line and WEB interface • Status monitoring, configuration, alarm management, log management (events)	• The receiver can be remotely managed via DATA GPON TX • Remote management support via SNMP and Telnet • Local network management from command line and WEB interface • Status monitoring, configuration, alarm management, log management (events) • Dual Mode (EPON/GPON) DDOS-based firewall, ACL/MAC/URL • Security Flow&Storm control, Loop detection
Specifications				
Power supply	Vdc/A	12 / 1.5	12 / 0.5 (power supply included)	12 / 0.5
Consumption	W	12	<10	<4
Operating temperature	°C	0 to +50	0 to +50	-5 to +55
Dimensions	mm	178 x 30 x 120	178 x 30 x 120	82 x 82 x 25

		GPON-RX W-TV-P	GPON RX LITE TV	GPON RX PASS TV
Code		287562	287557	287556
PON Section				
Connector type		SC/APC single-mode	SC/APC single-mode	SC/APC single-mode (input 1550/1490/1310) SC/PC single-mode (demix 1490/1310 output for ONT)
Wavelength	nm	Rx: 1490 / Tx: 1310	Rx: 1490 / Tx: 1310	-
Max. speed	Gbps	1.25 (Uplink) / 2.5 (Downlink)	1.25 (Uplink) / 2.5 (Downlink)	-
Optical saturation	dBm	-8 (@1310nm)	-	-
Optical sensitivity	dBm	Down to -27 (@1490nm)	Up to -28 (@1490nm)	-
Ethernet Section				
LAN ports		• 1 x 10/100M, 1 x 10/100/1000M (auto negotiation in full/half duplex mode) • RJ45 Connector, Auto MDI/MDI X		-
WiFi Section				
Operating mode		Router or Bridge	-	-
Standard compatibility		IEEE 802.11bgn	-	-
Bitrate	Mbps	300	-	-
2.4GHz frequency range	GHz	2.400 - 2.483	-	-
Encryption		802.11i security: WEP-64/128, TKIP (WPA-PSK) and AES (WPA2-PSK)	-	-
CATV Section				
Wavelength	nm	1550 (±10)	1550 (±10)	1550 (±10)
Optical return loss	dB	45	45	55
Optical input level	dB	-18 to ±2	-18 to ±2	-9 to ±2
RF frequency range	MHz	14 - 1000	14 - 1000	14 - 1000
Output level	dBµV	82 (@ -7dBm)	82 (@-7dBm)	60 (±2) (@ 0dBm)
Impedence	Ohm	75	75	75
POTS Section				
Connector type		RJ11 (1x FWS)	-	-
Standard		G.711A/G.711U/G.723/G.729 codec T.30/T.38/G.711 Fax mode, DTMF Relay	-	-
Management				
Management mode		RJ11 (1x FWS)	-	-
Options		• The receiver can be remotely managed via DATA GPON TX • Remote management support via SNMP and Telnet • Local network management from command line and WEB interface • Status monitoring, configuration, alarm management, log management (events)	• The receiver can be remotely managed via DATA GPON TX • Remote management support via SNMP and Telnet • Local network management from command line and WEB interface • Status monitoring, configuration, alarm management, log management (events) • Dual Mode (EPON/GPON) DDOS-based firewall, ACL/MAC/URL • Security Flow&Storm control, Loop detection	-
Specifications				
Power supply	Vdc/A	12 / 0.5 (power supply included)	12 / 0.5 (power supply included)	-
Consumption	W	<10	<4	-
Operating temperature	°C	-5 to +55	-5 to +55	-20 to +50
Dimensions	mm	185 x 33 x 122	82 x 82 x 25	75 x 55 x 28

NETWORK SWITCHES

Managed switches

Network switches capable of providing security, flexibility, performance and scalability. Ideal for installation in environments such as business, hospitality and industry.

- Layer 3, Layer 2+ and Layer 2
- Layer 3 and 2+ model stackable
- SFP 1/10Gbps, depending on the model
- Console port
- Available SFP+ 10Gbps, SFP 10G LC SM model (2877761) and SFP 1Gbps, DATA SFP GE model (287555)

FSW-948C-6SFP+

FSW-24GE4SFPPOE

FSW-48GE4SFP2AC

		FSW-948C-6SFP+	FSW-24GE4SFP	FSW-48GE4SFP2AC
Code		287764	287627	287625
Layer		3	3	3
LAN input		48 x 10/100/1000M auto-negotiation, 6 x 10GE/1GE SFP+	24 x 10/100/1000M auto-negotiation, 4 x SFP+	48 x 10/100/1000M auto-negotiation, 4 x SFP+
Console	RJ45	1	1	1
Backplane	Gbps	216	128	216
Forwarding rate	Mpps/64bytes	162	96	132
Fans		2	0	2
VLAN Interface	No.	1000	64	64
Routing table	RIB	12000	512	512
Management		Console, Telnet, SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON, TFTP, FTP, SFTP, NTP, SPAN, RSPAN, sFlow	Console, Telnet, SSH v1/v2, HTTP, HTTPS, SNMP v1/v2/v3, RMOM	Console, Telnet, SSH v1/v2, HTTP, HTTPS, SNMP v1/v2/v3, RMOM
Applications		• Spanning Tree: 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP), BPDU guard, root guard and loopback guard • IPv4: static routing, RIP v1/v2, OSPF, BGP, PBR, ECMP, BFD for OSPF, BGP • Routing table: IPv4 12k, IPv6 6k • ARP table: IPv4 12k, IPv6 2k • IPv6: ICMPv6, DHCPv6, ACLv6 and IPv6, Telnet, IPv6 neighbor discovery, Path MTU discovery, MLD V1/V2, MLD snooping, IPv6 Static Routing, RIPng, OSPFv3, BGP4+, Manual tunnel, ISATAP tunnel, 6 to 4 tunnel • MPLS: Multi-VRF • Reliablity: Static/LACP link aggregation, Backup interface, BVSS virtual-stacking, EAPS and ERPS, URPF, LLDP, ISSU, VRRP, 1+1 power backup • Jumbo frame: 9k • Total output BTU (1000BTU/H=293W): 255.97	• Spanning Tree: 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP), BPDU guard, root guard and loopback guard IP: Static route, RIP, OSPF, IPv4/IPv6 dual stack • IPv6: ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet, IPv6 neighbour discovery, Path MTU, Discovery, MLD V1, MLD snooping, IPv6 Static Routing, RIPng, OSPFv3, manual tunnel, ISATAP tunnel, 6 to 4 tunnel • Reliablity: Static/LACP link aggregation, backup interface, EAPS and ERPS, ISSU uninterrupted system upgrade, BVSS, up to 16 units per stack, VRRP, UDLD	• Spanning Tree: 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP), BPDU guard, root guard and loopback guard IP: Static route, RIP, OSPF, IPv4/IPv6 dual stack • IPv6: ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet, IPv6 neighbour discovery, Path MTU, Discovery, MLD V1, MLD snooping, IPv6 Static Routing, RIPng, OSPFv3, manual tunnel, ISATAP tunnel, 6 to 4 tunnel • Reliablity: Static/LACP link aggregation, backup interface, EAPS and ERPS, ISSU uninterrupted system upgrade, BVSS, up to 16 units per stack, VRRP, UDLD
VLAN		4096 Active VLAN, QinQ & Selective QinQ, GVRP, Voice-VLAN	4096 active VLAN, QinQ & selective QinQ, GVRP, private VLAN & Voice-VLAN	
Multicast		Supports PIM-SM, PIM-DM, IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter	Support IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter	
Specifications				
Consumption	W	<75	35	<40
Dimensions	mm	440 x 350 x 44	440 x 180 x 44	440 x 280 x 44

NETWORK SWITCHES

FSW-24GE4SFP

FSW-848P-6SFP+

FSW-708P-2SFP

		FSW-24GE4SFPPOE	FSW-848P-6SFP+	FSW-708P-2SFP
Code		287626	287768	287771
Layer		2+	2+	2
LAN input		24 x 10/100/1000M auto-negotiation PoE, 4 x SFP+	48 x 10/100/1000M PoE auto-negotiation, 6 x 10GE/1GE SFP+	8 x 10/100/1000M PoE auto-negotiation, 2 x 1GE SFP
Console	RJ45	1	1	1
Backplane	Gbps	128	216	20
Forwarding rate	Mpps/64bytes	96	162	15
Fans		2	2	0
VLAN Interface		64	64	-
Routing table	RIB	512	512	-
Management		Console, Telnet, SSH v1/v2, HTTP, HTTPS, SNMP v1/v2/v3, RMOM	Console, Telnet, SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON, TFTP, FTP, SFTP, NTP, ZTP, SPAN, RSPAN, Dying gasp	CLI: Console, Telnet , SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON, TFTP, FTP, SFTP, NTP, ZTP (Zero Touch Provisioning), SPAN, RSPAN
Applications		• Spanning Tree: 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP), BPDU guard, root guard and loopback guard IP: Static route, RIP, OSPF, IPv4/IPv6 dual stack • IPv6: ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet, IPv6 neighbour discovery, Path MTU, Discovery, MLD V1, MLD snooping, IPv6 Static Routing, RIPng, OSPFv3, manual tunnel, ISATAP tunnel, 6 to 4 tunnel • Reliablity: Static/LACP link aggregation, backup interface, EAPS and ERPS, ISSU uninterrupted system upgrade, BVSS, up to 16 units per stack, VRRP, UDLD	• Spanning Tree: 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP), BPDU guard, root guard and loopback guard • IPv4: Static route, RIP, OSP, IPv4/v6 dual stack • Routing table: 512 • IPv6: ICMPv6, DHCPv6, ACLv6 and Ipv6, IPv6 neighbor discovery, Path MTU discovery Telnet, MLD V1, MLD snooping, IPv6 Static Routing, RIPng, SPFv3, Manual tunnel, ISATAP tunnel,6 to 4 tunnel • Reliablity: Static/LACP link aggregation, Interface backup, EAPS and ERPS, ISSU uninterrupted system upgrade, BVSS, ups to 16-units per stack, VRRP, UDLD • Jumbo frame: 9k • Total output BTU (1000BTU/H=293W): 1535.84 AC, 2730.38 DC	• Spanning Tree: 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP), BPDU guard, root guard and loopback guard • IP: Static route, RIP, OSPF, 512 routing table, IP v4/v6 dual stack, DHCP Server/Client/Relay • Reliablity: Static/LACP link aggregation, Interface backup, EAPS and ERPS, ISSU • Jumbo frame: 9k
VLAN		4096 active VLAN, QinQ & selective QinQ, GVRP, private VLAN & Voice-VLAN	4096 Active VLAN, QinQ & Selective QinQ, GVRP, Voice-VLAN	4096 Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN, Voice VLAN
Multicast		Support IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter	Supports IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter	IGMP v1/2/3, IGMP Snooping, IGMP Fast Leave, IGMP Filter, MVR
Specifications				
Consumption	W	<408	<48 (no PoE), <450 AC	<3 (no PoE), < 10 (PoE)
Dimensions	mm	440 x 210 x 44	440 x 300 x 44	280 x 180 x 44

NETWORK SWITCHES

FSW-724-4SFP

FSW-724P-4SFP

		FSW-724-4SFP	FSW-724P-4SFP
Code		287769	287770
Layer		2	2
LAN input		24 x 10/100/1000M auto-negotiation, 4 x 1GE SFPs	24 x 10/100/1000M PoE auto-negotiation, 4 x 1GE SFP
Console	RJ45	1	1
Backplane	Gbps	56	56
Forwarding rate	Mpps/64bytes	42	42
Fans		0	2
Management		CLI: Console, Telnet , SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON, TFTP, FTP, SFTP, NTP, ZTP (Zero Touch Provisioning), SPAN, RSPAN	CLI: Console, Telnet , SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON, TFTP, FTP, SFTP, NTP, ZTP (Zero Touch Provisioning), SPAN, RSPAN
Applications		• Spanning Tree: 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP), BPDU guard, root guard and loopback guard protection, L2PT for BPDU • IP: Static route, RIP, OSPF, 512 routing table, IP v4/v6 dual stack, DHCP Server/Client/Relay • Reliablity: Static/LACP link aggregation, Interface backup, EAPS and ERPS, ISSU • Jumbo frame: 9k	• Spanning Tree: 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP), BPDU guard, root guard and loopback guard • IP: Static route, RIP, OSPF, 512 routing table, IP v4/v6 dual stack, DHCP Server/Client/Relay • Reliablity: Static/LACP link aggregation, Interface backup, EAPS and ERPS, ISSU • Jumbo frame: 9k
VLAN		4096 Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN, Voice VLAN	
Multicast		IGMP v1/2/3, IGMP Snooping, IGMP Fast Leave, IGMP Filter, MVR	
Specifications			
Consumption	W	<20	<17 (no PoE), < 400 (PoE)
Dimensions	mm	440 x 210 x 44	440 x 210 x 44

Networking power supply

Hot swappable power supply for core switch.

		FSWA-948-PS-HS
Code		287772
Fans		0
Specifications		
Consumption	W	75
Dimensions	mm	178 x 101 x 41

WIFI

Access point

High performance access points for indoor and outdoor applications.

WAP6-2GE-CM-HD

WAP6-1GE-EXT-HD

		WAP6-2GE-CM-HD	WAP6-1GE-EXT-HD
Code		287773	287786
WiFi Section			
Operating mode		Routing and Bridging	
Standard compatibility		802.11a/b/g/n/ac/wave2/ax	
Bitrate		2.4G: 2x2 11ax 575Mbps 5G: 2x2 11ax 1200Mbps	2.4G: 2*2 11ax 576Mbps 5G: 2*2 11ax 2400Mbps
2.4GHz frequency range		2.400 - 2.483	
5GHz frequency range		5.725-5.850/5.15-5.35	
Aerial specifications		2x2 MIMO, integrated omnidirectional 3dBi aerials, up to 1800Mbps	Supports 2x2 MIMO, integrated omnidirectional 8dBi aerials, up to 2400Mbps
Encryption		AES, WPA3	
Specifications			
Remote power supply		PoE 802.3at or 12V DC	PoE 802.3at
Installation		Wall mounted	
LAN output		• 1 x 10/100/1000M WAN with PoE support • 1 x 10/100/1000M LAN • RJ45 connectors	• 1 x 10/100/1000M WAN with PoE support • RJ45 connectors
USB		1 x USB 2.0 1 x USB 3.0	
MTBF		250000	250000
SSID support		Multiple	
User		Up to 128 per band	up to 128 per band
Status LED		Power supply, operation, error	SYS, WLAN, Link/Act
Protection		IP41	IP67
Consumption	W	<15W	<18W
Operating temperature	°C	-10 to +40	-35 to +55
Relative humidity	%	From 10 to 95 (in the absence of condensation)	
Options		• Telnet, SSH, Web, SNMP and TR069 • Ping, tracert, debug and other diagnostic tools • CAPWAP-based AC centralized management • COP unified management • AP indicator on and off	• QoS • CLI, Web, SNMP • Unified management

WIFI

		WAP6-2GE-CM-HD	WAP6-1GE-EXT-HD
Code		287773	287786
Specifications			
Wireless		ADVANCED Wi-Fi FEATURES: • Automatic channel/bandwidth/power selection • Load balancing • 802.11k/802.11v/802.11r • AP steering, band steering POWER SAVING: • Green AP mode • Dynamic MIMO power saving WIRELESS ACCESS SUPPORTS: • Multiple SSID management and SSID hiding • No SSID, VLAN binding function • SSID-based user limit and isolation • Country code setting PRIORITY: • Ethernet port 802.1P identification and marking • Mapping from wireless priorities to wired priorities	ADVANCED Wi-Fi FEATURES: • Automatic channel/bandwidth/power selection • Load balancing: based on traffic/number of users/bands/air interface load • 802.11k/802.11v/802.11r • AP steering • Band steering POWER SAVING: • Green AP mode • Dynamic MIMO power saving
Management		WIRELESS MANAGEMENT SUPPORTS: • Local AC/web management • Option43 • DNS to discover AC • Layer 2 and Layer 3 networking of AC and AP • Cross-NAT of AC and AP • Layer 2 and Layer 3 user roaming • Clock, version and configuration synchronization of AC and AP. USER AUTHENTICATION SUPPORTS: • Multiple authentication methods such as local account and voucher • User black and white lists • Account based access period control and bandwidth control	WIRELESS MANAGEMENT SUPPORTS: • Local AC/web management • Multicast enhancement • Automatic network-wide channel adjustment • Automatic network-wide bandwidth adjustment • Automatic network-wide power adjustment • Automatic network management WLAN SUPPORTS: • WPA-PSK/WPA2-PSK/WPA3-PSK • RTS/CTS • Guest network • Smart device SSID • Wired networking: automatic detection and authorisation • Wireless Mesh networking: automatic detection and authorisation • Automatic path switching • Automatic link fault detection and recovery
Security		• PSK authentication • Supports WEP, WPA, WPA2, WPA3 wireless encryption • IP-based, MAC-based filtration • DDoS, De-Auth anti-attack • Rogue AP detection • SSID- VLAN binding	• PSK authentication • Supports WEP, WPA, WPA2, WPA3 wireless encryption • Client isolation: Layer-2 wireless client isolation, SSID isolation • 802.11i • Forwarding security: packet filter, MAC address filter, and broadcast storm suppression • SSID-VLAN binding • Management frame protection (802.11w)
QoS		• 802.11e/WMM • Global trac rate limit • AP-based, VLAN based, User-based trac rate limit • Frequency-based, APbased flow load balancing	• 802.11e/WMM • Priority: ethernet port 802.1P identification and marking/mapping from wireless priorities to wired priorities • AI-QoS: mapping based on application traffic and air interface queue
Dimensions and packaging			
Dimensions	mm	168 x 168 x 32	304 x 180 x 88
Weight	kg	0.420	1.6

WIFI

WiFi Controller

The **FRACARRO WiFi 6 controller based solution** is ideal for creating and distributing **WiFi connectivity** within medium and large hospitality structures such as hotels, campsites, tourist villages and offices.

WCTRL-128-SFP

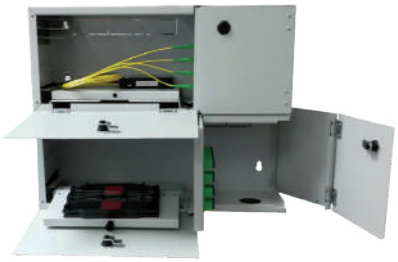
WCTRL-256-SFP+

		WCTRL-128-SFP	WCTRL-256-SFP+
Code		287774	287775
WiFi Section			
Standard compatibility		• 802.11 a/b/g/n/ac/ax • 802.11g, 802.11d, 802.11h • 802.11i, 802.11e • 802.3, 802.3ab, 802.3u • 802.3x, 802.3z, ARP, Reverse ARP • Multi-LAN ARP/Proxy ARP • STP/802.1Q L2 forwarding • RFC791 IP, RFC792 ICMP, RFC793, TCP, RFC768 UDP • RFC854 Telnet, RFC1542 BOOTP • RFC1191 Path MTU Discovery	• 802.11 a/b/g/n/ac/ax • 802.11g, 802.11d, 802.11h • 802.11i, 802.11e • 802.3, 802.3ab, 802.3u • 802.3x, 802.3z, ARP, Reverse ARP • multi-LAN ARP/Proxy ARP • STP/802.1Q L2 forwarding • RFC791 IP, RFC792 ICMP, RFC793, TCP, RFC768 UDP • RFC854 Telnet, RFC1542 BOOTP • RFC1191 Path MTU Discovery
Specifications			
Installation		1U rack	1U rack
LAN output		• 2 x 10/100/1000M Combo • 8 x 10/100/1000M LAN • RJ45 connectors	• 1 x 10G SFP+ WAN • 2 x 10/100/1000M RJ45 WAN • 2 x 1G SFP WAN • 8 x 10/100/1000M RJ45 LAN
USB		1 x USB	1 x USB
Status LED		Power supply, operation, status LCD	Power supply, operation, status LCD
Power supply	Vdc/A	230	230
Consumption	W	Max. 20	Max. 50
Operating temperature	°C	-10 to +50	-10 to +50
Relative humidity	%	10 to 95 (without condensation)	10 to 95 (without condensation)
QoS		• User's flow control • Supports user-level flow control or flow control based on the contract information of the Radius server • Supports the domain-based flow control (taking VLAN or SSID as the configuration domain) • Service priority: • Supports 802.11e, which provides different services according to session's priority • Supports mapping of users QoS levels according to SSID • Supports 802.1p and L2 packet's priority mapping • Load balance and control • Supports AP/AC interconnection based on priority and load • Supports load balance between adjacent APs on the basis of user quantity and flow	
Dimensions and packaging			
Dimensions	mm	440 x 180 x 44	440 x 180 x 44
Weight	kg	2.3	2.3

CABINETS

INTERNAL cabinets

Cabinets for organising fibre inside buildings or apartments.



CSOE 2U

CSOE_P

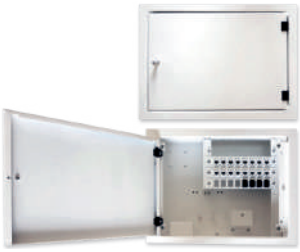
CSOE MINI_P

Name	Code	Dimensions mm	Material
CSOE 2U	287418	454 x 152 x 180	Metal
CSOE_P	287567	450 x 180 x 150	Plastic with optical cassettes included
CSOE_MINI_P	287566	332 x 155 x 105	Plastic with optical cassettes included

QDSA

QDSA54P

QDSA-F



QDSA MINI F

SUPDIN265

Name	Code	Dimensions mm	Chassis	Material
QDSA	287472	610 x 455 x 136	Recessed pre-fitted 54 modules	Plastic
QDSA-F	287565	577 x 407 x 100	Recessed 54 modules	Metal
QDSA MINI F	287517	392 x 307 x 100	Recessed 36 modules	Metal
QDSA36P	287758	410 x 430 x 80	Recessed 36 modules	Plastic
QDSA54P	287759	618 x 430 x 80	Recessed 54 modules	Plastic

Interconnecting optical couplers not included.

Name	Code	Description
SUPDIN140	271201	**14cm bracket** to install products on to a **din bar** inside a QDSA or rack.
SUPDIN265	271202	**26.5cm modular bracket** to install products on to a din bar inside a QDSA or rack. The modularity and the different holes allow different sized **products to be supported**; **the bracket** facilitates the fixing and the release from the din bar.

CABINETS

INTERNAL cabinets

Cabinets for organising fibre inside buildings or apartments.

STOA 4

Name	Code	Dimensions mm	Chassis	Material
STOA 4	287420	100 x 92 x 29	SC/APC	Plastic

EXTERNAL cabinets

Cabinets for organising fibre outside buildings.

TDT8

TDT 12

TDT24

TDT48

Name	Code	Dimensions mm	Connectors No.	Material
TDT8	287696	227 x 181 x 54.5	8	Plastic
TDT 12	287419	235 x 205 x 60	12	Plastic
TDT24	287697	320 x 240 x 100	24	Plastic
TDT48	287698	420 x 320 x 130	48	Plastic
TDT_32	287441	205 x 135 x 55	32	Plastic
JTDT_32	287442	140 x 80 x 40	Cable cover for TDT32	Plastic

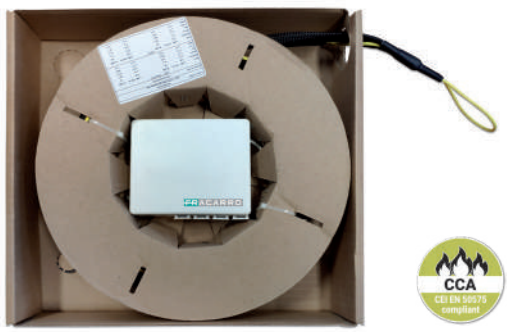
STOA

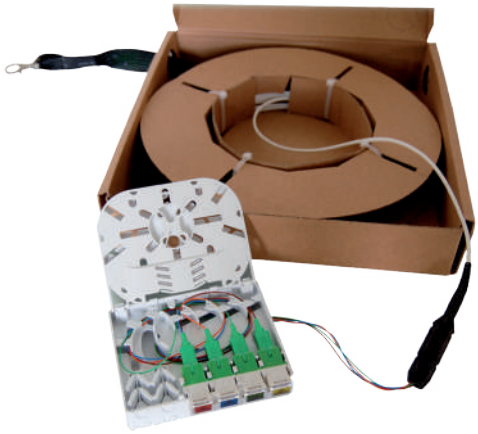
STOA PRECO

Plastic optical termination boxes, pre-terminated on **both ends**, with 4 x SC/APC connections and shooter; available with **different cable lengths for FTTH multiservice** installations; ideal solution to bring all centralised services in the CSOE (Main Building Optical Cabinet) into each individual dwelling.

Meets requirements of class **Cca** according to **CPR EN 50575**.

DIN support from Rev.1





		STOA 4C 10M	STOA 4C 20M	STOA 4C 30M	STOA 4C 40M	STOA 4C 50M
Code		287738	287739	287740	287741	287742
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2
Colour		White	White	White	White	White
Fibre no.		4	4	4	4	4
Fibre length	m	10	20	30	40	50
Diameter	mm	3	3	3	3	3
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Connector type		Simplex PULL	Simplex PULL	Simplex PULL	Simplex PULL	Simplex PULL
Insertion loss	dB	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)
Specifications						
Pcs.		1	1	1	1	1
Dimensions	mm	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50

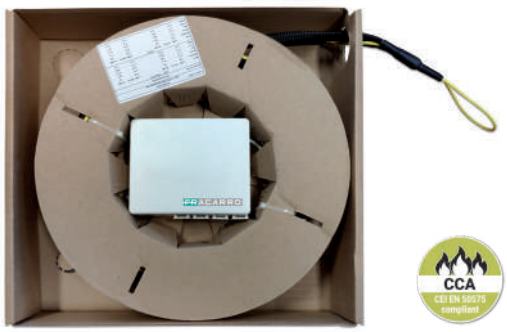
		STOA 4C 60M	STOA 4C 70M	STOA 4C 80M	STOA 4C 90M	STOA 4C 100M
Code		287743	287744	287745	287746	287727
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2
Colour		White	White	White	White	White
Fibre no.		4	4	4	4	4
Fibre length	m	60	70	80	90	100
Diameter	mm	3	3	3	3	3
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Connector type		Simplex PULL	Simplex PULL	Simplex PULL	Simplex PULL	Simplex PULL
Insertion loss	dB	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)
Specifications						
Pcs.		1	1	1	1	1
Dimensions	mm	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50

STOA

STOA LITE

Plastic optical termination boxes, pre-terminated on STOA side only, with 4 x SC/APC connections and shooter; available with **different cable lengths for FTTH multiservice installations**; ideal solution to bring all centralised services in the CSOE (Main Building Optical Cabinet) into each individual dwelling.

Meets requirements of class **Cca** according to **CPR EN 50575**.
DIN support from Rev.1



STOA4C 50M LITE

		STOA4C 10M LITE	STOA4C 20M LITE	STOA4C 30M LITE
Code		287747	287748	287749
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2
Colour		White	White	White
Fibre no.		4	4	4
Fibre length	m	10	20	30
Diameter	mm	3	3	3
Connectors		SC/APC	SC/APC	SC/APC
Connector type		Simplex PULL	Simplex PULL	Simplex PULL
Insertion loss	dB	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)
Specifications				
Pcs.		1	1	1
Dimensions	mm	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50

		STOA4C 40M LITE	STOA4C 50M LITE	STOA4C 100M LIT
Code		287750	287751	287752
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2
Colour		White	White	White
Fibre no.		4	4	4
Fibre length	m	40	50	100
Diameter	mm	3	3	3
Connectors		SC/APC	SC/APC	SC/APC
Connector type		Simplex PULL	Simplex PULL	Simplex PULL
Insertion loss	dB	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)
Specifications				
Pcs.		1	1	1
Dimensions	mm	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50

FIBRE CABLES

EXTERNAL cables

External multi-core cables.

OPC ARM

Name	Code	Fibre type	Sheath	Fibre length m	Connectors
OPC 4 ARM	287344	4 Fibre 9/125	LSZH, G657A2, CPR Eca	500	To be connected
OPC 8 ARM	287346	8 Fibre 9/125	LSZH, G657A2, CPR Eca	500	To be connected
OPCGC12	287448	12 fibre 9/125	PE, G657A2	Specify length	To be connected
OPCGC24	287449	24 fibre 9/125	PE, G657A2	Specify length	To be connected
OPCGC48	287450	48 fibre 9/125	PE, G657A2	300	To be connected
OPCGC96	287451	96 fibre 9/125	PE, G657A2	300	To be connected

INTERNAL cables

Indoor multi-core cables.

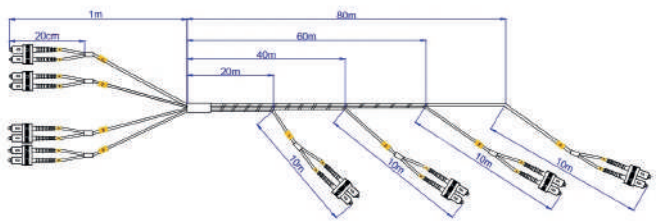
OPC4IN_CCA (287736) and OPC8IN_CCA (287737) meet requirements of class **Cca** according to **CPR EN 50575**.

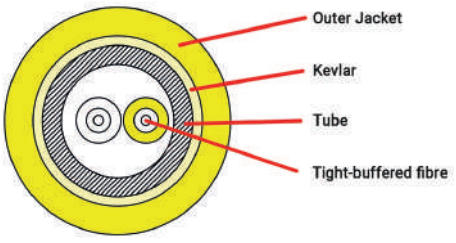
OPC_CCA

Name	Code	Fibre type	Sheath	Fibre length m	Connectors
OPCABO2	287446	2 fibre 9/125	LSZH, G657A2	250	To be connected
OPC4IN_CCA	287736	4 fibre 9/125	LSZH, G657A2	250	To be connected
OPC8IN_CCA	287737	8 fibre 9/125	LSZH, G657A2	500	To be connected
OPCCOL12	287452	12 fibre 9/125	LSZH, G657A2	Specify length	To be connected
OPCCOL48	287453	48 fibre 9/125	LSZH, G657A2	300	To be connected
OPCCOL96	287454	96 fibre 9/125	LSZH, G657A2	300	To be connected

STAGGERED INTERNAL multi-core cables

Indoor, **preconnected SC/APC** multi-core cables with **10m breakouts every 20m**, ideal for installing fibre in risers and **carrying services with 1 or 2 fibres to multiple floors**.
Meet the requirements of class **Cca** according to **CPR EN 50575**.





OPC SA

Name	Code	Fibre type	Sheath	Fibre length m	Connectors
OPC4I90C-SA-P	287701	Single-mode 9/125; buffered	LSZH, G657 A2	90, with 4 pre terminated cables 10m long, staggered every 20m	Simplex PULL
OPC8I90C-SA-DP	287702	Single-mode 9/125; buffered	LSZH, G657 A2	90, with 4 pre terminated cables 10m long, staggered every 20m	Duplex PULL
OPC8I170C-SA-P	287703	Single-mode 9/125; buffered	LSZH, G657 A2	170, with 4 pre terminated cables 10m long, staggered every 20m	Simplex PULL
OPC16I170C-SADP	287704	Single-mode 9/125; buffered	LSZH, G657 A2	170, with 4 pre terminated cables 10m long, staggered every 20m	Duplex PULL

PATCH CORDS

MINI patch cords

Single-mode fibre optic **patch cords** with **MINI** connectors.

PULL CONN

PR...

Name	Code	Description	Fibre type single mode	Length m	Connectors	Pcs.
PULL CONN	287224	PRxxx patch cord protective cap	-	-	-	20
BR2FCAPC-MINI	287428	2m single-mode fibre optic patch cord Mini- FC/APC connectors.	9/125	2	Mini/FC/APC	1
PR003	287219	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	3	Mini-Mini	1
PR005	287220	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	5	Mini-Mini	1
PR010	287221	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	10	Mini-Mini	1
PR025	287222	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	25	Mini-Mini	1
PR035	287327	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	35	Mini-Mini	1
PR050	287328	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	50	Mini-Mini	1
PR075	287329	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	75	Mini-Mini	1
PR100	287223	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	100	Mini-Mini	1

PATCH CORDS

SC

Single-mode fibre optic **patch cords** with **SC/APC, SC/UPC, FC/APC and FC/PC connectors**; some models also available with **PULL** system.

BR1AA

BR10-PA-PS

BR2SCAPC-FCAPC

BR1-PP

		BR1AA	BR2-AA	BR4-AA	BR5-AA	BR10-AA-PS
Code		287522	289360	289362	287690	287689
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow	Yellow	Yellow	Yellow
Fibre no.		1	1	1	1	1
Fibre length	m	1	2	4	5	10
Diameter	mm	2	2	2	2	2
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Connector type		Simplex	Simplex	Simplex	Simplex	Simplex PULL
Insertion loss	dB	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)
Pcs.		1	1	1	1	1

		BR-20AA-PS	BR2-PA	BR4-PA	BR5-PA	BR10-PA-PS
Code		287645	289359	289361	287688	287687
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow	Yellow	Yellow	Yellow
Fibre no.		1	1	1	1	1
Fibre length	m	20	2	4	5	10
Diameter	mm	2	2	2	2	2
Connectors		SC/APC - SC/APC	SC/APC - SC/PC	SC/APC - SC/PC	SC/APC - SC/UPC	SC/APC - SC/UPC
Connector type		Simplex PULL	Simplex	Simplex	Simplex	Simplex PULL
Insertion loss	dB	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)
Pcs.		1	1	1	1	1

		BR20-PA-PS	BR1-PP	FC-SC/APC	BR2SCAPC-FCAPC	BR2FC/PC-SC/AP
Code		287686	287691	280011	287427	287521
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A1	LSZH, G657 A1	LSZH	LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow	Yellow	Yellow	Yellow
Fibre no.		1	1	1	1	1
Fibre length	m	20	1	1	2	2
Diameter	mm	2	2	-	2	2
Connectors		SC/APC - SC/UPC	SC/UPC - SC/UPC	SC/APC - FC/APC	SC/APC - FC/APC	SC/APC - FC/PC
Connector type		Simplex PULL	Simplex	Simplex	Simplex	Simplex
Insertion loss	dB	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)
Pcs.		1	1	1	1	1

PATCH CORDS

LC

Single-mode fibre optic **patch cords** with **LC/UPC - LC/UPC DUPLEX** connectors.

BRE1E-LU-LU-D

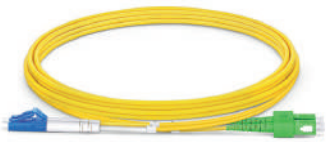
BRE2E-LU-LU-D

		BR1E-LU-LU-D	BR2E-LU-LU-D
Code		287693	287692
Fibre type		Single-mode 9/125	Single-mode 9/125
Sheath		LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow
Fibre no.		2	2
Fibre length	m	1	2
Connectors		LC/UPC - LC/UPC	LC/UPC - LC/UPC
Connector type		Duplex	Duplex
Pcs.		1	1

SC/LC

Single-mode fibre optic **patch cords** with **SC/APC - LC/UPC DUPLEX** connectors.

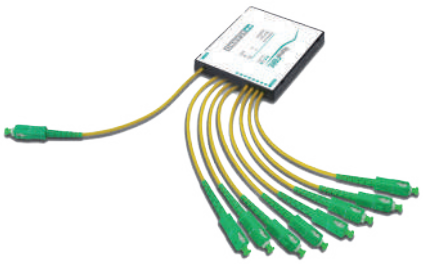
BRE1E-SA-LU-D



BRE2E-SA-LU-D

		BR1E-SA-LU-D	BR2E-SA-LU-D
Code		287695	287694
Fibre type		Single-mode 9/125	Single-mode 9/125
Sheath		LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow
Fibre no.		2	2
Fibre length	m	1	2
Connectors		SC/APC - LC/UPC	SC/APC - LC/UPC
Connector type		Duplex	Duplex
Pcs.		1	1

SPLITTERS



PLC 1x8

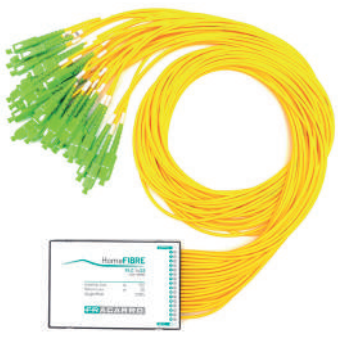
PLC

PLC splitters based on waveguide planar technology that gives **low insertion losses**. Suitable for low cost and high performance optical distribution in many installation types.

- **SC/APC connectors**
- **1m patch cords**
- High return loss
- Compact design

		PLC 1x2	PLC 1x4	PLC 1x8	PLC 1x12
Code		287573	287455	287407	287574
Inputs		1	1	1	1
Outputs		2	4	8	12
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss		<4	<7.6	<10.9	<13.1
Return loss	dB	>55	>55	>55	>55
Isolation	dB	>40	>40	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1	G657 A1
Fibre length	m	1	1	1	1
Connector type		Simplex	Simplex	Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55	-20 to +55	-20 to +55
Dimensions	mm	90 x 100 x 20	90 x 100 x 20	90 x 100 x 20	90 x 100 x 20
		PLC 1x16	**PLC 1x24**	**PLC 1x32**	**PLC 1x64**
Code		287408	287575	287409	287410
Inputs		1	1	1	1
Outputs		16	24	32	64
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss		<14	<16.3	<17.2	<20.5
Return loss	dB	>55	>55	>55	>55
Isolation	dB	>40	>40	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1	G657 A1
Fibre length	m	1	1	1	1
Connector type		Simplex	Simplex	Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55	-20 to +55	-20 to +55
Dimensions	mm	90 x 100 x 20	90 x 100 x 20	90 x 100 x 20	90 x 100 x 20

PLC 1x16



PLC 1x32

SPLITTERS

PLC 1x2 MINI

PLC MINI

PLC miniaturised splitters based on waveguide planar technology that allow **low insertion losses**. Suitable for low cost and high performance optical distribution in many installation types.

- **SC/APC connectors**
- **0.5m patch cords**
- High return loss
- Compact design

		PLC 1x2 MINI	PLC 1x4 MINI	PLC 1x8 MINI
Code		287576	287577	287578
Inputs		1	1	1
Outputs		2	4	8
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss		<4	<7.6	<10.9
Return loss	dB	>55	>55	>55
Isolation	dB	>40	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1
Fibre length	m	0.5	0.5	0.5
Connector type		Simplex	Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55	-20 to +55
Dimensions	mm	7 x 4 x 60	7 x 4 x 60	7 x 4 x 60

		PLC 1x12 MINI	PLC 1x16 MINI	PLC 1x24 MINI
Code		287579	287580	287581
Inputs		1	1	1
Outputs		12	16	24
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss		<13.1	<14	<16.3
Return loss	dB	>55	>55	>55
Isolation	dB	>40	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1
Fibre length	m	0.5	0.5	0.5
Connector type		Simplex	Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55	-20 to +55
Dimensions	mm	12 x 4 x 60	12 x 4 x 60	20 x 6 x 80

PLC 1x16 MINI

PLC 1x24 Mini

SPLITTERS

PLC MINI

PLC 1x32 MINI

PLC 2x8 MINI

PLC 2x16 MINI

		PLC 1x32 MINI	PLC 1x64 MINI
Code		287582	287583
Inputs		1	1
Outputs		32	64
Connectors		SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss		<17.2	<20.5
Return loss	dB	>55	>55
Isolation	dB	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1
Fibre length	m	0.5	0.5
Connector type		Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55
Dimensions	mm	20 x 6 x 80	40 x 6 x 100

		PLC 2x8 MINI	PLC 2x16 MINI	PLC 2x32 MINI
Code		287753	287754	287755
Inputs		2	2	2
Outputs		8	16	32
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss		<11.2	<14.6	<17.9
Return loss	dB	>55	>55	>55
Isolation	dB	>55	>55	>55
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1
Fibre length	m	0.9	0.9	0.9
Connector type		Simplex	Simplex	Simplex
Operating temperature	°C	-40 to +85	-40 to +85	-40 to +85
Dimensions	mm	7 x 4 x 60	7 x 4 x 60	7 x 4 x 60

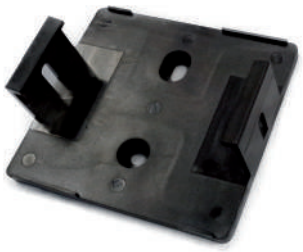
SPLITTERS

VOV2

MINI

Miniaturised optical splitters, suitable for fibre optic installations where size is restricted; allow for equal and unequal outputs.

- MINI connector with **3mm** thickness
- Cap to cover the fibre ferule
- **Cascade or star distribution**
- Quick and easy to install
- VOV wall mounting bracket (287240)



SUPP VOV/VOT

		VOV2	VOV4	SUPP VOV/VOT
Code		287210	287211	287240
Inputs		1	1	-
Outputs		2	4	-
Connectors		Mini	Mini	-
Wavelength input	nm	1290-1600	1290-1600	-
Insertion loss		<3.9	<7.8	-
Return loss	dB	>55	>55	-
Isolation	dB	>45	>45	-
Operating temperature	°C	-20 to +55	-20 to +55	-
Dimensions	mm	83 x 59 x 17	83 x 59 x 17	65 x 65 x 25

OPTICAL DIPLEXERS

WDM/CWDM

Optical diplexers to mix or demix up to 5 different wavelengths within the same fibre cable

- Wavelength selection
- **SC/APC connectors**
- Solutions for 2-5 different wavelengths
- **Quick and easy to install**

WDM 2

CWDM5

		WDM 2	CWDM5
Code		287343	287342
Input		1	1
Outputs		2	5
Optical insertion loss	dB	<0.5	<1.6
Return loss	dB	>55	>55
Isolation	dB	>30	>30
Wavelength 1	nm	1290-1350	1510
Wavelength 2	nm	1490-1600	1530
Wavelength 3	nm	-	1550
Wavelength 4	nm	-	1570
Wavelength 5	nm	-	1310-1490
Flatness	dB	<0.5	<0.5
Fibre type		9/125	9/125
Sheath		LSZH, G657A1	LSZH, G657A1
Fibre length	m	1	1
Connector type		SC/APC	SC/APC
1510		-	Blue
1530		-	Yellow
1550		-	Green
1570		-	Brown
Second window 1310		-	White
Specifications			
Operating temperature	°C	-20 to +55	-20 to +55
Dimensions	mm	90 x 20 x 5	250 x 140 x 50

ADAPTORS

COUPLERS

Bushings for interconnecting cables.

Name	Code	Description	Pcs.
BFO-SC-APC	289349	SC/APC coupler.	10
BFO-SC-APC FL	287593	Flangeless SC/APC coupler, single-mode connector.	10
BFO-SC-APC KEY	287595	Flangeless SC/APC coupler for mounting on Keystone adaptors.	1
MIN/MIN	287225	Mini-Mini coupler.	10

BFO-SC-APC

BFO-SC-APC-FL

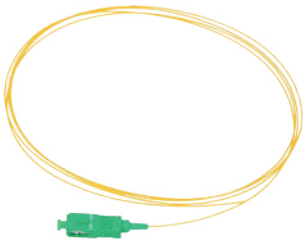
BFO-SC-APC-KEY

MIN-MIN

PIG TAILS

Pig tails and adaptors.

Name	Code	Description	Pcs.
PIG TAIL	287426	Optical single-mode pig tail 9/125	10
PR ADAPT	287226	SC/APC Harness/Adaptor - Mini	1



PIG TAIL

PR ADAPT

OPTICAL ATTENUATORS

In-line optical attenuators with SC/APC connector.

Name	Code	Description	Pcs.
OPTATT3DB	287239	Optical attenuator 3dB	1
OPTATT7DB	287238	Optical attenuator 7dB	1
OPTATT14DB	287237	Optical attenuator 14dB	1

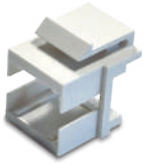
OPTATTxDB

ACCESSORIES

Networking accessories

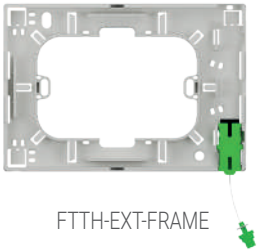
Keystone plastic couplers, external frames and fibre organisers.

Name	Code	Description	Pcs.
ADP-SC-KEY	287594	Keystone plastic coupler for SC/APC single-mode socket for mounting on Keystone holders.	1
FTTH-EXT-FRAME	287597	External frame for FTTH installation with SC/APC coupler and user security lock.	1
OPO-503	287596	Fibre bracket for flush-mounted box 503.	1



ADP SC KEY

OPO-503

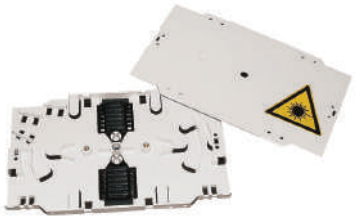


FTTH-EXT-FRAME

FIBRE ORGANISERS

Fibre **organisers** and rack-mounted **junction boxes.**

Name	Code	Description	Pcs.
OPB8I	289405	Painted steel junction box for wall mounting. 8 x SC/APC optical connections.	1
OPO12P	289402	Plastic fibre organiser for securing optimal housing for fibre optic splices. Provision for 12 splices.	1
OPB18I	289403	Painted steel junction box wall mounting. 18 x SC/APC optical connections.	1
OPB24IR	289404	Painted steel rack-mounted junction box. 24 x SC/APC optical connections.	1
OPB48IR	287757	Painted steel rack-mounted junction box. 48 x SC/APC optical connections.	1



OPO12P

OPB18I

OPB24IR

ETHERNET CABLES

CAT5E cables

PVC, LSZH and PE sheathed CAT5E network cable with 305m skein unwind or 500m spool comprising 4 balanced 100 Ohm pairs with **24 AWG** flexible red copper conductors.

Features meet the requirements of **Category 5E Class D** up to 100Mhz according to ANSI/TIA 568.2-D and ISO/IEC 11801 standards. Suitable for Gigabit Ethernet (IEEE 802.3ab) applications.

CAT5E

		CAT5E PVC	CAT5E LSZH	CAT5E PE
Code		287527	287528	287532
Reel length	m	305	305	500
Cable type		CAT 5E U/UTP	CAT 5E U/UTP	CAT 5E U/UTP
CPR compliance		Eca	Eca	Fca
Conformity		EN60322-1-2 EN50575:2014+A1:2016 available at ce.fracarro.com		
Standard test		ISO/IEC 11801, TIA EIA568C.2	ISO/IEC 11801, TIA EIA568C.2	ISO/IEC 11801, TIA EIA568C.2
Inner conductor				
Material		Copper	Copper	Copper
Internal diameter	mm	0.48 +/-0.005	0.48 +/-0.005	0.48 +/-0.005
External diameter	mm	4.9	4.9	5.5
AWG class		24	24	24
Packaging		Cardboard easy-pull		Wooden reel

CAT6 cables

PVC, LSZH and PE sheathed CAT 6 network cable with 305m skein unwind or 500m spool comprising 4 balanced 100 Ohm pairs with **24 AWG** flexible copper conductors.

Features meet **Category 6 Class E** requirements up to 250Mhz according to ANSI/TIA 568.2-D and ISO/IEC 11801 standards. Suitable for Gigabit Ethernet (IEEE 802.3ab) applications.

CAT6 PE

		CAT6 PVC	CAT6 LSZH	CAT6 PE	CAT6 CCA	CAT6A CCA
Code		287529	287530	287533	287782	287783
Reel length	m	305	305	500	305	305
Cable type		CAT 6 U/UTP	CAT 6 U/UTP	CAT 6 U/UTP	CAT 6 U/UTP	CAT 6A U/UTP
CPR compliance		Eca	Eca	Fca	Cca, s1a, d1, a1	Cca, s1a, d1, a1
Conformity		EN60322-1-2 EN50575:2014+A1:2016			EN50575:2014+A1:2016	
Standard test		ISO/IEC 11801, TIA EIA568C.2	ISO/IEC 11801, TIA EIA568C.2	ISO/IEC 11801, TIA EIA568C.2	ISO/IEC 11801, TIA EIA568C.2	ISO/IEC 11801, TIA EIA568.2-D
Inner conductor						
Material		Copper	Copper	Copper	Copper	Copper
Internal diameter	mm	0.53+/-0.005	0.53+/-0.005	0.53+/-0.005	0.550+/-0.005	0.565+/-0.005
External diameter	mm	5.5	5.5	6.6	6.3	7.4
AWG class		24	24	24	23	23
Packaging		Cardboard easy-pull		Wooden reel	Drum on cardboard box	

RJ45 PATCH CORDS

CAT5E patch cords

Category **5E U/UTP patch cords** with **RJ-45** Keystone connectors.

Features meet **Category 5E Class D** requirements up to 100MHz according to **ANSI/TIA 568.2-D** and **ISO/IEC 11801** standards;suitable for **Gigabit Ethernet (IEEE 802.3ab)** applications.

CAT5E

Name	Code	Standard	Sheath	Length m	Pcs.
CAT5E UTP 1/2m	287713	100BASE-TX	LSZH white	0.5	10
CAT5E UTP 1m	287714	100BASE-TX	LSZH white	1	10
CAT5E UTP 2m	287715	100BASE-TX	LSZH white	2	10
CAT5E UTP 5m	287716	100BASE-TX	LSZH white	5	10

CAT6 patch cords

Category **6 U/UTP patch cords** with Keystone **RJ-45** connectors.

Features meet **Category 6 Class E** requirements up to 250MHz according to **ANSI/TIA-568-B.2-1 and ISO/IEC 11801** standards**;** suitable for **Gigabit Ethernet (IEEE 802.3ab)** applications.

CAT6

Name	Code	Standard	Sheath	Length m	Pcs.
CAT6 UTP 1/2m	287717	1000BASE-T	LSZH white	0.5	10
CAT6 UTP 1m	287718	1000BASE-T	LSZH white	1	10
CAT6 UTP 2m	287719	1000BASE-T	LSZH white	2	10
CAT6 UTP 5m	287720	1000BASE-T	LSZH white	5	10

CAT6A patch cords

Category **6A U/UTP patch cords** with Keystone **RJ-45** connectors.

Features meet **Category 6A Class EA** requirements up to 250 MHz according to **ANSI/TIA-568-C.2 and ISO/IEC 11801** standards; suitable for **10 Gigabit Ethernet (IEEE 802.3an)** applications.

CAT6A

Name	Code	Standard	Sheath	Length m	Pcs.
CAT6A UTP 1/2m	287721	10G BASE-T (10G Ethernet)	LSZH white	0.5	10
CAT6A UTP 1m	287722	10G BASE-T (10G Ethernet)	LSZH white	1	10
CAT6A UTP 2m	287723	10G BASE-T (10G Ethernet)	LSZH white	2	10
CAT6A UTP 5m	287724	10G BASE-T (10G Ethernet)	LSZH white	5	10

RJ45 CONNECTORS

Keystone RJ45 jack

Keystone RJ-45 CAT 5E, 6 and 6A UTP receptacles for high-density installation solutions suitable for **Gigabit ethernet** data distribution.

Quick and easy connection, **no tools required** saving significant time during installation; **integrated TIA A and B indications**.

Name	Code	Connectors	Standard	Pcs.
CAT5E Keystone	287705	Keystone RJ45 CAT 5E UTP	ATM 1200; 1000BASE-T (Gigabit Ethernet); 1G FCBASE-T	50
CAT6 Keystone	287706	Keystone RJ45 CAT 6 UTP	ATM 1200; 1000BASE-T (Gigabit Ethernet); 1G FCBASE-T	50
CAT 6A Keystone	287707	Keystone RJ45 CAT 6A UTP	ATM 1200; 10GBASE-T (10 Gigabit Ethernet)	50
CAT5E KEY NERO	287809	Keystone RJ45 CAT 5E UTP	ATM 1200; 1000BASE-T (Gigabit Ethernet); 1G FCBASE-T	50
CAT6 KEY NERO	287810	Keystone RJ45 CAT 6 UTP	ATM 1200; 1000BASE-T (Gigabit Ethernet); 1G FCBASE-T	50
CAT6A KEY NERO	287811	Keystone RJ45 CAT 6A UTP	ATM 1200; 10GBASE-T (10 Gigabit Ethernet)	50

CAT5E Keystone

CAT5E KEY NERO

CAT5E Keystone open

RJ45 plugs

Unshielded **RJ45 8-pin PLUG** for connecting to flexible cables to make patch cords. They meet the requirements of **CAT 5E, CAT 6 and CAT 6A**.

CAT5E PLUG Pass

CAT 5E PLUG UTP

Name	Code	Connectors	Standard	Pcs.
CAT5E PLUG Pass	287708	CAT 5E RJ45 feed-through	ATM 1200; 1000BASET (Gigabit Ethernet); 1G FCBASE-T	100
CAT6 PLUG Pass	287709	CAT 6 RJ45 feed-through	ATM 1200; 1000BASET (Gigabit Ethernet); 1G FCBASE-T	100
CAT5E PLUG UTP	287710	CAT 5E RJ45 standard	ATM 1200; 1000BASET (Gigabit Ethernet); 1G FCBASE-T	100
CAT6 PLUG UTP	287711	CAT 6 RJ45 standard	ATM 1200; 1000BASET (Gigabit Ethernet); 1G FCBASE-T	100
CAT6A PLUG UTP	287712	CAT 6A RJ45 standard	ATM 1200; 1000BASET (Gigabit Ethernet); 1G FCBASE-T	100

Crimp tools

Tool for crimping RJ45 plugs on category 5E, 6 and 6A cables with burnished metal body and ergonomic plastic handles suitable for crimping UTP PLUGS.

Name	Code	Description
RJ45 UTP Tool	287725	Tool for crimping RJ45 plugs on Category 5E, 6 and 6A cables with burnished metal body and ergonomic plastic handles suitable for crimping UTP connectors.
RJ45 PASS Tool	287726	Tool for crimping RJ45 feed-through plugs on Category 5E, 6 and 6A cables with burnished metal body and ergonomic plastic handles.

RJ45 UTP Tool

RJ45 PASS Tool

Keystone outlet modules

BT-INT-KEY

BT-LIG-KEY

BT-LNOW-B-KEY

BT-LNOW-N-KEY

VI-EKW-B-KEY

GW-CB-KEY

VI-ARK-W-KEY

Name	Code	Description	Colour	Pcs.
AV-44DO-KEY	287799	KEYSTONE adaptor for AVE Sistema 44 Domus ® white	White	10
AV-44TEK-KEY	287800	KEYSTONE adaptor for AVE Sistema 44 Tekla ® black	Black	10
BT-AX-B-KEY	287801	KEYSTONE adaptor for BTicino Axolute ® e Axolute Air ® white	White	10
BT-INT-KEY	287605	KEYSTONE adaptor for BTicino Living International ® black antracite	Anthracite black	10
BT-LIG-KEY	287606	KEYSTONE adaptor for BTicino Living Light ® white	White	10
BT-LIGT-KEY	287599	KEYSTONE adaptor for BTicino Living Light Tech ® grey	Grey	10
BT-LNOW-B-KEY	287802	KEYSTONE adaptor for BTicino Living Now ® white	White	10
BT-LNOW-N-KEY	287803	KEYSTONE adaptor for BTicino Living Now ® black	Black	10
BT-MA-KEY	287603	KEYSTONE adaptor for BTicino Magic ® ivory	Ivory	10
BT-MAT-KEY	287608	KEYSTONE adaptor for BTicino Matix ® white	White	10
BT-MG-W-KEY	287804	KEYSTONE adaptor for BTicino MatixGO ® white	White	10
GW-CB-KEY	287601	KEYSTONE adaptor for Gewiss Chorus ® white	White	10
GW-SYB-KEY	287598	KEYSTONE adaptor for Gewiss System ® black	Black	10
GW-SYW-KEY	287609	KEYSTONE adaptor for Gewiss System ® white	White	10
VI-ARK-B-KEY	287600	KEYSTONE adaptor for Vimar Arkè ® black	Black	10
VI-ARK-W-KEY	287604	KEYSTONE adaptor for Vimar Arkè ® white	White	10
VI-EKW-B-KEY	287805	KEYSTONE adaptor for Vimar Eikon ® white	White	10
VI-ID-KEY	287602	KEYSTONE adaptor for Vimar Idea ® black antracite	Anthracite black	10
VI-LI-B-KEY	287806	KEYSTONE adaptor for Vimar Linea ® white	White	10
VI-LI-C-KEY	287807	KEYSTONE adaptor for Vimar Linea ® hemp	Hemp	10
VI-LI-N-KEY	287808	KEYSTONE adaptor for Vimar Linea ® black	Black	10
VI-PL-KEY	287607	KEYSTONE adaptor for Vimar Plana ® white	White	10

RJ45 CONNECTORS

Keystone box

Boxes for Keystone sockets.

		RJB2IP	RJB24IR
Code		287785	287784
Description		Wall distribution box for 2 Keystone RJ45 sockets. Used for terminating cat.5e/6/6a cables near cameras, access points, etc. Installed in GPON solutions to distribute the cables to the 503 sockets in the individual rooms	Rack-mounted patch panel for **24** Keystone RJ45 sockets.
Specifications			
Dimensions	mm	50 x 50 x 30	483 x 101 x 44.5
Weight	Kg	0.20	1

OPTICAL FIBRE FTTH

OPTICAL AMPLIFIERS

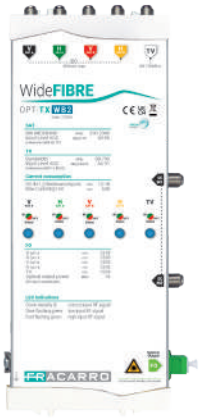
EDFA

EDFAs (Erbium Doped Fibre Amplifier) are ideal for raising the optical signal power to a suitable level for distribution in large optical networks.
The amplifiers have internal 1310-1490-1550nm WDM diplexers.

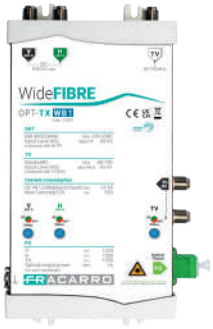
- EDFAs with **high output power.**
- High optical input dynamics: -8 to +10dBm.
- **Internal WDM multiplexer** to mix the PON outputs from the OLTs.

		EDFA 4 WDM	EDFA 8 WDM
Code		287554	287553
Connector type		5 x SC/APC (TV IN at 1550nm and OUT 1550/1490/1310nm)4x SC/PC (OLT IN mixing at 1310/1490nm)	9 x SC/APC (TV IN at 1550nm and OUT 1550/1490/1310nm) 8 x SC/PC (OLT IN mixing at 1310/1490nm)
Input optical power	dBm	-5 to +10	-8 to +10
Output optical power	dBm	29 (4 x 22)	30 (8 x 20)
Optical power adjustment	dBm	0 to -4 (from maximum)	0 to -4 (from maximum)
Optical power stability	dBm	± 0.3	± 0.3
Noise figure	dB	≤ 6	≤ 6
Return loss	dB	45	45
Management			
Management mode		Keypad and front display, WEB interface, SNMP	Keypad and front display, WEB interface, SNMP
Specifications			
Power supply	Vac/Hz	100-240 / 50–60	100-240 / 50–60
Consumption	W	≤ 80	≤ 80
Operating temperature	°C	0 to +55	0 to +55
Storage temperature	°C	-30 to +70	-30 to +70
Relative humidity	%	up to 95 (without condensation)	up to 95 (without condensation)
Weight	kg	6.5	11.5
Dimensions	mm	370 x 486 x 44	422 x 486 x 88
Packaging		Single	Single
Packaging dimensions	mm	600 x 540 x 120	575 x 575 x 190

WIDE FIBRE



OPT-TX WB2 SCD2



OPT-TX WB1 SCD2

WIDE FIBRE Transmitter

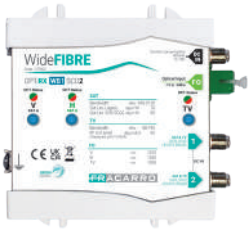
Wide Fibre transmitters to manage RF signals from **1 or 2 satellite dishes equipped with wideband LNBs** (V, H) and a **digital terrestrial** antenna, also combining **FM and DAB** radio signals.

They are equipped with **separate lasers** that can handle **wideband polarities** and TV signal separately and use **Coarse Wavelenght Division Multiplexing** (CWDM) technology to combine the different optical wavelengths and transmit them on **a single-mode optical fiber** 9/125µm.

- **Compact size**
- Dual DC input F type connectors for redundant power supply to ensure **continuity of service**
- AGC on all coaxial inputs for **maximum signal processing stability**
- Dedicated laser at each wideband SAT polarity and TV section, for **maximum RF signal quality**
- Status LEDs for each input for **quick diagnostics**
- **Included power supply unit**; the transmitters can also be fed from V and H inputs

		OPT-TX WB1	OPT-TX WB2
Code		270901	270904
Input RF		3 x (2 x SAT+1 x TV)	5 (4 SAT + 1 TV)
Optical Output		1 x SC/APC	1 x SC/APC
SAT input			
Bandwidth	MHz	290-2340	290-2340
Connectors		F Female	F Female
Input level	dBµV	60-85@TP	60-85@TP
Return loss	dB	6	6
TV input			
Connectors		F Female	F Female
Input level	dBµV	63-90 @MUX	63-90 @MUX
Frequency band	MHz	88-790	88-790
Return loss	dB	6	6
Optical Output			
Wavelength	nm	1310 (SatA V), 1330 (SatA H), 1550 (TV)	1310 (SatA V), 1330 (SatA H), 1350 (SatB V), 1370 (SatB H), 1550 (TV)
Optical power	dBm	6 (±1)	6 (±1)
Optical return loss	dB	>30	>30
Safety class		1M	1M
Specifications			
Power supply	V	12-18	12-18
Current consumption	mA	350@12V	750@12V
LED status		• Green LED fixed ON: input RF signal in the correct operating range • Green LED slowly blinking: input RF signal too low • Green fast blinking: input RF signal too high • Red LED fixed ON: possible failure of the corresponding laser	• Green LED fixed ON: input RF signal in the correct operating range • Green LED slowly blinking: input RF signal too low • Green fast blinking: input RF signal too high • Red LED fixed ON: possible failure of the corresponding laser
Operating temperature	°C	-10 to +55	-10 to +55
Conformity		CEI EN 50083-2 EN60065	CEI EN 50083-2 EN60065
Dimensions	mm	114 x 200 x 31	114 x 230 x 31

WIDE FIBRE



OPT-RX WB1 SCD2

OPT-RX WB1 HV

WIDE FIBRE Receivers 1 SAT

Wide Fibre receivers to manage signals from the **OPT-TX WB1** transmitter through **a single optical fiber** 9/125µm.

The Wide Fibre solution allows you to transport the signals of **one satellite dish** and the entire **TV** band, including **FM and DAB** radio signals.

They are equipped with **3 separate photodiodes** that can manage the **2 wideband polarities** and the TV signal separately and use the **Coarse Wavelenght Division Multiplexing** (CWDM) technology to demix the different wavelengths.

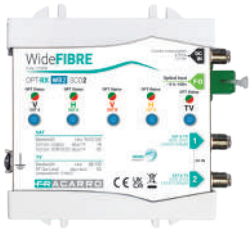
- **1 satellite, TV, DAB and FM**
- **Extremely reduced size**
- **Integrated AGC** for maximum stability of the RF output signal
- **Multistandard SCD2** receiver (SKY Q, BSkyB, SCR, Legacy) with DC input F type connector for connecting external power supply
- Receivers power supply also via output RF connectors
- **Status LEDs for each output** for quick diagnostics
- **Extended optical input range (-5dBm to -16dBm)** for maximum quality with up to 1x64 optical splitting
- Dedicated optical wavelength for each satellite wideband polarity and TV band
- Recommended auxiliary power supply: **PSU1508F (287760) or PSU1215FA (code 287551) in the UK**

		OPT-RX WB1 SCD2	OPT-RX WB1 HV
Code		270902	270903
Optical input		≤ -5	≤ -5
Outputs		2 up to 32 SCD2 users (multistandard SCR/SCD2/ dSCR(BSkyB) and legacy supported)	2 Wideband SAT polarities (V, H) + 1 TV
Optical input			
Optical input connector		1 x SC/APC	1 x SC/APC
Wavelength input	nm	1310 (SatA V), 1330 (SatA H), 1550 (TV)	1310 (SatA V), 1330 (SatA H), 1550 (TV)
Input optical power	dBm	≤ -5	≤ -5
RF output			
Connectors		F Female	F Female
Outputs	dB	2 up to 32 SCD2 users (multistandard SCR/SCD2/ dSCR(BSkyB) and legacy supported)	2 Wideband SAT polarities (V, H) + 1 TV
Output level TV			
8dBmo 16 transponder	dBµV	85	88
Output level SAT			
8dBmo	dBµV	77	84
Specifications			
Power supply	V	12-18	12-18
Current consumption	mA	400@12V	200@12V
LED status	mA	Optical level indicator LED; Green: optical level in the correct range Orange: optical level below the operating range; Red: optical level above the operating range	
Operating temperature	°C	-10 to +55	-10 to +55
Conformity		CEI EN 50083-2 EN60065	CEI EN 50083-2 EN60065
Dimensions	mm	114 x 120 x 31	114 x 120 x 31

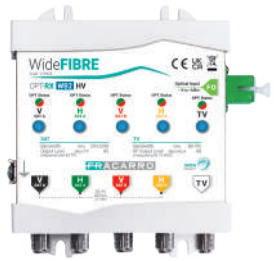
PSU1508F

Name	Code	Description
PSU1508F	287760	**15V 0.8A** power supply on **F Female connector** and European plug.

WIDE FIBRE



OPT-RX WB2 SCD2



OPT-RX WB2 HV

WIDE FIBRE Receivers 2 SAT

Wide Fibre receivers to manage signals from the **OPT-TX WB2** transmitter through **a single optical fiber** 9/125µm.

The Wide Fibre solution allows you to transport the signals of **two satellite dishes** and the entire **TV** band, including **FM and DAB** radio signals.

They are equipped with **5 separate photodiodes** that can manage the **4 wideband polarities** and the TV signal separately and use the **Coarse Wavelenght Division Multiplexing** (CWDM) technology to demix the different wavelengths.

- **2 satellites, TV, DAB and FM**
- **Compact size**
- Receivers power supply also via output RF connectors
- **Integrated AGC** for maximum stability of the RF output signal
- Multi-standard SCD2 receiver (SKY Q, BSkyB, SCR, Legacy) with DC input F type connector for connecting external power supply
- **Status LEDs for each output** for quick diagnostics
- **Extended optical input range (-5dBm to -16dBm)** for maximum quality with up to 1x64 optical splitting
- **Dedicated optical wavelength** for each satellite wideband polarity and TV band
- Recommended auxiliary power supply: **PSU1508F (287760) or PSU1215FA (code 287551) in the UK**

		OPT-RX WB2 SCD2	OPT-RX WB2 HV
Code		270906	270905
Optical input		≤ -5	≤ -5
Outputs		2 (up to 32 SCD2 users. SCR/SCD2/dSCR/BSkyB and legacy supported)	4 Wideband SAT polarities (V, H) + 1 TV
Optical input			
Optical input connector		1 x SC/APC	1 SC/APC
Wavelength input	nm	1310 (SatA V), 1330 (SatA H), 1350 (SatB V), 1370 (SatB H), 1550 (TV)	1310 (SatA V), 1330 (SatA H), 1350 (SatB V), 1370 (SatB H), 1550 (TV)
Input optical power	dBm	≤ -5	≤ -5
RF output			
Connectors		F Female	F Female
Outputs	dB	2 (up to 32 SCD2 users. SCR/SCD2/dSCR/BSkyB and legacy supported)	4 Wideband SAT polarities (V, H) + 1 TV
Output level TV			
8dBmo 16 transponder	dBµV	85	88
Output level SAT			
8dBmo	dBµV	77	84
Specifications			
Power supply	V	12-18	12-18
Current consumption	mA	430@12V	230@12V
LED status	mA	Optical level indicator LED; Green: optical level in the correct range Orange: optical level below the operating range; Red: optical level above the operating range	
Operating temperature	°C	-10 to +55	-10 to +55
Conformity		CEI EN 50083-2 EN60065	CEI EN 50083-2 EN60065
Dimensions	mm	114 x 120 x 31	114 x 120 x 31

PSU1508F

Name	Code	Description
PSU1508F	287760	**15V 0.8A** power supply on **F Female connector** and European plug.

HOME FIBRE

OPT-TX DT

OPT-TX Transmitters

The **HOME FIBRE optical distribution** range was designed for ease of installation from the aerials to the outlet points, for distribution of both SAT signals from a dish and DTT signals. The system uses a conventional quattro LNB and requires no special optical alignment tools; it allows SAT and TV distribution on a **single-mode 9/125µm fibre**. Additional optical transmitters can be cascaded using a standard 5-coaxial cable backbone, allowing greater flexibility in system design for a large number of outlets.

- Utilises a **standard quattro LNB** (HL,VL,HH,VH)
- **AGC present on each satellite input** of the transmitter
- Cascade solution allows multiple transmitters
- **Full band DVB-T+FM+DAB+satellite** distribution
- **Up to 21dB optical budget**
- Easy to install
- Remote powered version also available (**OPT-TX RP**)

		OPT-TX DT	OPT-TX RP	OPT-TX 1510	OPT-TX 1530	OPT-TX 1550	OPT-TX 1570
Code		270694	270652	270667	270668	270669	270670
Input RF		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
Optical Output		1 x SC/APC	1 x SC/APC	1 x SC/APC	1 x SC/APC	1 x SC/APC	1 x SC/APC
SAT input							
Bandwidth	MHz	950-2150	950-2150	950-2150	950-2150	950-2150	950-2150
Connectors		F Female	F Female	F Female	F Female	F Female	F Female
Input level	dBµV	69-86	69-86	69-86	69-86	69-86	69-86
Return loss	dB	10	10	10	10	10	10
TV input							
Connectors		F Female	F Female	F Female	F Female	F Female	F Female
Input level	dBµV	80 @10 ch.	80 @10 ch.	80 @10 ch.	80 @10 ch.	80 @10 ch.	80 @10 ch.
Frequency band	MHz	87-862	87-862	87-862	87-862	87-862	87-862
Return loss	dB	10	10	10	10	10	10
Optical Output							
Wavelength	nm	1310	1310	1510	1530	1550	1570
Optical power	dBm	8 (±1)	8 (±1)	8 (±1)	8 (±1)	8 (±1)	8 (±1)
Optical return loss	dB	>45	>30	>45	>45	>45	>45
Safety class		1M	1M	1M	1M	1M	1M
Specifications							
Power supply	V	184-264 / 50-60		184-264 / 50–60	184-264 / 50–60	184-264 / 50–60	184-264 / 50–60
Current consumption	mA	-	1200	-	-	-	-
Consumption	W	15	15	15	15	15	15
LED status		Green LED: TX on; Red LED: laser current too high					
Operating temperature	°C	-5 to +55	-5 to +55	-5 to +55	-5 to +55	-5 to +55	-5 to +55
Conformity		CEI EN 50083-2 EN60065					
Dimensions	mm	230 x 230 x 50	230 x 230 x 50	230 x 230 x 50	230 x 230 x 50	230 x 230 x 50	230 x 230 x 50

OPT-TX RP

OPT-TX 1510 - OPT-TX 1530 - OPT-TX 1550 - OPT-TX 1570

HOME FIBRE

OPT-RX SCD MICRO

OPT-RX dSCR UK

OPT-RX Receivers

Our optical receivers in the Home Fibre range meet the distribution requirements of terrestrial and satellite TV signals with **Quad** (4 universal Legacy outputs + TV), **Quattro** (4 satellite polarities HL,VL,HL,VL + TV) and **SCR/dCSS** solutions for Sky Q; the optical receivers from our OPT-MBJ range are also compatible with our home fibre range for the output for Digital Terrestrial signals only.

- Range of **MICRO** optical receivers for easy installation into **limited spaces**
- **Multicolour LEDs** for receiver diagnostics and status
- Compatible with **dCSS installations** (SKY Q)
- **Full band** DVB-T+FM+DAB+full satellite solution
- Recommended auxiliary power supply: **PSU1508F (code 287760) or PSU1215FA (code 287551) in the UK**

		OPT RX SCD MICRO	OPT RX DSCR UK
Code		270660	270658
Optical input power	dBm	≤ -8	≤ -8
Outputs		2 (up to 32 SCD2 users dCSS + 2 Legacy)	2 (up to 32 SCD2 users dCSS + 2 Legacy)
Optical input			
Optical input connector		SC/APC	1 x SC/APC
Wavelength input	nm	1260-1650	1260-1650
Input optical power	dBm	≤ -8	≤ -8
RF output			
Connectors		F Female	F Female
Optical return loss	dB	-10	-10
Outputs	dB	2 (up to 32 SCD2 users dCSS + 2 Legacy)	2 (up to 32 SCD2 users dCSS + 2 Legacy)
Output level TV			
8dBmo 16 transponder	dBµV	78	78
SCR frequencies	MHz	1210, 1420, 1680, 2040 (standard EN50494) 985, 1050, 1115, 1275, 1340, 1485, 1550, 1615, 1745, 1810, 1875, 1840 (standard EN50607)	980, 1030, 1080, 1130, 1280, 1380, 1480, 1530, 1580, 1630, 1680, 1730, 1780, 1830, 1880, 1930 (SKY UK commands)
Output level SAT			
8dBmo	dBµV	82	82
Specifications			
Power supply	V	14/18 from all outputs	14/18 from all outputs
Current consumption	mA	430@18V 620@12V	430@18V 620@12V
Consumption	W	9	9
LED status	mA	• Green LED on: normal operation (correctly powered) • LED flashing: start up or reboot	• Green LED on: normal operation (correctly powered) • LED flashing: start up or reboot
Operating temperature	°C	-5 to +50	-5 to +50
Conformity		IEC EN 50083-2	IEC EN 50083-2
Dimensions	mm	160 x 100 x 36	160 x 100 x 36

PSU1508F

Name	Code	Description
PSU1508F	287760	**15V 0.8A** power supply on **F Female connector** and European plug.

HOME FIBRE

OPT-RX 4 MICRO

OPT-RX QD MICRO

OPT-RX Receivers

Our optical receivers in the Home Fibre range meet the distribution requirements of terrestrial and satellite TV signals with **Quad** (4 universal Legacy outputs + TV), **Quattro** (4 satellite polarities HL,VL,HL,VL + TV) and **SCR/dCSS** solutions for Sky Q; the optical receivers from our OPT-MBJ range are also compatible with our home fibre range for the output for Digital Terrestrial signals only.

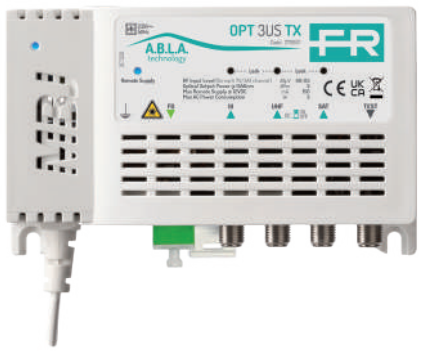
- Range of **MICRO** optical receivers for easy installation into **limited spaces**
- **Multicolour LEDs** for receiver diagnostics and status
- Compatible with **dCSS installations** (SKY Q)
- **Full band** DVB-T+FM+DAB+full satellite solution
- Recommended auxiliary power supply: **PSU1508F (code 287760) or PSU1215FA (code 287551) in the UK**

		OPT RX 4 MICRO	OPT RX QD MICRO
Code		270662	270661
Optical input power	dBm	≤ -8	≤ -8
Outputs		4 x SAT (VL,HL,VH,HH)+ 1 TV	4 x TV + SAT
Optical input			
Optical input connector		1 x SC/APC	1 x SC/APC
Wavelength input	nm	1260-1650	1260-1650
RF output			
Connectors	type	F Female	F Female
Outputs	dB	4 x SAT (VL,HL,VH,HH)+ 1 TV	4 x TV + SAT
Output level TV			
8dBmo 16 transponder	dBµV	82	76
Output level SAT			
8dBmo	dBµV	80	74
Specifications			
Power supply	V	14/18 from all outputs	14/18 from all outputs
Current consumption	mA	180@13V	200@13V
Consumption	W	2.5	2.8
LED status	mA	• Green LED on: normal operation (correctly powered) • LED flashing quickly: hardware anomaly • LED flashing slowly: optical power out of the operating range	• Green LED on: normal operation (correctly powered) • LED flashing quickly: hardware anomaly • LED flashing slowly: optical power out of the operating range
Operating temperature	°C	-5 to +50	-5 to +50
Conformity		CEI EN 50083-2 EN60065	CEI EN 50083-2 EN60065
Dimensions	mm	120 x 100 x 36	120 x 100 x 36

PSU1508F

Name	Code	Description
PSU1508F	287760	**15V 0.8A** power supply on **F Female connector** and European plug.

OPT MBJ



OPT 3US TX

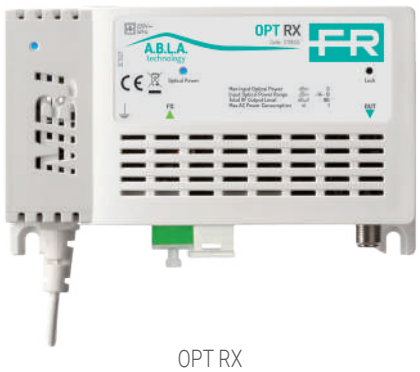
OPT-MBJ Transmitters

The **OPT-MBJ Series "Plug&Play"** optical transmitters are capable of mixing DAB, UHF and SAT and distributing them over fibre optic cable through the infrastructure, in small and medium sized installations.

- **"Plug&Play"**: no adjustment required
- **A.B.L.A technology**: in the transmitters the optical signal is kept constant at the output if the TV and SAT RF input levels are between 60dBµV and 85dBµV
- Plastic chassis made of **flame resistant ABS** material (**Class V0**)
- **Low current consumption**
- **LED indication of A.B.L.A technology** for RF input level diagnostics
- **Wall or DIN rail mounting**

		OPT 3US TX	OPT T+S TX PLUS
Code		270657	270656
Input RF		3 x (3, UHF, IF-IF)	1 x TV+SAT
Optical Output		1 x SC/APC	1 x SC/APC
SAT input			
Bandwidth	MHz	950-2150	950-2150
Connectors		F Female	F Female
Input level	dBµV	60-85 @TP	60-85 @TP
Return loss	dB	8	8
TV input			
Connectors		F Female	F Female
Input level	dBµV	60-85 @MUX	60-85 @MUX
Frequency band	MHz	174-230, 470-790	88-862
Return loss	dB	8	8
Optical Output			
Wavelength	nm	1550	1550
Optical power	dBm	5	9
Optical return loss	dB	>30	>30
Safety class		1M	1M
Specifications			
Power supply	V	184-264 / 50-60	184-264 / 50-60
Consumption	W	5.5	4.5
LED status		• Remote Supply: remote feed active • Lock: signal in the correct A.B.L.A. range	• Remote Supply: remote feed active • Lock: signal in the correct A.B.L.A. range
Operating temperature	°C	-10 to +55	-10 to +55
Conformity		CEI EN 50083-2 EN60065	
Dimensions	mm	135 x 82 x 39	135 x 82 x 39

OPT MBJ



OPT RX

OPT-MBJ Receivers

The **OPT-MBJ Series "Plug&Play"** optical receivers are capable of outputting DAB, UHF and SAT signals that are distributed through an optical network.

- **"Plug&Play"**: no adjustment required
- OPT-RX receiver is equipped with **Automatic Gain Control** that maintains a constant RF output providing the received optical signal is within its operating range
- Plastic chassis made of **flame resistant ABS** material (**Class V0**)
- **Low current consumption**
- LED's to indicate the correct optical input and RF output levels
- **Wall or DIN rail mounting**.

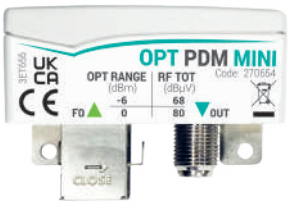
		OPT RX
Code		270655
Optical input power	dBm	≤=0 (0 to -15)
Outputs		1 x (TV + SAT)
Optical input		
Optical input connector		SC/APC
Wavelength input	nm	1260-1650
Input optical power	dBm	≤=0 (0 to -15)
RF output		
Connectors		F Female
Optical return loss	dB	-7
Outputs	dB	1 x (TV + SAT)
Specifications		
Consumption	W	1.5
LED status		• Optical power: optical level in correct range • Lock: RF signal lock
Operating temperature	°C	-10 to +55
Conformity		CEI EN 50083-2 EN60065
Dimensions	mm	135 x 82 x 39

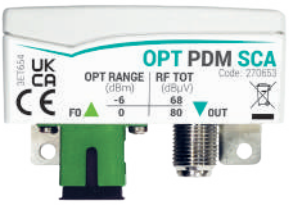
MINIATURISED OPTICAL RECEIVERS

OPT-PDM Receivers

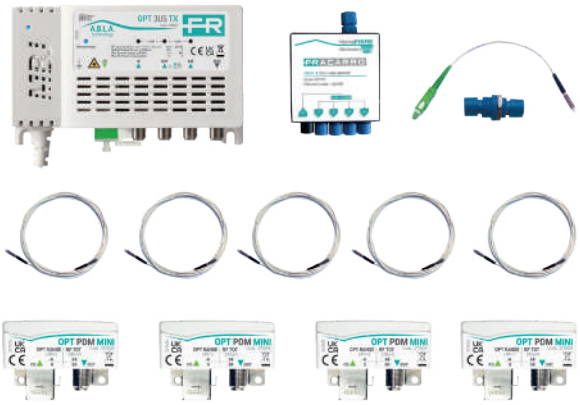
The **OPT-PDM family** of miniaturised passive optical receivers are designed to bring **the advantages of FTTH installations within small and medium installations** (single homes, duplexes). The OPT-PDM solution is also excellent in **domestic and commercial building renovations**.

- **Extremely small**: can be installed inside a 503 recessed box
- **Passive**: does not require a power supply
- **Fullband**: the RF output covers both TV and SAT frequencies
- The passive optical receiver offers **high immunity to 5G interference**





		OPT-PDM-MINI	OPT-PDM-SCA
Code		270654	270653
Optical input power	dBm	≤10 (0 to -6)	≤10 (0 to -6)
RF output		1 x (TV + SAT)	1 x (TV + SAT)
Optical input			
Optical input connector		MINI (LC)	SC/APC
Wavelength input	nm	1270-1610	1270-1610
Input optical power	dBm	≤10 (0 to -6)	≤10 (0 to -6)
RF output			
Connectors		F Female	F Female
Optical return loss	dB	-7	-7
Outputs	dB	1 x (TV + SAT)	1 x (TV + SAT)
Output level TV			
Max. output level	dBµV	67 (@0dBm)	67 (@0dBm)
Output level SAT			
Max. output level SAT per TS	dBµV	80 (@0dBm)	80 (@0dBm)
Specifications			
Operating temperature	°C	0 to +40	0 to +40
Conformity		CEI EN 50083-2 EN60065	CEI EN 50083-2 EN60065
Dimensions	mm	47 x 33 x 15	47 x 33 x 15
Packaging			
Pcs.		4	4



K OPT-PDM-MINI

270700

The kit contains:

- 1 x OPT 3US TX optical transmitter (270657)
- 1 x VOV4 miniature splitter (287211)
- 5 x 10m MINI optical patch cords (287221)
- 1 x MINI-SC/APC PR ADAPT adaptor (287226)
- 4 x OPT-PDM-MINI miniaturised passive optical receivers (270654)

K OPT-PDM-M FR

270701

The kit contains:

- 1 x OPT 3US TX optical transmitter (270657)
- 1 x VOV4 splitter (287211)
- 3 x MINI 10m optical patch cords (287221)
- 2 x MINI 25m optical patch cords (287222)
- 1 x MINI-SC/APC PR ADAPT adaptor (287226)
- 4 x OPT-PDM-MINI miniaturised passive optical receivers (270654)

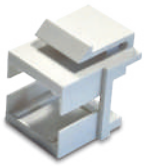
MINIATURISED OPTICAL RECEIVERS

OPT-PDM ACCESSORIES

SC/APC adaptors, organisers and frames to install OPT-PDM compact receivers.

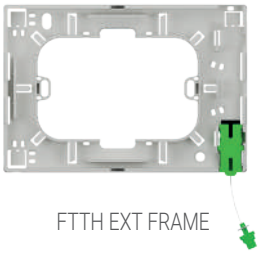
Name	Code	Description	Pcs.
BFO-SC-APC FL	287593	Flangeless SC/APC coupler, single-mode connector.	10
BFO-SC-APC KEY	287595	Flangeless SC/APC coupler for mounting on Keystone adaptors.	1
ADP-SC-KEY	287594	Keystone plastic coupler for SC/APC single-mode socket for mounting on Keystone holders.	1
OPO-503	287596	Fibre bracket for flush-mounted box 503.	1
FTTH-EXT-FRAME	287597	External frame for FTTH installation with SC/APC coupler and user security lock.	1

BFO SC APC KEY



ADP SC KEY

OPO 503



FTTH EXT FRAME

Keystone outlet modules

BT-LIG-KEY

BT-LNOW-N-KEY

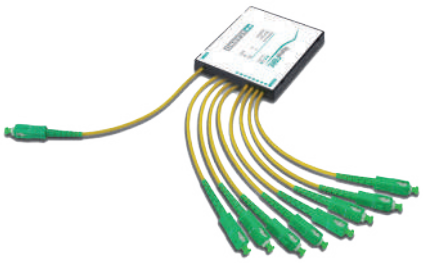
VI-EKW-B-KEY

GW-CB-KEY

VI-ARK-W-KEY

Name	Code	Description	Colour	Pcs.
AV-44DO-KEY	287799	KEYSTONE adaptor for AVE Sistema 44 Domus ® white	White	10
AV-44TEK-KEY	287800	KEYSTONE adaptor for AVE Sistema 44 Tekla ® black	Black	10
BT-AX-B-KEY	287801	KEYSTONE adaptor for BTicino Axolute ® e Axolute Air ® white	White	10
BT-INT-KEY	287605	KEYSTONE adaptor for BTicino Living International ® black antracite	Anthracite black	10
BT-LIG-KEY	287606	KEYSTONE adaptor for BTicino Living Light ® white	White	10
BT-LIGT-KEY	287599	KEYSTONE adaptor for BTicino Living Light Tech ® grey	Grey	10
BT-LNOW-B-KEY	287802	KEYSTONE adaptor for BTicino Living Now ® white	White	10
BT-LNOW-N-KEY	287803	KEYSTONE adaptor for BTicino Living Now ® black	Black	10
BT-MA-KEY	287603	KEYSTONE adaptor for BTicino Magic ® ivory	Ivory	10
BT-MAT-KEY	287608	KEYSTONE adaptor for BTicino Matix ® white	White	10
BT-MG-W-KEY	287804	KEYSTONE adaptor for BTicino MatixGO ® white	White	10
GW-CB-KEY	287601	KEYSTONE adaptor for Gewiss Chorus ® white	White	10
GW-SYB-KEY	287598	KEYSTONE adaptor for Gewiss System ® black	Black	10
GW-SYW-KEY	287609	KEYSTONE adaptor for Gewiss System ® white	White	10
VI-ARK-B-KEY	287600	KEYSTONE adaptor for Vimar Arkè ® black	Black	10
VI-ARK-W-KEY	287604	KEYSTONE adaptor for Vimar Arkè ® white	White	10
VI-EKW-B-KEY	287805	KEYSTONE adaptor for Vimar Eikon ® white	White	10
VI-ID-KEY	287602	KEYSTONE adaptor for Vimar Idea ® black antracite	Anthracite black	10
VI-LI-B-KEY	287806	KEYSTONE adaptor for Vimar Linea ® white	White	10
VI-LI-C-KEY	287807	KEYSTONE adaptor for Vimar Linea ® hemp	Hemp	10
VI-LI-N-KEY	287808	KEYSTONE adaptor for Vimar Linea ® black	Black	10
VI-PL-KEY	287607	KEYSTONE adaptor for Vimar Plana ® white	White	10

SPLITTERS



PLC 1x8

PLC

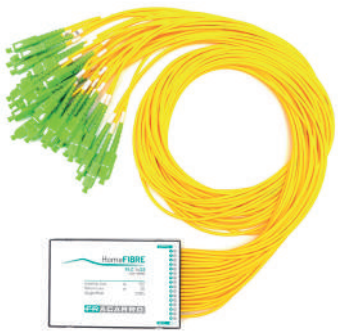
PLC splitters based on waveguide planar technology that gives **low insertion losses**. Suitable for low cost and high performance optical distribution in many installation types.

- **SC/APC connectors**
- **1m patch cords**
- High return loss
- Compact design

		PLC 1x2	PLC 1x4	PLC 1x8	PLC 1x12
Code		287573	287455	287407	287574
Inputs		1	1	1	1
Outputs		2	4	8	12
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss	dB	<4	<7.6	<10.9	<13.1
Return loss	dB	>55	>55	>55	>55
Isolation	dB	>40	>40	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1	G657 A1
Fibre length	m	1	1	1	1
Connector type		Simplex	Simplex	Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55	-20 to +55	-20 to +55
Dimensions	mm	90 x 100 x 20	90 x 100 x 20	90 x 100 x 20	90 x 100 x 20

		PLC 1x16	PLC 1x24	PLC 1x32	PLC 1x64
Code		287408	287575	287409	287410
Inputs		1	1	1	1
Outputs		16	24	32	64
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss	dB	<14	<16.3	<17.2	<20.5
Return loss	dB	>55	>55	>55	>55
Isolation	dB	>40	>40	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1	G657 A1
Fibre length	m	1	1	1	1
Connector type		Simplex	Simplex	Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55	-20 to +55	-20 to +55
Dimensions	mm	90 x 100 x 20	90 x 100 x 20	90 x 100 x 20	90 x 100 x 20

PLC 1x16



PLC 1x32

SPLITTERS

PLC 1x2 MINI

PLC MINI

PLC miniaturised splitters based on waveguide planar technology that allow **low insertion losses**. Suitable for low cost and high performance optical distribution in many installation types.

- **SC/APC connectors**
- **0.5m patch cords**
- High return loss
- Compact design

		PLC 1x2 MINI	PLC 1x4 MINI	PLC 1x8 MINI
Code		287576	287577	287578
Inputs		1	1	1
Outputs		2	4	8
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss	dB	<4	<7.6	<10.9
Return loss	dB	>55	>55	>55
Isolation	dB	>40	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1
Fibre length	m	0.5	0.5	0.5
Connector type		Simplex	Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55	-20 to +55
Dimensions	mm	7 x 4 x 60	7 x 4 x 60	7 x 4 x 60

		PLC 1x12 MINI	PLC 1x16 MINI	PLC 1x24 MINI
Code		287579	287580	287581
Inputs		1	1	1
Outputs		12	16	24
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss	dB	<13.1	<14	<16.3
Return loss	dB	>55	>55	>55
Isolation	dB	>40	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1
Fibre length	m	0.5	0.5	0.5
Connector type		Simplex	Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55	-20 to +55
Dimensions	mm	12 x 4 x 60	12 x 4 x 60	20 x 6 x 80

PLC 1x16 MINI

PLC 1x24 Mini

SPLITTERS

PLC MINI

PLC 1x32 MINI

PLC 2x8 MINI

PLC 2x16 MINI

		PLC 1x32 MINI	PLC 1x64 MINI
Code		287582	287583
Inputs		1	1
Outputs		32	64
Connectors		SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss	dB	<17.2	<20.5
Return loss	dB	>55	>55
Isolation	dB	>40	>40
Fibre type		Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1
Fibre length	m	0.5	0.5
Connector type		Simplex	Simplex
Operating temperature	°C	-20 to +55	-20 to +55
Dimensions	mm	20 x 6 x 80	40 x 6 x 100

		PLC 2x8 MINI	PLC 2x16 MINI	PLC 2x32 MINI
Code		287753	287754	287755
Inputs		2	2	2
Outputs		8	16	32
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Insertion loss	dB	<11.2	<14.6	<17.9
Return loss	dB	>55	>55	>55
Isolation	dB	>55	>55	>55
Fibre type		Single-mode 9/125	Single-mode 9/125	Single-mode 9/125
Sheath		G657 A1	G657 A1	G657 A1
Fibre length	m	0.9	0.9	0.9
Connector type		Simplex	Simplex	Simplex
Operating temperature	°C	-40 to +85	-40 to +85	-40 to +85
Dimensions	mm	7 x 4 x 60	7 x 4 x 60	7 x 4 x 60

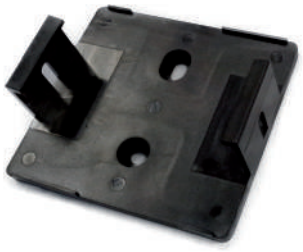
SPLITTERS

VOV2

MINI

Miniaturised optical splitters, suitable for fibre optic installations where size is restricted; allow for equal and unequal outputs.

- MINI connector with **3mm** thickness
- Cap to cover the fibre ferule
- **Cascade or star distribution**
- Quick and easy to install
- VOV wall mounting bracket (287240)



SUPP VOV/VOT

		VOV2	VOV4	SUPP VOV/VOT
Code		287210	287211	287240
Inputs	No.	1	1	-
Outputs	No.	2	4	-
Connectors		Mini	Mini	-
Wavelength input	nm	1290-1600	1290-1600	-
Insertion loss	dB	<3.9	<7.8	-
Return loss	dB	>55	>55	-
Isolation	dB	>45	>45	-
Operating temperature	°C	-20 to +55	-20 to +55	-
Dimensions	mm	83 x 59 x 17	83 x 59 x 17	65 x 65 x 25

OPTICAL DIPLEXERS

WDM/CWDM

Optical diplexers to mix or demix up to 5 different wavelengths within the same fibre cable

- Wavelength selection
- **SC/APC connectors**
- Solutions for 2-5 different wavelengths
- **Quick and easy to install**

WDM 2

CWDM5

		WDM 2	CWDM5
Code		287343	287342
Input		1	1
Outputs		2	5
Optical insertion loss	dB	<0.5	<1.6
Return loss	dB	>55	>55
Isolation	dB	>30	>30
Wavelength 1	nm	1290-1350	1510
Wavelength 2	nm	1490-1600	1530
Wavelength 3	nm	-	1550
Wavelength 4	nm	-	1570
Wavelength 5	nm	-	1310-1490
Flatness	dB	<0.5	<0.5
Fibre type		9/125	9/125
Sheath		LSZH, G657A1	LSZH, G657A1
Fibre length	m	1	1
Connector type		SC/APC	SC/APC
1510		-	Blue
1530		-	Yellow
1550		-	Green
1570		-	Brown
Second window 1310		-	White
Specifications			
Operating temperature	°C	-20 to +55	-20 to +55
Dimensions	mm	90 x 20 x 5	250 x 140 x 50

PATCH CORDS

MINI patch cords

Single-mode fibre optic **patch cords** with **MINI** connectors.

PULL CONN

PR...

Name	Code	Description	Type	Length m	Connectors	Pcs.
BR2FCAPC-MINI	287428	2m single-mode fibre optic patch cord Mini- FC/APC connectors.	9/125	2	Mini/FC/APC	1
PR003	287219	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	3	Mini-Mini	1
PR005	287220	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	5	Mini-Mini	1
PR010	287221	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	10	Mini-Mini	1
PR025	287222	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	25	Mini-Mini	1
PR035	287327	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	35	Mini-Mini	1
PR050	287328	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	50	Mini-Mini	1
PR075	287329	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	75	Mini-Mini	1
PR100	287223	Pre-terminated single-mode optical fibre. Optical reflection loss >55	9/125	100	Mini-Mini	1

PATCH CORDS

SC

Single-mode fibre optic **patch cords** with **SC/APC, SC/UPC, FC/APC and FC/PC connectors**; some models also available with **PULL** system.

BR1AA

BR10-PA-PS

BR2SCAPC-FCAPC

BR1-PP

		BR1AA	BR2-AA	BR4-AA	BR5-AA	BR10-AA-PS
Code		287522	289360	289362	287690	287689
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow	Yellow	Yellow	Yellow
Fibre no.		1	1	1	1	1
Fibre length	m	1	2	4	5	10
Diameter	mm	2	2	2	2	2
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Connector type		Simplex	Simplex	Simplex	Simplex	Simplex PULL
Insertion loss	dB	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)
Specifications						
Pcs.		1	1	1	1	1
		BR-20AA-PS	**BR2-PA**	**BR4-PA**	**BR5-PA**	**BR10-PA-PS**
Code		287645	289359	289361	287688	287687
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow	Yellow	Yellow	Yellow
Fibre no.		1	1	1	1	1
Fibre length	m	20	2	4	5	10
Diameter	mm	2	2	2	2	2
Connectors		SC/APC - SC/APC	SC/APC - SC/PC	SC/APC - SC/PC	SC/APC - SC/UPC	SC/APC - SC/UPC
Connector type		Simplex PULL	Simplex	Simplex	Simplex	Simplex PULL
Insertion loss	dB	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)
Specifications						
Pcs.		1	1	1	1	1
		BR20-PA-PS	**BR1-PP**	**FC-SC/APC**	**BR2SCAPC-FCAPC**	**BR2FC/PC-SC/AP**
Code		287686	287691	280011	287427	287521
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A1	LSZH, G657 A1	LSZH	LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow	Yellow	Yellow	Yellow
Fibre no.		1	1	1	1	1
Fibre length	m	20	1	1	2	2
Diameter	mm	2	2	-	2	2
Connectors		SC/APC - SC/UPC	SC/UPC - SC/UPC	SC/APC - FC/APC	SC/APC - FC/APC	SC/APC - FC/PC
Connector type		Simplex PULL	Simplex	Simplex	Simplex	Simplex
Insertion loss	dB	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)	0.12 (Grade B)
Specifications						
Pcs.		1	1	1	1	1

PATCH CORDS

LC

Single-mode fibre optic **patch cords** with **LC/UPC - LC/UPC DUPLEX** connectors.

BRE1E-LU-LU-D

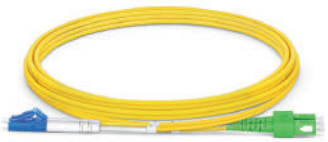
BRE2E-LU-LU-D

		BR1E-LU-LU-D	BR2E-LU-LU-D
Code		287693	287692
Fibre type		Single-mode 9/125	Single-mode 9/125
Sheath		LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow
Fibre no.		2	2
Fibre length	m	1	2
Connectors		LC/UPC - LC/UPC	LC/UPC - LC/UPC
Connector type		Duplex	Duplex
Specifications			
Pcs.		1	1

SC/LC

Single-mode fibre optic **patch cords** with **SC/APC - LC/UPC DUPLEX** connectors.

BRE1E-SA-LU-D



BRE2E-SA-LU-D

		BR1E-SA-LU-D	BR2E-SA-LU-D
Code		287695	287694
Fibre type		Single-mode 9/125	Single-mode 9/125
Sheath		LSZH, G657 A1	LSZH, G657 A1
Colour		Yellow	Yellow
Fibre no.		2	2
Fibre length	m	1	2
Connectors		SC/APC - LC/UPC	SC/APC - LC/UPC
Connector type		Duplex	Duplex
Specifications			
Pcs.		1	1

FTTH CABINETS

TDT

Plastic optical distribution boxes set up for different **SC/APC** configurations. They are used in FTTH infrastructures for connecting **optical backbones** and can be installed both inside and outside buildings, due to the **IP66** protection rating.

TDT8

TDT 12

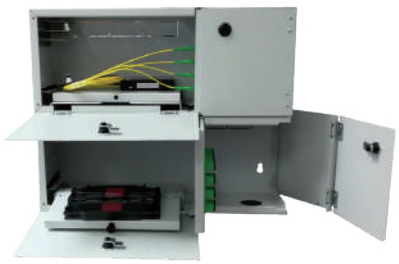
TDT24

TDT48

Name	Code	Dimensions mm	Chassis	Material
TDT8	287696	227 x 181 x 54.5	8	Plastic
TDT 12	287419	235 x 205 x 60	12	Plastic
TDT24	287697	320 x 240 x 100	24	Plastic
TDT48	287698	420 x 320 x 130	48	Plastic
TDT_32	287441	205 x 135 x 55	32	Plastic
JTDT_32	287442	140 x 80 x 40	Cable cover for TDT32	Plastic

CSOE

Plastic or metal optical distribution cabinets, available in different sizes, suitable to be used as a **central optical distribution cabinet** or an **optical splitter cabinet** for telecom operators. They are used as a **point of access to all services in FTTH systems**. The cabinets **protect the optical connections** in the system and manage the fibres to each apartment.



CSOE 2U

CSOE_P

CSOE_MINI_P

Name	Code	Dimensions mm	Material
CSOE 2U	287418	454 x 152 x 180	Metal
CSOE_P	287567	450 x 180 x 150	Plastic with optical cassettes included
CSOE_MINI_P	287566	332 x 155 x 105	Plastic with optical cassettes included

FTTH CABINETS

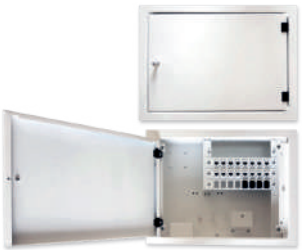
QDSA

Optical distribution boxes made of **plastic or metal**, available in different sizes, suitable for use as an **apartment signal distribution box** to organise the fibre optic cables coming from the main building optical network. The cabinet can be used to **organise the apartment's optical connections** and any active and/or passive equipment.

QDSA

QDSA54P

QDSA-F



QDSA MINI F

SUPDIN265

Name	Code	Dimensions mm	Chassis	Material
QDSA	287472	610 x 455 x 136	Recessed pre-fitted 54 modules	Plastic
QDSA36P	287758	410 x 430 x 80	Recessed 36 modules	Plastic
QDSA54P	287759	618 x 430 x 80	Recessed 54 modules	Plastic
QDSA-F	287565	577 x 407 x 100	Recessed 54 modules	Metal
QDSA MINI F	287517	392 x 307 x 100	Recessed 36 modules	Metal

Name	Code	Description
SUPDIN140	271201	**14cm bracket** to install products on to a **din bar** inside a QDSA or rack.
SUPDIN265	271202	**26.5cm modular bracket** to install products on to a din bar inside a QDSA or rack. The modularity and the different holes allow different sized **products to be supported**; **the bracket** facilitates the fixing and the release from the din bar.

STOA

Apartment optical termination cabinet with 4 x SC/APC connections.
DIN support from Rev.1

STOA 4 BOX

Name	Code	Dimensions mm	Chassis	Material
STOA 4	287420	100 x 85 x 29	SC/APC	Plastic

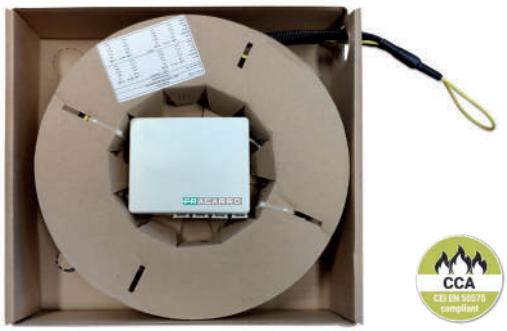
STOA

STOA PRECO

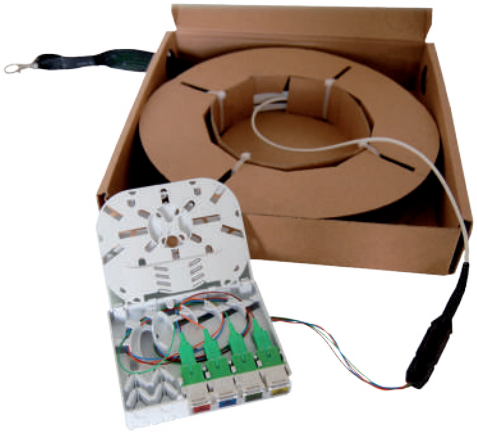
Plastic optical termination boxes, pre-terminated on **both ends**, with 4 x SC/APC connections and shooter; available with **different cable lengths for FTTH multiservice** installations; ideal solution to bring all centralised services in the CSOE (Main Building Optical Cabinet) into each individual dwelling.

Meets requirements of class **Cca** according to **CPR EN 50575**.

DIN support from Rev.1



STOA 4C 50M



		STOA 4C 10M	STOA 4C 20M	STOA 4C 30M	STOA 4C 40M	STOA 4C 50M
Code		287738	287739	287740	287741	287742
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2
Colour		White	White	White	White	White
Fibre no.		4	4	4	4	4
Fibre length	m	10	20	30	40	50
Diameter	mm	3	3	3	3	3
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Connector type		Simplex PULL	Simplex PULL	Simplex PULL	Simplex PULL	Simplex PULL
Insertion loss	dB	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)
Specifications						
Pcs.		1	1	1	1	1
Dimensions	mm	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50

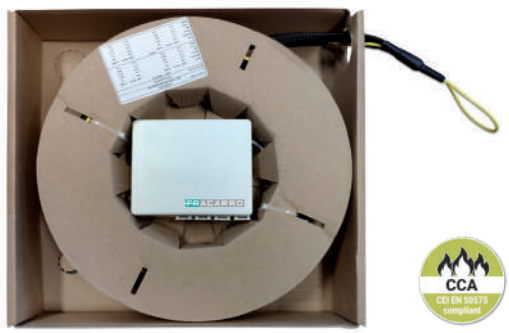
		STOA 4C 60M	STOA 4C 70M	STOA 4C 80M	STOA 4C 90M	STOA 4C 100M
Code		287743	287744	287745	287746	287727
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2
Colour		White	White	White	White	White
Fibre no.		4	4	4	4	4
Fibre length	m	60	70	80	90	100
Diameter	mm	3	3	3	3	3
Connectors		SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC	SC/APC - SC/APC
Connector type		Simplex PULL	Simplex PULL	Simplex PULL	Simplex PULL	Simplex PULL
Insertion loss	dB	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)
Specifications						
Pcs.		1	1	1	1	1
Dimensions	mm	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50

STOA

STOA LITE

Plastic optical termination boxes, pre-terminated on STOA side only, with 4 x SC/APC connections and shooter; available with **different cable lengths for FTTH multiservice installations**; ideal solution to bring all centralised services in the CSOE (Main Building Optical Cabinet) into each individual dwelling.

Meets requirements of class **Cca** according to **CPR EN 50575**.
DIN support from Rev.1



STOA4C 50M LITE

		STOA4C 10M LITE	STOA4C 20M LITE	STOA4C 30M LITE
Code		287747	287748	287749
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2
Colour		White	White	White
Fibre no.		4	4	4
Fibre length	m	10	20	30
Diameter	mm	3	3	3
Connectors		SC/APC	SC/APC	SC/APC
Connector type		Simplex PULL	Simplex PULL	Simplex PULL
Insertion loss	dB	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)
Specifications				
Pcs.		1	1	1
Dimensions	mm	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50

		STOA4C 40M LITE	STOA4C 50M LITE	STOA4C 100M LIT
Code		287750	287751	287752
Fibre type		Single-mode 9/125; semi loose	Single-mode 9/125; semi loose	Single-mode 9/125; semi loose
Sheath		LSZH, G657 A2	LSZH, G657 A2	LSZH, G657 A2
Colour		White	White	White
Fibre no.		4	4	4
Fibre length	m	40	50	100
Diameter	mm	3	3	3
Connectors		SC/APC	SC/APC	SC/APC
Connector type		Simplex PULL	Simplex PULL	Simplex PULL
Insertion loss	dB	< 0.25 (Grade B)	< 0.25 (Grade B)	< 0.25 (Grade B)
Specifications				
Pcs.		1	1	1
Dimensions	mm	250 x 250 x 50	250 x 250 x 50	250 x 250 x 50

ADAPTORS

COUPLERS

Bushings for interconnecting cables.

Name	Code	Description	Pcs.
BFO-SC-APC	289349	SC/APC coupler.	10
BFO-SC-APC FL	287593	Flangeless SC/APC coupler, single-mode connector.	10
BFO-SC-APC KEY	287595	Flangeless SC/APC coupler for mounting on Keystone adaptors.	1
MIN/MIN	287225	Mini-Mini coupler.	10

BFO-SC-APC

BFO-SC-APC-FL

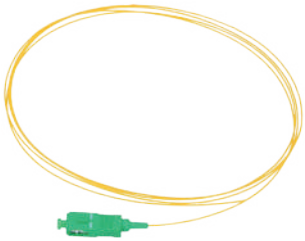
BFO-SC-APC-KEY

MIN-MIN

PIG TAILS

Pig tails and adaptors.

Name	Code	Description	Pcs.
PIG TAIL	287426	Optical single-mode pig tail 9/125	10
PR ADAPT	287226	SC/APC Harness/Adaptor - Mini	1



PIG TAIL

PR ADAPT

ACCESSORIES

OPTICAL ATTENUATORS

In-line optical attenuators with SC/APC connector.

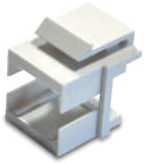
Name	Code	Description	Pcs.
OPTATT3DB	287239	Optical attenuator 3dB	1
OPTATT7DB	287238	Optical attenuator 7dB	1
OPTATT14DB	287237	Optical attenuator 14dB	1

OPTATTxDB

Networking accessories

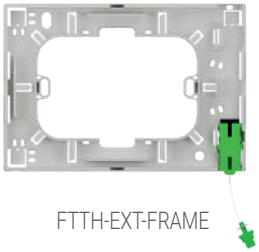
Keystone plastic couplers, external frames and fibre organisers.

Name	Code	Description	Pcs.
ADP-SC-KEY	287594	Keystone plastic coupler for SC/APC single-mode socket for mounting on Keystone holders.	1
FTTH-EXT-FRAME	287597	External frame for FTTH installation with SC/APC coupler and user security lock.	1
OPO-503	287596	Fibre bracket for flush-mounted box 503.	1



ADP SC KEY

OPO-503

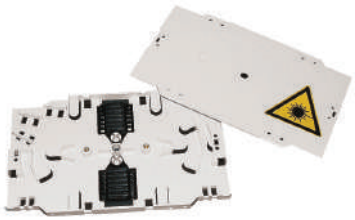


FTTH-EXT-FRAME

FIBRE ORGANISERS

Fibre **organisers** and rack-mounted **junction boxes.**

Name	Code	Description	Pcs.
OPB8I	289405	Painted steel junction box for wall mounting. 8 x SC/APC optical connections.	1
OPO12P	289402	Plastic fibre organiser for securing optimal housing for fibre optic splices. Provision for 12 splices.	1
OPB18I	289403	Painted steel junction box wall mounting. 18 x SC/APC optical connections.	1
OPB24IR	289404	Painted steel rack-mounted junction box. 24 x SC/APC optical connections.	1
OPB48IR	287757	Painted steel rack-mounted junction box. 48 x SC/APC optical connections.	1



OPO12P

OPB18I

OPB24IR

FIBRE CABLES

EXTERNAL cables

External multi-core cables.

OPC ARM

Name	Code	Fibre type	Sheath	Fibre length m	Connectors
OPC 4 ARM	287344	4 Fibre 9/125	LSZH, G657A2, CPR Eca	500	To be connected
OPC 8 ARM	287346	8 Fibre 9/125	LSZH, G657A2, CPR Eca	500	To be connected
OPCGC12	287448	12 fibre 9/125	PE, G657A2	Specify length	To be connected
OPCGC24	287449	24 fibre 9/125	PE, G657A2	Specify length	To be connected
OPCGC48	287450	48 fibre 9/125	PE, G657A2	300	To be connected
OPCGC96	287451	96 fibre 9/125	PE, G657A2	300	To be connected

FIBRE CABLES

INTERNAL cables

Indoor multi-core cables.

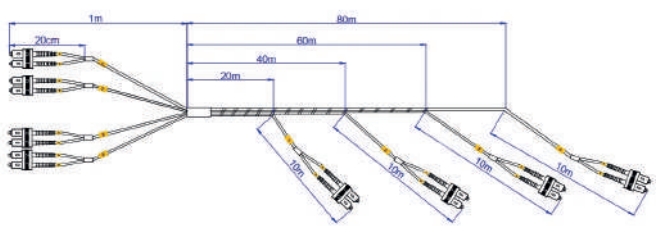
OPC4IN_CCA (287736) and OPC8IN_CCA (287737) meet requirements of class **Cca** according to **CPR EN 50575**.

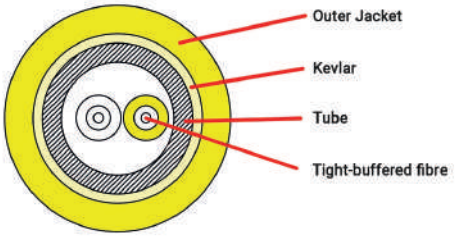
OPC_CCA

Name	Code	Fibre type	Sheath	Fibre length m	Connectors
OPCAB02	287446	2 fibre 9/125	LSZH, G657A2	250	To be connected
OPC4IN_CCA	287736	4 fibre 9/125	LSZH, G657A2	250	To be connected
OPC8IN_CCA	287737	8 fibre 9/125	LSZH, G657A2	500	To be connected
OPCCOL12	287452	12 fibre 9/125	LSZH, G657A2	Specify length	To be connected
OPCCOL48	287453	48 fibre 9/125	LSZH, G657A2	300	To be connected
OPCCOL96	287454	96 fibre 9/125	LSZH, G657A2	300	To be connected

STAGGERED INTERNAL multi-core cables

Indoor, **preconnected SC/APC** multi-core cables with **10m breakouts every 20m**, ideal for installing fibre in risers and **carrying services with 1 or 2 fibres to multiple floors**.
Meet the requirements of class **Cca** according to **CPR EN 50575**.





OPC SA

Name	Code	Fibre type	Sheath	Fibre length m	Connectors
OPC4I90C-SA-P	287701	Single-mode 9/125; buffered	LSZH, G657 A2	90, with 4 pre terminated cables 10m long, staggered every 20m	Simplex PULL
OPC8I90C-SA-DP	287702	Single-mode 9/125; buffered	LSZH, G657 A2	90, with 4 pre terminated cables 10m long, staggered every 20m	Duplex PULL
OPC8I170C-SA-P	287703	Single-mode 9/125; buffered	LSZH, G657 A2	170, with 4 pre terminated cables 10m long, staggered every 20m	Simplex PULL
OPC16I170C-SADP	287704	Single-mode 9/125; buffered	LSZH, G657 A2	170, with 4 pre terminated cables 10m long, staggered every 20m	Duplex PULL

Aerials

FM AND DAB

FM and DAB

FM and DAB band aerials with F connector. Designed for radio signal reception.

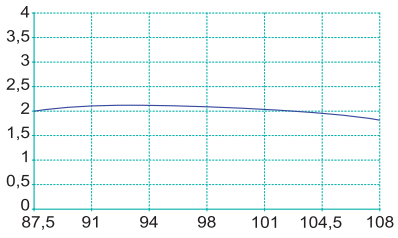
ANT1200A

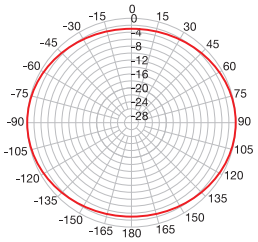
FM OMNI

DAB

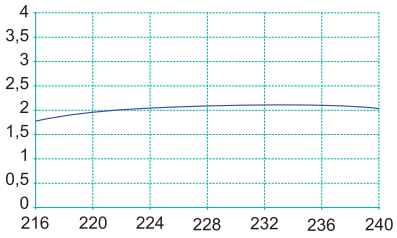
		ANT1200A	FM OMNI	DAB
Code		213001	213009	213010
Elements		1	1	1
Band		FM	FM	DAB
Bandwidth	MHz	87.5-108	87.5-108	216-240
Gain	dBi	2.1	2.1	2.1
Front/Back ratio	dB	Omni	Omni	Omni
Return loss	dB	-16	-10	-16
Beam width (3dB)	°	360	360	360
Wind load @120km/h (729N/m²)	kg (N)	3.0 (29.4)	2.7 (26.5)	2.0 (19.6)
Connectors		F	F	F
Impedence	Ohm	75	75	75
Max. mast diameter (Ø)	mm	60	60	60
Dimensions	cm	96 x 77	63 x 10.5	59 x 8
Pcs		10	10	8
Unit weight	kg	0.90	0.84	0.54
Total weight	kg	10.6	8.6	4.4
Accessories				
Horizontal polarisation		Included	Included	Included
Horizontal polarisation tilt adjustment		-	-	-
Vertical polarisation		-	-	-
Auxiliary boom		-	-	-

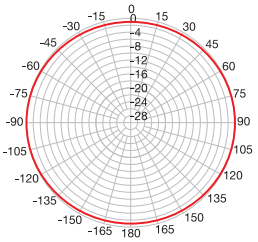
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@105MHz for ANT1200A and FMOMNI, @230MHz for DAB)





ANT1200A





DAB

VHF

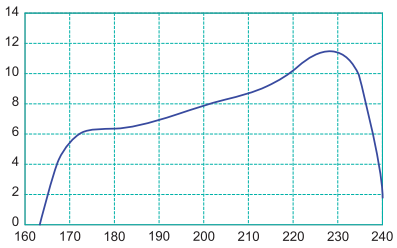
YAGI

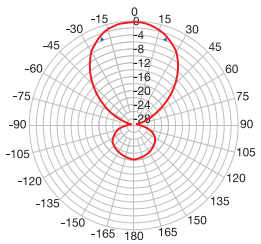
Band III Yagi aerial with F connector.
High-quality pre-assembled aerial.

TERZA 6HD

		TERZA 6HD
Code		213008
Elements		6
Band		3
Channel		E5-E12
Bandwidth	MHz	174-230
Gain	dBi	11
Front/Back ratio	dB	25
Return loss	dB	-15
Beam width (3dB)	°	±26
Wind load @120km/h (729N/m²)	kg (N)	3.8 (37.3)
Connectors		F
Impedence	Ohm	75
Max. mast diameter (Ø)	mm	60
Dimensions	cm	119 x 86
Pcs		10
Unit weight	kg	0.98
Total weight	kg	10.9
Accessories		
Horizontal polarisation		Included
Horizontal polarisation tilt adjustment		-
Vertical polarisation		Included
Vertical polarisation tilt adjustment		-
Auxiliary boom		-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@200MHz)





TERZA 6HD

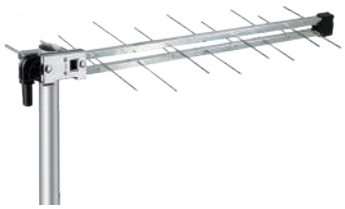
LOG PERIODIC

LP III IV

Pre-assembled **band III and band IV** log periodic aerials easy to install due to the **F-type connector** being located near the mast clamp.

These aerials can be mounted vertically or horizontally with no additional parts required. Black plastic.

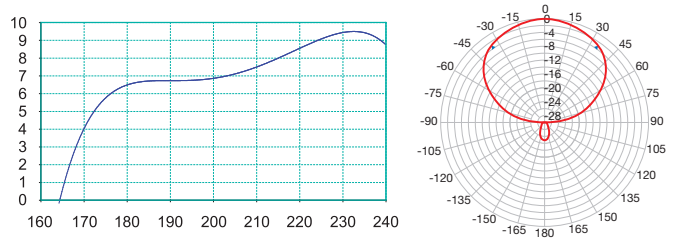
LP3F



LP4F

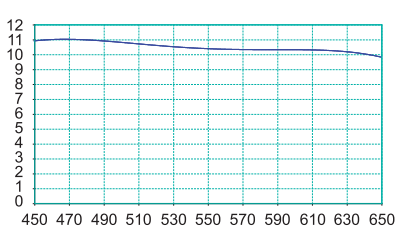
		LP34F	LP3F	LP4F
Code		216135	216171	216151
Elements		14+14	6+6	8+8
Band		3+DAB + 4	3+DAB	4
Channel		E5-E12 + DAB / E21-E37	E5-E12 + DAB	E21-E37
Bandwidth	MHz	174-240 / 470-606	174-240	470-606
Gain	dBi	9.5 / 11	9	10
Front/Back ratio	dB	21 / 25	25	32
Return loss	dB	-18 / -15	-18	-18
Beam width (3dB)	°	±35 / ±28	±32	±28
Wind load @120km/h (729N/m²)	kg (N)	3.9 (38.2)	2.8 (27.5)	2.8 (27.5)
Connectors		F	F	F
Impedence	Ohm	75	75	75
Max. mast diameter (Ø)	mm	60	60	60
Dimensions	cm	115 x 86	65 x 86	99 x 32
Pcs		20	20	60
Unit weight	kg	1	0.63	0.60
Total weight	kg	22.5	16.6	38.0
Accessories				
Horizontal polarisation		Included	Included	Included
Horizontal polarisation tilt adjustment		PV10 (210011)	PV10 (210011)	PV10 (210011)
Vertical polarisation		Included	Included	Included
Vertical polarisation tilt adjustment		PV10 (210011)	PV10 (210011)	PV10 (210011)
Auxiliary boom		-	-	-

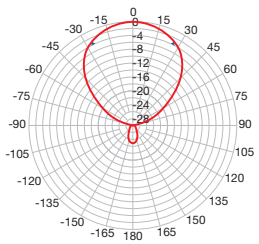
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@200MHz)



LP34F

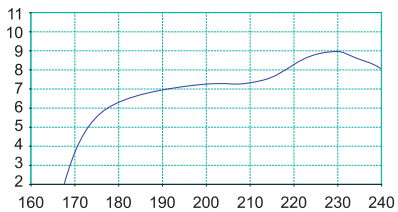
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

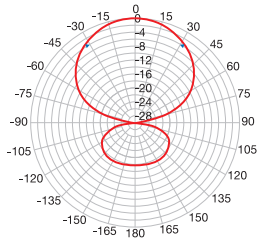




LP34F

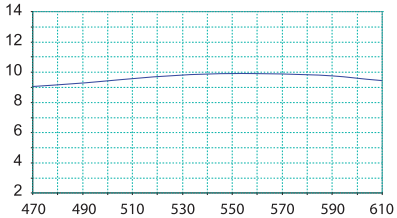
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@200MHz)

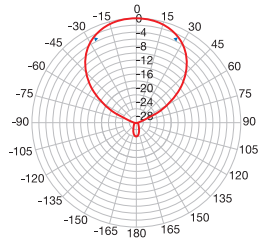




LP3F

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



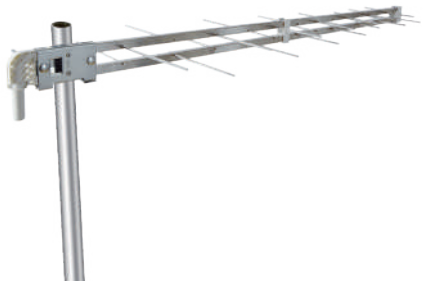


LP4F

LOG PERIODIC

LP 5G

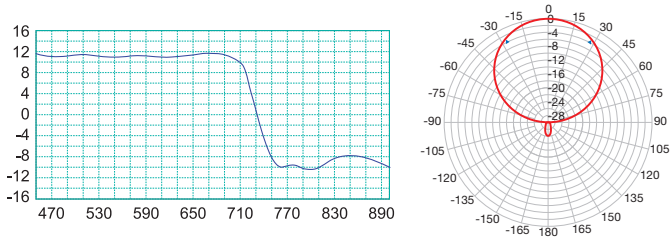
Pre-assembled **UHF band** log periodic aerials, F models are easy to install due to the **F-type connector** being located near the mast clamp. These aerials can be mounted vertically or horizontally with **no additional parts required**. **Redesigned geometric dipole distribution** to filter 4G and 5G LTE signals above 694MHz. **White plastic**.



LP45F 5G

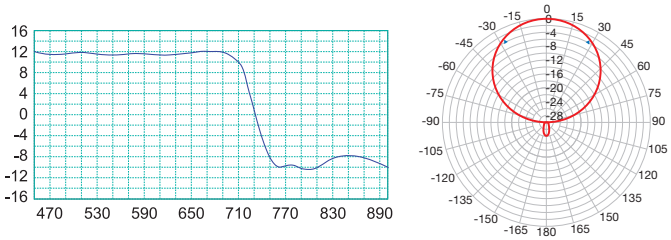
		LP45HV 5G	LP45F 5G	LP45NF 5G
Code		216259	216258	216252
Elements		14+14	14+14	15+15
Band		UHF	UHF	UHF
Channel		E21-E48	E21-E48	E21-E48
Bandwidth	MHz	470-694	470-694	470-694
Gain	dBi	11.5	12	12.5
Front/Back ratio	dB	36	36	36
Return loss	dB	-13	-15	-15
Beam width (3dB)	°	±28	±28	±25
Wind load @120km/h (729N/m²)	kg (N)	3.0 (29.4)	3.0 (29.4)	3.0 (29.4)
Connectors		Clamp	F	F
Impedence	Ohm	75	75	75
Max. mast diameter (Ø)	mm	60	60	60
Dimensions	cm	96 x 32	99 x 32	115 x 32
Pcs		15	15	30
Unit weight	kg	0.64	0.70	0.90
Total weight	kg	12.4	13.2	26.4
Accessories				
Horizontal polarisation		Included	Included	Included
Horizontal polarization tilt adjustment		PV10 (210011)	PV10 (210011)	PV10 (210011)
Vertical polarisation		Included	Included	Included
Vertical polarization tilt adjustment		PV10 (210011)	PV10 (210011)	PV10 (210011)
Auxiliary boom		-	-	-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



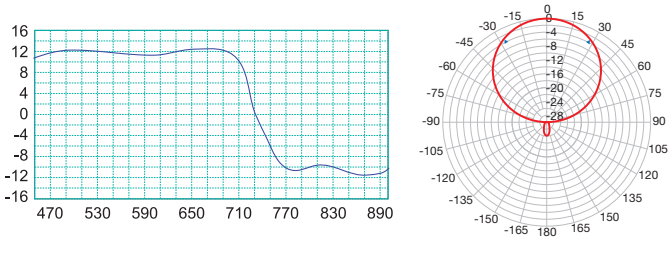
LP45HV 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



LP45F 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



LP45NF 5G

LOG PERIODIC

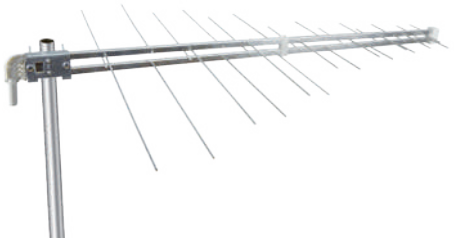
LP 700

Pre-assembled log periodic aerials, **F models** are easy to install due to the **F-type connector** being located near the mast clamp.

These aerials can be mounted vertically or horizontally with **no additional parts required**.

Redesigned geometric dipole distribution to filter 4G and 5G LTE signals above 694MHz. **Black plastic**.

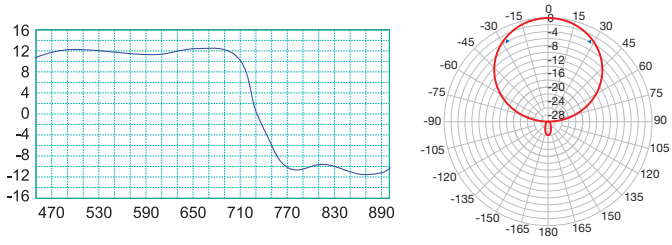
LP45F 700



LP345MF 700

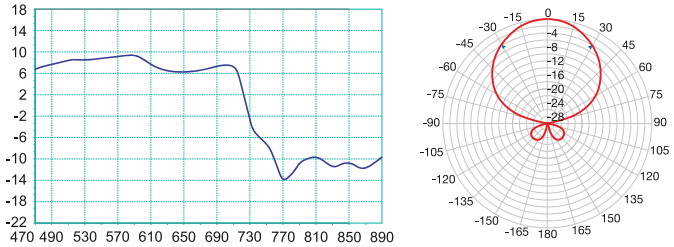
		LP45F 700	LP345MF 700	LP45F700MINI
Code		216251	216254	216256
Elements		15+15	15+15	10+10
Band		UHF	3+DAB / UHF	UHF
Channel		E21-E48	E5-E12 + DAB / E21-E48	E21-E48
Bandwidth	MHz	470-694	174-240 / 470-694	470-694
Gain	dBi	12.5	8.5 / 10	9
Front/Back ratio	dB	36	22 / 30	30
Return loss	dB	-15	-14 / -13	-15
Beam width (3dB)	°	±25	±34 / ±30	±30
Wind load @120km/h (729N/m²)	kg (N)	3.0 (29.4)	2.7 (26.5)	2.7 (26.5)
Connectors		F	F	F
Impedence	Ohm	75	75	75
Max. mast diameter (Ø)	mm	60	60	60
Dimensions	cm	115 x 32	77 x 86	44 x 36
Pcs		30	20	30
Unit weight	kg	0.90	0.90	0.50
Total weight	kg	27.3	18.5	15.0
Accessories				
Horizontal polarisation		Included	Included	Included
Horizontal polarisation tilt adjustment		PV10 (210011)	PV10 (210011)	PV10 (210011)
Vertical polarisation		Included	Included	Included
Vertical polarisation tilt adjustment		PV10 (210011)	PV10 (210011)	PV10 (210011)
Auxiliary boom		-	-	-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



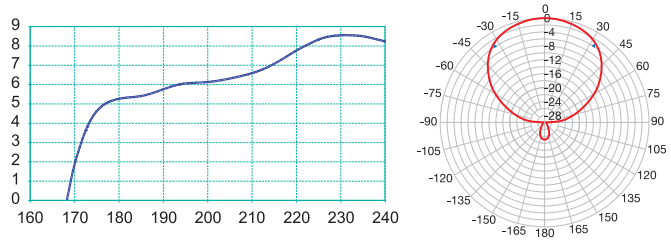
LP45F 700

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



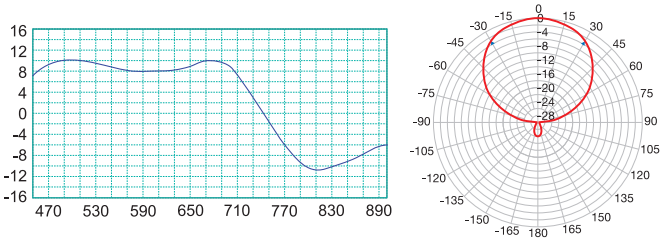
LP45F700MINI

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@200MHz)



LP345MF 700

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



LP345MF 700

LOG PERIODIC

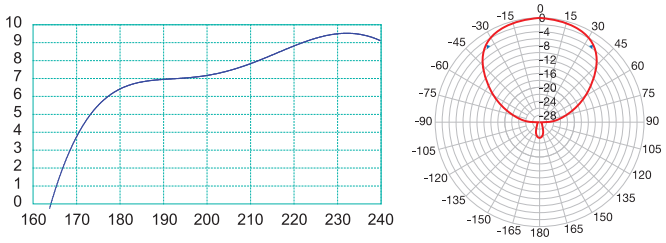
LP COMBO 5G

Pre-assembled log periodic aerials, the **F models** are easy to install due to the **F-type connector** being located near the mast clamp. These aerials can be mounted vertically or horizontally with **no additional parts required**. **Redesigned geometric dipole distribution** to filter 4G and 5G LTE signals above 694MHz.

LP345F 5G

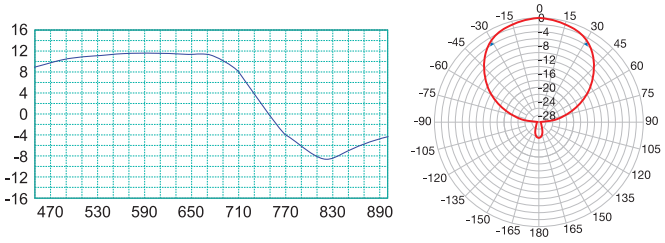
		LP345F 5G	LP345HV 5G
Code		216257	216253
Elements		16+16	16+16
Band		3+DAB / UHF	3+DAB / UHF
Channel		E5-E12 + DAB / E21-E48	E5-E12 + DAB / E21-E48
Bandwidth	MHz	174-240 / 470-694	174-240 / 470-694
Gain	dBi	9.5 / 11.5	9 / 11
Front/Back ratio	dB	24 / 32	24 / 32
Return loss	dB	-16 / -16	-13 / -13
Beam width (3dB)	°	±34 / ±31	±34 / ±31
Wind load @120km/h (729N/m²)	kg (N)	3.9 (38.2)	3.9 (38.2)
Connectors		F	Clamp
Impedence	Ohm	75	75
Max. mast diameter (Ø)	mm	60	60
Dimensions	cm	115 x 86	115 x 86
Colour		White	White
Pcs		20	20
Unit weight	kg	1.12	1.04
Total weight	kg	22.9	21.3
Accessories			
Horizontal polarisation		Included	Included
Horizontal polarisation tilt adjustment		PV10 (210011)	PV10 (210011)
Vertical polarisation		Included	Included
Vertical polarisation tilt adjustment		PV10 (210011)	PV10 (210011)
Auxiliary boom		-	-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@200MHz)



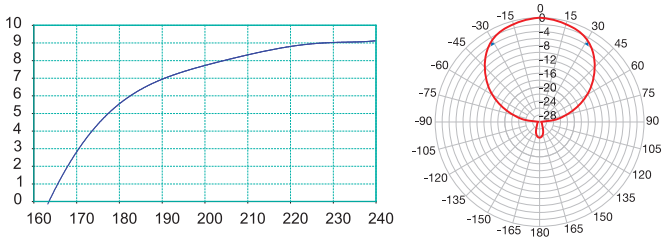
LP345F 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



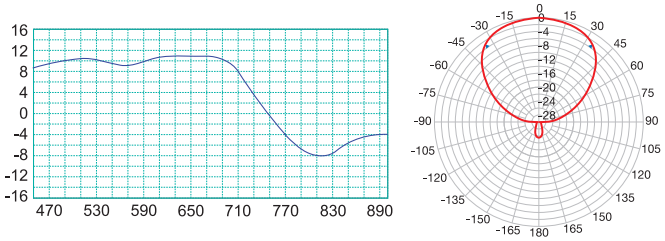
LP345F 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@200MHz)



LP345HV 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

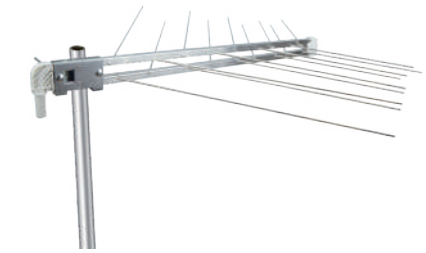


LP345HV 5G

LOG PERIODIC

LP COMBO 5G

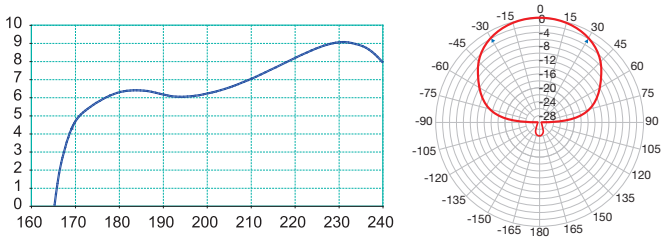
Pre-assembled log periodic aerials, the **F models** are easy to install due to the **F-type connector** being located near the mast clamp. These aerials can be mounted vertically or horizontally with **no additional parts required**. **Redesigned geometric dipole distribution** to filter 4G and 5G LTE signals above 694MHz.



LPV345F 5G

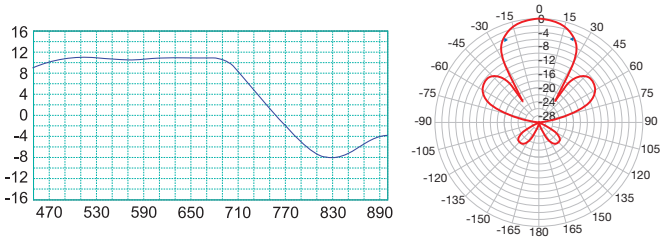
		LPV345F 5G	LPV345F 700
Code		217251	217252
Elements		9+9	9+9
Band		3+DAB / UHF	3+DAB / UHF
Channel		E5-E12 + DAB / E21-E48	E5-E12 + DAB / E21-E48
Bandwidth	MHz	174-240 / 470-694	174-240 / 470-694
Gain	dBi	9 / 11	9 / 11
Front/Back ratio	dB	26 / 30	26 / 30
Return loss	dB	-18 / -13	-18 / -13
Beam width (3dB)	°	±30 / ±21	±30 / ±21
Wind load @120km/h (729N/m²)	kg (N)	2.8 (27.5)	2.8 (27.5)
Connectors		F	F
Impedence	Ohm	75	75
Max. mast diameter (Ø)	mm	60	60
Dimensions	cm	75 x 79	75 x 79
Colour		White	Black
Pcs		20	20
Unit weight	kg	0.85	0.85
Total weight	kg	17.5	17.5
Accessories			
Horizontal polarisation		Included	Included
Horizontal polarization tilt adjustment		PV10 (210011)	PV10 (210011)
Vertical polarisation		Included	Included
Vertical polarization tilt adjustment		PV10 (210011)	PV10 (210011)
Auxiliary boom		-	-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@200MHz)



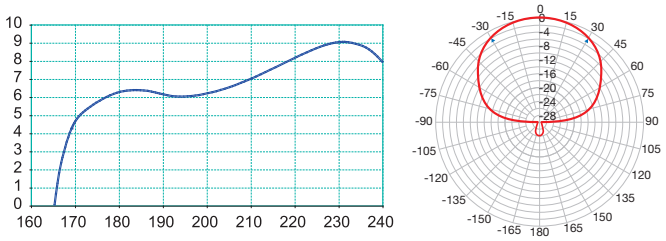
LPV345F 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



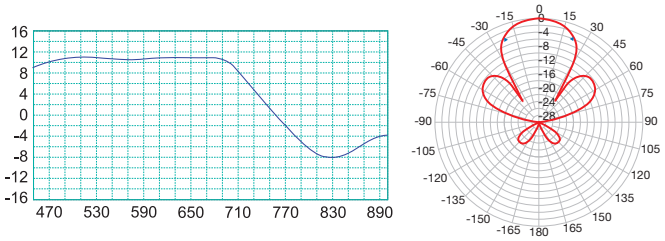
LPV345F 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@200MHz)



LPV345F 700

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

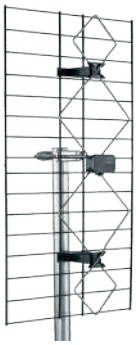


LPV345F 700

UHF 5G

PANEL

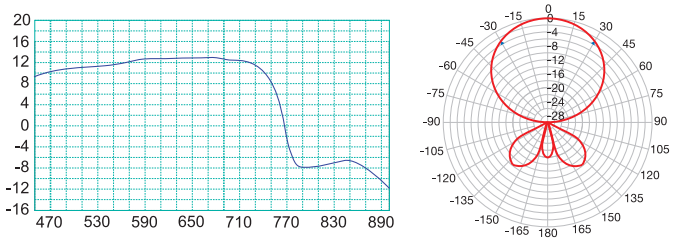
Single and **multi-panel UHF band** aerials with F connector.
Ideal for installation in locations with **special climatic conditions**, e.g. in snowy areas.



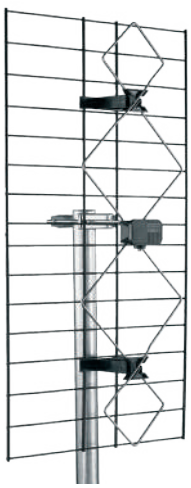
PU4F 700

		PU4F 700
Code		217450
Elements		4
Band		UHF
Channel		E21-E48
Bandwidth	MHz	470-694
Gain	dBi	13
Front/Back ratio	dB	21
Return loss	dB	-16
Beam width (3dB)	°	±30
Wind load @120km/h (729N/m²)	kg (N)	4.0 (39.2)
Connectors		F
Impedence	Ohm	75
Max. mast diameter (Ø)	mm	60
Dimensions	cm	71 x 38.5
Pcs		15
Unit weight	kg	0.94
Accessories		
Horizontal polarisation		Included
Horizontal polarization tilt adjustment		-
Vertical polarisation		PVP (210002)
Vertical polarization tilt adjustment		-
Auxiliary boom		-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



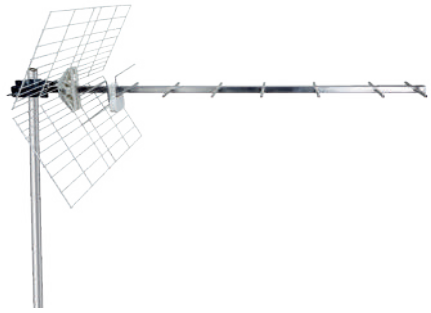
PU4F 700



UHF 5G

TAU GRID

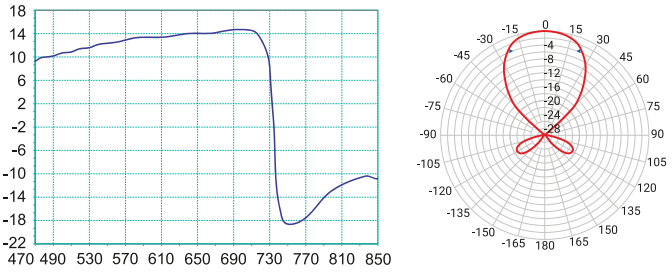
Band IV, V or UHF Yagi aerials with F connector and grid reflectors.
In the UHF model, **redesigned geometric distribution of director dipoles** to filter 5G and 4G LTE signals.
Special mechanical robustness due to the use of 8mm extruded aluminium tubes.
They **can be installed without any tools**, due to the preassembled directors, quick-connect radiator and reflectors, and pole mount with butterfly nuts.
Round ended director elements for added safety during installation. Minimal plastic used in their construction results in light weight aerials easier to install in unfavourable conditions.



TAU11/45 5G

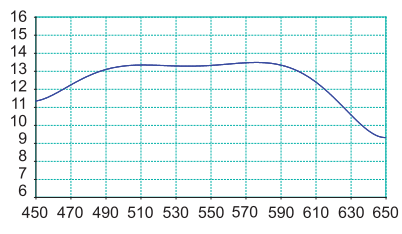
		TAU11/45 5G	TAU11/4	TAU11/5
Code		213108	213096	213097
Elements		7	8	8
Band		UHF	4	5
Channel		E21-E48	E21-E37	E38-E69
Bandwidth	MHz	470-694	470-606	606-862
Gain	dBi	15	13.5	12
Front/Back ratio	dB	32	31	30
Return loss	dB	-15	-20	-17
Beam width (3dB)	°	±25	±24	±23
Wind load @120km/h (729N/m²)	kg (N)	3.2 (31.4)	3.7 (36.3)	3.2 (31.4)
Connectors		F	F	F
Impedence	Ohm	75	75	75
Max. mast diameter (Ø)	mm	60	60	60
Dimensions	cm	117 x 50	115 x 50	87 x 50
Pcs		10	10	10
Unit weight	kg	1.3	1.30	1.18
Total weight	kg	14.8	15.0	13.8
Accessories				
Horizontal polarisation		Included	Included	Included
Horizontal polarisation tilt adjustment		Included	Included	Included
Vertical polarisation		Included	Included	Included
Vertical polarisation tilt adjustment		Included	Included	Included
Auxiliary boom		-	-	-

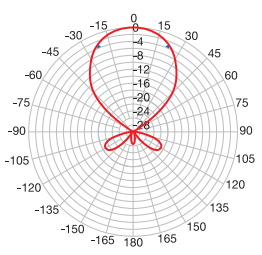
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



TAU11/45 5G

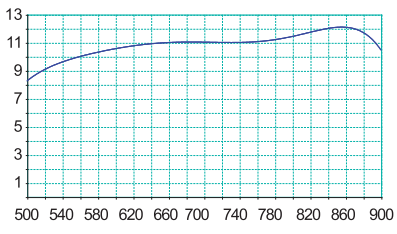
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

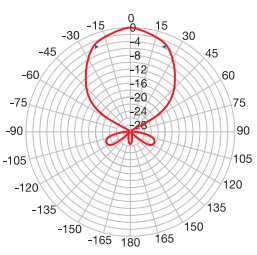




TAU11/4

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@862MHz)





TAU11/5

UHF 5G

TAU CORTINA

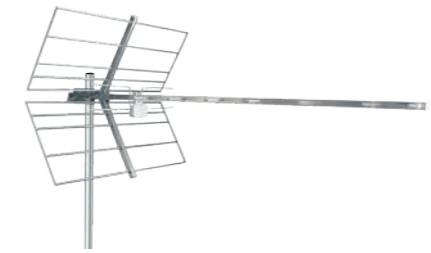
Band IV, V or UHF Yagi aerials with F connector and **curtain reflectors**.

In the UHF model, **redesigned geometric distribution** of director dipoles to filter 5G and 4G LTE signals.

Particular mechanical robustness due to the use of 8mm rounded extruded aluminium tubes and bolt and wing nut mounting of the reflector on the cradle.

They can be **installed without any tools**, due to the preassembled directors, quick-connect radiator, and reflector and pole attachment with wing nuts.

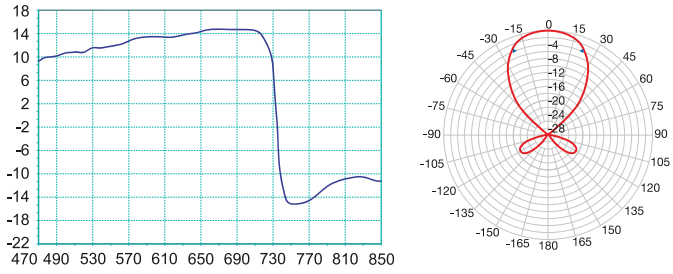
Round ended director elements for added safety during installation. **Minimal plastic** used in their construction results in **light weight** aerials easier to install in unfavourable conditions.



TAU15/45 5G

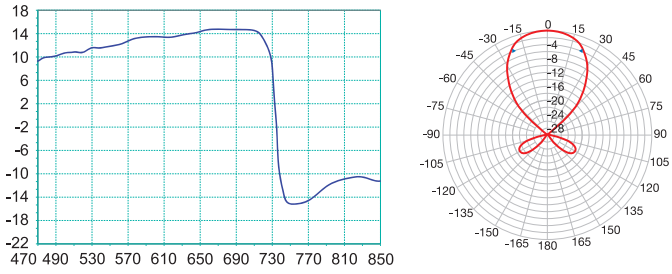
		TAU15/45 5G	TAU15/45 700	TAU15/4	TAU15/5
Code		213107	213110	213094	213095
Elements		7	7	8	8
Band		UHF	UHF	4	5
Channel		E21-E48	E21-E48	E21-E37	E38-E69
Bandwidth	MHz	470-694	470-694	470-606	606-862
Gain	dBi	15	15	13.5	11
Front/Back ratio	dB	33	33	24	28
Return loss	dB	-15	-15	-20	-16
Beam width (3dB)	°	±24	±24	±23	±22
Wind load @120km/h (729N/m²)	kg (N)	3.2 (31.4)	3.2 (31.4)	3.3 (32.4)	2.8 (27.5)
Connectors		F	F	F	F
Impedence	Ohm	75	75	75	75
Max. mast diameter (Ø)	mm	60	60	60	60
Dimensions	cm	117 x 58	117 x 58	115 x 42	87 x 42
Colour		White	Black	White	White
Pcs		8	8	10	10
Unit weight	kg	1.18	1.18	1.06	0.96
Total weight	kg	11.25	11.25	12.6	11.6
Accessories					
Horizontal polarisation		Included	Included	Included	Included
Horizontal polarisation tilt adjustment		Included	Included	Included	Included
Vertical polarisation		Included	Included	Included	Included
Vertical polarisation tilt adjustment		Included	Included	Included	Included
Auxiliary boom		-	-	-	-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



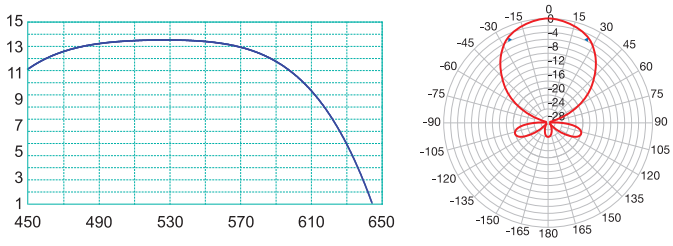
TAU15/45 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



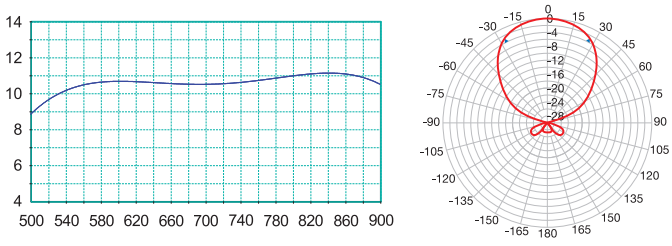
TAU15/45 700

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



TAU15/4

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@862MHz)



TAU15/5

UHF 5G

TAU KILLER

UHF band Yagi aerial with F connector and **curtain reflector**.

Dual filtering, combining 5G and 4G LTE frequency selection given by the **geometry of the elements** to the **5G filter integrated** in the dipole radiator.

Special mechanical robustness due to the use of 8mm rounded extruded aluminium tubes and bolt and wing nut fixing of the reflector on the cradle.

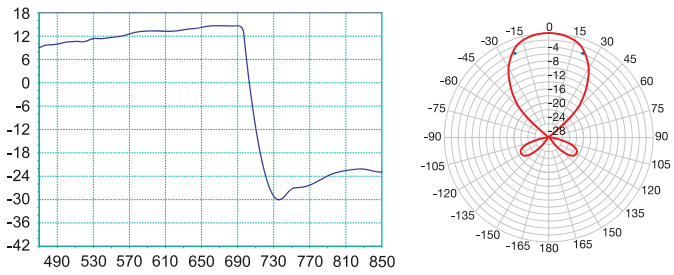
They can be **installed without the aid of any tools**, due to the pre-assembled directors, quick connect radiator and reflector attachment and pole with wing nuts.

Round ended director elements for added safety during installation. **Minimal plastic** used in their construction results in **light weight** aerials easier to install in unfavourable conditions.

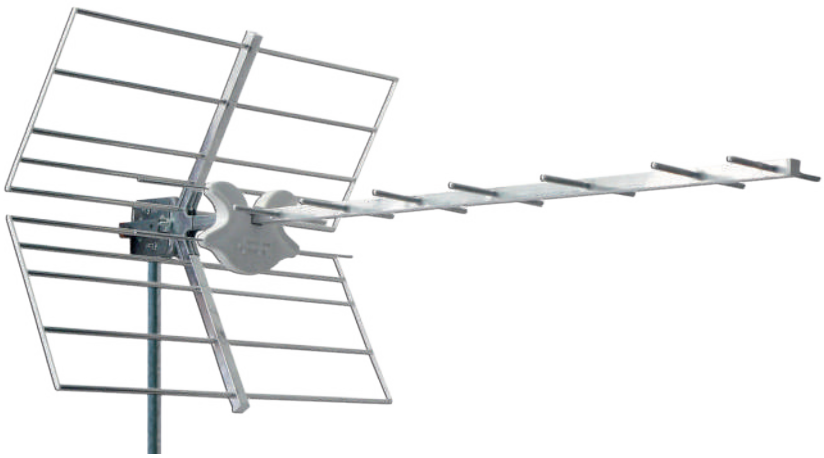
TAU 5G KILLER PLUS

		TAU 5G KILLER+
Code		213109
Elements		7
Band		UHF
Channel		E21-E48
Bandwidth	MHz	470-694
Gain	dBi	14.5
Front/Back ratio	dB	35
Return loss	dB	-18
Beam width (3dB)	°	±22
Wind load @120km/h (729N/m²)	kg (N)	7.3 (71.6)
Connectors		F
Impedence	Ohm	75
Max. mast diameter (Ø)	mm	60
Dimensions	cm	117 x 58
Pcs		8
Unit weight	kg	1.75
Total weight	kg	1.9
Accessories		
Horizontal polarisation		Included
Horizontal polarisation tilt adjustment		Included
Vertical polarisation		Included
Vertical polarisation tilt adjustment		Included
Auxiliary boom		-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



TAU 5G KILLER+



UHF 5G

BLU 5G

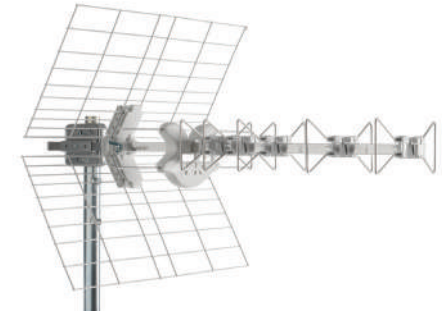
UHF band biconical aerials with F connector and grid reflector.

Pre-assembled directors, quick-connect radiator and reflectors, and pole mount with standard zenith adjustment with **wing nut** to complete mounting **without any tools**.

5G and 4G LTE 694MHz filter inserted into the dipole radiator.

High gain, excellent impedance and excellent directivity.

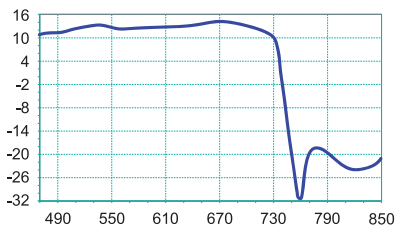
The **BLU10HD 5G** aerial is equipped with a **new reflector** to **improve performance** in frequencies **up to 700MHz**.

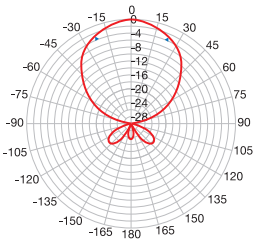


BLU5HD 5G

		BLU5HD 5G	BLU10HD 5G
Code		217914	217915
Elements		5	10
Band		UHF	UHF
Channel		E21-E48	E21-E48
Bandwidth	MHz	470-694	470-694
Gain	dBi	13.5	15.5
Front/Back ratio	dB	30	30
Return loss	dB	-16	-16
Beam width (3dB)	°	±27	±24
Wind load @120km/h (729N/m²)	kg (N)	5.7 (55.9)	7.2 (70.6)
Connectors		F	F
Impedence	Ohm	75	75
Max. mast diameter (Ø)	mm	60	60
Dimensions	cm	84 x 50	119 x 50
Pcs		10	10
Unit weight	kg	1.75	2.22
Total weight	kg	19.4	24.6
Accessories			
Horizontal polarisation		Included	Included
Horizontal polarisation tilt adjustment		Included	Included
Vertical polarisation		Included	Included
Vertical polarisation tilt adjustment		Included	Included
Auxiliary boom		-	-

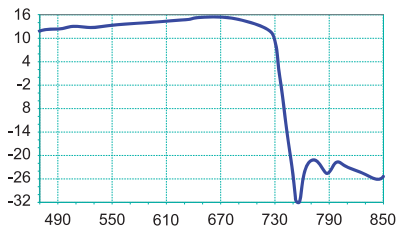
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

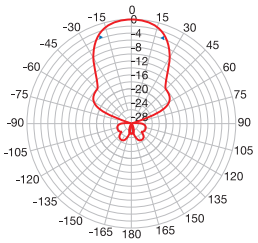




BLU5HD 5G

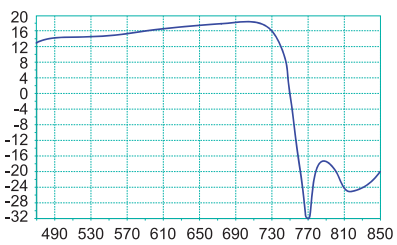
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

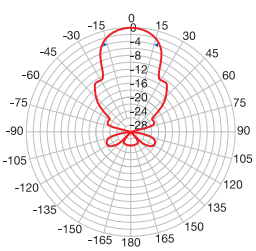




BLU10HD 5G

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)





BLU22HD 5G

UHF 5G

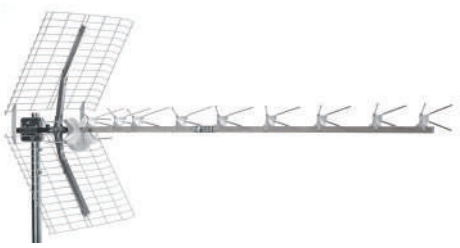
LAMBDA

UHF band biconical aerials with F connector and grid reflector.

Pre-assembled directors, quick-connect radiator and pole mount with standard zenith adjustment with **large wingnut** to complete mounting **without any tools.**

5G and 4G LTE 694MHz filter inserted into the dipole radiator.

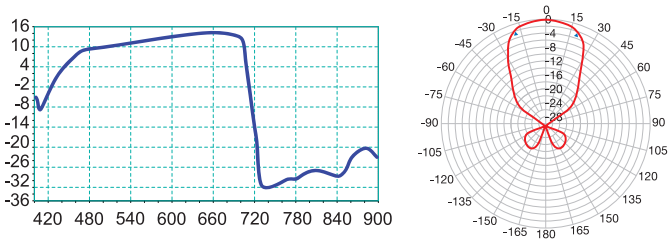
High gain, excellent mechanical strength and excellent front to back ratio.



LAMBDA9 700

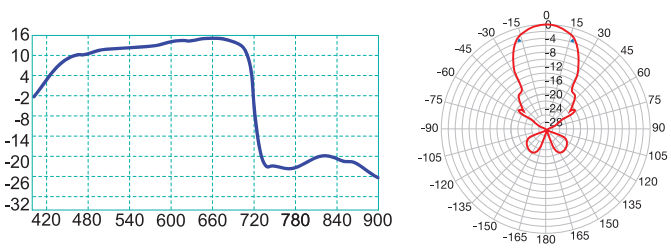
		LAMBDA9 LTE700	LAMBDA14 LTE700
Code		213059	213060
Elements		9	14
Band		UHF	UHF
Channel		E21-E48	E21-E48
Bandwidth	MHz	470-694	470-694
Gain	dBi	14	15.5
Front/Back ratio	dB	28	30
Return loss	dB	-16	-16
Beam width (3dB)	°	±22	±19
Wind load @120km/h (729N/m²)	kg (N)	15 (147.1)	17.5 (171.6)
Connectors		F	F
Impedence	Ohm	75	75
Max. mast diameter (Ø)	mm	60	60
Dimensions	cm	152 x 50	177 x 50
Pcs		1	1
Unit weight	kg	2.72	3.38
Total weight	kg	2.7	3.4
Accessories			
Horizontal polarisation		Included	Included
Horizontal polarisation tilt adjustment		Included	Included
Vertical polarisation		Included	Included
Vertical polarisation tilt adjustment		Included	Included
Auxiliary boom		-	-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



LAMBDA9 LTE700

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



LAMBDA14 LTE700

UHF 5G

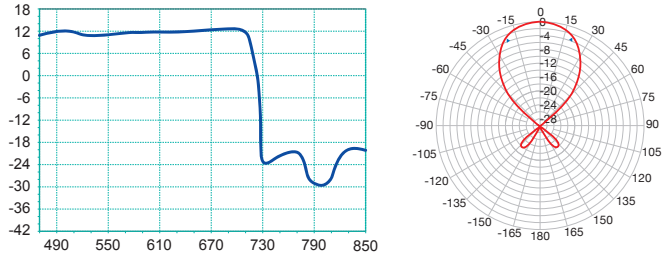
ALPHA 5G

UHF band Loop Yagi aerial complete with F connector. **No tools needed for mounting**, thanks to premounted elements, quick coupling radiator and reflectors and mast bracket with zenith adjustment and **wingnut. LTE filter** inserted in the radiator dipole. Excellent gain, impedance and **directivity.** Exclusive design **patented** by Fracarro.

ALPHA10EVO 5G

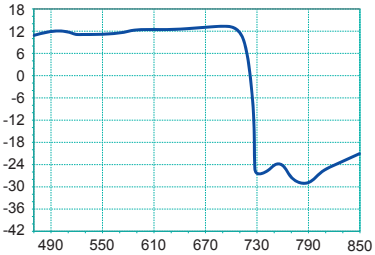
		ALPHA 3HD 700	ALPHA 5HD 700	ALPHA5+ LTE700	ALPHA10EVO 5G
Code		213239	213240	213225	213242
Elements		3	5	5	6
Band		UHF	UHF	UHF	UHF
Channel		E21-E48	E21-E48	E21-E48	E21-E48
Bandwidth	MHz	470-694	470-694	470-694	470-694
Gain	dBi	12.5	13.5	14.2	15.5
Front/Back ratio	dB	38	38	38	30
Return loss	dB	-18	-18	-18	-18
Beam width (3dB)	°	±25	±22	±22	±22
Wind load @120km/h (729N/m²)	kg (N)	5.7 (55.9)	5.7 (55.9)	7.7 (75.5)	10.2 (100.0)
Connectors		F	F	F	F
Impedence	Ohm	75	75	75	75
Max. mast diameter (Ø)	mm	60	60	60	60
Dimensions	cm	71 x 50	81 x 50	81 x 58	91 x 54
Pcs		10	10	12	8
Unit weight	kg	1.80	1.94	1.70	1.75
Total weight	kg	20.3	21.7	23.1	16.7
Accessories					
Horizontal polarisation		Included	Included	Included	Including
Horizontal polarisation tilt adjustment		Included	Included	Included	Including
Vertical polarisation		Included	Included	Included	Including
Vertical polarisation tilt adjustment		Included	Included	Included	Including
Auxiliary boom		-	-	-	-

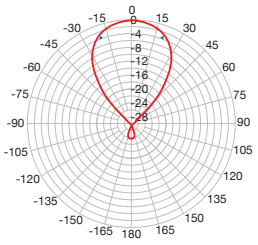
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)



ALPHA 3HD 700

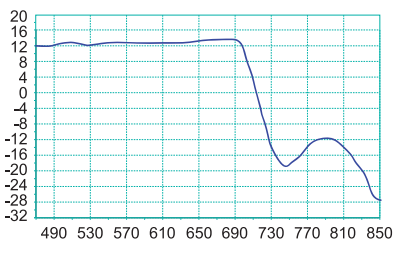
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

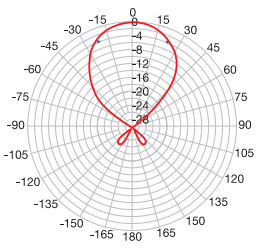




ALPHA 5HD 700

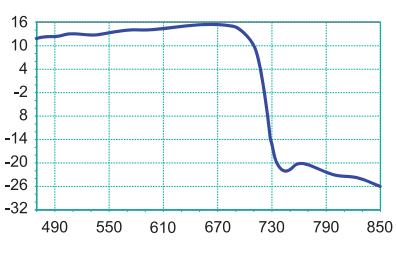
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

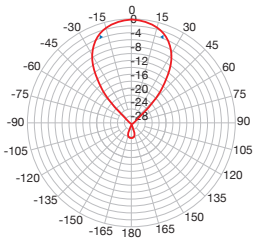




ALPHA5+ LTE700

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)





ALPHA10EVO 5G

UHF 5G

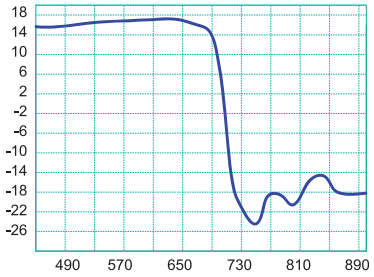
ELIKA

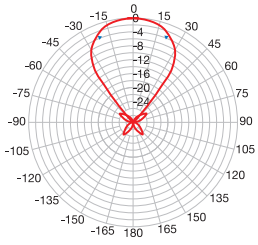
The **UHF band helical** aerial with F connector, in continuity with the Loop Yagi technology adopted by Fracarro.
Pre-assembled dipole, radiator and reflectors with quick coupling and pole mount with zenith adjustment as standard with **large butterfly nut** to complete assembly **without the need for any tools**.
5G and 4G LTE filter built into the dipole radiator.
High gain, **outstanding directivity** and almost no side lobes.
Exclusive **Elika design patented** by Fracarro.

ELIKA 700 P - ELIKA 700 C

		ELIKA 700 P	ELIKA 700 C
Code		213228	213229
Elements		1	1
Band		UHF	UHF
Channel		E21-E48	E21-E48
Bandwidth	MHz	470-694	470-694
Gain	dBi	17	17
Front/Back ratio	dB	32	32
Return loss	dB	-18	-18
Beam width (3dB)	°	±22	±22
Wind load @120km/h (729N/m²)	kg (N)	19 (186.3)	19 (186.3)
Connectors		F	F
Impedence	Ohm	75	75
Max. mast diameter (Ø)	mm	60	60
Dimensions	cm	92 x 82 x 62	92 x 82 x 62
Pcs		10	6
Unit weight	kg	2.30	2.30
Total weight	kg	27.6	18
Accessories			
Horizontal polarisation		Included	Included
Horizontal polarisation tilt adjustment		Included	Included
Vertical polarisation		Included	Included
Vertical polarisation tilt adjustment		Included	Included
Auxiliary boom		-	-

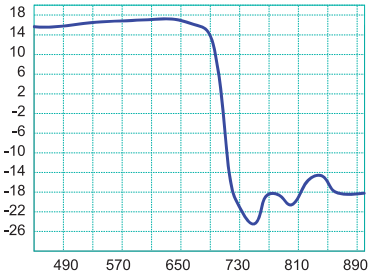
Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

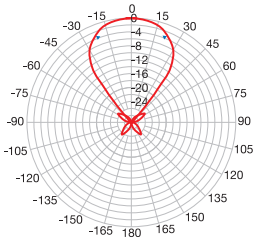




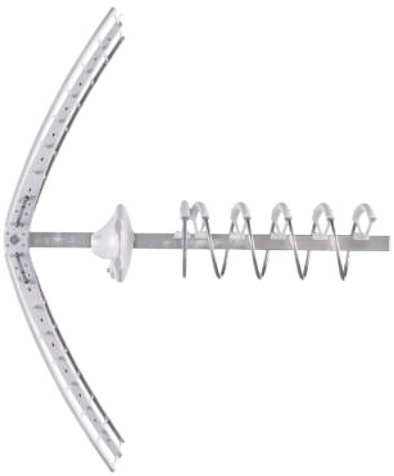
ELIKA 700 P

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)





ELIKA 700 C



UHF 5G

ELIKA PRO

Active helical UHF band aerial with F connector, in continuity with the Loop Yagi technology adopted by Fracarro; **monitoring system facilitated by LED signalling and automatic gain control (ACG)**.

Pre-assembled directors, radiator and reflectors with quick coupling and pole mount with zenith adjustment as standard with **large butterfly nut** to complete assembly **without the need for any tools**.

5G and 4G LTE filter built into the dipole radiator.

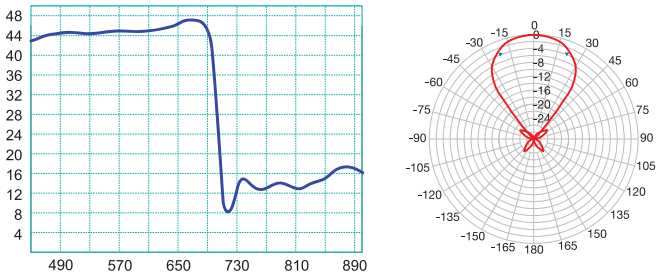
High gain, **outstanding directivity** and almost no side lobes.

Exclusive **Elika design patented** by Fracarro.

ELIKA PRO 700 C

		ELIKA PRO 700 C
Code		213231
Elements		1
Band		UHF
Channel		E21-E48
Bandwidth	MHz	470-694
Gain	dBi	47
AGC	dBµV	65-80
Output level	dBµV	98
Front/Back ratio	dB	32
Return loss	dB	-15
Beam width (3dB)	°	±22
Wind load @120km/h (729N/m²)	kg (N)	19 (186.3)
Connectors		F
Impedence	Ohm	75
Max. mast diameter (Ø)	mm	60
Dimensions	cm	92 x 82 x 62
Pcs		6
Unit weight	kg	2.30
Total weight	kg	18
Accessories		
Horizontal polarisation		Included
Horizontal polarisation tilt adjustment		Included
Vertical polarisation		Included
Vertical polarisation tilt adjustment		Included
Auxiliary boom		-

Gain (x: MHz frequency, y: ISO dBi gain) and Polar diagram (@600MHz)

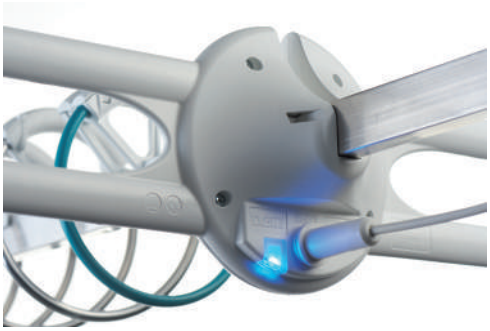


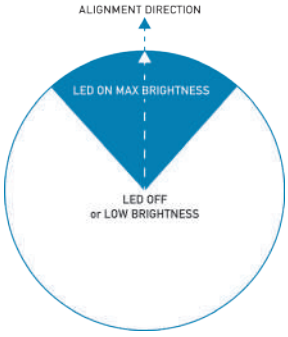
ELIKA PRO 700 C

LED monitoring

ELIKA PRO is the only aerial equipped with a **monitoring system facilitated** through the indicator LED.

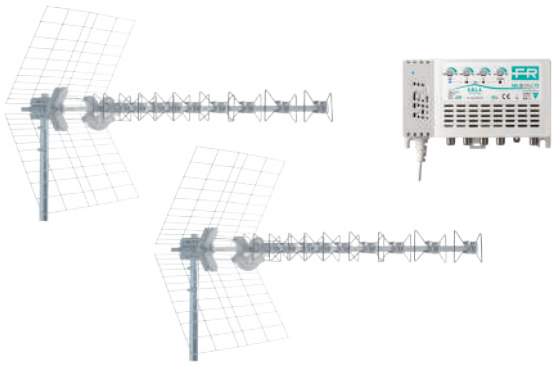
Available as a KIT with PSU342: ELIKA PRO 700 K (213233).





KIT AERIALS 5G

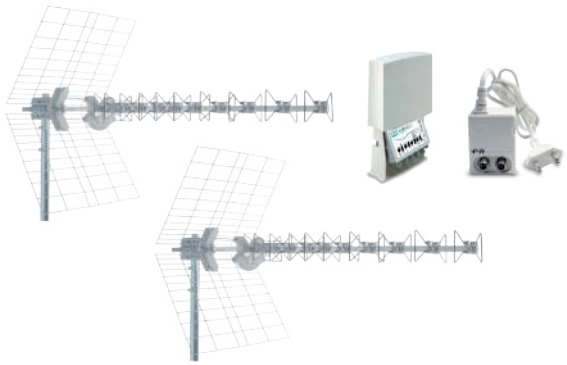
KIT 2 5G T2



KIT 2 5G T2
Code 217970

The KIT contains:
- 2 x BLU10HD 5G aerials (code 217915)
- 1 x MBJ3r345U T2 indoor amplifier (code 223615)

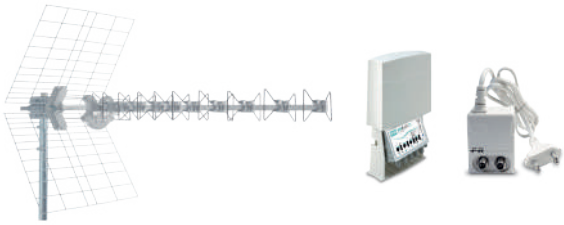
KIT 3 5G T2



KIT 3 5G T2
Code 217971

The KIT contains:
- 2 x BLU10HD 5G aerials (code 217915)
- 1 x MAP2r345U T2 amplifier (code 223759)
- 1 x Mini Power 12P power supply (code 270021)

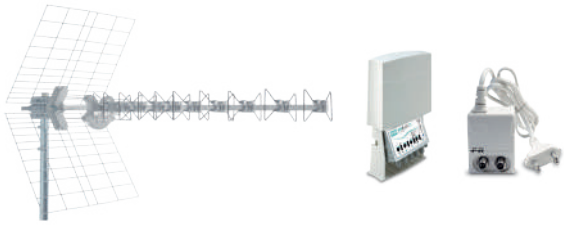
KIT 4 5G T2



KIT 4 5G T2
Code 217972

The KIT contains:
- 1 x BLU10HD 5G aerial (code 217915)
- 1 x MAP2r345U T2 amplifier (code 223759)
- 1 x Mini Power 12P power supply (code 270021)

KIT 7 5G T2



KIT 7 5G T2
Code 217973

The KIT contains:
- 1 x BLU10HD 5G aerial (code 217915)
- 1 x MAP3r3UU T2 amplifier (code 223757)
- 1 x Mini Power 12P power supply (code 270021)

KIT AERIALS 5G

KIT 8 5G T2

KIT 8 5G T2
Code 217974

The KIT contains:
- 1 x ELIKA 700 C (code 213229)
- 1 x MAP3r3UU T2 amplifier (code 223757)
- 1 x Mini Power 12P power supply (code 270021)

KIT 10 5G T2

KIT 10 5G T2
Code 217975

The KIT contains:
- 1 x ELIKA 700 C (code 213229)
- 1 x MAP2r345U T2 amplifier (code 223759)
- 1 x Mini Power 12P power supply (code 270021)

KIT 11 5G T2

KIT 11 5G T2
Code 217976

The KIT contains:
- 2 x ELIKA 700 C aerials (code 213229)
- 1 x MAP3r3UU T2 amplifier (code 223757)
- 1 x Mini Power 12P power supply (code 270021)

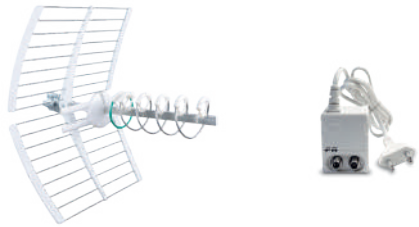
KIT 12 5G T2

KIT 12 5G T2
Code 217977

The KIT contains:
- 2 x ELIKA 700 C aerials (code 213229)
- 1 x MAP2r345U T2 amplifier (code 223759)
- 1 x Mini Power 12P power supply (code 270021)

KIT AERIALS 5G

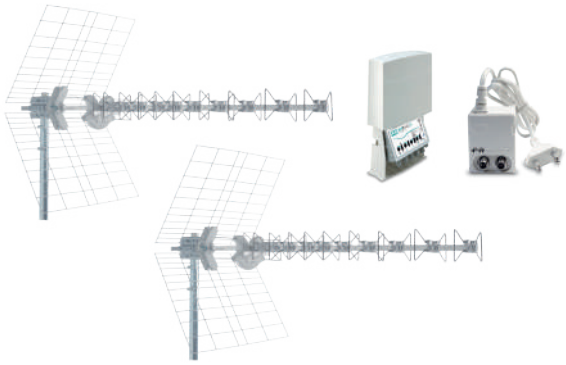
KIT 15 5G T2



KIT 15 5G T2
code 217978

The KIT contains:
- 1 x ELIKA PRO 700 C aerial (code 213231)
- 1 x Mini Power 12P power supply (code 270021)

KIT 16 5G T2



KIT 16 5G T2
code 217979

The KIT contains:
- 2 x BLU10HD 5G aerials (code 217915)
- 1 x MAP3r3UU T2 amplifier (code 223757)
- 1 x Mini Power 12P power supply (code 270021)

Aerials with internal 5G filter

In the **ELIKA 5G and BLU 5G** series aerials, an **LTE filter has been integrated into the radiator dipole** to protect the signal from 5G and 4G LTE interference: an external filter is therefore not required to be installed, the output signal is not attenuated and the final solution is better protected from bad weather. The same goes for the 5G LP Series log periodic aerials and the 5G TAU Series Yagi aerials, which have been designed with a new geometry to filter 5G signals above 694MHz.

MASTS

TELESCOPIC

Telescopic masts with cap and M8 bolts included. Hot-dipped zinc coating.

TEL 1.5/4

Name	Code	Thickness mm	Height m	M8 bolt No.	Diameter mm	Pcs.
TEL1.5/4	287243	1.5	2+2 (4)	2	25+30	5
TEL2/4	287241	2	2+2 (4)	4	28+35	3
TEL2/6	287242	2	2x3 (6)	4	28+35+42	2

SINGLE WITHOUT BOLTS

Masts without nuts with cap. Hot-dipped zinc coating.

PaloSB2 1.5/25

Name	Code	Thickness mm	Height m	Diameter mm	Pcs.
PaloSB2 1.5/25	287244	1.5	2	25	10
PaloSB2 2/28	287245	2	2	28	5
PaloSB3 2/28	287246	2	3	28	5

SINGLE WITH BOLTS

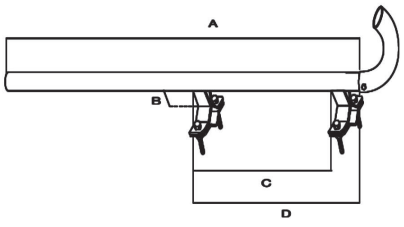
Masts with cap and M8 bolts included. Hot-dipped zinc coating.

PaloCB2 1.5/30

Name	Code	Thickness mm	Height m	M8 bolt No.	Diameter mm	Pcs.
PaloCB2 1.5/30	287247	1.5	2	2	30	5
PaloCB2 1.5/35	287248	1.5	2	2	35	5
PaloCB2 1.5/40	287249	1.5	2	2	40	5
PaloCB2 2/35	287250	2	2	4	35	5
PaloCB2 2/42	287251	2	2	4	42	5
PaloCB2 2/50	287252	2	2	4	50	3
PaloCB3 2/35	287253	2	3	4	35	3
PaloCB3 2/42	287254	2	3	4	42	3
PaloCB3 2/50	287255	2	3	4	50	2
PaloCB2 3/60	287256	3	2	4	60	2
PaloCB3 3/60	287257	3	3	4	60	1

ELBOW MASTS

Elbow shaped masts with removable elbow, Hot-dipped zinc coating



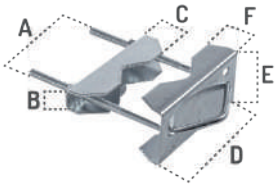
Pal curva50+att

Name	Code	Thickness mm	Height m	Diameter mm	Pcs.
Palcurva40+att	287258	2	2	40	1
Palcurva50+att	287259	2	2	50	1

ACCESSORIES

RAILING BRACKET

Mast bracket for railing mast with nuts, electrolytic galvanising.



ZNRING

Name	Code	Specifications	Pcs.
ZNRING	287271	Toothed bracket thickness 2.3mm A: 80mm, B: 45mm, C: 15mm, D: 80mm, E: 30mm, F: 25mm 2.3 mm thick toothed bracket M6 U-bolt For masts Ø from 30 to 55mm	70

EXPANSION STAND

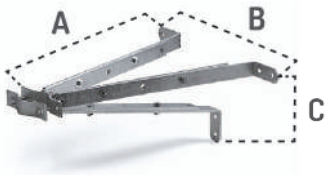
Expandable bracket, with tube or cylinder, electrolytic coating.

ZNESPTU10

Name	Code	Specifications	Pcs.
ZNESPTU10	287260	A: total length of bracket 10cm B: hole spacing 63mm U-bolt: tape 30 x 3mm, screws: M6 x 45mm QST for posts from Ø 25 to 45mm Tubing Ø 18 x 1.5mm.	50
ZNESPTU15	287261	A: total length of bracket 15cm B: hole spacing 63mm U-bolt: tape 30 x 3mm, Screws: M6 x 45mm QST for posts from Ø 25 to 45mm, Tube Ø 18 x 1.5mm, Expander M10 (Ø 18 x 60mm).	50
ZNESPTU20	287262	A: total length of bracket 20cm B: hole spacing 63mm U-bolt: tape 30 x 3mm, Screws: M6 x 45mm QST for posts from Ø 25 to 45mm posts, Ø 18 x 1.5mm tube, M10 expander (Ø 18 x 60mm)	50
ZNESPTO10	287268	A: total length of bracket 10cm B: hole spacing 95mm U-bolt: tape 30 x 4mm , Screws: M8 x 60mm QST for posts from Ø 30 to 60mm, Solid rod Ø 18, M10 expander (Ø 18 x 60mm)	50
ZNESPTO15	287269	A: total length of bracket 15cm B: hole spacing 95mm U-bolt, Tape 30 x 4mm, Screws: M8 x 60mm QST for from Ø 30 to 60mm posts, Solid rod Ø 18, M10 expander (Ø 18 x 60mm).	50
ZNESPTO20	287270	A: total length of bracket 20cm B: hole spacing 95mm U-bolt: tape 30 x 4mm, Screws: M8 x 60mm QST for from Ø 30 to 60mm posts, Solid rod Ø 18, M10 expander (Ø 18 x 60mm).	30

TRIPOD

Adjustable, hot-dip galvanised tripod support.



ZN3PREG

Name	Code	Specifications	Pcs.
ZN3PREG	287272	A: adjustable from 26 to 42cm B: min 35cm - max 43cm C: min 23cm - max 33cm Frame: flat 30 x 5mm - 3 fixing holes Ø 11mm Toothed brackets 2.5mm thick Screws M8 x 120mm For poles Ø from 30 to 55mm	12

WALL BRACKET

Hot-dip galvanised wall support.

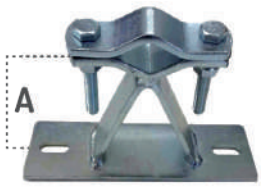
ZNPMEMILIA

Name	Code	Specifications	Pcs.
ZNPMEMILIA	287273	Plate: 250 x 70 x 5mm - 2 fixing slots 20 x 14mm U-bolt: 40 x 8mm - hole spacing 140mm Screws: M10 x 90mm for Ø from 40 to 90mm posts Hot-dip galvanising	12
ZNPMECONO	287274	Plate: 170 x 40 x 4mm - 2 fixing slots 15 x 10mm U-bolt: 40 x 4mm - hole spacing 95mm Screws: M8 x 60mm for posts from Ø 25 to 60mm Electrolytic galvanising	40

ACCESSORIES

REINFORCED BRACKETS

Hot-dipped zinc coating reinforced brackets.



ZNRINF

Name	Code	Specifications	Pcs.
ZNRINF	287275	Plate: 200 x 70 x 5mm - 2 fixing slots 15 x 10mm U-bolt: 40 x 4mm - hole spacing 95mm Screws: M8 x 60mm for posts from Ø 25 to 60mm Electrolytic galvanising	15
ZNRINF5	287276	A: 5cm Frame plate: 35 x 6mm Plate: 200 x 70 x 5mm - 2 fixing slots 20 x 11mm U-bolt: 35 x 6mm - hole spacing 100mm Screws: M10 x 60mm for from Ø 30 to 60mm posts	12
ZNRINF10	287277	A: 10cm Frame plate: 35 x 6mm Plate: 200 x 70 x 5mm - 2 fixing slots 20 x 11mm U-bolt: 35 x 6mm - hole spacing 100mm Screws: M10 x 60mm for from Ø 30 to 60mm posts	12
ZNRINF20	287278	A: 20cm Frame plate: 35 x 6mm Plate: 200 x 70 x 5mm - 2 fixing slots 20 x 11mm U-bolt: 35 x 6mm - hole spacing 100mm Screws: M10 x 60mm for from Ø 30 to 60mm posts	10

ECONOMIC BRACKETS

Hot-dipped zinc coating economic brackets.

ZNECONO10

Name	Code	Specifications	Pcs.
ZNECONO10	287279	A: 10cm Plate: 40 x 8mm Plate: 170 x 40 x 4mm - 2 fixing slots 15 x 10mm U-bolt: 40 x 4mm - hole spacing 95mm Screws: M8 x 60mm QST for posts from Ø 25 to 60mm Hot dip galvanised	25
ZNTELE20	287332	A: adjustable from 20 to 33cm Plate: 110 x 50 x4mm - 2 fixing slots 15 x 10mm Inner tube Ø 20 x 20 x 1,5mm Outer tube Ø 25 x 25 x 1,5mm U-bolt: 30 x 4mm - hole spacing 95mm Screws: M8 x 60mm QST for posts from Ø 25 to 60mm Electrolytic galvanising	25

CLEVIS

Hot-dip galvanised clevis, universal or with spacer.

CAV8DIST

CAV8UNIVERSAL

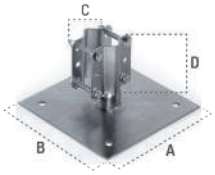
CAV8

Name	Code	Specifications	Pcs.
CAV8DIST	287280	A: 60mm - Plate 35 x 6mm U-bolts: flat 35 x 6mm - hole spacing 100mm For from Ø 30 to 60mm poles - Screws M10 x 60mm Hot dip galvanised	15
CAV8UNIVERSAL	287281	Plates: 90 x 90 x 2,5mm For poles from Ø 25 to 60mm Screws: M8 x 60mm QST Electrolytic galvanising	25
CAV8	287282	Tape: 30 x 4mm Screws: M6 x 40mm For Ø 25 - Ø 25mm poles Electrolytic galvanising	60

ACCESSORIES

PLATE

Flat surface plate. Slab, terrace plate. Hot-dipped zinc coating.



ZNSOLAI

Name	Code	Specifications	Pcs.
ZNSOLAI	287283	A: 200mm B: 200mm 3mm thick 4 fixing holes Ø 14mm C: 90mm D: 90mm 2.5mm thick M8 x 50mm screws for masts from Ø 30 to 50mm posts	20

FRENCH BRACKETS

Hot dip galvanised chimney brackets (French style).

ZNFRCAMNEW28

Name	Code	Specifications	Pcs.
ZNFRCAMNEW28	287285	28cm Projection 160mm Pipe socket Ø from 25 to 50mm	20
FRCAM32	287284	32cm 160mm projection Pipe socket Ø from 25 to 50mm	12
MEC6005	MEC6005	Galvanized tape 1kg, width 40mm, thickness 6/10.5m	5

WALL BRACKET

Reinforced U-shaped supports, wall integrated during construction, electrolytic galvanizing

ZNMURO

Name	Code	Specifications	Pcs.
ZNMURO	287288	A: 30cm - U-profile 30 x 15 x 4mm U-bolt: strip 30 x 4mm - hole spacing 95mm Screws: M8 x 60mm For Ø from 30 to 60mm poles	25

CHIMNEY SUPPORT

Hot dip galvanised chimney bracket (French style).

ZNCAMINO

Name	Code	Specifications	Pcs.
ZNCAMINO	287287	A: 14cm B: 27cm Ribbon: 30 x 3mm Screws: M6 x 45mm - turnbuckle eyes M6 U-bolt: 30 x 3mm - hole spacing 63mm For posts Ø from 25 to 45mm	30

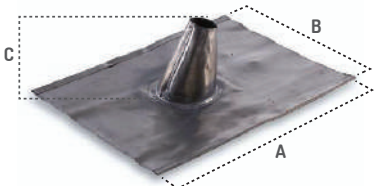
ACCESSORIES

MISC. ACCESSORIES

Accessories and mechanical supports.

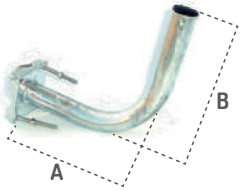
RALLATRIS

TENDIFILO

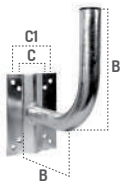


TEGOLAPIOMBO

CAPPUCCIOPVC



SUPUNIVERSAL



SUPMURO46

SUPCURVO180G

Name	Code	Specifications	Pcs.
RALLATRIS	287289	Tape 20 x 3mm M6 x 45mm QST screws For posts Ø from 25 to 45mm Electrolytic galvanising	100
TENDIFILO	287290	For rope Ø max. 5mm Electrolytic galvanising	100
TEGOLAPIOMBO	287293	A: 500mm B: 400mm C: 170mm Thickness mm 1 - lead quality 99.9% Round cap - For Ø from 40 to 80mm poles	5
CAPPUCCIOPVC	287294	A: 180mm For Ø from 35 to 60mm poles Soft PVC	200
SUPUNIVERSAL	287264	Tube Ø 40 x 1,4mm A: 260mm B: 250mm Plate: 100 x 100 x 2.5mm including threaded U-bolts with nuts Vertical/horizontal connection For masts Ø from 25 to 76mm Hot-dip galvanised	15
SUPUNIVERSAL-ST	287264-M	Tube Ø 40 x 1,5mm Height: 600mm Plate: 200 x 200 x 3mm Hot-dip galvanising	8
SUPMURO26	287265	Wall and pole mount Tube Ø 40 x 1.5mm A: 240mm B: 230mm Moulded plate 200 x 135 x 4mm (excluding threaded studs) 4 internal fixing holes Ø 10mm C: 80mm (centre distance) 4 external fixing holes Ø 12mm C1: 95mm Hot-dip galvanised	15
SUPMURO46	287266	Wall and pole mount Ø 40 x 1.5mm tube A: 440mm B: 230mm Moulded plate 200 x 135 x 4mm (excluding threaded studs) 4 internal fixing holes Ø 10mm C: 80mm (centre distance) 4 internal fixing holes Ø 12mm C1: 95mm (centre distance) Hot-dip galvanised	10
SUPCURVO180G	287267	Curved pole mount Tube Ø 40 x 1,5mm A: 400mm B: 240mm C: 350mm Hot-dip galvanising	8
PVP	210002	Panel aerial connector. Ø max. 60mm	20
PV10	210011	Fitting for vertical polarisation. Supports up to Ø max. 60mm. Pre-galvanized by fire	30
BA914	280674	Dish base (for dishes with Ø 90 to 140mm) Mast Ø = 76mm	1
STM1	281801	Wall bracket. Pole Ø = 40mm Thickness = 1.2mm	1
ZPL-R650	287179	Adjustable lightweight wall-mounted clamp. Adjustable projection from 450 to 650mm.	10
ZPL-R450	287180	Adjustable lightweight wall-mounted clamp. Adjustable projection from 300 to 450mm.	12
BA6	293400	Base for telescopic poles. Suitable for the ridge of Venetian roofs. Suitable for mast with Ø 25 - 48mm.	20

DISHES

PENTA

Offset steel or aluminium dishes with an equivalent diameter of 68 and 85cm.

PENTA85

DIGIT-G

DIGIT-R

Name		DIGIT	PENTA85
Frequency range	MHz	10700-12750	10700-12750
Dimensions	cm	62.4 x 62.4	77.5 x 77.5
Offset angle	°	22.3	22.1
Efficiency	%	≥ 70	≥ 70
Gain 10.95GHz	dB	36.5	39
Cross polarisation	dB	>37	>38
Side load	dB	<-32	<-34
Noise temperature (30° elevation)	k°	40	40
Front back ratio	dB	0.7	0.7
Beam width (3dB)		3	2.2
LNB Clamp	mm	23-28; 40; 60	23-28; 40; 60
Elevation angle	°	≤ 60	≤ 60
Mast clamp	mm	35-80	35-80
Bracket material		Steel - aluminium/zinc treated	Steel - aluminium/zinc treated
Wind load 150km/h 1139N/m²	kg	53 (519.8)	81 (794.3)

Single packaging

Diameter cm	Name	Code	Material	Colour	Dual feed	Mounting kit	Pcs.
68	**DIGIT-A**	211104	Steel	White	DFPDIGIT code 211003	ZNCDGT included	1
68	**DIGIT-GA**	211105	Steel	Grey	DFPDIGIT code 211003	ZNCDGT included	1
68	**DIGIT-RA**	211106	Steel	Brick red	DFPDIGIT code 211003	ZNCDGT included	1
68	**DIGIT**	211101	Aluminium	White	DFPDIGIT code 211003	ZNCDGT included	1
68	**DIGIT-G**	211102	Aluminium	Grey	DFPDIGIT code 211003	ZNCDGT included	1
68	**DIGIT-R**	211103	Aluminium	Brick red	DFPDIGIT code 211003	ZNCDGT included	1
85	**PENTA85-A**	211205	Steel	White	DFP85 code 211001	ZNC85 included	1
85	**PENTA85G-A**	211206	Steel	Grey	DFP85 code 211001	ZNC85 included	1
85	**PENTA85R-A**	211207	Steel	Brick red	DFP85 code 211001	ZNC85 included	1
85	**PENTA85**	211201	Aluminium	White	DFP85 code 211001	ZNC85 included	1
85	**PENTA85G**	211203	Aluminium	Grey	DFP85 code 211001	ZNC85 included	1
85	**PENTA85R**	211204	Aluminium	Brick red	DFP85 code 211001	ZNC85 included	1

Multiple packaging

Diameter cm	Name	Code	Material	Colour	Dual feed	Mounting kit	Pcs.
68	**DGTX10-A**	211112	Steel	White	DFPDIGIT code 211003	ZNCDGTX10 code 211110	10
68	**DGTX10-GA**	211116	Steel	Grey	DFPDIGIT code 211003	ZNCDGTX10 code 211110	10
68	**DGTX10**	211111	Aluminium	White	DFPDIGIT code 211003	ZNCDGTX10 code 211110	10
85	**P85X10-A**	211210	Steel	White	DFP85 code 211001	ZNC85X10 code 211208	10
85	**P85RX10-A**	211216	Steel	Brick red	DFP85 code 211001	ZNC85X10 code 211208	10
85	**P85GX10-A**	211217	Steel	Grey	DFP85 code 211001	ZNC85X10 code 211208	10
85	**P85X10**	211209	Aluminium	White	DFP85 code 211001	ZNC85X10 code 211208	10
85	**P85RX10-B**	211211	Aluminium	Brick red	DFP85 code 211001	ZNC85X10 code 211208	10
85	**P85GX10-B**	211212	Aluminium	Grey	DFP85 code 211001	ZNC85X10 code 211208	10

DISHES

OFFSET DISHES 60 - 85cm

Offset steel or aluminium dishes with 60, 80 and 85cm diameter.

PO60APX5

Name		RO60AP	RO60A	RO80AP	RO80SC	RO85AP
Dimensions	cm	63 x 59	63.2 x 58.3	76.8 x 84.6	81 x 75	91 x 83.7
Offset angle	°	23	21	23	22.75	21
Front back ratio	dB	0.65	0.66	0.66	0.66	0.66
Elevation angle	°	20/55	0/90	0/80	0/50	1/60
Mast clamp	mm	25-50	20-50	30-60	30-60	30-60
Bracket material		Composite	Steel	Steel	Composite	Steel
Colour		White	Light grey	White	Light grey	Grey
Efficiency	%	≥ 70	≥ 69	≥ 75	≥ 75	≥ 70
Gain						
10.7GHz	dB	34.4	34.3	37.0	37.6	37.4
11.7GHz	dB	35.0	35.1	37.7	38.2	38.2
12.7GHz	dB	36.4	35.9	38.5	38.6	38.9
Wind load 120km/h 720N/m²	kg	34 (333.4)	34 (333.4)	55.2 (541.3)	55.2 (541.3)	70 (686.5)

Single packaging

Diameter cm	Name	Code	Dish	Material	Dual feed	Mounting kit	Pcs.
80	**P80APN**	211316	RO80SC	Steel	DF80SC code 287422	ZO80SC code 287404 included	1
85	**PO85AS**	287411	RO85AP	Aluminium	-	ZNO85PX5G code 289829 included	1

Multiple packaging

Diameter cm	Name	Code	Dish	Material	Dual feed	Mounting kit	Pcs.
60	**PO60APX5**	287185	RO60AP	Steel	-	ZNO60AP code 287187 included	5
60	**RO60AX10**	280610	RO60A	Steel	-	ZNO60AC code 289279	10
60	**RO60APX400**	287186	RO60AP	Steel	-	ZNO60AP code 287187	400
80	**PO80SCX50**	287402	RO80SC	Steel	DF80SC code 287422	ZO80SC code 287404 included	50
80	**RO80APX50**	289479	RO80AP	Steel	DFAN code 289487	ZNO80APN code 289480	50
85	**RO85APX5G**	289828	RO85AP	Aluminium	-	ZNO85PX5G code 289829	5

DISHES

OFFSET DISHES 100 - 150cm

Offset steel or aluminium dishes with diameters from 100 to 150cm.

(*) TP: Pole head, PP: Through pole

PT100C

Name		RO100C	RO100AC	RO100AP	RO120N	RO125AP	RO150
Dimensions	cm	97 x 104	97 x 104	103.2 x 95.2	124.5 x 133.5	134.5 x 124	161.4 x 148.8
Offset angle	°	21	21	23	21.3	23	21.3
Front back ratio	dB	0.66	0.66	0.66	0.66	0.66	0.66
Elevation angle	°	5-96 TP; 5-38 PP (*)	5-96 TP; 5-38 PP (*)	0-90	20-50	0-90	8-78 TP; 8-38 PP (*)
Mast clamp	mm	30-90	30-90	35-60	55-100	40-60	55-100
Bracket material		Steel	Steel	Steel	Steel	Steel	Steel
Colour		Light grey	White	Grey	White	Grey	White
Efficiency	%	≥ 70	≥ 70	≥ 72	≥ 70	≥ 74	≥ 70
Gain							
10.7GHz	dB	39.7	39.7	39.4	41.1	41.0	42.6
11.7GHz	dB	40.2	40.2	40.0	41.9	41.6	43.4
12.7GHz	dB	40.5	40.5	40.6	42.6	42.4	44.2
Wind load 120km/h 720N/m²	kg	91 (892.4)	91 (892.4)	91 (892.4)	162 (1589)	160 (1569)	235 (2305)

Single packaging

Diameter cm	Name	Code	Dish	Material	Dual feed	Mounting kit	Pcs.
100	**PT100C**	289291	RO100C	Aluminium	DFO100C code 289294	ZNO100C code 289285 included	1
100	**PT100AC**	289293	RO100AC	Steel	DFO100C code 289294	ZNO100C code 289285 included	1
125	**RO120N**	289197	RO120N	Aluminium	DFO120N code 289199	AZO120N code 289196	1
150	**RO150**	289139	RO150	Aluminium	DFO120N code 289199	AZO150 code 289140	1

Multiple packaging

Diameter cm	Name	Code	Dish	Material	Dual feed	Mounting kit	Pcs.
100	**RO100ACX6**	289299	RO100AC	Steel	DFO100C code 289294	ZNO100C code 289285	6
100	**RO100APX5G**	289830	RO100AP	Aluminium	DFAN code 289487	ZNO100PX5 code 289831	5
125	**RO125APX3G**	289832	RO125AP	Aluminium	-	ZNO125PX3 code 289833	3

LNB

UNIVERSAL LNB

The **UX series LNBs** guarantee excellent signal reception and are suitable for all requirements: from the simple single installation to the most complex multi-user and centralised installations.

UX-S LTE

Name	Code	Description	Gain dB	Consumption mA	LTE protection dB
UX-S LTE	287337	Single LNB with single universal output and LTE filter, **approved by Sky Italia**	60	110 @12V	-54
UX-TW LTE	287338	Twin LNB with 2 universal outputs and LTE filter	55	130 @12V	-70
UX-TW LTE FR	287424	Twin LNB with 2 universal outputs and LTE filter on UX-QT LTE chassis	60	150 @12V	-54
UX-QD LTE	287339	Quad LNB with 4 universal outputs and LTE filter, **approved by Sky Italia**	55	150 @12V	-70
UX-OCTO LTE	287340	Octo LNB with 8 universal outputs and LTE filter	55	200 @12V	-54
UX-QT LTE	287302	LNB with 4 outputs with separate H/V polarity, **approved by Sky Italia**	57	160 @12V	-60
UX-WB LTE	287541	**Wideband LNB** with **2 outputs**, separate H/V polarity (L.O. 10.410MHz)	55	100 @12V	-70
UX-MBS6 LTE	287139	6° monoblock LNB with single universal outputs	55	110 @12V	-70
UX-MBTW6 LTE	287140	6° monoblock LNB with 2 universal outputs	55	190 @12V	-70
UX-MBQD6 LTE	287141	6° monoblock LNB with 4 universal outputs	55	190 @12V	-70

SCD2 LNB (dCSS)

LNB with an SCD2 (dCSS) output capable of serving up to 4 SCR SAT decoders and, simultaneously, the **new SKY-Q SCD2 (dCSS) decoder**, expanding the channels present in TV distribution.

The LNB starts in **static mode with 24 Sky and tivùsat transponders**, a useful function for pointing without an SCR or dCSS-compatible instrument.

SCD2-16 LNB

Name		SCD2-16LNB
Code		287421
Input frequency	GHz	10.7-11.7 / 11.7-12.75
Outputs	No.	1
User	No.	4 SCR, 12 SCD2 (dCSS)
Output frequency	MHz	1210, 1420, 1680, 2040 (supports the EN50494 standard) 985, 1050, 1115, 1275 1340, 1485, 1550, 1615 1745, 1810, 1875, 1940 (supports the EN50494 standard)
Gain	dB	65
Max. output level SAT per TS	dBµV	84
Power supply	V	11.5-19
Consumption	mA	360 @12V

Installation example

KIT

SAT KIT

Satellite KIT with satellite dish, mounting kit and LNB.

P80APK

Name	Code	Specifications
KIT60SC	287473	The KIT contains: • 1 x PO60SC dish with included mounting KIT • 1 x LNB UX-S LTE (code 287337)
P80APK	211308	The KIT contains: • 1 x dish with PO80SC mounting KIT (code 287402) • 1 x LNB UX-S LTE (code 287337)
P85AK	211220	The KIT contains: • 1 x PENTA85-A dish with ZNC85 mounting KIT (code 211205) • 1 x LNB UX-S LTE (code 287337)

SAT ACCESSORIES

DiSEqC

In line switches with DiSEqC control over coaxial cable, controlled by satellite receivers via DiSEqC commands.

Name		DSQ21J	DSQ41J
Code		289588	289589
Band	GHz	950 - 2300	950 - 2300
Inputs	No.	2	4
Outputs	No.	1	1
Insertion loss	MHz	4	4
DISEqC	dB	2.0	2.0
Isolation	dBµV	35	35
Pcs.		1	1

DSQ21J

DSQ41J

Electronics

FILTERS

LTE FILTER 48

MX FILTER 700

LTE and FM

Indoor and outdoor LTE and FM filters to limit any interference due to 4G and 5G LTE or FM signals with IP66 weather protection rating. **MX filter** with PVC outdoor protective housing and ZAMA die-cast chassis for high shielding from interference.

- **High selectivity up to 35dB @ LTE or FM**
- **Low insertion loss**
- Weather protection for outdoor mounting up to IP66
- Single input and single output

Name	Code	Inputs No.	Inputs MHz	Return loss dB	Insertion loss dB	Selectivity dB	Filtered band MHz	Dimensions mm	Pcs.
FM Filter	226714	1	108-862	< -12	<1.5	> 30 (88 -108MHz)	87 - 108	70 x 20 x 20	1
LTE Filter 48	226715	1	DC-694	< -10	<1.5	> 30 (704MHz)	694 - 862	70 x 20 x 20	1
MX Filter 700	226716	1	DC-694	< -12	<1 (According to ETSI EN 303 354)	> 35 (704MHz According to ETSI EN 303 354)	694 - 862	120 x 50 x 105	1

MIXERS AND DEMIXERS

MX TTTT EVO

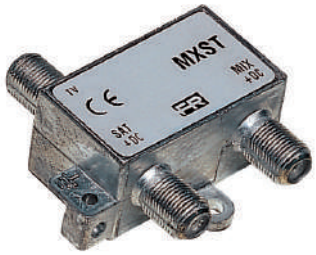
MX EVO

Multi-input, pole mounted mixers/demixers for amplifying and combining signals from one or more aerials. **ZAMA die-cast chassis** with metal covers for high noise shielding. F type connectors with the **innovative locking system of the PVC outdoor protective cover** enables quick and easy installation.

- Suitable for installation on poles up to Ø 60mm
- Operating temperature: -10 to 55°C
- Return loss ≥10dB
- Dimensions 120 x 50 x 105mm

Name	Code	Inputs No.	Input 1	Input 2	Input 3	Input 4	Outputs	VHF/UHF loss dB	Pcs.
MX TT EVO	223273	2	FM+3+DAB+UHF (+dc)	FM+3+DAB+UHF (+dc)	-	-	1	3.5/4	1
MX TTTT EVO	223275	4	FM+3+DAB+UHF (+dc)	FM+3+DAB+UHF (+dc)	FM+3+DAB+UHF (+dc)	FM+3+DAB+UHF (+dc)	1	6.5/7	1
MX 3U EVO	223271	2	FM+3+DAB	UHF (+dc)	-	-	1	0.7/0.2	1
MX 3U 2OUT EVO	223272	2	FM+3+DAB	UHF (+dc)	-	-	2	4.3/3.6	1
MX TSAT EVO	223279	2	FM+3+DAB+UHF	SAT (+dc and DiSEqC)	-	-	1	0.1/0.5	1
MX FM3U EVO	223278	3	FM	3+DAB	UHF (+dc)	-	1	1.3/0.7	1
MX 3UU EVO	223274	3	FM+3+DAB	UHF	UHF (+dc)	-	1	0.4/3.8	1
MX 345 EVO	223277	3	3+DAB	IV	V (+dc)	-	1	1/1	1
MX 345U EVO	223276	4	3+DAB	IV	V	UHF (+dc)	1	1.2/1.2	1

INDOOR MIXERS



MXST

MIX TV+SAT

TV and SAT mixers for indoor use which can also be used as demixers. Two versions available with standard and high isolation between inputs.

- **High isolation between inputs**
- Operating temperature -10 to +55°C

Name	Code	Inputs No.	Input 1	Input 2	Outputs	VHF/UHF loss dB	Return loss dB	Dimensions mm	Pcs.
MXST	226400	2	TV (47-862MHz)	SAT + DC (950-2150MHz)	1	0.5	15	48 x 50 x 20	20
PAS0303011	PAS0303011	2	TV (47-862MHz)	SAT + DC (950-2150MHz)	1	0.5	10	48 x 50 x 20	10

LINE AMPLIFIERS

AT14LTE59

AT

Indoor/outdoor TV wideband VHF+UHF line amplifiers with 14dB gain.

- Built-in LTE filter CH59 or CH60
- IP66 degree of protection
- 12VDC power supply

4G LTE 790 MHz

Name	Code	Inputs No.	Inputs bands	Gain dB	Output level dBµV	Noise figure dB	Current consumption mA	Pcs.
AT14LTE59	226712	1	VHF + UHF	14	115	2	30	1
AT14LTE60	226713	1	VHF + UHF	14	115	2	30	1

POLE MOUNTED AMPLIFIERS

ES1/RVU

ES

Pole mounted amplifiers for signals from one or more aerials. The amplifiers are **remote powered via the output cable** with 12VDC.

- Suitable for installation on poles up to Ø 60mm
- Operating temperature -10 to 55°C
- Dimensions: 74 x 36 x 58mm

Name	Code	Inputs No.	Frequency MHz	Gain dB	Output level dBµV	Noise figure dB	Current consumption mA	Pcs.
ES1/Q	226905	1	174 - 862	12	115	4	28	10
ES1/RVU	226909	2	470 - 862	4 - 12	115	4	27	10
ES2/Q	226913	1	174 - 862	22	115	4	50	10
ES2RT	226912	1	47 - 862	8 - 23	115	4	50	10

POLE MOUNTED AMPLIFIERS

MAP2r345U T2

MAP EVO T2

Pole mounted multi input amplifiers, designed and manufactured by Fracarro, with output level up to 116dBµV in the UHF band, independent gain adjustment (0-15dB) for each input and low noise figure.

- Clipper feature on higher gain models (40 and 42dB): automatically limits device gain to ensure maximum RF output level and minimise intermodulation. Unique system with an LED that lights up when active.
- LTE filter to eliminate 4G and 5G LTE interference
- Case provides connections with excellent protection from the elements.
- High interference shielding due to the die-cast ZAMA chassis with metal covers covering the amplifier section.
- **RED Compliant**: the range is designed to meet the latest technological updates and all models have been carefully sized to ensure full compliance with regulatory requirements.
- Low noise figure.
- Remote power feed through on UHF inputs and power indication LED on all models.
- Suitable for installation on poles up to Ø 60mm.
- Operating temperature: -10 to 55°C.
- **Also available in aerial kits.**
- (*) version available for special calibration on cutoff between band IV and band V; standard 35/36, special 30/31, 31/33, 40/42 and 41/43.
- (**) model with 2 outputs.

Name	Code	Inputs No.	Inputs bands	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB	Current consumption mA
MAP2r3+U T2	223753	1	III+DAB + UHF	III+DAB: 112; UHF: 116	III+DAB: 20; UHF: 25	III+DAB: 15; UHF: 15	III+DAB: 5; UHF: 4	80 @12V
MAP4r3+U T2+	223751	1	III+DAB + UHF	III+DAB: 112; UHF: 116	III+DAB: 22; UHF: 42	III+DAB: 15; UHF: 15	III+DAB: 6; UHF: 4	125 @12V
MAP4rU T2+	223752	1	UHF	UHF: 116	UHF: 42	UHF: 15	UHF: 3	100 @12V
MAP3r3U T2	223755	2	III+DAB, UHF	III+DAB: 112; UHF: 116	III+DAB: 21; UHF: 28	III+DAB: 15; UHF: 15	III+DAB: 5; UHF: 4	80 @12V
MAP3r3+UU T2	223756	2	III+DAB + UHF, UHF	III+DAB: 112; UHF: 116	III+DAB+UHF: 28; UHF: 28	III+DAB+UHF: 15; UHF: 15	III+DAB: 7; UHF: 7	60 @12V
MAP4r3U T2+	223754	2	III+DAB, UHF	III+DAB: 112; UHF: 116	III+DAB: 22; UHF: 42	III+DAB: 15; UHF: 15	III+DAB: 5; UHF: 3	125 @12V
MAP3r3UU T2	223757	3	III+DAB, UHF, UHF	III+DAB: 112; UHF: 116	III+DAB: 21; UHF: 28; UHF: 28	III+DAB: 15; UHF: 15; UHF: 15	III+DAB: 6; UHF: 7	105 @12V
MAP3r3UU 2 5G	223776	3	III+DAB, UHF, UHF (**)	III+DAB: 112; UHF: 116	III+DAB: 26; UHF: 28; UHF: 28	III+DAB: 15; UHF: 15; UHF: 15	III+DAB: 5; UHF: 7	140 @12V
MAP4r3UU T2+	223758	3	III+DAB, UHF, UHF	III+DAB: 112; UHF: 116	III+DAB: 22; UHF 40; UHF 40	III+DAB: 15; UHF 15; UHF 15	III+DAB: 5; UHF: 7	125 @12V
MAP2r345U T2	223759	4	III+DAB, IV, V, UHF	III+DAB: 112; UHF: 116	III+DAB: 21; IV: 25; V: 25; UHF: 25	III+DAB: 15; IV: 15; V: 15; UHF: 15	III+DAB: 5; UHF: 7	80 @12V
MAP2r345U3133T2	223749	4	III+DAB, IV, V, UHF; special calibration 31/33	III+DAB: 112; UHF: 116	III+DAB: 21; IV: 25; V: 25; UHF: 25	III+DAB: 15; IV: 15; V: 15; UHF: 15	III+DAB: 5; UHF: 7	80 @12V
MAP2r345U T2/..	223750	4	III+DAB, IV, V, UHF (*)	III+DAB: 112; UHF: 116	III+DAB: 21; IV: 25; V: 25; UHF: 25	III+DAB: 15; IV: 15; V: 15; UHF: 15	III+DAB: 5; UHF: 7	80 @12V
MAP3IU LTE700	223729	1	UHF	UHF: 118	UHF: 30	UHF: 15	UHF: 3	90 @24V
MAP4rU LTE700+	223704	1	UHF	UHF: 116	UHF: 42	UHF: 15	UHF: 3	100 @24V
MAP3rFM+3U 700	223711	2	FM+III+DAB, UHF	III+DAB: 112; UHF: 116	FM+III+DAB: 22; UHF: 28	FM+III+DAB: 15; UHF: 15	III+DAB: 5; UHF: 4	85 @24V

POLE MOUNTED AMPLIFIERS

MAP2r3Upass LTE

MAP EVO

Pole mounted multi input amplifiers for amplifying and mixing signals from one or more aerials. **ZAMA die-cast chassis with metal covers for high noise shielding**. F type connectors with an **innovative locking system of the PVC** outdoor protective cover for quick and easy installation.

Separate VHF/UHF amplification and management and easy insertion of remote power supply. Power indication LED on all models. **The entire range of amplifiers fully complies with regulatory requirements regarding Radio Spectrum Electromagnetic Compatibility and Safety (RED compliant)**.

- Suitable for installation on poles up to Ø 60mm
- Operating temperature: -10 to +55°C
- 12VDC power supply
- Models available at 790MHz

Name	Code	Inputs No.	Inputs bands	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB	Current consumption mA
MAP2r3Upass LTE	223724	2	III+DAB, UHF(+dc)	III+DAB: 110; UHF: -	III+DAB: 21; UHF: -	III+DAB: 15; UHF: -	III+DAB: 6; UHF: -	35 @12V
MAP2rFM3USAT	223716	4 (DC pass-through and DiSEqC tones between output and SAT input)	FM, III+-DAB, UHF, SAT	III+DAB: 112; UHF: 116	FM: 22; III+DAB 20; UHF: 25; SAT: -1	FM: 15; III+DAB: 15; UHF: 15; SAT: -	FM: 6; III+DAB: 6; UHF: 6; SAT: -	80 @12V

MAP EVO KIT

MAP4r3P+U T2+K

Name	Code	Frequency MHz	Description
MAP3IU LTE700K	223730	470 - 694	MAP3IU LTE700 and 24V PSU
MAP4rU LTE700+K	223718	470 - 694	MAP4rU LTE700+ and 24V PSU
MAP3rFM+3U700K	223717	470 - 694	MAP3RFM+3U 700 and 24V PSU
MAP4r3+U T2+ K	223743	470 - 694	MAP4r3+U T2+ and 12V PSU
MAP4r3U T2+ K	223744	470 - 694	MAP4r3U T2+ and 12V PSU
MAP4r3UU T2+ K	223742	470 - 694	MAP4r3UU T2+ and 12V PSU
MAP3r3UU 2 5G K	223778	470 - 694	MAP3r3UU 2 5G and 12V PSU
MAP2rFM3USATK	223719	470 - 790	MAP2rFM3USAT and 12V PSU

POLE MOUNTED AMPLIFIERS

MAP4r345UPRO5G

MAP PRO 5G

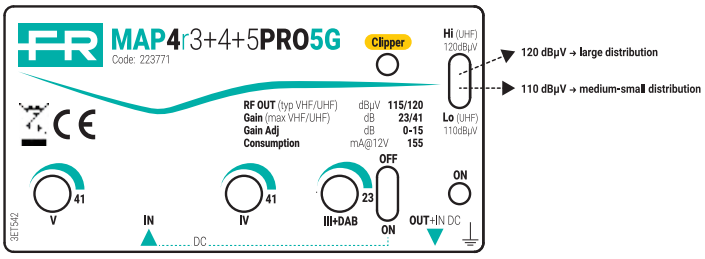
Pole mounted high performance multi input amplifiers, designed and manufactured by Fracarro, with high **output level up to 120dBµV** in the UHF band, independent gain control (0-15dB) for each input; **low noise figure**.

- **Hi/Lo selector** to set the maximum signal level in the UHF band
- **Innovative 'Clipper' feature**
- **LTE filter** to eliminate 4G and 5G LTE interference
- Case provides connections with excellent protection from the elements.
- **High interference shielding** due to the die-cast ZAMA chassis with metal covers covering the amplifier section.
- **RED Compliant**: the range is designed to meet the latest technological updates and all models have been carefully sized to ensure full compliance with regulatory requirements.
- **Remote power** feed through on UHF inputs and power indication LED on all models.
- Suitable for installation on poles up to Ø 60mm
- Operating temperature: -10 to +55°C
- 15dB gain adjustment
- (*) version available for special cut-off between band IV and band V; standard 35/36, special 30/31, 31/33, 40/42 and 41/43.

Name	Code	Inputs No.	Inputs bands	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB	Current consumption mA
MAP4r3+4+5PRO5G	223771	1	III+DAB + 4 + 5 (separate adjustment)	III+DAB: 115; UHF: 120	III+DAB: 23; IV: 41; V: 41	III+DAB: 15; IV: 15; V: 15	III+DAB: 7; UHF: 6	155 @12V
MAP4r3UUPRO5G	223770	3	III+DAB, UHF, UHF	III+DAB: 115; UHF: 120	III+DAB: 23; UHF: 40; UHF: 40	III+DAB: 15; UHF: 15; UHF: 15	III+DAB: 7; UHF: 5	150 @12V
MAP4r345UPRO5G	223769	4	III+DAB, 4, 5, UHF	III+DAB: 115; UHF: 120	III+DAB: 23; IV: 40; V: 40; UHF: 40	III+DAB: 15; IV: 15; V: 15; UHF: 15	III+DAB: 7; UHF: 5	150 @12V
MAP4r345UPRO5G/	223772	4	III+DAB, 4, 5, UHF (*)	III+DAB: 115; UHF: 120	III+DAB: 23; IV: 40; V: 40; UHF: 40	III+DAB: 15; IV: 15; V: 15; UHF: 15	III+DAB: 7; UHF: 5	150 @12V

High/Low selector

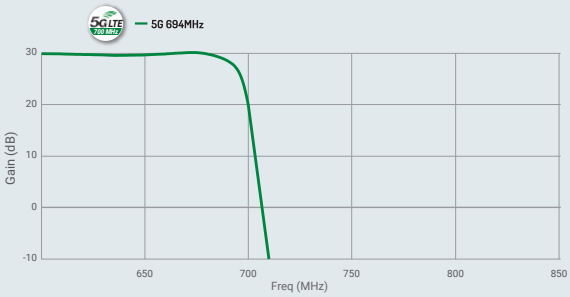
The feature allows **the maximum UHF output signal level to be adjusted to two different levels**.
This makes it possible to quickly set the correct UHF level according to the size of the coaxial system to be served.



Amplifiers with internal 5G filter

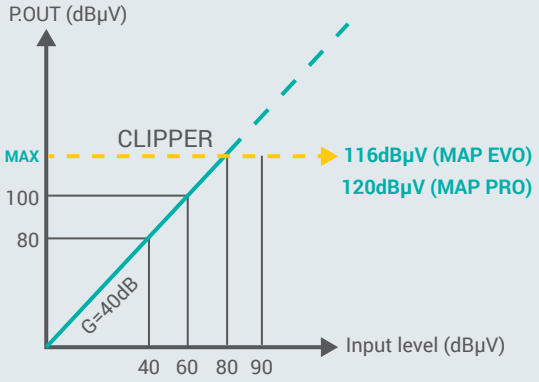
Fracarro offers a **range of solutions for TV amplification** characterised by features capable of simplifying system management.
The T2 Rev. 01 series pole mounted and indoor amplifiers are equipped with **internal 4G and 5G LTE filters** to eliminate all interference occupying the UHF band above 694MHz.

Amplifiers with internal 5G filter



All programmable headends and 5G and T2 Rev. 01 amplifiers feature the **built in 5G and 4G LTE filter** that **eliminates all interference caused by telephone repeaters in the UHF band above 694MHz**.

CLIPPER functionality



Automatically limits the device gain to ensure the **maximum stated RF output level** thereby minimising intermodulation, meeting the Radio Spectrum, Electromagnetic Compatibility and Safety requirements (RED compliant). This feature also acts as an **automatic gain control**, maintaining the maximum output level as the input signal changes and an **LED that lights up when the feature is active**.

STABILISED POWER SUPPLIES

AM50N

AM

The AM linear stabilised power supplies cover numerous requirements both in terms of current output (50 to 100mA) and number of outputs (one or two). **Insulation class II** with terminal connectors. **They meet quality and safety standards** and are equipped with self-resetting protection devices in case of short circuits.

- Output voltage 12VDC
- Operating temperature: -10 to +55°C
- Clamp connectors
- Isolation class II
- Supply voltage 220-230Vac 50-60Hz
- Dimensions 50 x 87 x 46mm

Name	Code	Outputs No.	Output voltage V	Max. current mA	Frequency MHz	Plug type	Insertion loss dB	Pcs.
AM50N	289112	1	12	50	5 - 862	Type C	0.2	20
AM100N	289113	1	12	100	5 - 862	Type C	0.2	20
AM102N	289119	2	12	100	5 - 862	Type C	4	20

MINIPOWER12P

PSU and MINI POWER

Efficient, low power switch mode power supplies with fully shielded metal case to prevent interference. Available with 12 or 24VDC output voltage.

- Multiple installation options facilitated by plastic housing
- Protected against short circuits, operation resumes when the short circuit is removed.
- Output voltage 12VDC or 24VDC
- Operating temperature -10 to +55°C
- F connectors
- Insulation class II
- Supply voltage 220-240Vac 50-60Hz

Name	Code	Outputs No.	Output voltage V	Max. current mA	Frequency MHz	Plug type	Insertion loss dB	Dimensions mm
MINIPOWER12P	270021	1	12	200	5 - 862	Type C	0.5	42 x 56 x 38
MINIPOWER12	270020	1	12	200	5 - 862	Clamp	0.5	42 x 56 x 38
PSU412	289562	2	12	200	5 - 862	Type C	4	92 x 49 x 109
PSU511	289851	1	12	200	5 - 2400	Type C	2	92 x 49 x 109
MINIPOWER24P	270023	1	24	130	5 - 862	Type C	0.5	42 x 56 x 38
MINIPOWER24	270024	1	24	130	5 - 862	Clamp	0.5	42 x 56 x 38
PSU342	289564	2	24	100	5 - 862	Type C	4	92 x 49 x 109

MINIPOWER12

PSU342

INDOOR AMPLIFIERS

MINIBOOST

MINI BOOST

Wideband amplifier designed to achieve high efficiency in an extremely compact size which is fully shielded to prevent interference with F type connections.

- Green LED showing product operation
- Supply voltage 220-230V
- Isolation class II
- Operating temperature 0 to +45°C

Name	Code	Inputs No.	Inputs bands	Outputs No.	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB
MINIBOOST	270025	1	III+DAB + UHF	2	115	12	-	VHF+UHF: 4

AFI121T

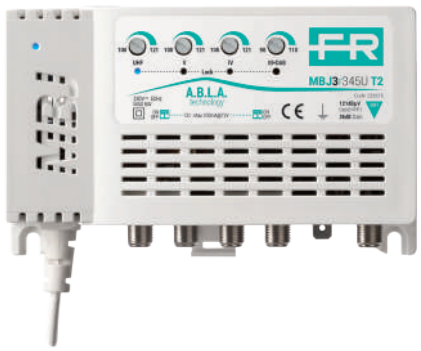
AFI

Indoor multi-input amplifiers, designed and manufactured by Fracarro, with **output level up to 120dBµV** in the UHF band and independent gain adjustment (0-20dB) for each input and **low noise figure**.

- **A.B.L.A. (Automatic Building Level Adjustment)** feature that keeps the output level, set by dedicated trimmers, constant even when the input signal changes. Exclusive system.
- **LTE filter** to eliminate 4G and 5G signals, minimising the loss of throughput and additional equipment required compared to using an external filter.
- **High shielding to LTE interference** and innovative protective shell made of flame retardant **ABS material** (Class V0).
- The overall dimensions of the new chassis have been designed for **easy installation in wall mounted boxes** or for installation on a standard **DIN rail**.
- Highly efficient switching power supply (>80%) equipped with self-resetting protection devices in case of short circuit; 220-230V supply voltage and insulation class II.
- Operating temperature -10 to +55°C.
- **Also available in** aerial **kits.**
- (*) version available for special calibration on cutoff between band IV and band V; standard 35/36, special 31/33, 40/42 and 41/43.

Name	Code	Inputs No.	Inputs bands	Outputs No.	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB
AFI121T	223231	1	VHF + UHF	2	105	VHF: 15; UHF: 15	-	VHF+UHF: 4
AFI112T	223230	1	VHF + UHF	1	108	VHF: 20; UHF: 20	VHF: 15; UHF: 15	VHF+UHF: 4
AFI122T	223233	1 (with return channel and fixed slope on the TV band)	VHF + UHF	2	106, 108	RC: 10; VHF: 15; UHF: 20	RC: 15; VHF: 15; UHF: 15	RC: 5.5; VHF: 5.5; UHF: 5.5
AFI313T	223236	3 (with separate settings)	FM, III+DAB, UHF	1	110	FM: 25; VHF: 25; UHF: 30	FM: 15; VHF: 15; UHF: 15	FM+VHF+UHF: 4.5
AFI123T	223235	1 (with separate adj V/U)	VHF + UHF	2	106	VHF: 30; UHF: 30	VHF: 15; UHF: 20	VHF+UHF: 4.5
AFI123W	223237	1 (with separate adj TV+SAT)	VHF + UHF + SAT	1	100	VHF: 25; UHF: 25; SAT: 30	VHF+UHF: 20; SAT: 20	VHF+UHF: 5.5; SAT: 6.5

MULTIBAND AMPLIFIERS



MBJ3R345U T2

MBJ EVO T2

Indoor multi-input amplifiers, designed and manufactured by Fracarro, with **output level up to 120dBµV** in the UHF band and independent gain adjustment (0 - 20dB) for each input and **low noise figure**.

- **A.B.L.A**. (Automatic Building Level Adjustment) **feature** that **keeps the output level**, set by dedicated trimmers, **constant** even when the input signal changes. **Exclusive system.**
- **5G filter:** to eliminate 4G and 5G LTE interference above 694MHz, **minimising the loss of throughput and equipment** in junction boxes compared to using an external filter.
- **High shielding to LTE interference** and innovative protective shell made of **flame retardant ABS** material (Class V0).
- The overall dimensions of the new switchboard have been designed for easy installation in wall-mounted **flush mounted boxes**; it has also been prepared for installation on a standard **DIN rail** (quick-disconnect system).
- High efficiency switching power supply (>80%) and **self-resetting short circuit protection** circuit; 220-230V supply voltage and insulation class II.
- Operating temperature: -10 to +55°C.
- **Also available in aerial kits.**
- (*) version available for special calibration on cutoff between band IV and band V; standard 35/36, special 31/33, 40/42 and 41/43.

Name	Code	Inputs No.	Inputs bands	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB
MBJ2r3+4+5 T2	223617	1	III+DAB + IV + V	III+DAB: 110; UHF: 115	III+DAB: 25; IV: 25; V: 25	III+DAB: 20; IV: 20; V: 20	III+DAB: 6; UHF: 9
MBJ3r3+4+5 T2	223620	1	III+DAB + IV + V	III+DAB: 110; UHF: 120	III+DAB: 35; IV: 35; V: 35	III+DAB: 20; IV: 20; V: 20	III+DAB: 6; UHF: 6
MBJ3r3U T2	223621	2	III+DAB, UHF	III+DAB: 110; UHF: 120	III+DAB: 35; UHF: 35	III+DAB: 20; UHF: 20	III+DAB: 6; UHF: 6
MBJ2r3UU T2	223619	3	III+DAB, UHF, UHF	III+DAB: 110; UHF: 115	III+DAB: 20; UHF: 20; UHF: 20	III+DAB: 20; UHF: 20; UHF: 20	III+DAB: 6; UHF: 9
MBJ3r3UU T2	223616	3	III+DAB, UHF, UHF	III+DAB: 110; UHF: 120	III+DAB: 32; UHF: 32; UHF: 32	III+DAB: 20; UHF: 20; UHF: 20	III+DAB: 6; UHF: 9
MBJ3rFM+3UU 700	223612	3	FM+III+DAB, UHF, UHF	III+DAB: 110; UHF: 120	FM+III+DAB: 32; UHF: 32; UHF: 32	FM+III+DAB: 20; UHF: 20; UHF: 20	FM+III+DAB: 6; UHF: 9
MBJ2r345U T2	223618	4	III+DAB, IV, V, UHF	III+DAB: 110; UHF: 115	III+DAB: 20; IV: 20; V: 20; UHF: 20	III+DAB: 20; IV: 20; V: 20; UHF: 20	III+DAB: 6; UHF: 9
MBJ2r345U T2/..	223622	4	III+DAB, IV, V, UHF (*)	III+DAB: 110; UHF: 115	III+DAB: 20; IV: 20; V: 20; UHF: 20	III+DAB: 20; IV: 20; V: 20; UHF: 20	III+DAB: 6; UHF: 9
MBJ3r345U T2	223615	4	III+DAB, IV, V, UHF	III+DAB: 110; UHF: 120	III+DAB: 35; IV: 35; V: 35; UHF: 35	III+DAB: 20; IV: 20; V: 20; UHF: 20	III+DAB: 6; UHF: 9
MBJ3r345U3133T2	223624	4	III+DAB, IV, V, UHF; special tuning 31/33	III+DAB: 110; UHF: 120	III+DAB: 35; IV: 35; V: 35; UHF: 35	III+DAB: 20; IV: 20; V: 20; UHF: 20	III+DAB: 6; UHF: 9
MBJ3r345U T2/..	223623	4	III+DAB, IV, V, UHF (*)	III+DAB: 110; UHF: 120	III+DAB: 35; IV: 35; V: 35; UHF: 35	III+DAB: 20; IV: 20; V: 20; UHF: 20	III+DAB: 6; UHF: 9

A.B.L.A. functionality

MBJ EVO T2 series indoor amplifiers equipped with **A.B.L.A. functionality** which **keeps the set output level constant** as the input signal changes. Each input is equipped with an **LED** that enables immediate detection of whether the input RF levels are within the correct operating range and whether the dedicated A.B.L.A. circuits are maintaining a constant output level, even for high input signal dynamics (more than 25dB of variation). **Unique system** with LED that lights up when the feature is active.

A.B.L.A. LED lighting

Input level per channel (-12dB x 32ch)	Overall output level (dBµV -12dB x 32ch)										
	A.B.L.A.	100				110					120
85	ON	✸	✸	✸	✸	✸	✸	✸	✸	✸	✸
75	ON	✸	✸	✸	✸	✸	✸	●	●	●	●
65	ON	✸	●	●	●	●	●	●	●	●	●
55	OFF	●	●	●	●	●	●	●	●	●	●

MULTIBAND AMPLIFIERS

J31B

J

Push-Pull line amplifiers with excellent bandwidth characteristics, manufactured with shielded components, mains powered and with F connections.

- Compliant with EN 60065 and EN 50083-2
- Operating temperature: -10 to +55°C
- Supply voltage 220-230V 50-60Hz
- Insulation class II

Name	Code	Inputs No.	Inputs bands	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB
J21B	223023	1	III+DAB + UHF	124	VHF+UHF: 21	VHF+UHF: 20	VHF+UHF: 10
J31B	223024	1	III+DAB + UHF	124	VHF+UHF: 31	VHF+UHF: 20	VHF+UHF: 10

MULTIBAND AMPLIFIERS

MBX5740 T2

MBX T2

Indoor mains powered multi-input amplifiers to mix and amplify the signals from different aerials, designed and manufactured by Fracarro, with **high output level up to 125dBµV** in UHF band and **high gain up to 43dB**, **independent gain adjustment** (0-20dB) for each input and low noise figure.

- **High output level**
- -30dB test output available on all models
- Adjustments on the inside, under the cover, to prevent tampering
- **Switch mode power supply with high efficiency and low consumption**
- Remote power supply available on each input, 100mA total
- Supply voltage 220-230V Isolation class II
- Operating temperature: -10 to +55°C

Name	Code	Inputs No.	Inputs bands	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB
MBX5710 T2	235125	1	VHF + UHF	III+DAB: 122; UHF: 125	III+DAB: 43; UHF: 43	III+DAB: 20; UHF: 20	III+DAB: 4.5; UHF: 6
MBX5720 T2	235126	2	VHF, UHF	III+DAB: 122; UHF: 125	III+DAB: 43; UHF: 43	III+DAB: 20; UHF: 20	III+DAB: 4.5; UHF: 6
MBX5541 T2	235124	4	FM, III+DAB, UHF, UHF	FM: 122; III+DAB: 122; UHF: 125	FM: 31; III+DAB: 33; UHF: 31; UHF: 31	FM: 20; III+DAB: 20; UHF: 20; UHF: 20	FM: 4.5; III+DAB: 4.5; UHF: 7.5
MBX5741 T2	235123	4	FM, III+DAB, UHF, UHF	FM: 122; III+DAB: 122; UHF: 125	FM: 35; III+DAB: 38; UHF: 43; UHF: 43	FM: 20; III+DAB: 20; UHF: 20; UHF: 20	FM: 4.5; III+DAB: 4.5; UHF: 7.5
MBX5741 T2UK	235127	4	FM, III+DAB, UHF, UHF	FM: 122; III+DAB: 122; UHF: 125	FM: 35; III+DAB: 38; UHF: 43; UHF: 43	FM: 20; III+DAB: 20; UHF: 20; UHF: 20	FM: 4.5; III+DAB: 4.5; UHF: 7.5
MBX5540 T2	235122	4	III+DAB, IV, V, UHF	III+DAB: 122; UHF: 125	III+DAB: 33; IV: 31; V: 31; UHF: 31	III+DAB: 20; IV: 20; V: 20; UHF: 20	FM: 4.5; III+DAB: 4.5; UHF: 7.5
MBX5740 T2	235121	4	III+DAB, IV, V, UHF	III+DAB: 122; UHF: 125	III+DAB: 38; IV: 43; V: 43; UHF: 43	III+DAB: 20; IV: 20; V: 20; UHF: 20	III+DAB: 4.5; UHF: 7.5

AMP9764

AMP

Satellite amplifiers with active or passive mixing of the terrestrial TV signal. Can be used as a **launch amplifier in an IF system or as TV and SAT line amplifiers** and allow gain and slope adjustment in the SAT band.

- **High noise shielding** due to die cast metal chassis with F-connectors and captive screw cover
- -30dB test output available on all models
- Internal adjustments to prevent unauthorised tampering.
- Low RF band insertion loss
- High performance, low power switch mode power supply; 220-230V supply voltage and insulation class II
- Operating temperature -10 to +55°C

Name	Code	Inputs No.	Inputs bands	Output level dBµV	Gain dB	Gain adjustment dB	Noise figure dB
AMP9762	235051	1	RC + VHF + UHF	127	RC: 20; TV: 45	RC: 20; TV: 20 (20 slope)	RC+TV: 8
AMP9762UK	235054	1	RC + VHF + UHF	127	RC: 25; TV: 42	RC: 20; TV: 20 (20 slope)	RC+TV: 3
AMP9763	235052	1	RC + VHF + UHF + SAT	TV: 127; SAT: 125	RC: 20; TV: 45; SAT: 41	RC: 20; TV and SAT: 20 (20 slope)	RC+TV: 8; SAT: 10
AMP9763AU	235057	1	RC + VHF + UHF (694MHz) + SAT	TV: 127; SAT: 125	RC: 25; TV: 42; SAT: 41	RC: 20; TV and SAT: 20 (20 slope)	RC+TV: 8; SAT: 10
AMP9564	223371	2	RC + FM + VHF + UHF, SAT	TV: - ; SAT: 120	TV: -2; SAT: 37-43 (sloped)	TV: - ; SAT: 15	TV: - ; SAT: 7
AMP9764	235053	2	VHF + UHF, SAT	TV: - ; SAT: 125	TV: -2; SAT: 40	TV: - ; SAT: 20	TV: - ; SAT: 10

PROGRAMMABLE HEADENDS

eMAP3 5G

Self programming

Flexible 3 input multiband self programming headend for external pole mounting, to carry out high selectivity filtering with up to 90dBµV output level for each filter.
The **auto equalisation of the output signal** enables the compact headend to also be used in difficult reception situations.

- **Self equalising**: the product scans all the input signals and automatically amplifies all receivable channels, equalising them on the output port automatically.
- **Repeated Mux Conversion**: when there are iso-frequency channels on different inputs, it is possible via a dip-switch to maintain only the stronger channel and remove the weaker or to relocate weaker channels on 4G and 5G LTE frequencies.
- **The eMAP3 5G can filter, convert, amplify and distribute** many DVB-T/T2 digital terrestrial multiplexes available in both VHF and UHF bands.
- **Correct equalisation of output signals**.
- Iso-frequency filtering or channel conversion.
- **Automatic Gain Control (AGC) on every single mux.**
- **4G and 5G LTE filtering.**
- **Quick and easy to install.**

Name		eMAP3 5G
Code		223777
Input		
Inputs	No.	3
Input	MHz	3 x VHF/UHF
Filter		Flexible Matrix 32/1
VHF + DAB band	MHz	174 - 240
UHF band	MHz	470 - 694 (5G >40dB filter)
Gain adjustment	dB	>60 (auto AGC)
Maximum input level UHF	dBµV	40 - 100
Outputs		
Max. output level	dBµV	90 (for each filter VHF/UHF)
Outputs	No.	1
Selectivity	dB	50 @1MHz
MER	dB	III+DAB/UHF: 35
Specifications		
Power supply	V	12-15 (289087 - SPS1750 included)
Consumption	W	4.2
Dimensions	mm	120 x 105 x 60
Operating temperature	°C	-5 to +50

PROGRAMMABLE HEADENDS

FRPRO LIGHT 5G

Programmable

FRPRO EVO are programmable headends for highly selective filtering of TV channels.
The **FRPRO LIGHT 5G headend** (287629), with external power supply included, also integrates the new self equaliser and repeated mux conversion features.

- The headends can filter, convert, amplify and distribute many DVB-T2/T digital terrestrial multiplexes available in both VHF and UHF bands.
- Correct equalisation of output signals
- Isofrequency filtering or channel conversion.
- Automatic Gain Control (AGC) on every single mux.
- 4G and 5G LTE filtering.
- Quick and easy to install and programme with built in keypad, display and real time readout of input and output levels.
- Power supply included.

Name		FRPRO LIGHT 5G	FRPRO LIGHT HD	FRPRO EVO HD
Code		287629	287523	287434
Input				
Inputs	No.	3	4	5
Input	MHz	FM+VHF+UHF, 2 x VHF/UHF	FM, VHF+DAB, UHF1, UHF2	B1+FM, 4x VHF/UHF
Filter		Flexible Matrix 32/1..6	Flexible Matrix 15/1..6	Flexible Matrix 32/1..6
Frequency FM	MHz	-	88 - 108	47 - 108
VHF + DAB band	MHz	174 - 240	174 - 240	174 - 240
UHF band	MHz	470-694 (5G >40dB filter)	470-862 or 470-790 or 470-694 AUTO LTE Filter	470-862 or 470-694 AUTO LTE Filter
Gain adjustment	dB	>60 (auto AGC)	>60 (auto AGC)	>75 (auto AGC)
Outputs				
Max. output level	dBµV	108 (for each filter VHF/UHF)	108 (for each filter VHF/UHF)	118 (for each filter VHF/UHF)
Level adjustment	dB	20	20	20
VHF gain adjustment	dB	15	15	15
Selectivity	dB	50 @1MHz	50 @1MHz	50 @1MHz
MER	dB	III+DAB / UHF: 35	III+DAB / UHF: 35	III+DAB / UHF: 35
Output test	dB	-	-30	-30
Specifications				
Power supply	Vac,Hz	-	100-230 / 50-60	100-230 / 50-60
Power supply	V	12-15 (289087 - SPS1750 included)	-	-
Consumption	W	9	12	15
Remote power supply	mA (V)	100 (12/24)	100 (12/24)	100 (12/24)
Dimensions	mm	195 x 165 x 50	217 x 165 x 59	217 x 165 x 59
Operating temperature	C°	-5 to +50	-5 to +50	-5 to +50

INDOOR MODULATORS

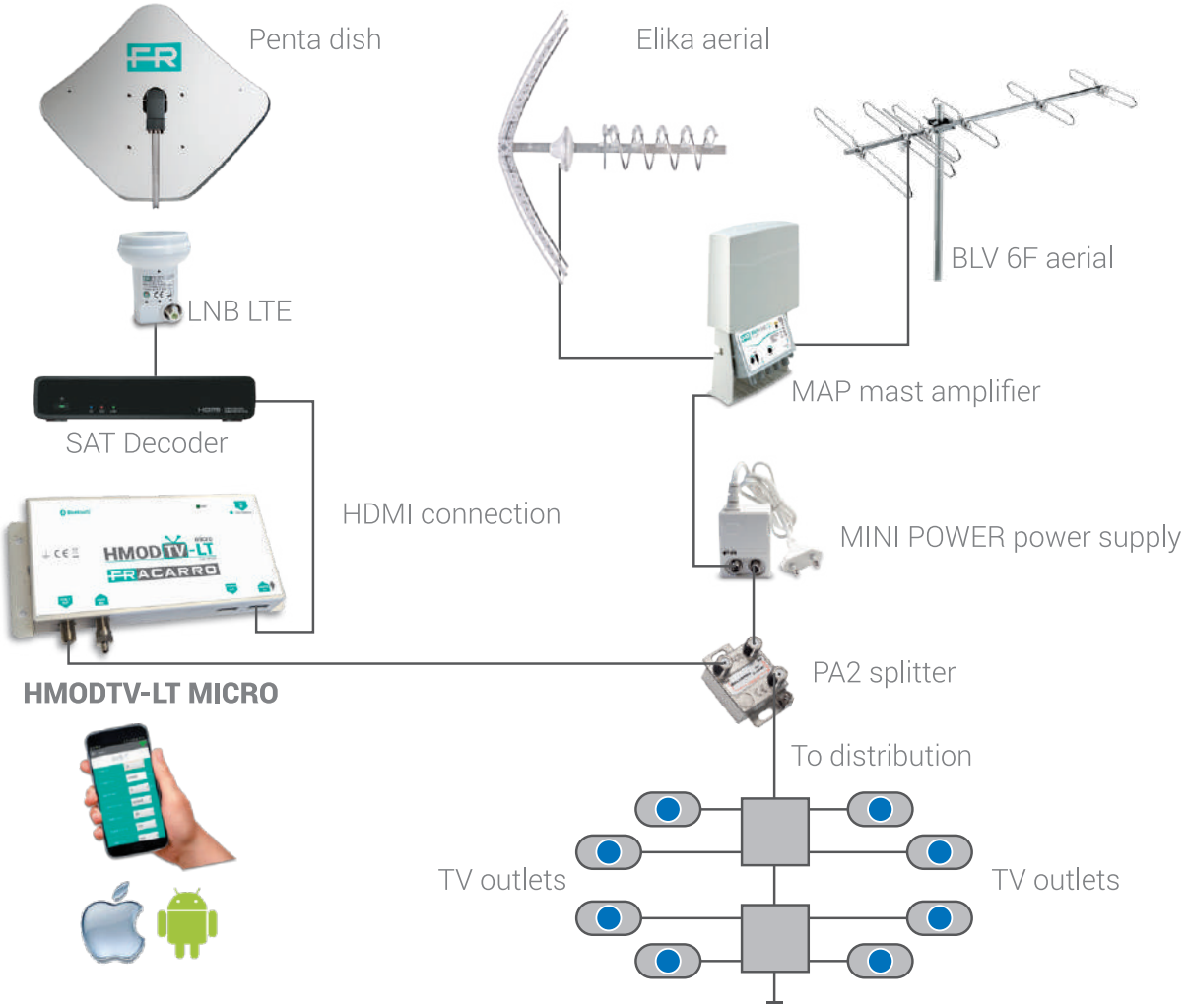
HMODTV-LT

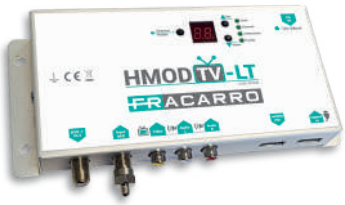
Digital modulators

High quality DVB-T 'Home' digital indoor modulators **with HDMI input** and analogue stereo baseband video with a digital terrestrial RF output. **Excellent resolution (full HD 1920 x 1080 - 30p) and high modulation quality (35dB MER)** make the modulators the ideal solution for converting and distributing an HD or analogue source (e.g. from audio/video player, computer or CCTV camera) in a home network using DVB-T technology.

- **Easy to install** with programming via keypad and display or, on the MICRO version, via Bluetooth. Free app available.
- **Signal combining from aerial** or other modulator.
- **HDMI loop-through** available on all models.
- MPEG-4 AVC/H.264 video encoding with full HD 1920 x 1080 - 30p resolution.
- VHF and UHF output band with typically >35dB MER on the UHF channel.
- Miniaturised metal chassis for **high** interference **shielding** and heat dissipation.

Installation diagram





HMODTV-LT

HMODTV-LT MINI

HMODTV-LT MICRO

Name		HMODTV-LT	HMODTV-LT MINI	HMODTV-LT MICRO
Code		287544	287546	287545
Inputs		3 (HDMI, RCA, RF DVB-T MIX)	2 (HDMI, RF DVB-T MIX)	2 (HDMI, RF DVB-T MIX)
Outputs		2 (RF DVB-T, HDMI LT)	2 (RF DVB-T, HDMI LT)	2 (RF DVB-T, HDMI LT)
Input				
Video		MPEG-4 AVC / H.264	MPEG-4 AVC / H.264	MPEG-4 AVC / H.264
Video profile		High Profile 4.0	High Profile 4.0	High Profile 4.0
Video resolution		1920 x 1080 @30fps HDMI	1920 x 1080 @30fps HDMI	1920 x 1080 @30fps HDMI
Video bitrate	Mbps	1-19 (adjustable)	1-19 (adjustable)	1-19 (adjustable)
Audio type		HDMI & Mono/Stereo	HDMI	HDMI
Standard Audio		MPEG-1 Layer II, MPEG-2, AAC, AC3	MPEG-1 Layer II, MPEG-2, AAC, AC3	MPEG-1 Layer II, MPEG-2, AAC, AC3
Bitrate audio	Kbps	64, 96, 128, 192, 256, 320, 384	64, 96, 128, 192, 256, 320, 384	64, 96, 128, 192, 256, 320, 384
Audio Level	Vpp	0.5 - 1 (adjustable)	0.5 - 1 (adjustable)	0.5 - 1 (adjustable)
Outputs				
Transponder no.		1	1	1
Standard output		DVB-T (EN300744)	DVB-T (EN300744)	DVB-T (EN300744)
Channel		E5-E12, E21-E69	E5-E12, E21-E69	E5-E12, E21-E69
Frequency	MHz	174-230, 470-862	174-230, 470-862	174-230, 470-862
Tuning step	KHz	1000	1000	1000
Bandwidth	MHz	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8
Carriers		2K, 8K	2K, 8K	2K, 8K
Modulation		QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
Guard interval		1/4, 1/8, 1/16, 1/32	1/4, 1/8, 1/16, 1/32	1/4, 1/8, 1/16, 1/32
FEC		1/2, 2/3, 3/4, 5/6, 7/8	1/2, 2/3, 3/4, 5/6, 7/8	1/2, 2/3, 3/4, 5/6, 7/8
Max. output level	dBµV	90	90	90
Level adjustment	dB	20	20	20
MER	dB	35 @UHF	35 @UHF	35 @UHF
Mixed band	MHz	47-862	47-862	47-862
Insertion loss	dB	1 Typical	1 Typical	1 Typical
LCN		Yes (Nordig, ITC/UK, EICTA/Europe, New Zealand)		
Specifications				
Load/save configuration		Keyboard and display; PC SW over USB	Keyboard and display; PC SW over USB	Bluetooth (version 4.0 or higher)
Configurable parameters		Service name, service ID, video PID, audio PID, PMT PID, TSID, ONID, network ID, provider name		
Power supply	V	12	12	12
Current consumption	mA	400	400	400
Operating temperature	°C	0 to +50	0 to +50	0 to +50
Dimensions	mm	160 x 89 x 28	160 x 89 x 28	160 x 89 x 28

Headends

COMPACT HEADENDS

D-MATRIX 4S EVO

D-MATRIX4S FTA

D-MATRIX 8T

D-MATRIX

The **D-Matrix compact headend** is able to receive satellite or digital terrestrial content, in HD or SD, coming from different and independent inputs and remodulate them onto "customised" RF output multiplexes. The **universal Common Interface slots** allow the D-MATRIX compact headend to decrypt any required encrypted programs by using the proper professional CAM and smart card.

- **Fully manageable** parameters**:** possibility to fully manage the parameters of all digital multiplexes and individual programs (LCN, SID, PDSD, NIT, ...)
- **Ad hoc mux:** possibility to create your own mux by choosing the programs required from any input (SAT or DTT independent sources) and manage all descriptor parameters of individual programs (LCN, SID, PID, Program name...) and muxes (ONID, TSID, NetID, etc.)
- **ARP 2.0:** Automatic Recovery Procedure allows safeguarding of higher priority programs and ensures continuity of service when the input data flow exceeds what is allowed, returning everything to the initial configuration when the overall bit rate is within the parameters
- **Web based interface:** the setup of the compact headend is even more intuitive. In addition, basic programming can also be done using the on-board keyboard and display
- **Multi-function USB port** for uploading/downloading existing configurations, updating module firmware, and playing audio/video files contained in the external pendrive (supported file format .TS)

Name			D-MATRIX 4S EVO	D-MATRIX 4S FTA	D-MATRIX 8T
Code			283132	283135	283133
Inputs					
	Inputs		4	4	8 TV tuners (2 tuners for each F connector)
	Demodulators		DVB-S2 (8-PSK, QPSK), DVB-S (QPSK)	DVB-S2 (8-PSK, QPSK), DVB-S (QPSK)	DVB-T2, DVB-T, DVB-C (selectable)
	Band	MHz	950-2150	950-2150	174-862
	Input AFC	MHz	±5	±5	±400 (DVB-T2/T), ±100 (DVB-C)
	Symbol rate	Msymb/sec	2-45	2-45	-
	FEC		1/2, 2/3, 3/4, 5/6, 7/8, AUTO	1/2, 2/3, 3/4, 5/6, 7/8, AUTO	1/2, 2/3, 3/4, 5/6, 7/8 Reed Solomon (204, 188)
	Remote power supply	mA	400mA@18V max	400mA@18V max	200 max (12V)
	LNB controls		DiSEqC 1.0	DiSEqC 1.0	-
	Level	dBµV	50-80	50-80	55-85
Outputs					
	Multiplexes created		4 (2 pairs of adjacent digital multiplexes)	4 (2 pairs of adjacent digital multiplexes)	8 (2 groups of 4 adjacent digital multiplexes)
	Output		S2-E69	S2-E69	S2-E69
	Frequency	MHz	111-862	111-862	111-862
	Tuning step	KHz	250	250	250
	Level	dBµV	95	95	95
	Level adjustment	dB	0 to 20	0 to 20	0 to 20
	Flatness	dB	±1.5	±1.5	±1.5
	MER	dB	≥36	≥36	≥36

Name			D-MATRIX 4S EVO	D-MATRIX 4S FTA	D-MATRIX 8T
Outputs					
	Spurious	dB	<-50	<-50	<-50
	Spectrum		Normal, inverted	Normal, inverted	Normal, inverted
	Operating mode		Normal, single carrier	Normal, single carrier	Normal, single carrier
DVB-T modulation					
	Modulation		QPSK, 16-QAM, 64-QAM	QPSK, 16-QAM, 64-QAM	QPSK, 16-QAM, 64-QAM
	Single channel band	MHz	6,7,8	6,7,8	6,7,8
	Carriers		2k, 8k	2k, 8k	2k
	Guard interval		1/4, 1/8, 1/16, 1/32	1/4, 1/8, 1/16, 1/32	1/4, 1/8, 1/16, 1/32
	FEC		1/2, 2/3, 3/4, 5/6, 7/8	1/2, 2/3, 3/4, 5/6, 7/8	-
DVB-C modulation					
	Modulation		16QAM, 32QAM, 64QAM, 128QAM, 256QAM	16QAM, 32QAM, 64QAM, 128QAM, 256QAM	-
	Single channel band	MHz	Related to output symbol rate	Related to output symbol rate	-
	FEC		Reed Solomon (204, 188)	Reed Solomon (204, 188)	-
	Symbol rate	Msymb/sec	Related to output symbol rate	Related to output symbol rate	-
Specifications					
	USB		SW update and video playback (type A, FAT32 filesystem, .TS file playback)	SW update and video playback (type A, FAT32 filesystem, .TS file playback)	SW update and video playback (type A, FAT32 filesystem, .TS file playback)
	Programming mode		Web interface, keyboard and front display	Web interface	Web interface, keyboard and front display
	Power supply	V, Hz	184-264 / 50-60	184-264 / 50-60	184-264 / 50-60
	Consumption	W	42 (2 x CAM inserted)	38	42 (2 x CAM inserted)
	Common interface		2 x PCMCIA (Standard EN50221, TS10169) Flex CAM or Standard Mode	-	2 x PCMCIA (Standard EN50221, TS10169) Flex CAM or Standard Mode
	Dimensions	mm	360 x 230 x 54	305 x 230 x 54	360 x 230 x 54
	Conformity		EN50083-2, EN60065	EN50083-2, EN60065	EN50083-2, EN60065
	Operating temperature	C°	-10 to +50; -10 to +45 (with CAM)	-10 to +50	-10 to +50; -10 to +45 (with CAM)

COMPACT HEADENDS

XDG 8S2-8T

XDG

XDG 8S2-8T is the high performance Fracarro digital compact headend dedicated to the management of medium sized multi-user systems.

It enables you to receive both **encoded programs** and the **main international free-to-air programs** from 8 satellite transponders (DVB-S/S2/S2X). The headend is capable of transmodulating the programs received in the 8 DVB-T or DVB-C digital terrestrial multiplexes it is supplied with, to make them available for coaxial distribution.

The **embedded web interface** allows programming of even the most advanced parameters and allows local and remote configurations to be saved.

- **Compact** "all-in-one" **headend**
- **Dual installation mode**: can be installed in a 19" rack (1RU standard) or for wall installation
- Up to **8 x DVB-S/S2/S2X independent inputs**
- 8 x DVB-T or 8 x DVB-C output multiplexes (selectable output modulation during configuration)
- **3 independent Common Interface slots** to insert ProCAMs and professional smart-cards (not included)
- **Forced ventilation**
- **Web interface embedded** for the management of all parameters
- **Management of the advanced parameters** of each individual program (PID filtering, SID, NIT, LCN, ONID, etc.)
- SNMP protocol supported

		XDG 8S2-8T
Code		287649
Inputs		
Inputs		8
Demodulators		DVB-S (EN300421) DVB-S2 (EN 302307-1 v1.4.1) DVB-S2X (EN 302 307-2 v1.1.1)
Symbol rate	Msymb/sec	1.5-45 (< 40 MSymb/s in 32-APSK) @ DVB-S
Remote power supply	mA	250mA per input - 1000mA (total per device)
LNB controls		DiSEqC 1.0
Level	dBµV	43-84
Outputs		
Multiplexes created		8
Output		S2-E69
Level adjustment	dB	0 to 20
Level	dBµV	95 @ DVB-C/DVB-T
MER	dB	≥40 dB @ DVB-C, ≥36 dB @ DVB-T
DVB-T modulation		
Modulation		16-QAM, 64-QAM
Carriers		8k mode (DVB-T)
Guard interval		1/4, 1/8, 1/16, 1/32 @ DVB-T
DVB-C modulation		
Modulation		32QAM, 64QAM, 128QAM, 256QAM
Single channel band	MHz	Related to output symbol rate
Symbol rate	Msymb/sec	From 1 to 7.5 MSymb/s (DVB-C)
Specifications		
Connectors		9x F-Female (8x RF input, 1x RF output), 1x RJ45 (100 Base-T for configuration)
Programming mode		Web interface
Power supply	V, Hz	100-240 / 50-60
Consumption	W	50
Common interface		3 x PCMCIA (Standard EN50221, TS10169)
Dimensions	mm	485 x 275 x 45
Operating temperature	C°	-10 to +50; -10 to +45 (with CAM)

MODULAR HEADENDS

GALAXIA chassis

GALAXIA is Fracarro's **professional high density solution** suitable for multi-user systems. Modular and flexible, the GALAXIA headend meets all the distribution requirements of satellite, digital terrestrial or content coming from external sources.

Numerous applications include: hospitality (**hotels, villages, campsites, resorts**) educational (schools, university campuses), health (hospitals, nursing homes), prisons, ships, institutional buildings and all multi-user facilities in general.

GALAXIA enables you to manage not only the contents received from satellite or digital terrestrial antennas, but also those coming from an **IPTV system** and then make them available again for coaxial distribution or IPTV multicast distribution. Ideal for distributing IPTV programs through a GPON infrastructure, the headend features many advantages.

- **Mechanical 1RU** standard 19" rack
- **Dual power supply** as standard (high redundancy)
- Forced ventilation
- **6 "hot-swappable" slots** available on rear panel
- **4 x RJ45 GE ports** on the front panel (2 ports for management, 2 ports for streaming IP in/IP out)
- Supports up to **120 IPTV inputs and 120 IPTV outputs streams** (SPTS / MPTS)
- Different modules available to manage different input sources (i.e. **DVB-S2 / S2X, DVB-T2, DVB-C, HDMI, descrambling,** etc).
- **WEB interface based headend**: user friendly HTML web interface to set every parameter
- Ideal for distributing IPTV content through GPON infrastructure
- **SNMP & HTTP protocols supported**
- **MTBF:** ≥100000 hours

Galaxia chassis

		GX-BOX-DP
Code		287635
Slot		6 slots for hot-swappable modules
Power supply	V, Hz	100-240 / 50-60
Supply mode		Dual redundant power supply
Consumption	W	120
Ethernet interface		4 RJ45 ports GbE (on board)
Dimensions	mm	480 x 440 x 44.45
Operating temperature	°C	-10 to +50; -10 to +45 (with CAM)

MODULAR HEADENDS

GALAXIA SAT receivers

GALAXIA series **SAT modules are** multi-input **receivers** capable of receiving and tuning up to **four DVB-S/S2/S2X** Free-To-Air or encoded **satellite transponders** by sharing all received content in the "POOL" of the GALAXIA main chassis.

- 2 x DVB-S/S2/S2X SAT tuners matched to each coaxial F-Female connector in the version with 2 Slot C.I. on board
- 4 x DVB-S/S2/S2X independent SAT tuners in the FTA version
- 2 **PCMCIA Common Interface** slots **to decrypt** programs from any of the 4 input tuners (in the version with 2 Slot C.I. on board)
- **Independent remote power supply** for each SAT input connector
- **"Hot-swappable"** module
- **On-board WEB interface:** programming of all parameters is easily done via HTML web interface

GX-4S2CI-BP-01

GX-4S2FTA-BP-01

			GX-4S2CI-BP-01	GX-4S2FTA-BP-01
Code			287637	287636
Front-end				
	Inputs		4 SAT tuners (2 tuners for each F-female connector)(CH1 & CH2 on LNB-1, CH3 input & CH4 on LNB-2 input)	4 independent SAT inputs
	Input band	MHz	950-2150	950-2150
	Input level	dBµV	38-88	38-88
	LNB controls		DiSEqC 1.0	
	Remote power supply	mA	400 max	400 max
	Demodulators		• DVB-S: QPSK, 8PSK • DVB-S2: QPSK, 8PSK, 16APSK, 32APSK • DVB-S2X: QPSK, 8PSK, 16APSK, 32APSK, 64APSK	
	FEC		• DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8 • DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 • DVB-S2X: 11/15, 7/9, 4/5, 5/6 (Normal FEC FECFRAME)	
	Symbol rate	Msymb/sec	DVB-S: 1 to 45 DVB-S2: 1 to 45 DVB-S2X: from 1 to 34	DVB-S: from 1 to 45 DVB-S2: from 1 to 45 DVB-S2X: from 1 to 34
Specifications				
	Connectors		2x F-female (RF)	4x F-female (RF)
	Consumption	W	22	30
	Common interface		2 x PCMCIA (Standard EN50221, TS10169)	Not available
	Dimensions	mm	270 x 115 x 20	270 x 115 x 20
	Operating temperature	°C	-5 to +50	-5 to +50

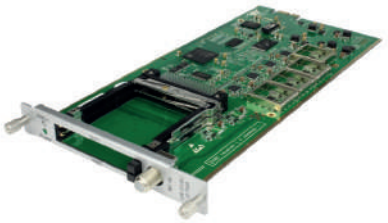
MODULAR HEADENDS

GALAXIA COFDM/QAM receivers

The **GALAXIA COFDM/QAM modules are** multi-input **receivers** capable of receiving and tuning up to **four** Free-To-Air or encoded **digital multiplexes** by sharing all received content in the "POOL" of the GALAXIA main chassis.

- 1 x RF Coaxial Input **(F Female)**
- Tunes up to 4 **DVB-T/T2** digital terrestrial multiplexes (Version **GX-4T2CI-BP-00**)
- Tunes up to 4 **DVB-C** (QAM Annex A/C) multiplexes (Version **GX-4C2CI-BP-00**)
- 2 x **PCMCIA Common Interface** Slots capable of decoding programs received from any of the 4 tuners
- **"Hot-swappable"** module
- **On-board WEB interface:** programming of all parameters is easily done via HTML web interface

GX-4T2CI-BP-00



GX-4C2CI-BP-00

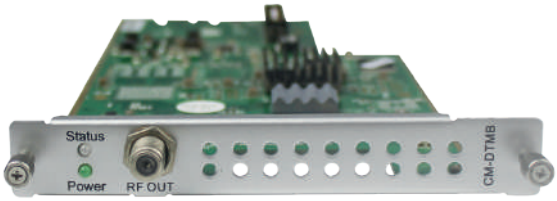
			GX-4T2CI-BP-00	GX-4C2CI-BP-00
Code			287641	287644
Front-end				
	Inputs		Four channels via 1x F female connector	4 QAM multiplexes available on a female F connector
	Input band	MHz	47-862	47-862
	Input level	dBµV	30-88	40-80
	Bandwidth		6,7,8	6,7,8
	Demodulators		• DVB-T: QPSK/16QAM/64QAM • DVB-T2: QPSK/16QAM/64QAM/256QAM	• DVB-C: 16QAM/32QAM/64QAM/128QAM/256QAM
	FEC		• DVB-T: 1/4, 1/8, 1/16, 1/32 • DVB-T2: 1/4, 1/8, 1/16, 1/32, 1/128, 19/256, 19/128	•
	Symbol rate	Msymb/sec	-	From 3.6 to 6.952
Specifications				
	Connectors		1x F-female (RF)	1x F-female (RF)
	Consumption	W	8	9.5
	Common interface		2 x PCMCIA (Standard EN50221, TS10169)	2 x PCMCIA (Standard EN50221, TS10169)
	Dimensions	mm	270 x 115 x 20	270 x 115 x 20
	Operating temperature	C°	-5 to +50	-5 to +50

MODULAR HEADENDS

GALAXIA COFDM/QAM modulators

GALAXIA digital multi-modulators are equipped with an RF coaxial output connector (F Female) and are capable of creating up to **8 digital terrestrial multiplexes (in the DVB-T version)** or up to **16 digital QAM multiplexes (in the DVB-C Annex A/C version)**. The multi-modulator is the ideal and efficient transmodulation solution for the distribution of programs tuned by satellite or digital terrestrial modules placed in the same chassis or available for sharing on the same **GALAXIA** backplane, even those IPTV programs in multicast input.

- 1 RF coaxial output connector **(F Female)**
- Up to 16 digital **DVB-C output** multiplexes **(QAM version)**
- Up to 8 digital terrestrial **DVB-T output** multiplexes **(COFDM version)**
- **Hot-swappable** module
- **On-board WEB interface:** programming of all parameters is easily done via HTML web interface



GX-BP-8T-R01A

GX-BP-16C-R00

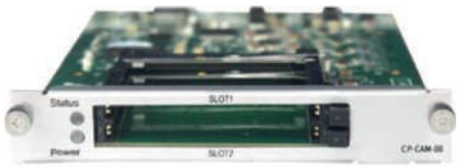
			GX-BP-8T-R01A	GX-BP-16C-R00
Code			287638	287642
Modulation				
	Standard		DVB-T: QPSK/16QAM/64QAM (ETSI EN 300744)	ITU-T J.83 Annex A/C (16QAM/32QAM/64QAM/128QAM/256QAM)
	Guard interval	dB	1/4, 1/8, 1/16, 1/32	-
	Carriers	dBµV	2k, 8k	-
	Symbol rate	Mbit/s	-	3.6 to 6.9
RF output				
	Outputs		8 Mux via 1x F female connector	16 Mux via 1x F female connector
	Output frequency	dB	47-862	47-862
	Max. output level	dBµV	85-105	85-106
	MER	dB	>42	>40
Specifications				
	Connectors		1 x F-female (RF)	1 x F-female (RF), 1 x RJ45
	Consumption	W	27	22
	Dimensions	mm	270 x 115 x 20	270 x 115 x 20
	Operating temperature	°C	-5 to +50	-5 to +50

MODULAR HEADENDS

GALAXIA descrambler

The **GALAXIA descrambler** module is equipped with two PCMCIA Common Interface slots. The module decodes programs that are multiplexed on different IP/RF channels or those shared by modules embedded in the **GALAXIA** main chassis.

- 2 x **PCMCIA Common Interface** slots
- Hot-swappable module
- **On-board WEB interface:** programming of all parameters is done via HTML web interface



GX-2CI-BP-00

			GX-2CI-BP-00
Code			287640
Specifications			
	Consumption	W	8
	Common interface		2 x PCMCIA (Standard EN50221, TS10169)
	Dimensions	mm	270 x 115 x 20
	Operating temperature	°C	-5 to +50

MODULAR HEADENDS

GALAXIA encoder

The **GALAXIA HDMI multi-input encoder** is equipped with four HDMI female connectors. The module allows up to **four external HDMI sources** to encode up **in H.264 HD/SD or MPEG-2 SD mode** and shares content via the **GALAXIA** chassis back panel.

- 4 x HDMI female multi-input (HDMI 1.4)
- Encoding of external sources **H.264 HD/SD or MPEG-2 SD**
- **"Hot-swappable"** module
- **On-board WEB interface:** programming of all parameters is easily done via HTML web interface

GX-4HDMI-BP-R01

		GX-4HDMI-BP-R01
Code		287639
Inputs		
Inputs		4 channels via 4x HDMI female connectors (HDMI 1.4)
video encoding mode		H.264/AVC HD: MP/HP@L4.0 SD: MP/HP@L3.0 MPEG-2 SD: MP@ML
Video		CBR (Costant Bit Rate)
Video resolution		SD: 576i50, 480i59.94 HD: 1080p-25/30/50/59.94/60; 1080i-50/59.94/60; 720p-50/60
Video bitrate	Mbps	1,000 to 14,000
Aspect ratio		Automatic or Manual
Audio type		MPEG-1 Layer II
Bitrate audio	Kbps	32-384
Audio sampling	KHz	48
Specifications		
Connectors		4x HDMI (HDMI 1.4)
Consumption	W	12
Common interface		Not available
Dimensions	mm	270 x 115 x 20
Operating temperature	C°	-5 to +50

MODULAR HEADENDS

3DG-BOX chassis for 3DGFlex modules

The 3DG-BOX basket has **6 slots available** for installing, powering and programming the 3DGFlex family of transmodulators. The box is equipped with all accessories for **wall, floor or standard 19" rack mounting**.

- **Built-in host controller:** to power, program and monitor the control panel at any time and from any PC
- **Programming from WEB interface** included with each module and basic programming from on-board keypad and display
- **Remote management** included for monitoring or configuration of all parameters
- **USB port** for upload/download of existing configurations and for module firmware upgrade

3DG-BOX

			3DG-BOX
Code			283156
Maximum number of modules			6
	TV signals mixing	MHz	47-862
	Insertion loss	dB	2.5
Specifications			
	Power supply	Vac/Hz	220-230 / 50-60
	Consumption	W	105 (no CAM)
	Connectors		F female (RF), RJ45 (programmable via web interface), USB (fw upgrade)
	Dimensions	mm	415 x 260 x 265
	Operating temperature	°C	-10 to +50; -10 to +45 (with CAM)
	Conformity	W	EN50083-2, EN60065

MODULAR HEADENDS

3DGFLEX Transmodulation from DVB-S2/T2/C to DVB-T/C

The 3DGFLEX series is a generation of transmodulators designed to process a range of digital signals ready for distribution in centralised systems, such as residential complexes and hospitality facilities. Using a combination of different quad modules, multiple content (satellite or DTT programs, external ASI sources) can be processed and then distributed in a centralised coaxial network.

- **"Smart & Pool"** functionality using high-speed bi-directional back-panel to exchange content with new modules inserted in the same BOX (functionality available only for new EVO modules)
- **"Ad hoc mux":** possibility to create your own mux at will by choosing programs from all new generation modules inserted in the same BOX and to manage all descriptor parameters of individual programs (LCN, SID, PID, Program name...) and muxes (ONID, TSID, NetID,...)
- **Multi-function USB port** for uploading/downloading existing configurations, updating module firmware, and playing audio/video files contained in the external pendrive (supported file format .TS)
- **Auto Remapping functionality:** ability to change channels to be distributed in real time without retuning televisions
- **Improved WEB interface**: the headend setup is now even more intuitive. Basic setup can be performed via the on-board keypad and display
- ARP 2.0: **Automatic** Recovery Procedure makes it possible to safeguard programs with higher priority and ensure continuity of service when the input data flow exceeds that allowed, returning everything to the initial configuration when the overall bit rate is within parameters
- **FPGA technology**: allows a flexible and efficient way to upgrade the system.

		3DG-4S2-4T	3DG-4S2-BP
Code		283162	283163
Inputs			
Inputs		4	
Demodulators		DVB-S2 (8-PSK, QPSK), DVB-S (QPSK)	
Band	MHz	950-2150	
Input AFC	KHz	±5	
Symbol rate	Msymb/sec	2-45	
FEC		1/2, 2/3, 3/4, 5/6, 7/8, AUTO	
Remote power supply	mA	4 x125 max (14/18V)	
LNB controls		DiSEqC 1.0	
Level	dBµV	50-80	
Backplane			
Connectors		48 pins on Back Panel	
Type		Serial	
Max. bitrate	Mbit/sec	1,000 (bi-directional)	

		3DG-4S2-4T	3DG-4S2-BP
Code		283162	283163
Outputs			
Multiplexes created		4 (2 pairs of adjacent digital multiplexes)	-
Output		S2-E69	-
Frequency	MHz	111-862	-
Tuning step	KHz	250	-
Level	dBµV	95	-
Level adjustment	dB	From 0 to 20	-
Flatness		±1.5	-
MER	dB	≥36	-
Spurious	dB	<-50	-
Spectrum		Normal, inverted	-
Operating mode		Normal, single carrier	-
DVB-T modulation			
Modulation		QPSK, 16-QAM, 64-QAM	-
Single channel band	MHz	6,7,8	-
Carriers		2k, 8k	-
Guard interval		1/4, 1/8, 1/16, 1/32	-
FEC		1/2, 2/3, 3/4, 5/6, 7/8	-
DVB-C modulation			
Modulation		16QAM, 32QAM, 64QAM, 128QAM, 256QAM	-
Single channel band	MHz	Related to output symbol rate	-
FEC		Reed Solomon (204, 188)	-
Symbol rate	Msymb/sec	From 1,000 to 6,999	-
Specifications			
USB		SW update and video playback (type A, FAT32 filesystem, .TS file playback)	
Programming mode		Web interface, keyboard and front display	
Consumption	W	15 (without CAM), 20 (with CAM), extra consumption DVB-C 1.3	7 (without CAM), 12 (with CAM)
Common interface		2 x PCMCIA (Standard EN50221, TS10169) Flex CAM or Standard Mode	
Dimensions	mm	245 x 208 x 54	
Conformity		EN50083-2, EN60065	
Operating temperature	°C	-10 to 50; -10 to 45 (with CAM)	

MODULAR HEADENDS

		3DG-4T2-4T	3DG-4T2-BP
Code		283165	283166
Inputs			
Inputs		4	
Demodulators		DVB-T2, DVB-T o DVB-C (selectable)	
Band	MHz	174-862	
Channel		E5-E69	
Bandwidth	MHz	6,7,8	
Input AFC	KHz	±400 (DVB-T2/T), ±100 (DVB-C)	
FEC		1/2, 2/3, 3/4, 5/6, 7/8 Reed Solomon (204, 188)	
Remote power supply	mA	2 x 100 max (12V)	
Carriers	mA	2,000, 8,000	
Level	dBµV	40-85	
Backplane			
Connectors		48 pins on Back Panel	
Type		Serial	
Max. bitrate	Mbit/sec	1,000 (bi-directional)	
Outputs			
Multiplexes created		4 (2 pairs of adjacent digital multiplexes)	-
Output		S2-E69	-
Frequency	MHz	111-862	-
Tuning step	KHz	250	-
Level	dBµV	95	-
Level adjustment	dB	From 0 to 20	-
Flatness		±1.5	-
MER	dB	≥36	-
Spurious	dB	<-50	-
Spectrum		Normal, inverted	-
Operating mode		Normal, single carrier	-

			3DG-4T2-4T	3DG-4T2-BP
Code			283165	283166
DVB-T modulation				
	Modulation		QPSK, 16-QAM, 64-QAM	-
	Single channel band	MHz	6,7,8	-
	Carriers		2k, 8k	-
	Guard interval		1/4, 1/8, 1/16, 1/32	-
	FEC		1/2, 2/3, 3/4, 5/6, 7/8	-
DVB-C modulation				
	Modulation		16QAM, 32QAM, 64QAM, 128QAM, 256QAM	-
	Single channel band	MHz	Related to output symbol rate	-
	FEC		Reed Solomon (204, 188)	-
	Symbol rate	Msymb/sec	From 1,000 to 6,999	-
Specifications				
	USB		SW update and video playback (type A, FAT32 filesystem, .TS file playback)	
	Programming mode		Web interface, keyboard and front display	
	Consumption	W	5 (without CAM); 20 (with 2 CAM)	7 (without CAM), 12 (with CAM)
	Common interface		2 x PCMCIA (Standard EN50221, TS10169) Flex CAM or Standard Mode	
	Dimensions	mm	245 x 208 x 54	
	Conformity		EN50083-2, EN60065	
	Operating temperature	°C	-10 to 50; -10 to 45 (with CAM)	

MODULAR HEADENDS

3DG-4ASI-4T

3DGFLEX transmodulation from ASI to DVB-T/C

The **ASI module** belongs to the 3DGFLEX product family, and is capable of simultaneously managing programs available on several distinct ASI sources.

The module can manage ASI flows, either from digital encoders or from external ASI sources typically available in the control rooms of broadcasters, and flexibly choose the programs that will make up the independent output multiplexes with which the module is equipped, allowing the installer to decide which and how much content to distribute through the coaxial system.

- Ideal in conjunction with SIG7404H or SIG7804H264 external source encoders.
- **"Ad-hoc-mux":** possibility to create your own mux at will by choosing programs from all new generation modules inserted in the same BOX and to manage all descriptor parameters of individual programs (LCN, SID, PID, Program name..) and muxes (ONID, TSID, NetID,...)
- **Multi-function USB port** for uploading/downloading existing configurations, updating module firmware, and playing video footage saved on external pendrive (supported file format .TS).

		3DG-4ASI-4T
Code		283167
Inputs	Mbit/sec	4 x BNC (2 x ASI in, 2 x ASI out)
Backplane		
Connectors		48 pins on Back Panel
Type		Parallel
Max. bitrate	Mbit/sec	1,000 bi-directional
Outputs		
Multiplexes created		4 (2 pairs of adjacent digital multiplexes)
Output		S2-E69
Frequency	MHz	111-862
Tuning step	KHz	250
Level	dBµV	95
Level adjustment	dB	0 to 20
Flatness		±1.5
MER	dB	≥36
Spurious	dB	<-50
Spectrum		Normal, inverted
Operating mode		Normal, single carrier
DVB-T modulation		
Modulation		QPSK, 16-QAM, 64-QAM
Single channel band	MHz	6,7,8
Carriers		2k, 8k
Guard interval		1/4, 1/8, 1/16, 1/32
FEC		1/2, 2/3, 3/4, 5/6, 7/8
DVB-C modulation		
Modulation		16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Single channel band	MHz	Related to output symbol rate
FEC		Reed Solomon (204, 188)
Symbol rate	Msymb/sec	From 1,000 to 6,999
Specifications		
USB		SW update and video playback (type A, FAT32 filesystem, .TS file playback)
Programming mode		Web interface, keyboard and front display
Consumption	W	17 max.
Dimensions	mm	245 x 208 x 54
Conformity		EN50083-2, EN60065
Operating temperature	C°	-10 to +50

MODULAR HEADENDS

3DG-BP-IP OUT

3DGFLEX IP encoder IPTV

The 3DG-EVO IPTV multicast/unicast encoder was developed on the 3DGFlex modular platform to **distribute IPTV signals** on medium and large hotel settings.

The module can be combined with new generation 3DGFLEX EVO receivers for example 3DG-4S2-BP (QUAD satellite receiver) or 3DG-4T2-BP (digital terrestrial receiver). In this way by taking advantage of the very high-speed bi-directional back-panel it is possible to create different mixed configurations

- Reception of programs through high-speed **bi-directional back panel** with **"Smart&Pool"** technology
- **Up to 64 IPTV multicast programs** (UDP, RTP/UDP) for each individual module
- **Up to 1Gbit/s** to distribute UHD, HD, SD and radio channels within IP networks
- New **SAP and M3U** service discovery capabilities built into the modules
- Single-program **(SPTS)** or multi-program **(MPTS)** transport stream management
- Ready for **Digital Right Management (**DRM) integration

		3DG-BP-IP OUT
Code		283164
Inputs	Mbit/sec	IEE 802.3ab 1Gbps Ethernet (10/100/1000)
Backplane		
Connectors		48 pins on Back Panel
Type		Serial
Max. bitrate	Mbit/sec	1000 (bi-directional)
IP output		
Connectors		IEE 802.3ab 1Gbps Ethernet (10/100/1000)
Standard		DVB-IPTV (ETSI TS102034 v1.5.1)
Encapsulation		UDP, RTP/UDP
Protocols		SAP, IGMP, M3U, DHCP
Groups		64 (unicast or muilticast)
Specifications		
USB		SW Update
Programming mode		Web interface, keyboard and front display
Power supply	Vdc	14
Consumption	W	5
Dimensions	mm	245 x 208 x 54
Conformity		EN50083-2, EN60065
Operating temperature	°C	-10 to +50

MODULAR HEADENDS

3DG-PS-BU

3DG-BOX modular backup power supply

The **3DG-PS-BU** module is an auxiliary power supply module that is essential to ensure the **operational** continuity of the 3DGFlex EVO Control Unit in the event of main power supply anomalies. The new module, placed inside the 3DG-BOX, **works in synergy with the main power supply** present in the headend.

- **Continuity of service:** the 3DG-PS-BU redundant power supply allows continuous operation in cases of main power supply failure, supporting the load of all modules inserted in the headend.
- Insulation class: **Class II**
- **High power:** the 3DG-PS-BU is capable of supporting the load of all modules inserted in the headend.
- Monitoring**:** through the monitoring function, which can be enabled during the programming of the central unit, it is possible to receive alerts in case of any power supply anomalies.
- The 3DG-PS-BU module is compatible with 3DGFlex EVO control panels that mount the EVO Control Unit (SW10 version of the Control Unit and revision 3 of the 3DG-BOX or higher).

			3DG-PS-BU
Code			283168
Specifications			
	Power supply	Vac, Hz	220-230 / 50-60
	Power Consumption	W	135 (max)
	Connectors		48 pins on back-panel
	Dimensions	mm	245 x 208 x 54
	Conformity		EN50083-2, EN60065
	Operating temperature	°C	-5 to +45

Modular solutions accessories

Accessories to complete modular solutions

Name	Code	Description
3DG-FrontPanel	283158	Blank front panel to cover unused 3DG-BOX slots.
GX-Front panel	287643	Metallic blank panel to cover the unused slots of the GALAXIA headend.

3DG-FrontPanel

GX-Front panel

ENCODERS

Professional HDMI and analogue encoders

Series of **digital encoders for digital encoding of external sources**. These encoders allow 4 A/V signals to be made available in TS MPG2 format (SIG7404H) or 4 HDMI signals in MPG4/H264 format on the ASI output (SIG7804H264) or directly on the combined RF+IPTV outputs (SIG7804H264RFIP). In a typical application, these types of encoders can be connected in conjunction with the 3DG-4ASI-4T module (module with ASI inputs for 3DGFlex) to create one or more COFDM multiplexes at the output.

Also in the professional encoder series are the **new SIG7412TMPEG2 encoder**, which can encode in MPEG2 up to 12 A/V sources and make them available in output on 4 different DVB-T multiplexes, and the **SIG7804H264RFIP** encoder, which can encode in H264 up to 4 external HDMI sources and make them available in output on 2 different DVB-T multiplexes and simultaneously on 4 independent multicast groups.

SIG7404H

- Up to four A/V analogue sources encoding and multiplexing
- **MPEG2** encoding

SIG7804H264

- Up to four HDMI digital sources encoding and multiplexing **MPEG4/H264** compression

SIG7412TMPEG2

- Allows encoding of up to 12 external analogue AV sources remultiplexing them on DVB-T (MPEG2) outputs.
- **MPEG2** encoding

SIG7804H264RFIP

- Allows encoding of up to 4 external HDMI sources and remultiplexing them on DVB-T and IPTV simultaneously outputs.
- **MPEG4/H264** encoding

			SIG7404H	SIG7804H264
Code			287348	287430
Input	Inputs		4 x CVBS	4 x HDMI (Type A)
	Video connector		RCA	Compliant with HDMI 1.3a
	Video impedance	Ohm	75	-
	Audio connector		RCA (Left, right radio channels)	HDMI
Outputs	Outputs Number		1 x BNC	1 x BNC
	Impedence	Ohm	75	75
	Standard		DVB-ASI	DVB-ASI
	Max. output bitrate	Mbps	108	216
Coding				
	Video resolution		576i/480i	1080p 60Hz
	Video compression		MPEG-2 Video (ISO/IEC 13818-2) MPEG-2 MP@ML	H264/AVC
	Audio compression		MPEG-1 Audio Layer II (ISO/IEC 11172-3)	MPEG-1 Audio Layer II (ISO/IEC 11172-3)
	Audio ratio		128, 256, 384	128, 256, 384
Advanced comands				
	PID setting		PMT/Video/Audio/PCR	PMT/Video/Audio/PCR
	TS network configuration		NID/ONID/P.D.S./TS ID	NID/ONID/P.D.S./TS ID
	LCN range		1023	1023
	Service name		Maximum 15 characters	Maximum 15 characters
Specifications				
	Power supply	Vac,Hz	110-240 / 50-60	110-240 / 50-60
	Consumption	W	25	40
	Connectors		BNC (ASI Out), RCA (video and audio signal), RJ45 (settings via built-in WEB interface)	BNC (ASI Out), HDMI1.3a (video and audio signal), RJ45 (settings via built-in WEB interface)
	Conformity		EN50083-2, EN60065	EN50083-2, EN60065
	Operating temperature	C°	0 to +45	0 to +45
	Installation		19 inch rack	19 inch rack
	Dimensions	mm	440 x 44 x 280	440 x 44 x 280

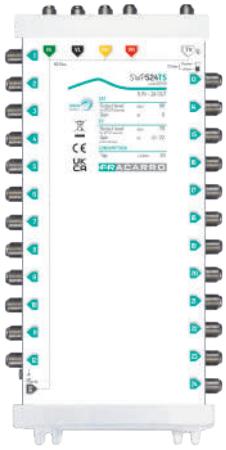
ENCODERS

Professional HDMI and analogue encoders

			SIG7412TMPEG2	SIG7804H264RFIP
Code			287610	287613
Input	Inputs		12 x CVBS	4 x HDMI (Type A)
	Video connector		RCA	Compliant with HDMI 1.3a
	Audio connector		RCA (Left, right radio channels)	HDMI
Outputs	Outputs Number		1 x F (4 mux); 1 x RJ45 (4x UDP/RTP stream, MPTS only)	1 x F (2 mux); 1 x RJ45 (up to 4 SPTS, one for each HDMI channel)
	Impedence	Ohm	75	75
	Standard		DVB-T (EN300744); IGMP group address, MPTS only	DVB-T (EN300744); IPTV (Up to 4 SPTS, one for each HDMI channel)
Coding				
	Video resolution		720×480_60i, 544×480_60i, 352×480_60i, 352×240_60i, 320×240_60i,176×240_60i, 176×120_60i	Input: up to 1080p@60Hz / Output: up to 1080p@30Hz
	Video compression		MPEG-2 Video	H264/AVC
	Audio compression		MPEG-1 Audio Layer II, AC3 (2.0)	MPEG-1 Audio Layer II (ISO/IEC 11172-3)
	Audio ratio		64,128,192,256,320,384	128,192,256,384
Advanced comands				
	PID setting		PMT/Video/Audio/PCR	PMT/Video/Audio/PCR
	TS network configuration		NID/ONID/P.D.S./TS ID	NID/ONID/P.D.S./TS ID
	LCN			1023
	Service name			Maximum 15 characters
Specifications				
	Power supply	Vac,Hz	110-240 / 50-60	110-240 / 50-60
	Consumption	W	40	25
	Connectors		F (RF Out), RCA (video and audio signal), RJ45 (settings via built-in WEB interface)	F (RF Out), HDMI (video and audio signal), RJ45 (UDP/RTP streaming), RJ45 (settings via WEB interface)
				EN50083-2, EN60065
	Operating temperature	C°	0 to +45	0 to +45
	Installation		19 inch rack	19 inch rack
	Dimensions	mm	482 x 44 x 410	440 x 44 x 280

Multiswitches

COMPACT MULTISWITCHES



SWP524TS

PSU1215TS

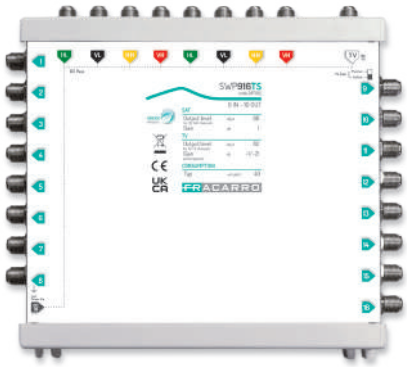
5 INPUTS COMPACT

5 input compact multiswitches with **DIP switch to select active or passive TV gain**.

- Satellite bandwidth up to 2300MHz.
- **High SAT output level** to cater for long cable distances (**60m** with 6.7mm cable).
- Each port has an LED to indicate voltage provided by an STB
- Return path included when TV gain is passive (5-65MHz).
- The power supply only serves to power the active TV gain, other amplifiers and LNBs. Subscriber ports are entirely powered by STBs.
- External PSU1215TS power supply (12V, 1.5A) included in the package with male jack connector (2.1 x 5.5 x 12mm; inner positive, outer negative) to optimise installation space and reduce maintenance time.
- Compact size due to the matrix switching system with connectors on both sides.
- Quick and easy to install due to standard colour coding.

		SWP508TS	SWP512TS	SWP516TS	SWP524TS	SWP532TS
Code		287518	287519	287520	287591	287592
Inputs		4 SAT, 1 TV	4 SAT, 1 TV	4 SAT, 1 TV	4 SAT, 1 TV	4 SAT, 1 TV
Taps		8	12	16	24	32
SAT						
Bandwidth	MHz	950-2300	950-2300	950-2300	950-2300	950-2300
Gain	dB	-2/2	-3/1	-3/1	-4/0	-4/0
Max. output level	dBµV	100	100	100	100	100
SAT-SAT Isolation	dB	>30	>30	>30	>30	>30
TV						
Bandwidth	MHz	Active TV: 47-862; Passive TV: 5-862				
Gain (Active)	dB	1	0	-1	-2	-2
Gain (Passive)	dB	-19	-20	-21	-22	-22
Max. output level	dBµV	Active TV: 92				
Return channel						
Bandwidth	MHz	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65
Consumption						
Tap consumption	mA	40	40	40	40	40
Power supply	V	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60
Current consumption	mA	Active TV: 160@12V; Passive TV: entirely fed by the receiver				
Maximum power supply current SAT	mA	Passive TV: 1500; Active TV: 1340				
Specifications						
Dimensions	mm	110 x 130 x 40	170 x 130 x 40	170 x 130 x 40	230 x 130 x 40	300 x 130 x 40
Dimensions power supply	mm	90 x 70 x 45	90 x 70 x 45	90 x 70 x 45	90 x 70 x 45	90 x 70 x 45
Operating temperature	°C	-10 to +55	-10 to +55	-10 to +55	-10 to +55	-10 to +55

COMPACT MULTISWITCHES



SWP916TS

PSU1215TS

9 INPUTS COMPACT

9 input compact multiswitches with **DIP switch to select active or passive TV gain.**

- Satellite bandwidth up to 2300MHz.
- **High SAT output level** to cater for long cable distances (**60m** with 6.7mm cable).
- Each port has an LED to indicate voltage provided by an STB.
- Return path included when TV gain is passive (5-65MHz).
- The power supply only serves to power the active TV gain, other amplifiers and LNBs. Subscriber ports are entirely powered by STBs.
- **External PSU1215TS power supply (12V, 1.5A) included in the package** with male jack connector (2.1 x 5.5 x 12mm; inner positive, outer negative) to optimise installation space and reduce maintenance time.
- Compact size due to the matrix switching system with connectors on both sides.
- Quick and easy to install due to standard colour coding.

		SWP908TS	SWP912TS	SWP916TS	SWP924TS	SWP932TS
Code		287350	287351	287352	287353	287354
Inputs		8 SAT, 1 TV	8 SAT, 1 TV	8 SAT, 1 TV	8 SAT, 1 TV	8 SAT, 1 TV
Taps		8	12	16	24	32
SAT						
Bandwidth	MHz	950-2300	950-2300	950-2300	950-2300	950-2300
Gain	dB	-2/2	-3/1	-3/1	-5/-1	-7/-2
Max. output level	dBµV	100	100	100	100	100
SAT-SAT Isolation	dB	>30	>30	>30	>30	>30
TV						
Bandwidth	MHz	Active TV: 47-862; Passive TV: 5-862				
Gain (Active)	dB	1	0	-1	-2	-4
Gain (Passive)	dB	-19	-20	-21	-22	-24
Max. output level	dBµV	Active TV: 95				
Return channel						
Bandwidth	MHz	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65
Consumption						
Tap consumption	mA	50	50	50	50	50
Power supply	V	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60
Current consumption	mA	Active TV: 160@12V; Passive TV: entirely fed by the receiver				
Maximum power supply current SAT	mA	Passive TV: 1500; Active TV: 1340				
Specifications						
Dimensions	mm	110 x 190 x 40	170 x 190 x 40	170 x 190 x 40	230 x 190 x 40	300 x 190 x 40
Dimensions power supply	mm	90 x 70 x 45	90 x 70 x 45	90 x 70 x 45	90 x 70 x 45	90 x 70 x 45
Operating temperature	°C	-10 to +55	-10 to +55	-10 to +55	-10 to +55	-10 to +55

COMPACT MULTISWITCHES

SWP1708TS

PSU1240TS

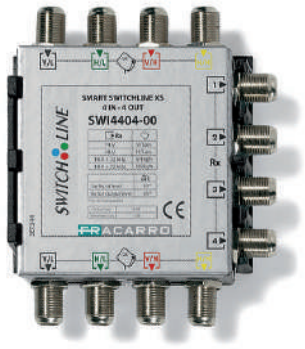
17 INPUTS COMPACT

17 input compact multiswitches with **DIP switch to select active or passive TV gain**.

- Satellite bandwidth up to 2300MHz.
- **High SAT output level** to cater for long cable distances (**60m** with 6.7mm cable).
- Each port has an LED to indicate voltage provided by an STB,
- Return path included when TV gain is passive (5-65MHz).
- The power supply only serves to power the active TV gain, other amplifiers and LNBs. **Subscriber ports are entirely powered by STBs.**
- **External PSU1240TS power supply** (12V, 4A) **included in the package** with male jack connector (2.1 x 5.5 x 12; inner positive, outer negative) to optimise installation space and reduce maintenance time.
- Compact size due to the matrix switching system, with connectors on both sides.
- Quick and easy to install due to standard colour coding.

		SWP1708TS	SWP1712TS	SWP1716TS	SWP1724TS	SWP1732TS
Code		287355	287356	287357	287358	287359
Inputs		16 SAT, 1 TV	16 SAT, 1 TV	16 SAT, 1 TV	16 SAT, 1 TV	16 SAT, 1 TV
Taps		8	12	16	24	32
SAT						
Bandwidth	MHz			950-2300		
Gain	dB	-4/0	-5/-1	-5/-1	-7/-3	-8/-4
Max. output level	dBµV	100	100	100	100	100
SAT-SAT Isolation	dB	>30	>30	>30	>30	>30
TV						
Bandwidth	MHz	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862
Gain (Active)	dB	0	-1	-2	-3	-5
Gain (Passive)	dB	-20	-21	-22	-23	-25
Max. output level	dBµV			Active TV: 95		
Return channel						
Bandwidth	MHz	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65
Consumption						
Tap consumption	mA	50	50	50	50	50
Power supply	V	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60	120-240 / 50-60
Current consumption	mA			Active TV: 160@13V; Passive TV: entirely fed by the receiver		
Maximum power supply current SAT	mA			Passive TV: 4000; Active TV: 3840		
Specifications						
Dimensions	mm	120 x 310 x 40	190 x 310 x 40	190 x 310 x 40	260 x 310 x 40	310 x 310 x 40
Dimensions power supply	mm	110 x 52 x 34	110 x 52 x 34	110 x 52 x 34	110 x 52 x 34	110 x 52 x 34
Operating temperature	°C	-10 to +55	-10 to +55	-10 to +55	-10 to +55	-10 to +55

CASCADABLE MULTISWITCHES



SWI4404-00

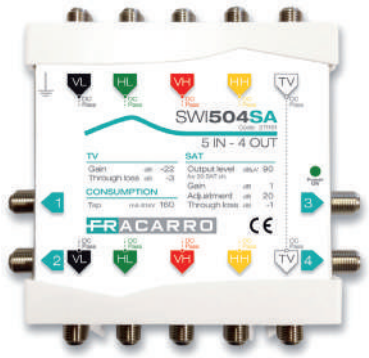
4 INPUTS CASCADABLE

4 input cascadable multiswitches with different attenuation levels on their subscriber outputs.

- **3 different attenuation levels (-17dB, -8dB, 0dB)** to equalise the signal distribution between floors and facilitate the creation of a complex distribution network.
- Low through loss.
- **High SAT output level** to cater for long cable distances (**70m** with 6.7mm cable).
- **The multiswitch is fully powered by the STB**.
- The **LNB can be powered by the STB** even when only one user is connected to the distribution system.
- Plastic bracket for quick and easy installation.
- Quick and easy to install due to standard colour coding.
- Operating temperature -10 to +55°C

		SWI4404-00	SWI4404-08	SWI4404-17
Code		271081	271082	271083
Inputs		4 SAT	4 SAT	4 SAT
Taps		4 SAT	4 SAT	4 SAT
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain	dB	0	-8	-17
Insertion loss	dB	-2	-2	-2
Max. output level	dBµV	105	105	
SAT-SAT Isolation	dB	>28	>28	>28
Tap consumption	mA	35	35	15
Dimensions	mm	90 x 70 x 20	90 x 70 x 20	90 x 70 x 20
		SWI4406-00	**SWI4406-08**	**SWI4406-17**
Code		271084	271085	271086
Inputs		4 SAT	4 SAT	4 SAT
Taps		6 SAT	6 SAT	6 SAT
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain	dB	0	-8	-17
Insertion loss	dB	-2	-2	-2
Max. output level	dBµV	105	105	
SAT-SAT Isolation	dB	>28	>28	>28
Tap consumption	mA	35	35	15
Dimensions	mm	119 x 70 x 20	119 x 70 x 20	119 x 70 x 20
		SWI4408-00	**SWI4408-08**	**SWI4408-17**
Code		271087	271088	271089
Inputs		4 SAT	4 SAT	4 SAT
Taps		8 SAT	8 SAT	8 SAT
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain	dB	0	-8	-17
Insertion loss	dB	-2	-2	-2
Max. output level	dBµV	105	105	
SAT-SAT Isolation	dB	>28	>28	>28
Tap consumption	mA	35	35	15
Dimensions	mm	150 x 70 x 20	150 x 70 x 20	150 x 70 x 20

CASCADABLE MULTISWITCHES



SWI504SA

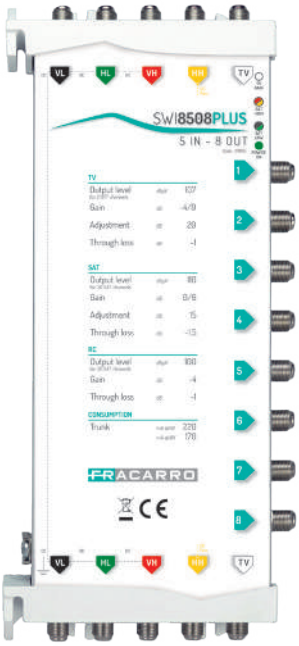
5 INPUTS CASCADABLE

5 input cascadable multiswitches with passive TV and adjustable active satellite gain.

- **Active satellite** (-4/+1dB) to keep level unchanged on outputs, **passive TV** path allows any input level.
- **Satellite gain adjustment** (0-20dB) to equalise signal distribution between floors and facilitate complex distribution networks.
- Satellite bandwidth up to 2300MHz.
- High isolation (>30dB).
- **Low through loss**, allows signal distribution up to 6 floors without a repeater amplifier.
- **High SAT output level** to cater for long cable distances (**70m** with 6.7mm cable).
- Return path included.
- **The multiswitch is fully powered by the STB**.
- Compact size due to the matrix switching system, with connectors on both sides.
- Quick and easy to install due to standard colour coding.

		SWI504SA	SWI506SA	SWI508SA
Code		271161	271162	271163
Inputs		4 SAT, 1 TV	4 SAT, 1 TV	4 SAT, 1 TV
Taps		4	6	8
SAT				
Bandwidth	MHz	950-2300	950-2300	950-2300
Gain	dB	-4/1	-4/1	-4/1
Gain adjustment	dB	20	20	20
Max. SAT Output level	dBµV	102	102	102
Insertion loss	dB	-1	-1	-1
SAT-SAT Isolation	dB	>30	>30	>30
TV				
Bandwidth	MHz	88-790	88-790	88-790
Gain	dB	-22	-22	-23
Insertion loss	dB	-3	-3	-3
Consumption				
Tap consumption	mA	160	170	180
Maximum power supply current SAT	mA	2000	2000	2000
Maximum power supply current TV	mA	1000	1000	1000
Specifications				
Dimensions	mm	120 x 120 x 30	140 x 120 x 30	160 x 120 x 30
Operating temperature	°C	-10 to +55	-10 to +55	-10 to +55

CASCADABLE MULTISWITCHES



SWI8508PLUS

5 INPUTS CASCADABLE PLUS

5 input cascadable multiswitches with active gain and separate adjustment in the TV and satellite bands.

- **TV gain adjustment**.
- **Separate high and low band adjustments for satellite signal gain**.
- High isolation (>45dB).
- Low through loss.
- **High SAT output level** to cater for long cable distances (**100m** with 6.7mm cable).
- Return path included.
- Low power consumption.
- Quick and easy to install due to standard colour coding.

		SWI8508PLUS	SWI8512PLUS	SWI8516PLUS
Code		271055	271056	271063
Inputs		4 SAT, 1 TV	4 SAT, 1 TV	4 SAT, 1 TV
Taps		8	12	16
SAT				
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain	dB	0/6	0/5	0/4
Gain adjustment	dB	15	15	15
Max. SAT Output level	dBµV	110	110	108
Insertion loss	dB	-1.5	-2	-2.5
SAT-SAT Isolation	dB	>45	>45	>45
TV				
Bandwidth	MHz	85-862	85-862	85-862
Gain	dB	-4/0	-6/-2	-8/-4
Gain adjustment	dB	20	20	20
Max. output level	dBµV	107	105	102
Insertion loss	dB	-1	-1.5	-2
Return channel				
Bandwidth	MHz	5-65	5-65	5-65
Gain	dB	-4	-5	-6
Max. output level	dBµV	100	100	100
Insertion loss	dB	-1	-1.5	-2
Specifications				
Current consumption	mA	220@14V; 170@18V	220@14V; 170@18V	220@14V; 170@18V
Dimensions	mm	260 x 120 x 30	340 x 120 x 30	425 x 120 x 30
Operating temperature	°C	-10 to +55	-10 to +55	-10 to +55

CASCADABLE MULTISWITCHES

SWI8524STPLUS

5 INPUTS CASCADABLE ST PLUS

5 input cascadable multiswitches with active gain and separate adjustment in the TV and satellite bands.

- **TV gain adjustment**.
- **Separate high and low band adjustments for satellite signal gain.**
- High isolation (>45dB).
- Low through loss.
- **High SAT output level** to cater for long cable distances (**100m** with 6.7mm cable).
- Return path included.
- Low power consumption.
- Quick and easy to install due to standard colour coding.

		SWI8524STPLUS	SWI8532STPLUS
Code		271057	271058
Inputs		4 SAT, 1 TV	4 SAT, 1 TV
Taps		24	32
SAT			
Bandwidth	MHz	950-2150	950-2150
Gain	dB	-2/5	-2/4
Gain adjustment	dB	15	15
Max. SAT Output level	dBµV	110	108
Insertion loss	dB	-4	-5
SAT-SAT Isolation	dB	>45	>45
TV			
Bandwidth	MHz	85-862	85-862
Gain	dB	-7/2	-10/-4
Gain adjustment	dB	20	20
Max. output level	dBµV	105	102
Insertion loss	dB	-3	-4
Return channel			
Bandwidth	MHz	5-65	5-65
Gain	dB	-5	-6
Max. output level	dBµV	100	100
Insertion loss	dB	-3	-4
Specifications			
Current consumption	mA	440@14V; 340@18V	440@14V; 340@18V
Dimensions	mm	355 x 120 x 60	440 x 120 x 60
Operating temperature	°C	-10 to +55	-10 to +55

CASCADABLE MULTISWITCHES

SWI912TS

PSU1215TS

9 INPUTS CASCADABLE

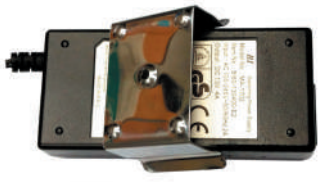
9 input cascadable multiswitches with **DIP switch to select active or passive TV gain**.

- Satellite bandwidth up to 2300MHz.
- **High SAT output level** to cater for long cable distances (**60m** with 6.7mm cable).
- Each port has an LED to indicate voltage provided by an STB.
- Return path included when TV gain is passive (5-65MHz).
- The power supply only serves to power the active TV gain, other amplifiers and LNBs. **Subscriber ports are entirely powered by STBs**.
- **External PSU1215TS power supply** (12V, 1.5A) with male jack connector (2.1 x 5.5 x 12; inner positive, outer negative) **not included in the package**; to optimise installation space and reduce maintenance time.
- Compact size due to the matrix switching system, with connectors on both sides.
- Quick and easy to install due to standard colour coding.

		SWI908TS	SWI912TS	SWI916TS	SWI924TS	SWI932TS
Code		287360	287361	287362	287363	287364
Inputs		8 SAT, 1 TV	8 SAT, 1 TV	8 SAT, 1 TV	8 SAT, 1 TV	8 SAT, 1 TV
Taps		8	12	16	24	32
SAT						
Bandwidth	MHz	950-2300	950-2300	950-2300	950-2300	950-2300
Gain	dB	-2/2	-3/1	-3/1	-5/-1	-6/-2
Max. output level	dBµV	100	100	100	100	100
Insertion loss	dB	-1/-3	-1/-4	-1/-5	-1.5/-6	-1.5/7.5
SAT-SAT Isolation	dB	>30	>30	>30	>30	>30
TV						
Bandwidth	MHz	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862
Gain (Active)	dB	-2	-3	-4	-5	-6
Gain (Passive)	dB	-22	-23	-24	-25	-26
Insertion loss	dB	-3/-4	-3/-4.5	-3/-4.5	-3/-4.5	-3/-5
Max. output level	dBµV	Active: 95	Active: 95	Active: 95	Active: 95	Active: 95
Return channel						
Bandwidth	MHz	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65
Consumption						
Tap consumption	mA	50	50	50	50	50
Current consumption	mA	Active TV: 160@12V; Passive TV: entirely fed by the receiver				
Maximum power supply current SAT	mA	Passive TV: 1500; Active TV: 1340	Passive TV: 1500; Active TV: 1340	Passive TV: 1500; Active TV: 1340	Passive TV: 1500; Active TV: 1340	Passive TV: 1500; Active TV: 1340
Specifications						
Dimensions	mm	110 x 190 x 40	170 x 190 x 40	170 x 190 x 40	230 x 190 x 40	300 x 190 x 40
Operating temperature	°C	-10 to +55	-10 to +55	-10 to +55	-10 to +55	-10 to +55

CASCADABLE MULTISWITCHES

SWI1316TS



PSU1240TS

13 INPUTS CASCADABLE

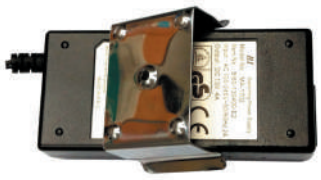
13 input cascadable multiswitches with **DIP switch to select active or passive TV gain**.

- Satellite bandwidth up to 2300MHz.
- **High SAT output level** to cater for long cable distances (**60m** with 6.7mm cable).
- Each port has an LED to indicate voltage provided by an STB.
- Return path included when TV gain is passive (5-65MHz).
- The power supply only serves to power the active TV gain, other amplifiers and LNBs. **Subscriber ports are entirely powered by STBs**.
- **External PSU1240TS power supply** (12V, 4A) with male jack connector (2.1 x 5.5 x 12; inner positive, outer negative) **not included in the package**; to optimise installation space and reduce maintenance time.
- Compact size due to the matrix switching system, with connectors on both sides.
- Quick and easy to install due to standard colour coding.

		SWI1308TS	SWI1312TS	SWI1316TS
Code		287365	287366	287367
Inputs		12 SAT, 1 TV	12 SAT, 1 TV	12 SAT, 1 TV
Taps		8	12	16
SAT				
Bandwidth	MHz	950-2300	950-2300	950-2300
Gain	dB	-4/0	-5/-1	-5/-1
Max. output level	dBµV	100	100	100
Insertion loss	dB	-1/-3	-1/-4	-1/-5
SAT-SAT Isolation	dB	>30	>30	>30
TV				
Bandwidth	MHz	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862
Gain (Active)	dB	-2	-3	-4
Gain (Passive)	dB	-22	-23	-24
Insertion loss	dB	-4/-5	-4/-5	-4/-5
Max. output level	dBµV	Active: 95	Active: 95	Active: 95
Return channel				
Bandwidth	MHz	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65
Consumption				
Tap consumption	mA	50	50	50
Current consumption	mA	Active TV: 160@13V; Passive TV: entirely fed by the receiver		
Maximum power supply current SAT	mA	Passive TV: 4000; Active TV: 3840	Passive TV: 4000; Active TV: 3840	Passive TV: 4000; Active TV: 3840
Specifications				
Dimensions	mm	120 x 310 x 40	190 x 310 x 40	190 x 310 x 40
Operating temperature	°C	-10 to +55	-10 to +55	-10 to +55

CASCADABLE MULTISWITCHES

SWI1716TS



PSU1240TS

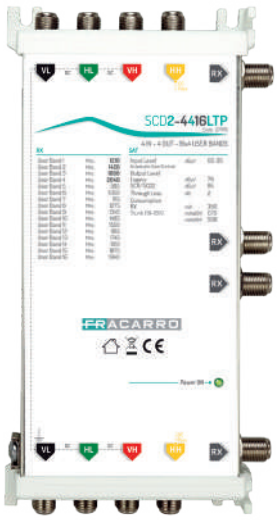
17 INPUTS CASCADABLE

17 input cascadable multiswitches with **DIP switch to select active or passive TV gain**.

- Satellite bandwidth up to 2300MHz.
- **High SAT output level** to cater for long cable distances (**60m** with 6.7mm cable).
- Each port has an LED to indicate voltage provided by an STB.
- Return path included when TV gain is passive (5-65MHz).
- The power supply only serves to power the active TV gain, other amplifiers and LNBs. **Subscriber ports are entirely powered by STBs**.
- **External PSU1240TS power supply** (12V, 4A) with male jack connector (2.1 x 5.5 x 12; inner positive, outer negative) **not included** in the package; to optimise installation space and reduce maintenance time.
- Compact size due to matrix switching system, with connectors on both sides.
- Quick and easy to install due to standard colour coding.

		SWI1708TS	SWI1712TS	SWI1716TS	SWI1724TS	SWI1732TS
Code		287368	287369	287370	287371	287372
Inputs		16 SAT, 1 TV	16 SAT, 1 TV	16 SAT, 1 TV	16 SAT, 1 TV	16 SAT, 1 TV
Taps		8	12	16	24	32
SAT						
Bandwidth	MHz	950-2300	950-2300	950-2300	950-2300	950-2300
Gain	dB	-4/0	-5/-1	-5/-1	-7/-3	-8/-4
Max. output level	dBµV	100	100	100	100	100
Insertion loss	dB	-1/-3	-1/-4	-1/-5	-2/-6.5	-2/-8
SAT-SAT Isolation	dB	>30	>30	>30	>30	>30
TV						
Bandwidth	MHz	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862
Gain (Active)	dB	-2	-3	-4	-5	-7
Gain (Passive)	dB	-22	-23	-24	-25	-27
Insertion loss	dB	-4/-5	-4/-5	-4/-5	-4/-5.5	-4/-6
Max. output level	dBµV	Active: 95	Active: 95	Active: 95	Active: 95	Active: 95
Return channel						
Bandwidth	MHz	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65	Passive TV: 5-65
Consumption						
Tap consumption	mA	50	50	50	50	50
Current consumption	mA	Active TV: 160@13V; Passive TV: entirely fed by the receiver				
Maximum power supply current SAT	mA	Passive TV: 4000; Active TV: 3840	Passive TV: 4000; Active TV: 3840	Passive TV: 4000; Active TV: 3840	Passive TV: 4000; Active TV: 3840	Passive TV: 4000; Active TV: 3840
Specifications						
Dimensions	mm	120 x 310 x 40	190 x 310 x 40	190 x 310 x 40	260 x 310 x 40	310 x 310 x 40
Operating temperature	°C	-10 to +55	-10 to +55	-10 to +55	-10 to +55	-10 to +55

SCD2 MULTISWITCHES



SCD2-4416LTP

4 INPUTS CASCADE SCD2 MULTI OUTPUT

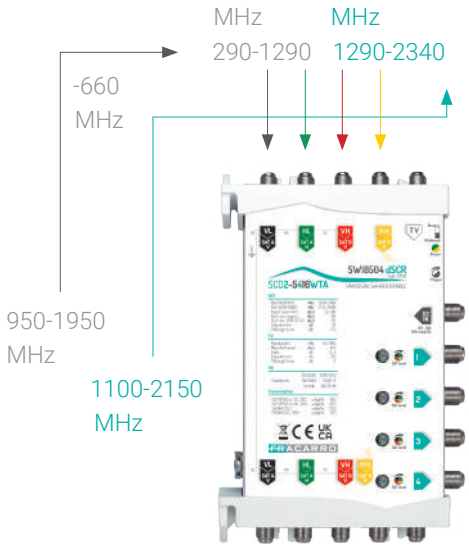
Cascadable SCD2 multiswitches (dCSS), 4 inputs with AGC and 2 or 4 taps with 16 frequencies each (4 SCR tuners and 12 SCD2 dCSS tuners simultaneously for each output), powered entirely by STB.

- **Automatic Gain Control (AGC)**: maintains an adequate output signal (85dBµV) even when the input signal strength varies (from 60dBµV to 95dBµV).
- **Low pass through loss**, ideal for cascading multiple multiswitches or for inserting into an existing distribution network.
- **Autodetection of the operating mode** depending on the STB connected to the port; this allows switching from a **Legacy STB** to an **SCR or SCD2** without requiring any system intervention. The multiswitch automatically starts in Legacy mode and switches to SCR or SCD2 mode as soon as it detects the relevant DiSEqC command.
- **The multiswitch is fully powered by the STB**.
- DC pass through on all satellite ports for maximum compatibility with existing installations.
- **Compact dimensions**.
- Quick and easy to install due to standard colour coding.
- **Optional PSU1430F power supply** to power the multiswitch on the VL line when the STB's cannot supply sufficient current.

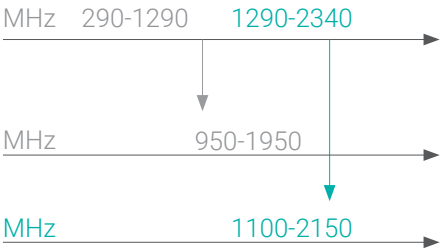
		SCD2-4216LTP	SCD2-4416LTP
Code		271175	271176
Inputs		4 SAT	4 SAT
Taps		2 to serve up to 2 Legacy users, 8 SCR users or 32 SCD2 users (dCSS)	4 to serve up to 4 Legacy users, 16 SCR users or 64 SCD2 users (dCSS)
SAT			
Bandwidth	MHz	950-2150	950-2150
AGC	dBµV	60-95	60-95
Max. output level SAT per TS	dBµV	Legacy: 78, SCR/SCD2 (dCSS): 85	
Insertion loss	dB	-1	-2
SAT-SAT Isolation	dB	>30	>30
Tap			
SAT bandwidth	MHz	950-2150	950-2150
SCR Frequencies	MHz	1210, 1420, 1680, 2040 (meets standard EN50494); 985, 1050, 1115, 1275,1340, 1485, 1550, 1615,1745, 1810, 1875, 1940 (meets standard EN50607)	
Consumption			
Tap consumption	mA	350@13V	
Current consumption	mA	PSU on VL: 330@13V; HL, VH or HH pass	PSU on VL: 600@13V; HL, VH or HH pass
Power supply	V	10-19	10-19
Specifications			
Dimensions	mm	90 x 105 x 22	90 x 180 x 22
Operating temperature	°C	-10 to +55	-10 to +55

Wideband technology

With WIDEBAND technology, the LNB **supplies the entire horizontal and vertical polarities on the two outputs**, occupying the band from 290 to 2340MHz and leaving the task to the multiswitch to divide each of them into the two low and high portions. As in QUATTRO technology, the multiswitch then sends only the requested band (VL, HL, VH or HH) or the single transponder to the receiver depending on the received DiSEqC command.



	QUATTRO	WIDEBAND
LNB	Receives full horizontal and vertical polarities from dish	Receives full horizontal and vertical polarities from dish
	Divides each into low, from 10.7 to 11.7GHz and high, from 11.7 to 12.75GHz	-
	Converts them **over 4 coaxial cables** in the frequencies from 950 to 2150MHz	Converts them **over 2 coaxial cables** in the frequencies from 290 to 2340MHz
MSW	MSW Receives the VL, HL, VH and HH bands from the LNB	Receives full vertical and horizontal polarities from the LNB
	-	Divides each of them into low, from 950 to 1950MHz and high, from 1100 to 2150MHz
	It sends only the requested band or the single transponder to the decoder based on the received DiSEqC tone	It sends only the requested band or the single transponder to the decoder based on the received DiSEqC tone



COMPARING THE TWO TECHNOLOGIES

Number of cables: with WIDEBAND technology, the number of coaxial cables connecting the LNB to the multiswitch is half (2 instead of 4): installation is therefore faster and easier, even in the case of **small spaces**. Using existing cables, WIDEBAND technology allows you to convert a traditional QUATTRO single satellite system to WIDEBAND double satellite: in fact, both Hotbird 13°E and Astra 19.2°E can be received and distributed with just 4 cables coming down from the roof.

Choice of products: the bands occupied by the signals outgoing from the LNB going towards the multiswitches are different in the two technologies and can also vary on different WIDEBAND LNB models; for this reason, if a WIDEBAND type LNB with a local oscillator at 10.410MHz is used (the most common on the market), the **multiswitch connected to it** must also be **WIDEBAND compatible** and set to the same frequency as the oscillator.

Decoders and distribution are the same in the two technologies because the satellite signal outgoing from the QUATTRO or WIDEBAND multiswitch, which serves the user socket, always occupies the 950 to 2150MHz band; **cables, splitters and receivers** (be they legacy, SCR or SCD2 dCSS) are in any case **compatible with both technologies**. In WIDEBAND systems, when there is a signal division along the drop (between LNB and multiswitch) it is necessary to use products with **band up to 2340MHz**.

SCD2 MULTISWITCHES

SCD2-5216W

5 INPUTS CASCADABLE SCD2 WIDEBAND MULTI OUTPUT

Cascadable SCD2 multiswitch (dCSS) with 5 inputs and 2, 4, 6 or 8 user branches with 16 frequencies each.

- Compatible with both quattro LNB (**UX-QT LTE**) and **wideband LNB (UX-WB LTE**).
- **Passive TV input**.
- **Satellite** inputs with **Automatic Gain Control (AGC)**: maintains adequate output signal (85dBµV) even when input signal strength varies.
- **Flexible Voltage Management (FVM)** allows the multiswitch to be powered in different ways without having to adjust DIP switches.
- **Universal standard**: compatible with both the SCR/SCD and SCD2 frequencies used by SKY and Tivùsat, as well as the SKY UK dSCR standard.
- **Autodetection of the operating mode** depending on the STB connected to the port; this allows switching from a **Legacy** STB to an **SCR or SCD2** without requiring any system intervention. The multiswitch automatically starts in Legacy mode and switches to SCR or SCD2 mode as soon as it detects the relevant DiSEqC command.
- Low insertion loss.
- DC pass through on all satellite ports for maximum compatibility with existing systems.
- Power supply not included.

		SCD2-5216W	SCD2-5416W
Code		271184	271180
Inputs		4 SAT, 1 TV	4 SAT, 1 TV
Taps		2 to serve up to 2 Legacy users, 8 SCR users or 32 SCD2 users (dCSS)	4 to serve up to 4 Legacy users, 16 SCR users or 64 SCD2 users (dCSS)
SAT			
Bandwidth	MHz	Quattro: 950-2150; Wideband 250-2400	Quattro: 950-2150; Wideband 250-2400
AGC	dBµV	60-90	55-90
Max. output level SAT per TS	dBµV	Legacy: 78, SCR/SCD2 (dCSS): 85	Legacy: 78, SCR/SCD2 (dCSS): 85
Insertion loss	dB	-2	-2.5
SAT-SAT Isolation	dB	>25	>25
TV			
Bandwidth	MHz	40-790	40-790
Gain	dB	-14	-14
Insertion loss	dB	-1.5	-3.5
Tap			
SAT bandwidth	MHz	950-2150	950-2150
TV bandwidth	MHz	40-790	40-790
SCR Frequencies	MHz	Standard EN50494 SCR/SCD, EN50607 SCD2 IT and SKY dSCR UK	
Consumption			
Tap consumption	mA	PSU su DC-IN o VL: 20@13V; PSU su HL o VH: 330@13V	PSU su DC-IN o VL: 85@13V; PSU su HL o VH: 400@13V
Current consumption	mA	PSU on DC-IN or VL: 330@13V; HL, VH or HH pass	PSU on DC-IN or VL: 600@13V; HL, VH or HH pass
Power supply	V	12-18	12-18
Specifications			
Dimensions	mm	140 x 109 x 31	180 x 109 x 31
Operating temperature	°C	-10 to +55	-10 to +55

SCD2 MULTISWITCHES

		SCD2-5616W	SCD2-5816W
Code		271183	271179
Inputs		4 SAT, 1 TV	4 SAT, 1 TV
Taps		6 to serve up to 6 Legacy users, 24 SCR users or 96 SCD2 users (dCSS)	8 to serve up to 8 Legacy users, 32 SCR users or 128 SCD2 users (dCSS)
SAT			
Bandwidth	MHz	Quattro: 950-2150; Wideband 250-2400	Quattro: 950-2150; Wideband 250-2400
AGC	dBµV	58-90	60-90
Max. output level SAT per TS	dBµV	Legacy: 78, SCR/SCD2 (dCSS): 85	Legacy: 78, SCR/SCD2 (dCSS): 85
Insertion loss	dB	-3	-3.5
SAT-SAT Isolation	dB	>25	>25
TV			
Bandwidth	MHz	40-790	40-790
Gain	dB	-16	-18
Insertion loss	dB	-4	-4.5
Tap			
SAT bandwidth	MHz	950-2150	950-2150
TV bandwidth	MHz	40-790	40-790
SCR Frequencies	MHz	Standard EN50494 SCR/SCD, EN50607 SCD2 IT and SKY dSCR UK	
Consumption			
Tap consumption	mA	PSU su DC-IN o VL: 85@13V; PSU su HL o VH: 400@13V	PSU su DC-IN o VL: 85@13V; PSU su HL o VH: 400@13V
Current consumption	mA	PSU on DC-IN or VL: 900@13V; HL, VH or HH pass	PSU on DC-IN or VL: 1250@13V; HL, VH or HH pass
Power supply	V	12-18	12-18
Specifications			
Dimensions	mm	220 x 109 x 50	260 x 109 x 50
Operating temperature	°C	-10 to +55	-10 to +55

SCD2 MULTISWITCHES

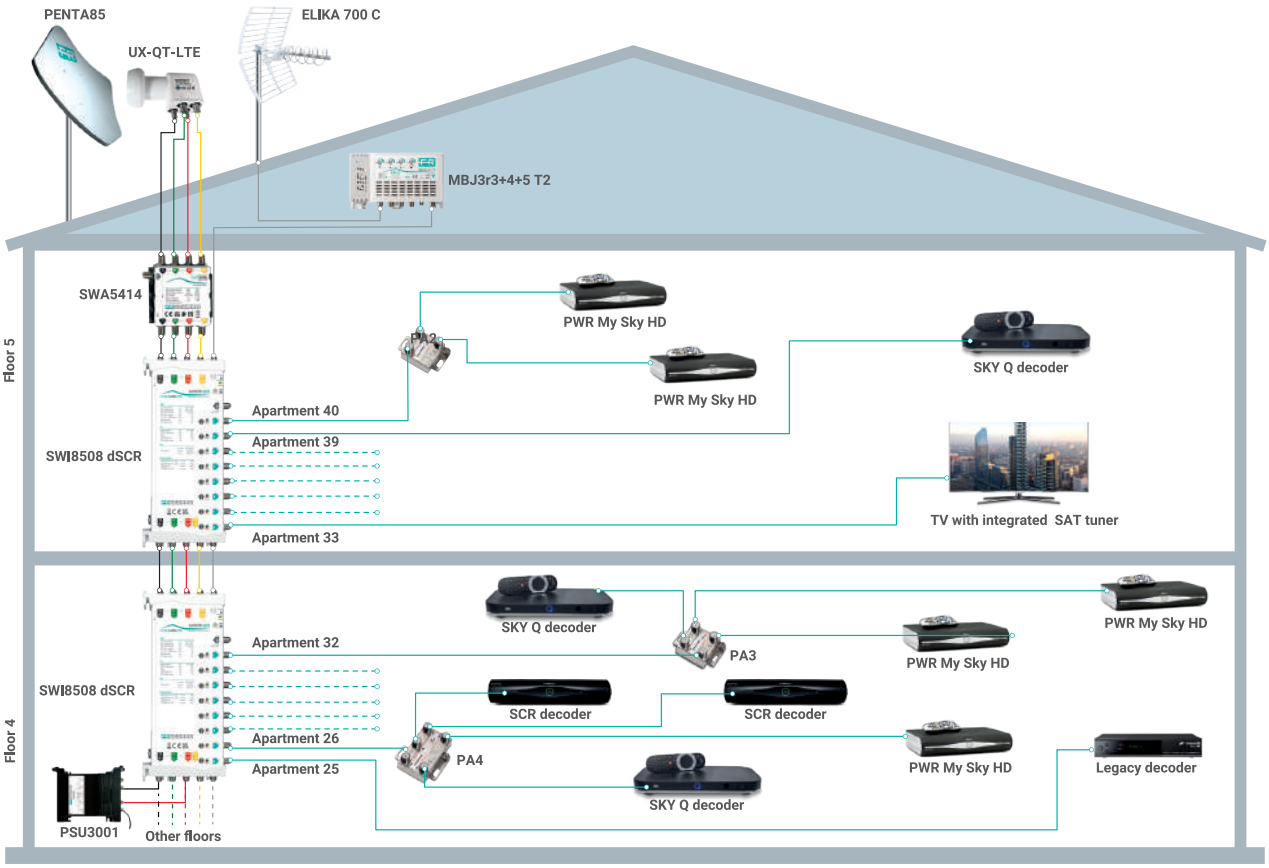
SWI8504 dSCR UK

5 INPUTS CASCADABLE SCD2 MULTI OUTPUTS WIDEBAND ADJUSTABLE

Cascadable SCD2 multiswitches (dCSS) **with 5 active inputs and 4 or 8 adjustable user** outputs with 16 user bands each.

- Compatible with both quattro LNB (**UX-QT LTE)** and **wideband LNB (UX-WB LTE)**
- **Active TV input** (adjustable).
- **Satellite inputs with Automatic Gain Control (AGC)**: maintains constant output signal (up to 95dBµV) even when input signal strength varies.
- High satellite level and separate adjustment for each output.
- **Flexible Voltage Management (FVM)** allows the multiswitch to be powered in different ways without having to adjust DIP switches.
- **Universal standard**: compatible with both the SCR/SCD and SCD2 frequencies used by SKY and Tivùsat, as well as the SKY UK dSCR standard.
- **Autodetection of the operating mode** depending on the STB connected to the port; this allows switching from a Legacy STB to an SCR or SCD2 without requiring any system intervention. The multiswitch automatically starts in **Legacy** mode and switches to **SCR or SCD2 mode** as soon as it detects the relevant DiSEqC command.
- Low insertion loss.
- DC pass through on all satellite ports for maximum compatibility with existing systems.
- **Power supply not included**.

Installation example

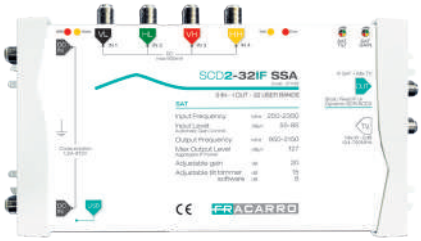


SCD2 MULTISWITCHES

		SWI8504 dSCR UK	SWI8508 dSCR UK
Code		271178	271177
Inputs		4 SAT, 1 TV	4 SAT, 1 TV
Taps		4 to serve up to 4 Legacy users, 16 SCR users or 64 SCD2 users (dCSS)	8 to serve up to 8 Legacy users, 32 SCR users or 128 SCD2 users (dCSS)
SAT			
Bandwidth	MHz	Quattro: 950-2150; Wideband 250-2400	Quattro: 950-2150; Wideband 250-2400
AGC	dBµV	55-90	60-90
Max. output level SAT per TS	dBµV	Legacy: 92, SCR/SCD2 (dCSS): 95	Legacy: 92, SCR/SCD2 (dCSS): 95
Gain adjustment	dB	12	12
Insertion loss	dB	-2.5	-3.5
SAT-SAT Isolation	dB	>25	>25
TV			
Bandwidth	MHz	40-790	40-790
Gain adjustment	dB	20	20
Insertion loss	dB	-2	-2
Max. output level	dBµV	107	105
Tap			
SAT bandwidth	MHz	950-2150	950-2150
TV bandwidth	MHz	40-790	40-790
SCR Frequencies	MHz	Standard EN50494 SCR/SCD, EN50607 SCD2 IT and SKY dSCR UK	
Consumption			
Tap consumption	mA	PSU su DC-IN o VL: 100; PSU su HL o VH: 420	PSU su DC-IN o VL: 100; PSU su HL o VH: 420
Current consumption	mA	PSU on DC-IN or VL: 750@13V; PSU on HL or VH: 120@13V; HH pass	PSU on DC-IN or VL: 1400@13V; PSU on HL or VH: 120@13V; HH pass
Power supply	V	12-18	12-18
Specifications			
Dimensions	mm	180 x 109 x 31	260 x 109 x 50
Operating temperature	°C	-10 to +55	-10 to +55

SCD2 MULTISWITCHES

SCD2-32IF



SCD2-32IF SSA

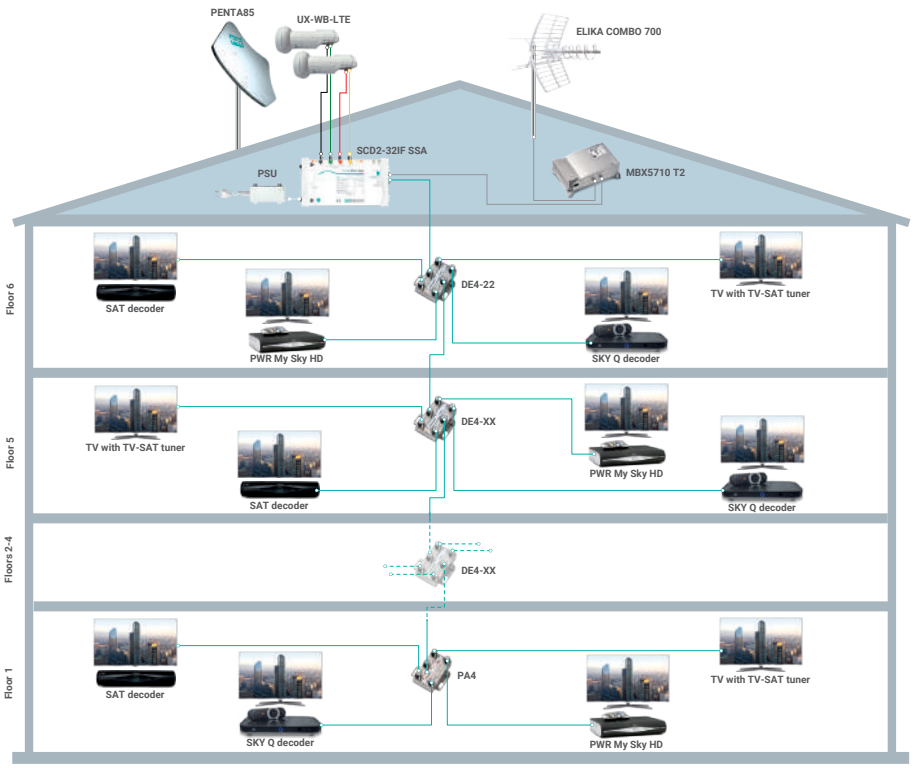
PSU1430F

SCD2-32IF

Compact IF to IF headends with **SCD2 (dCSS)** technology with **4 satellite inputs** to convert up to 32 x DVB-S/S2 transponders.

- **Available in 2 models, with and without built-in amplifier.**
- **SCD2-32IF**: 4 satellite inputs and **2 taps with 86dBµV output level** for each transponder.
- **SCD2-32IF SSA**: 4 satellite inputs, **1 passive TV input** and **1 mixed output** with maximum satellite output level **127dBµV**; **satellite gain adjustment 20dB** and **satellite slope adjustment 15dB**.
- **Automatic Gain Control (AGC)**: maintains constant output level even when input transponder power varies (from 55dBµV to 85dBµV).
- Compatible with both quattro LNB (**UX-QT LTE**) and **wideband LNB (UX-WB LTE)**
- **LED Monitor**: USB connection, power status, remote power status and short circuit indicator.
- **Isofrequency mode**; the product can also be used to equalise and amplify an entire satellite polarity.
- **Fixed mode** (IF to IF) with selectable bandwidth 20-60MHz or **dynamic** (controlling them via the DiSEqC controls of the SCR or SCD2 STB).
- **Configurable slope** of the generated signal (up to 8dB, with the SCD2-32IF SSA model having an additional 15dB) to compensate for cable loss in distribution.
- **Dual power ports** for a more robust system.
- Compact size, especially when compared with an equivalent 32-filter programmable IF to IF central unit.
- **Free PC configuration software** using the USB port: the input, output frequencies and other configuration parameters of the central unit (level, slope etc.) are adjustable.
- **External power supply included**.

Installation example



SCD2 MULTISWITCHES

		SCD2-32IF	SCD2-32IF SSA
Code		271130	271138
Inputs		4 SAT	4 SAT, 1 TV
Taps		2 SAT	1 SAT + TV
SAT			
Bandwidth	MHz	250-2350	250-2350
AGC	dBµV	55-85	55-85
Tilt adjustment	dB		15
Slope adjustment for transponder	dB	8 (via SW)	8 (via SW)
Maximum input level SAT	dBµV	97	97
Max. output level	dBµV	101	127
Max. output level SAT per TS	dBµV	86	112
Max Output level (single tone)	dBµV	81	107
SAT-SAT Isolation	dB	>35	>35
TV			
Bandwidth	MHz	-	114-790
Insertion loss	dB	-	-2
SAT-SAT Isolation	dB	-	>25
Tap			
Transponder no.		32	32
Operating method		IF-IF Static / SCR / SCD2 (dCSS)	IF-IF Static / SCR / SCD2 (dCSS)
SAT bandwidth	MHz	950-2150	950-2150
Bandwidth SAT per transponder	MHz	20-60	20-60
Sat frequency precision	MHz	< 50	< 50
Switching standards	MHz	DiSEqC-SCIF 1st and 2nd generation (SCD / SCD2) SCR (EN50494) and SCD2 (EN50607)	DiSEqC-SCIF 1st and 2nd generation (SCD / SCD2) SCR (EN50494) and SCD2 (EN50607)
Consumption			
Power supply	V, Hz	220-240 / 50-60	220-240 / 50-60
Mains plug		2 with F-connectors (the second one is optional, it only serves to make the workpiece more robust)	2 with F-connectors (the second one is optional, it only serves to make the workpiece more robust)
Current consumption without LNB	mA@V	400 @12V	600 @12V
Current consumption with LNB	mA@V	1100 @12V	1200 @12V
Maximum power supply current SAT	mA	600 @12V	600 @12V
Specifications			
Dimensions	mm	160 x 110 x 30	200 x 110 x 30
Dimensions power supply	mm	120 x 72 x 35	120 x 72 x 35
Operating temperature	°C	-10 to +55	-10 to +55

HEAD AMPLIFIERS

AMP435SA ABLA

AMP435SSA ABLA

HEAD AMPLIFIERS WITH A.B.L.A.

Compact self-powered head amplifiers with 4 Satellite inputs and output level adjustment with ABLA technology (SA and SSA models) and slope (SSA model) for each input.

- Thanks to A.B.L.A. (Automatic Building Level Adjustment) technology, the amplifier maintains the set output level even when the input signal strength varies.
- **A.B.L.A. LEDs** light up when the automatic output signal adjustment is working properly; if the input level is too low, the LED goes out and the product behaves like a normal fixed-gain Satellite amplifier (36dB).
- High Satellite output level (121dBµV) and excellent isolation between inputs (35dB).
- Powered remotely via VL, HL and VH satellite lines or via **DC connector** located on the side of the product.
- DC pass-through on Satellite HH line.
- Voltage injected via the DC port is **protected against current overloads** and controlled by a **DIP switch** located on the side of the product.
- **Dual power ports** for a more robust system
- Ideal for medium and large installations or where there are long distances between multiswitches.
- Quick and easy to install due to standard colour coding.
- **External power supply included in the package**

		AMP435SA ABLA	AMP435SSA ABLA
Code		271173	271171
Inputs		4 SAT	4 SAT
SAT			
Bandwidth	MHz	950-2150	950-2150
Gain	dB	Self-adjusted A.B.L.A. 16-36	Self-adjusted A.B.L.A. 16-36
A.B.L.A. input level (overall power)	dBµV	It depends on the set output level: 65-85 @101dBµV; 85-105 @121dBµV	It depends on the set output level: 65-85 @101dBµV; 85-105 @121dBµV
Slope	dB	6	-
Tilt adjustment	dB	-	15
Adjustable output level (overall power)	dBµV	101-121	101-121
Return loss	dB	10	10
SAT-SAT Isolation	dB	≥35	≥35
Specifications			
Power supply	V, Hz	220-240 / 50-60	220-240 / 50-60
Current consumption	mA@V	550 @12V	550 @12V
Max. current consumption LNB	mA	900	900
Maximum power supply current SAT	mA	2000	2000
Dimensions	mm	160 x 110 x 30	160 x 110 x 30
Dimensions power supply	mm	120 x 72 x 35	120 x 72 x 35
Operating temperature	°C	-10 to +55	-10 to +55

A.B.L.A. Technology
(Automatic Building Level Adjustment)

The AMP435SA, AMP435SSA, SWA435SSA and SWA430W amplifiers feature the A.B.L.A. (Automatic Building Level Adjustment) technology; thanks to that it is possible **to set the desired output level** and the product is able to keep this level even when the power of the received signal varies.

At each input there is an **A.B.L.A. LED**, which can be used to monitor signal strength

- ***LEDs on***: the level of the **input signal** is within the **expected range** and the automatic adjustment of output signal is working properly;
- ***LEDs off***: the input level does not meet the requirements to keep the output signal constant, in this condition the product behaves like a **normal Satellite amplifier with 36dB** of gain and 20dB of regulation (30dB of gain in the SWA430W model).

The dynamics of the input signal varies according to the set output level, to calculate it, it is sufficient to apply the following formula:

minimum INPUT power = set OUTPUT power - 36dB (-30dB for the SWA430W model)

maximum INPUT power = set OUTPUT power - 16dB (-10dB for the SWA430W model)

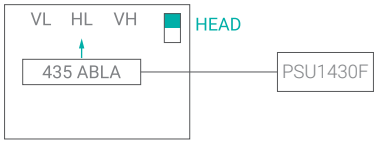
HEAD and LINE modes

The big news of the **435ABLA Series** is the **flexibility** with which it is possible to use AMP and SWA both as head amplifiers and as line amplifiers; thanks to the dip switch located on the side of the mechanics, it is possible to set different voltage management modes.

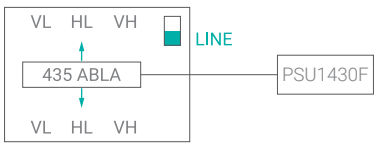
Power supply from DC-IN port: this is the typical case of **head amplifier**, the product is entirely powered by the DC-IN port, it protects the power supply from overloads and supplies the remote feeding to the input ports to feed the **LNB**.

HEAD mode:

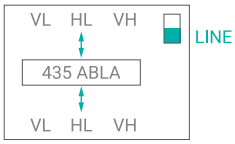
the **remote feeding is interrupted downwards**, in order not to interfere with the voltages of the downstream system, no need to install DC BLOCKS.



LINE mode: there is a passage of voltage also downwards



Power supply from VL, HL or VH Satellite trunk lines: this is the typical case of a **line amplifier**, the product is entirely powered by the Satellite lines and **passes the voltage** towards the input ports, to power the LNB, without any current limitation in order not to interfere with the existing system; in this configuration the dip switch must be positioned in **LINE mode**.



In all models of the series there is no power draw from the **HH line**: this Satellite port is used **to pass a current directly**, without any absorption by the amplifier, for example to power the LNB using a dedicated power supply at the base of the system.

HEAD AMPLIFIERS

AMP9294

LAUNCH AMPLIFIERS

9 input with satellite gain adjustment.

- **Gain adjustment** for each satellite input.
- High satellite output level.
- Ideal for small and medium sized installations.
- Quick and easy to install due to standard colour coding.

		AMP9294
Code		271032
Inputs		8 SAT, 1 TV
SAT		
Bandwidth	MHz	950-2150
Gain	dB	24
Gain adjustment	dB	15
Max. output level	dBµV	112
TV		
Bandwidth	MHz	5-862
Gain	dB	-1
Specifications		
Power supply		220-240 / 50-60
Max. current consumption LNB	mA	600
Dimensions	mm	320 x 125 x 65
Operating temperature	°C	-10 to +55

LINE AMPLIFIERS

SWA5414

SWA5122

SWA LINE AMPLIFIERS

SWA5414

Line amplifier with **4 satellite inputs**.

- **Fixed gain with positive slope 4dB**.
- **Can be powered directly through the DC connector** or by using a power supply with DC inserter on the VL line.
- Ideal for small and medium-sized installations.
- **Compact size.**
- Easy to install due to standard input colouring.

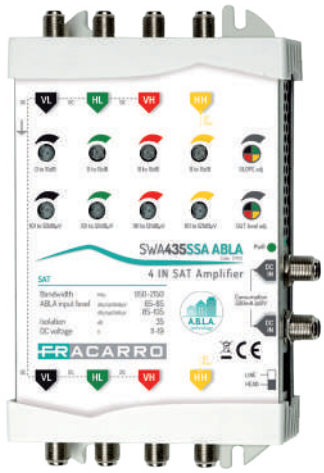
SWA5122

Line amplifier with **2 inputs** (1 Satellite and 1 TV).

- High TV amplification.
- **Gain and slope adjustment for TV input.**
- Gain adjustment for return channel.
- High TV output level.
- Remote powered via Satellite line.
- Ideal for medium and large installations or where there are long distances between multiswitches.
- Easy to install due to standard colouring of inputs.

		SWA5414	SWA5122
Code		271036	271035
Inputs		4 SAT	1 SAT, 1 TV
SAT			
Bandwidth	MHz	950-2150	950-2150
Gain	dB	16	-1
Slope	dB	4	-
Max. output level	dBµV	108	-
TV			
Bandwidth	MHz	-	5-862
Gain	dB	-	30
Gain adjustment	dB	-	15
Tilt adjustment	dB	-	15
Max. output level	dBµV	-	116
Return channel			
Bandwidth	MHz	-	5-65
Gain	dB	-	15
Gain adjustment	dB	-	10
Max. output level	dBµV	-	106
Specifications			
Power supply	V	5-18	14-30 (on SAT line)
Current consumption	mA@V	120 @14V	400 @14V
Dimensions	mm	90 x 90 x 20	198 x 108 x 30
Operating temperature	°C	-10 to +55	-10 to +55

LINE AMPLIFIERS



SWA435SSA ABLA

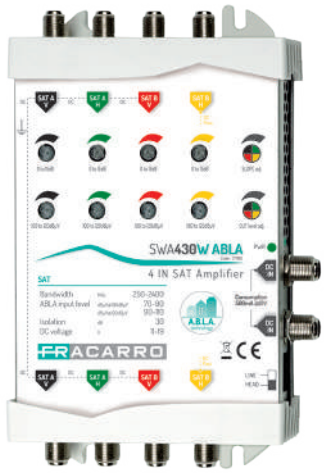
LINE AMPLIFIERS WITH A.B.L.A.

Line amplifiers with 4 satellite inputs, output level adjustment with **A.B.L.A. technology** and slope adjustment for each satellite input.

- Due to **A.B.L.A. (Automatic Building Level Adjustment) technology**, the amplifier maintains the set output level even when the input signal strength varies.
- **A.B.L.A. LEDs** light up when the automatic output signal adjustment is working correctly; if the input level is too low, the LED turns off and the product behaves like a normal fixed gain satellite amplifier (36dB).
- High satellite output level (up to 121dBµV) and excellent isolation between inputs (≥35dB).
- Powered remotely via VL, HL and VH satellite lines or via **DC connector** located on the side of the product.
- DC pass-through on satellite HH line.
- Voltage injected via the DC port is **protected against current overloads** and controlled by a **DIP switch** located on the side of the product.
- **Dual power** ports for a more robust system.
- Ideal for medium and large installations.
- Quick and easy to install due to standard colour coding.
- **External power supply not included**.

		SWA435SSA ABLA
Code		271172
Inputs		4 SAT
SAT		
Bandwidth	MHz	950-2150
Gain	dB	Self-adjusted A.B.L.A. 16-36
A.B.L.A. input level	dBµV	Depends on the set output level: 65-85 @101dBµV; 85-105 @121dBµV
Tilt adjustment	dB	15
Adjustable output level	dBµV	101-121
Return loss	dB	10
SAT-SAT Isolation	dB	≥35
Specifications		
Power supply	V	11-19
Current consumption	mA	550 @12V
Max current consumption LNB	mA	900
Maximum power supply current SAT	mA	2000
Dimensions	mm	160 x 110 x 30
Dimensions power supply	mm	Not included
Operating temperature	°C	-10 to +55

LINE AMPLIFIERS



SWA430W ABLA

WIDEBAND LINE AMPLIFIERS WITH A.B.L.A.

Cascadable line amplifiers with 4 wideband satellite inputs; output level and slope adjustment for each satellite input with **ABLA technology**.

- **Compatible with wideband LNB** (UX-WB LTE) to distribute the four polarities of a satellite with only two cables.
- Due to **A.B.L.A. (Automatic Building Level Adjustment) technology,** the amplifier maintains the set output level even when the input signal strength varies.
- A.B.L.A. LEDs light up when the automatic output signal adjustment is working correctly; if the input level is too low, the LED turns off and the product behaves like a normal fixed gain satellite amplifier (30dB).
- High satellite output level (120dBµV) and excellent isolation between inputs (≥30dB).
- Powered remotely via SatA V, SatA H and SatB V satellite lines or via **DC connector** located on the side of the product.
- DC pass-through on SatB H satellite line.
- Voltage injected via the DC port is **protected against current overloads** and controlled by a **DIP switch** located on the side of the product.
- **Dual power ports** for a more robust system.
- Ideal for medium and large installations.
- Quick and easy to install due to standard colour coding.
- **External power supply not included**.

		SWA430W ABLA
Code		271185
Inputs		4 SAT
SAT		
Bandwidth	MHz	250-2400
Gain	dB	Self-adjusted A.B.L.A. 10-30
A.B.L.A. input level	dBµV	Depends on the set output level: 70-90 @100dBµV; 90-110 @120dBµV
Tilt adjustment	dB	15
Adjustable output level	dBµV	100-120
Return loss	dB	10
SAT-SAT Isolation	dB	≥30
Specifications		
Power supply	V	11-19
Current consumption	mA	500 @12V
Max current consumption LNB	mA	900
Maximum power supply current SAT	mA	2000
Dimensions	mm	160 x 110 x 30
Dimensions power supply	mm	Not included
Operating temperature	°C	-10 to +55

LINE AMPLIFIERS

SWA930TS

SWA1730TS

HEADEND/LINE AMPLIFIERS

Headend/line amplifiers with 9 inputs (8 SAT and 1 TV) or with **17 inputs** (16 SAT and 1 TV).

- High satellite amplification.
- DIP switch to select **active or passive TV gain**.
- **Gain adjustment** on all inputs.
- Satellite bandwidth up to 2300MHz.
- High satellite output level.
- **Power supplied via trunk lines** (independently on each port) or from the female **jack connector**.
- **PSU not included**.
- Ideal for small and medium installations.
- Compact dimensions.
- Quick and easy to install due to standard colour coding.

		SWA930TS	SWA1730TS
Code		287373	287374
Inputs		8 SAT, 1 TV	16 SAT, 1 TV
SAT			
Bandwidth	MHz	950-2300	950-2300
Gain	dB	30	30
Gain adjustment	dB	20	20
Max. output level	dBµV	112	112
TV			
Bandwidth	MHz	Active TV: 47-862; Passive TV: 5-862	Active TV: 47-862; Passive TV: 5-862
Gain (Active)	dB	18	18
Gain (Passive)	dB	-2	-2
Gain adjustment	dB	20	20
Max. output level	dBµV	Active TV: 110	Active TV: 110
Specifications			
Power supply	V	12-14	12-14
Current consumption	mA	Active TV: 1150 @13V; Passive TV: 1000 @13V	Active TV: 2150 @13V; Passive TV: 2000 @13V
Dimensions	mm	170 x 120 x 40	290 x 120 x 40
Operating temperature	°C	-10 to +55	-10 to +55

POWER SUPPLIES

POWER SUPPLIES

PSU1215TS

PSU1215TS

12V 1.5A power supply with male jack connector (2.1 x 5.5 x 12mm; inner positive, outer negative) and European plug.

- Ideal as a **replacement power supply** for **SWPxxxTS and SWIxxxTS series** multiswitches.
- European plug can be converted to a UK plug using a **PC8338 adaptor.**
- Compact size.

PSU1240TS

PSU1240TS

12V 4A power supply with male jack connector (2.1 x 5.5 x 12mm; inner positive, outer negative) and European plug.

- Ideal as a **replacement power supply** for SWPxxxTS and SWIxxxTS series multiswitches.
- European plug can be converted to a **UK plug** using a PC8338 adaptor.
- Insulation class II.
- Compact dimensions.

		PSU1215TS	PSU1240TS
Code		287622	287728
Power supply	V, Hz	220-240 / 50–60	220-240 / 50–60
Mains plug		EU	EU
Isolation class		II	II
Output voltage	V	12	12
Max. current	mA	1500	4000
Connector		M-Type Jack 2.1x5.5x12	M-Type Jack 2.1x5.5x12
Polarity		Inner positive, outer negative	Inner positive, outer negative
Dimensions	mm	90 x 70 x 45	110 x 52 x 34
Operating temperature	°C	0 to +40	0 to +40

POWER SUPPLIES

POWER SUPPLIES

PSU1508F

15V 0.8A power supply with **F Female connector** and European plug.

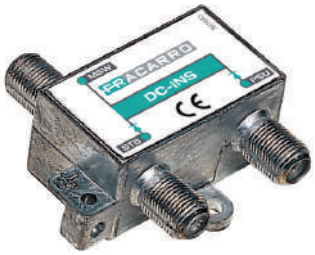
- It occupies the **minimum position** on the electric power strip
- Can be installed anywhere in the system, carrying the current with the coaxial cable (not included)
- Built-in mounting **brackets**
- With the **PC8338** adaptor it is possible to convert the European plug to an **English plug**.
- Isolation class II.
- Compact dimensions.

PSU1215FA

PSU1215FA

12V 1.5A power supply with **F Male connector** and **adaptors** for the **plug** standard of **different countries**.

- Used to power **SCD2-5..W/WTA series multiswitches** on the floor.
- Protected against overloads to ensure perfect system efficiency.
- Easily connectable to sockets in different countries via **adaptors** for Europe, South America and Asia **(type C**), England, Ireland, Malta, Malaysia and Singapore **(type G**) USA, Canada, Mexico and Japan **(type A**) and Australia, New Zealand, China and Argentina **(type I**).
- Insulation class II.
- Compact dimensions.
- Available also with Jack male connector (287405 **PSU1220JA**)



DC-INS

DC-INS

Current inserter with **protection of DiSEqC tones generated by the STBs** with a maximum of 450mA current throughput. It can work both with SCR (190mA) or SCD2 dCSS (350mA).

- It is used when the STB is unable to supply power to the upstream multiswitch or LNB and an additional power supply is required.
- With this product, voltage is supplied entirely from a power supply connected to the PSU input , DiSEqC tones from the receiver connected to the STB connection are preserved and sent to the multiswitch via the MSW connection.
- It can be used with the PSU1506 power supply or the SPS1750
- **Low insertion loss**.
- Broadband TV and satellite operation (**100MHz - 2400MHz**).
- Low voltage drop.
- Compact dimensions.

SPS1750

SPS1750

15V 1A power supply with DC inserter with **F female connector** and European plug.

- Low insertion loss.
- Broadband TV and Satellite operation (**100MHz - 2400MHz**).
- European plug can be converted to a **UK plug** using a **PC8338 adaptor**.
- Insulation Class II.
- Compact dimensions.

PSU1430F

PSU1430F

Power supply **14V 3.0A** with **male F connector** and European plug.

- Available in European and UK plug versions (**PSU1430FUK**).
- Insulation class II.
- Compact dimensions.

INSDC3A

INSDC3A

Power inserter with **female F-connectors**, maximum current pass 3A.

- It is used to **supply power to SCD2 multiswitches in cascade**; passing current between the ports of the multiswitches also allows the LNBs to be powered. Also suitable to insert power wherever required in a distribution system.
- Can be used with any type of power supply e.g. PSU1430F or PSU1830F.
- **Low insertion loss**.
- Passes terrestrial and satellite (**40MHz - 2400MHz**).
- Compact size.

PSU3001

PSU3001

18V 3A power supply with **2 equal 1.5A (max.) DC supplies**. 2 x inputs with 2 x DC outputs allows power insertion onto trunk lines.

- Available in European and UK plug versions (**PSU3001/UK** code 271159).
- European plug can be converted to a **UK plug** using a **PC8338 adaptor.**
- Low insertion loss.
- Isolation class II.

		PSU1508F	PSU1215FA	DC-INS	SPS1750	PSU1430F	INSDC3A	PSU3001
Code		287760	287551	271126	289087	287614	287612	271160
Inputs		-	-	1 SAT, TV	1	-	1 SAT, TV	2
Bandwidth	MHz	-	-	100-2400	40-2150	-	40-2400	5-2400
Insertion loss	dB	-	-	1	1	-	0.5	1.5
Power supply	V, Hz	220-240 / 50–60	220-240 / 50–60	-	220-240 / 50–60	220-240 / 50–60	-	220-240 / 50–60
Mains plug		EU	with adaptors	-	EU	EU	-	EU
Isolation class		II	II	-	II	II	-	II
Output voltage	V	15	12	-	15	14	-	18
Max. current	mA	800	1500	450	1000	3000	3000	1500x2
Connector		F Female	F	F x3	F x2	F	F x3	F x4
Polarity		Inner positive, outer negative	Inner positive, outer negative	-	Inner positive, outer negative	Inner positive, outer negative	-	Inner positive, outer negative
Dimensions	mm	120 x 70 x 30	78 x 48 x 35	48 x 50 x 22	40 x 70 x 90	120 x 72 x 35	50 x 50 x 17	165 x 63 x 107
Operating temperature	°C	-10 to +55	0 to +45	-10 to +55	-10 to +55	-10 to +50	-10 to +55	-10 to +55

ACCESSORIES

SPLITTERS AND TAPS

Passive splitters and taps for the 5 input multiswitch range. DC pass on all satellite lines.

SWI85SPL2

SWI85T15

		SWI85SPL2	SWI85T15
Code		271096	271095
Inputs		4 SAT, 1 TV, 1 DC	4 SAT, 1 TV
Outputs		4 SAT, 1 TV	4 SAT, 1 TV
Taps		4 SAT, 1 TV	4 SAT, 1 TV, 1 DC
SAT			
Bandwidth	MHz	950-2150	950-2150
	dB	-	-13
Insertion loss	dB	-4.5	-
SAT-SAT Isolation	dB	≥30	≥30
TV			
Bandwidth	MHz	5-862	5-862
Insertion loss	dB	-4.5	-2
Tap consumption	dB	-	-13
Specifications			
Dimensions	mm	160 x 118 x 30	160 x 118 x 30
Operating temperature	°C	-10 to +55	-10 to +55

MULTISWITCH ACCESSORIES

Adaptors and connectors for multiswitches.

PC8338

Name	Code	Specifications
PC8338	287398	**PC8338** adaptor to convert European plug to **English plug**.

Distribution

SPLITTERS AND TAPS

PA2ME

OUTDOOR PAM and DEM

Pole mounted PAM series clamp style splitter with **2 or 4 outputs** for both the **TV and satellite bands (5-2400MHz)**. **Protective housing** for external use for installation of the PAM and DEM range of splitters and taps.

- The **unique retaining clip** ensures the center connector remains integral facilitating cable connection.
- The **small clamp solution**, without F connection, reduces the installation footprint.
- **Excellent shielding** ensures signal protection from **4G and 5G LTE** interference.
- **Protective guards** to prevent the center connector clip from being pressed accidentally when closing the junction boxes.
- **Separate input and output ports** so that different diameter cables can be used.
- **DC pass** (diode protected) throughout the series.

		PA2ME	PA4ME	BOM
Code		287619	287620	287621
Outputs		2	4	4
Insertion loss	RC 5-40MHz	4	8.1	-
	TV 47-862MHz	4.3	8.7	-
	SAT 950-1750MHz	5.1	9.6	-
	SAT 1750-2150MHz	5.8	10.5	-
	SAT 2150-2400MHz	6.8	11.5	-
Isolation output	RC 5-40MHz	21	21	-
	TV 47-862MHz	21	21	-
	SAT 950-1750MHz	21	21	-
	SAT 1750-2150MHz	21	21	-
	SAT 2150-2400MHz	20	20	-

PA2ME

PA4ME

BOM

SPLITTERS AND TAPS

PAM and DEM

Clamp splitters and taps of the PAM and DEM series for both the TV and satellite bands (**5-2400MHz**).

- The **unique retaining clip** ensures the center connector remains integral facilitating cable connection.
- The **small clamp solution**, without F connection, reduces the installation footprint.
- **Excellent shielding** ensures signal protection from **4G and 5G LTE** interference.
- **Protective guards** to prevent the center connector clip from being pressed accidentally when closing the junction boxes.
- **Separate input and output ports** so that different diameter cables can be used.
- DC pass (diode protected) throughout the series; DC blocking in the tapped outputs of DE models.

PA4M

DE210M

		PA2M	PA3M	PA4M	PA5M
Code		287456	287457	287458	287459
Outputs		2	3	4	5
Insertion loss	RC 5-40MHz	4	6.6	8.1	10.6
	TV 47-862MHz	4.3	7.2	8.7	11.2
	SAT 950-1750MHz	5.1	8.1	9.6	12.7
	SAT 1750-2150MHz	5.8	8.5	10.5	13.5
	SAT 2150-2400MHz	6.8	10.5	11.5	16.5
Isolation output	RC 5-40MHz	21	21	21	21
	TV 47-862MHz	21	21	21	21
	SAT 950-1750MHz	21	21	21	21
	SAT 1750-2150MHz	21	21	21	21
	SAT 2150-2400MHz	20	20	20	20

		DE110M	DE114M	DE118M	DE122M	DE210M	DE214M
Code		287460	287461	287462	287463	287464	287465
Taps		1	1	1	1	2	2
Insertion loss	RC 5-40MHz	1.6	1.2	1	1	3.5	2
	TV 47-862MHz	1.7	1.3	1.1	1.1	3.5	2.4
	SAT 950-1750MHz	2	1.8	1.3	1.3	4.5	3
	SAT 1750-2150MHz	2.5	2	1.5	1.5	5	3.2
	SAT 2150-2400MHz	3	2.8	2.2	2.2	5.5	3.5
RC 5-40MHz	RC 5-40MHz	10	14	18	22	10	14
	TV 47-862MHz	10	14	18	22	10	14
	SAT 950-1750MHz	10.5	14.5	18.5	22.5	10.5	14.5
	SAT 1750-2150MHz	11	15	19	23	11	15
	SAT 2150-2400MHz	11.5	15.5	19.5	23.5	11.5	15.5
Isolation output	RC 5-40MHz	20	20	20	20	20	20
	TV 47-862MHz	20	20	20	20	20	20
	SAT 950-1750MHz	20	20	20	20	20	20
	SAT 1750-2150MHz	20	20	20	20	20	20
	SAT 2150-2400MHz	20	20	20	20	20	20

		DE218M	DE222M	DE412M	DE414M	DE418M	DE422M
Code		287466	287467	287468	287469	287470	287471
Taps		2	2	4	4	4	4
Insertion loss	RC 5-40MHz	1.5	1	4.2	3	2	1
	TV 47-862MHz	1.7	1.3	4.3	4	2.2	1.5
	SAT 950-1750MHz	2.1	2	4.5	4.5	3	1.6
	SAT 1750-2150MHz	2.2	2.2	5	5	3.2	1.8
	SAT 2150-2400MHz	2.5	2.4	5.5	5.5	3.5	2
RC 5-40MHz	RC 5-40MHz	18	22	11.5	14	18	22
	TV 47-862MHz	18	22	11.5	14	18	22
	SAT 950-1750MHz	18.5	22.5	12	14.5	18.5	22.5
	SAT 1750-2150MHz	19	23	12.5	15	19	23
	SAT 2150-2400MHz	19.5	23.5	13.5	15.5	19.5	23.5
Isolation output	RC 5-40MHz	20	20	20	20	20	20
	TV 47-862MHz	20	20	20	20	20	20
	SAT 950-1750MHz	20	20	20	20	20	20
	SAT 1750-2150MHz	20	20	20	20	20	20
	SAT 2150-2400MHz	20	20	20	20	20	20

SPLITTERS AND TAPS

CAD-S

Clamp splitters and taps of the **CAD-S series** for both the TV and satellite bands (**5-2400MHz**).

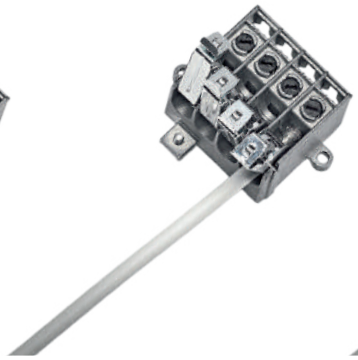
- **Excellent class A shielding** and 75Ω impedance.
- They are **the only broadband models with a clamp dedicated to each output** to use cables of different diameters on adjacent ports.
- Operating functions are **patented by Fracarro** for quick and easy installation.

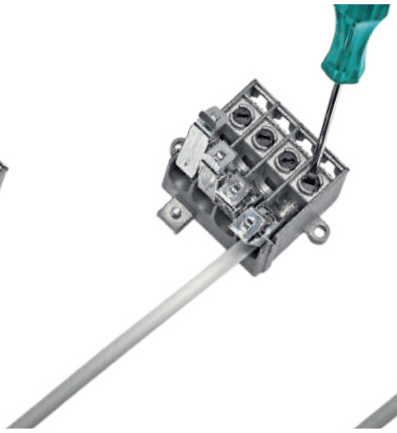
		PP2	PP3	PP4	PP5
Code		220802	220803	220804	220805
Outputs		2	3	4	5
Insertion loss	RC 5-40MHz	4	6.5	9.5	11
	TV 47-862MHz	4	6.5	9.5	11
	SAT 950-1750MHz	4.5	6.5	10	11.5
	SAT 1750-2150MHz	5	7	10.5	12
	SAT 2150-2400MHz	5.5	8	11	13
Isolation output	RC 5-40MHz	25	20	20	20
	TV 47-862MHz	22	20	25	25
	SAT 950-1750MHz	20	20	25	25
	SAT 1750-2150MHz	20	20	20	22
	SAT 2150-2400MHz	18	18	18	18

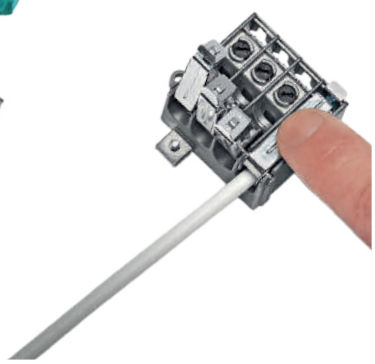
PP2

PP4

		CD1-10	CD1-14	CD1-18
Code		220810	220814	220818
Taps		1	1	1
Insertion loss	RC 5-40MHz	1.8	0.8	0.8
	TV 47-862MHz	1.6	0.8	0.8
	SAT 950-1750MHz	2	1.3	1.3
	SAT 1750-2150MHz	2.3	1.5	1.5
	SAT 2150-2400MHz	2.6	2	2
RC 5-40MHz	RC 5-40MHz	10	14.5	18
	TV 47-862MHz	10	14.5	18
	SAT 950-1750MHz	10	14.5	17.5
	SAT 1750-2150MHz	10	14.5	18
	SAT 2150-2400MHz	10	14	18
Isolation output	RC 5-40MHz	28	30	32
	TV 47-862MHz	30	33	35
	SAT 950-1750MHz	30	25	30
	SAT 1750-2150MHz	28	25	27
	SAT 2150-2400MHz	32	24	24







SPLITTERS AND TAPS

CAD-S

Clamp splitters and taps of the **CAD-S series** for both the TV and satellite bands (**5-2400MHz**).

- **Excellent class A shielding** and 75Ω impedance.
- They are **the only broadband models with a clamp dedicated to each output** to use cables of different diameters on adjacent ports.
- Operating functions are **patented by Fracarro** for quick and easy installation.

CD1-10

CD4-12

		CD2-10	CD2-14	CD2-18
Code		220830	220834	220838
Taps		2	2	2
Insertion loss	RC 5-40MHz	3.5	1.6	1.6
	TV 47-862MHz	3	1.5	1.5
	SAT 950-1750MHz	3.3	2.5	2.5
	SAT 1750-2150MHz	4.2	2.7	2.7
	SAT 2150-2400MHz	4.7	3.5	3.5
RC 5-40MHz	RC 5-40MHz	11	15	18
	TV 47-862MHz	10	15	18
	SAT 950-1750MHz	10.5	14.5	18
	SAT 1750-2150MHz	10.5	14.5	18
	SAT 2150-2400MHz	11	14.5	18
Isolation output	RC 5-40MHz	25	30	32
	TV 47-862MHz	28	35	37
	SAT 950-1750MHz	23	25	28
	SAT 1750-2150MHz	20	23	26
	SAT 2150-2400MHz	18	23	26

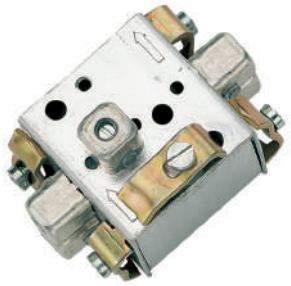
		CD4-12	CD4-14	CD4-18
Code		220852	220854	220858
Taps		4	4	4
Insertion loss	RC 5-40MHz	4	3.5	1.6
	TV 47-862MHz	3.7	3.3	1.5
	SAT 950-1750MHz	4.5	3.7	2.5
	SAT 1750-2150MHz	5.5	4.5	3.5
	SAT 2150-2400MHz	6.5	5	4
RC 5-40MHz	RC 5-40MHz	13	14	19
	TV 47-862MHz	12	14	18
	SAT 950-1750MHz	12	14.5	18
	SAT 1750-2150MHz	12.5	14.5	18
	SAT 2150-2400MHz	13	14.5	18
Isolation output	RC 5-40MHz	27	30	33
	TV 47-862MHz	27	30	35
	SAT 950-1750MHz	27	30	33
	SAT 1750-2150MHz	25	25	30
	SAT 2150-2400MHz	25	25	25

SPLITTERS AND TAPS

CAD TV

75Ω splitters and taps for the TV band (**47-862MHz**).

- Metal clamps with screw terminals.
- We recommend using a divider to split the signal and a tap to serve the outlets in order to create a more balanced system.



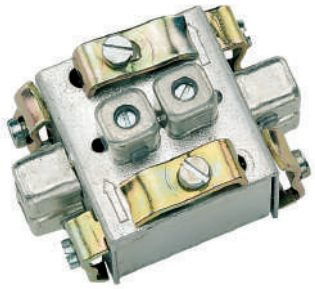
PP12

		PP12	PP14DC	IP2
Code		220370	220392	220322
Outputs	No.	2	4	2
Insertion loss	dB	4	8	4
Isolamento B1	dB	18	10	18
Isolamento B3	dB	18	10	18
Isolamento B4	dB	18	10	18
Isolamento B5	dB	18	10	18

CAD DIRECTIONAL TV

Clamp-on directional inductive taps for the TV band (**47-862MHz**).

- **Metal enclosure** with screw terminals.
- High isolation between outputs and "tilted" frequency response to compensate for cable attenuation.



CAD14

		CD11	CD12
Code		220660	220670
Taps		1	2
Insertion loss		0.8/1.1	1.3/1.8
Tap output separation	47-862MHz	10	11
	174-230MHz	10	11
	470-606MHz	10	10
	606-862MHz	10	10
Output separation	47-862MHz	-	21
	174-230MHz	-	21
	470-606MHz	-	19
	606-862MHz	-	19
V.S.W.R. input		<1.2	<1.4

		CAD11	CAD12	CAD13	CAD14
Code		220451	220452	220453	220454
Taps		1	2	3	4
Insertion loss		0.1/0.7	0.1/0.8	0.2/2	0.1/1.9
Tap output separation	47-862MHz	27	27	27	27
	174-230MHz	17	18	17	17
	470-606MHz	11	12	12	12
	606-862MHz	12	13	15	15
Output separation	47-862MHz	45	53	40/44	48/60
	174-230MHz	38	43	35/30	37/60
	470-606MHz	36	30	34/25	29/52
	606-862MHz	35	26	32/35	25/45
V.S.W.R. input		<1.1	<1.2	<1.3	<1.2

SPLITTERS AND TAPS

PA and DE

Vertical splitters and taps with F connector for the TV and satellite bands (5-2400MHz).

- Compact design allows installation in any enclosure.
- **Die-cast with nickel plating** ensures maximum performance with low insertion loss, high return loss and high shielding.
- With cross-bonding connections and standard installation holes.
- The **PA splitters with DC pass** (diode protected) from the outputs to the input. The **DE taps** have **directional power pass (output to input)** on the trunk line with **DC blocking** on the tapped outputs.

PA2

PA4

DE1-14

		PA2	PA3	PA4	PA6	PA8
Code		280701	280703	280702	280704	280705
Outputs		2	3	4	6	8
Insertion loss	RC 5-40MHz	4	7	7.5	10.5	12
	TV 47-862MHz	4	8	8.5	11	12.5
	SAT 950-1750MHz	5.5	10	11	13.5	15.5
	SAT 1750-2150MHz	5.5	10.5	11.5	14.5	16.5
	SAT 2150-2400MHz	6	11	12	16	17
Isolation output	RC 5-40MHz	22	22	30	22	20
	TV 47-862MHz	21	22	28	22	20
	SAT 950-1750MHz	20	22	26	22	20
	SAT 1750-2150MHz	20	22	22	22	20
	SAT 2150-2400MHz	23	22	22	22	20

		DE1-10	DE1-14	DE1-18	DE1-22
Code		280710	280711	280712	280713
Taps		1	1	1	1
Insertion loss	RC 5-40MHz	1.5	1	0.8	0.6
	TV 47-862MHz	1.3	0.8	0.7	0.5
	SAT 950-1750MHz	1.6	1.2	0.9	0.8
	SAT 1750-2150MHz	2	1.3	1	1
	SAT 2150-2400MHz	2	1.5	1.3	1.7
RC 5-40MHz	RC 5-40MHz	10.5	14	18.5	22
	TV 47-862MHz	10.5	14	18.5	22
	SAT 950-1750MHz	11	14	18.5	22
	SAT 1750-2150MHz	11	14	18.5	22
	SAT 2150-2400MHz	11	14	18.5	22
Isolation output	RC 5-40MHz	40	32	45	50
	TV 47-862MHz	34	29	34	36
	SAT 950-1750MHz	27	28	31	33
	SAT 1750-2150MHz	24	30	27	31
	SAT 2150-2400MHz	24	25	22	27

		DE2-10	DE2-14	DE2-18	DE2-22
Code		280714	280715	280716	280717
Taps		2	2	2	2
Insertion loss	RC 5-40MHz	2.5	1.5	1.2	1.2
	TV 47-862MHz	2.5	1.5	1.2	1.1
	SAT 950-1750MHz	2.5	1.8	1.5	1.5
	SAT 1750-2150MHz	2.8	2	1.8	1.8
	SAT 2150-2400MHz	3.5	2.2	2	2.2
RC 5-40MHz	RC 5-40MHz	10	14	18	22
	TV 47-862MHz	10	14	18	22
	SAT 950-1750MHz	10	14	18	22
	SAT 1750-2150MHz	10	11	18	22
	SAT 2150-2400MHz	10	11.5	19	22
Isolation output	RC 5-40MHz	25	35	45	45
	TV 47-862MHz	28	27	33	38
	SAT 950-1750MHz	25	25	27	31
	SAT 1750-2150MHz	25	23	27	27
	SAT 2150-2400MHz	23	23	25	27

SPLITTERS AND TAPS

PA and DE

Vertical splitters and taps with F connector for the TV and satellite bands (5-2400MHz).

- Compact design allows installation in any enclosure.
- **Die-cast with nickel plating** ensures maximum performance with low insertion loss, high return loss and high shielding.
- With cross-bonding connections and standard installation holes.
- The **PA splitters with DC pass** (diode protected) from the outputs to the input. The **DE taps** have **directional power pass (output to input)** on the trunk line with **DC blocking** on the tapped outputs.

DE2-10

DE4-14

DE6-16

		DE4-12	DE4-14	DE4-18	DE4-22
Code		280718	280719	280720	280721
Taps		4	4	4	4
Insertion loss	RC 5-40MHz	3.5	2.5	1.5	1
	TV 47-862MHz	3.9	2.4	1.3	1
	SAT 950-1750MHz	5.1	3	1.5	1.2
	SAT 1750-2150MHz	5.2	3.5	1.8	1.5
	SAT 2150-2400MHz	5.4	4	2	1.5
RC 5-40MHz	RC 5-40MHz	11.5	14.5	18	21.5
	TV 47-862MHz	11.5	13.8	18	21.8
	SAT 950-1750MHz	13	14	18.5	22.5
	SAT 1750-2150MHz	14	14.5	19	23
	SAT 2150-2400MHz	15.5	15	19	24
Isolation output	RC 5-40MHz	35	32	45	38
	TV 47-862MHz	33	34	45	35
	SAT 950-1750MHz	28	30	35	31
	SAT 1750-2150MHz	28	27	30	27
	SAT 2150-2400MHz	28	30	30	26

		DE6-16	DE6-20	DE8-16	DE8-20
Code		280722	280723	280725	280726
Taps		6	6	8	8
Insertion loss	RC 5-40MHz	4.5	2.5	4.5	2.5
	TV 47-862MHz	5	3	5	3
	SAT 950-1750MHz	5.5	4	5.5	4.5
	SAT 1750-2150MHz	5.5	4.5	5.5	5
	SAT 2150-2400MHz	5.5	5.5	5.5	5.5
RC 5-40MHz	RC 5-40MHz	14	19	14	19
	TV 47-862MHz	14	19	15	19
	SAT 950-1750MHz	15	19.5	16.5	19
	SAT 1750-2150MHz	16.5	20	18	19
	SAT 2150-2400MHz	18	20	19.5	20
Isolation output	RC 5-40MHz	25	30	30	30
	TV 47-862MHz	22	24	25	23
	SAT 950-1750MHz	22	22	25	20
	SAT 1750-2150MHz	22	22	25	20
	SAT 2150-2400MHz	22	22	25	20

F CONNECTOR

SPTR and TAPS

Horizontal splitters and taps with F connections for the TV and satellite bands (**5-2400MHz**).

- **Made of die-cast zinc**, products in this range provide high performance, with low insertion losses even at SAT frequencies with high isolation between outputs.
- With cross-bonding connections and standard installation holes.
- The **SPTR splitter with DC pass** (diode protected) from the outputs to the input. The **TAPS range** of taps have **directional power pass (output to input)** on the trunk line with **DC blocking** on the tapped outputs.

SPTR2

SPTR8

TAPS212

		SPTR2	SPTR3	SPTR4	SPTR6	SPTR8
Code		287305	287307	287306	287308	287309
Outputs		2	3	4	6	8
Insertion loss	RC 5-40MHz	3.5	6	7	10	11
	TV 47-862MHz	4	7	8	11	12.5
	SAT 950-1750MHz	4	7	8	11.5	12.5
	SAT 1750-2150MHz	5	9	9.5	14.5	15.5
	SAT 2150-2400MHz	5.5	9.5	10	16	16
Isolation output	RC 5-40MHz	27.5	25	20	27.5	27.5
	TV 47-862MHz	20	20	20	25	25
	SAT 950-1750MHz	20	20	20	25	25
	SAT 1750-2150MHz	18	20	18	25	25
	SAT 2150-2400MHz	18	18	18	25	25

		TAPS110	TAPS115	TAPS120
Code		287310	287311	287312
Taps		1	1	1
Insertion loss	RC 5-40MHz	2	1.5	1
	TV 47-862MHz	2	1.5	1
	SAT 950-1750MHz	2.5	2	1.5
	SAT 1750-2150MHz	3	2.5	2
	SAT 2150-2400MHz	3.5	3	2.5
RC 5-40MHz	RC 5-40MHz	10	15	20
	TV 47-862MHz	10	15	20
	SAT 950-1750MHz	10	15	20
	SAT 1750-2150MHz	10	15	20
	SAT 2150-2400MHz	10	15	20
Isolation output	RC 5-40MHz	28	35	39
	TV 47-862MHz	24	26	29
	SAT 950-1750MHz	23	25	25
	SAT 1750-2150MHz	22	23	25
	SAT 2150-2400MHz	22	23	25

		TAPS212	TAPS215	TAPS220
Code		287313	287314	287315
Taps		2	2	2
Insertion loss	RC 5-40MHz	3	2	1.5
	TV 47-862MHz	3	2.5	2
	SAT 950-1750MHz	3.5	3.5	3
	SAT 1750-2150MHz	4	3.5	3
	SAT 2150-2400MHz	5	4	4
RC 5-40MHz	RC 5-40MHz	12	15	20
	TV 47-862MHz	12	15	20
	SAT 950-1750MHz	12	15	20
	SAT 1750-2150MHz	12	15	20
	SAT 2150-2400MHz	12	15	20
Isolation output	RC 5-40MHz	25	30	33
	TV 47-862MHz	25	30	30
	SAT 950-1750MHz	25	27	28
	SAT 1750-2150MHz	22	25	28
	SAT 2150-2400MHz	21	25	25

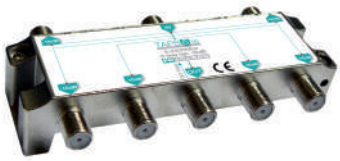
SPLITTERS AND TAPS

SPTR and TAPS

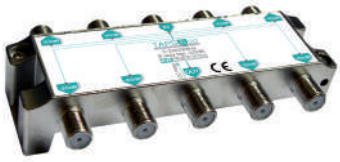
Horizontal splitters and taps with F connections for the TV and satellite bands (**5-2400MHz**).

- **Made of die-cast zinc**, products in this range provide high performance, with low insertion losses even at SAT frequencies with high isolation between outputs.
- With cross-bonding connections and standard installation holes.
- The **SPTR splitter with DC pass** (diode protected) from the outputs to the input. The **TAPS range** of taps have **directional power pass (output to input)** on the trunk line with **DC blocking** on the tapped outputs.

TAPS420



TAPS616



TAPS620

		TAPS412	TAPS415	TAPS420
Code		287316	287317	287318
Taps		4	4	4
Insertion loss	RC 5-40MHz	2.5	2.5	2
	TV 47-862MHz	3	2.5	2
	SAT 950-1750MHz	3	2.5	2
	SAT 1750-2150MHz	3.5	3	3
	SAT 2150-2400MHz	4	4	3.5
RC 5-40MHz	RC 5-40MHz	12	15	20
	TV 47-862MHz	12	15	20
	SAT 950-1750MHz	12	15	20
	SAT 1750-2150MHz	12	15	20
	SAT 2150-2400MHz	12	15	20
Isolation output	RC 5-40MHz	28	30	33
	TV 47-862MHz	24	25	28
	SAT 950-1750MHz	23	24	26
	SAT 1750-2150MHz	22	23	24
	SAT 2150-2400MHz	22	22	23

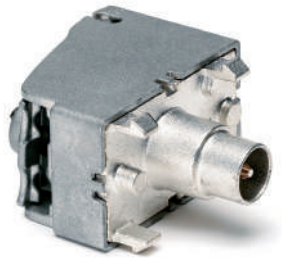
		TAPS616	TAPS620	TAPS816	TAPS820
Code		287319	287320	287321	287322
Taps		6	6	8	8
Insertion loss	RC 5-40MHz	4	2.5	4.5	2.5
	TV 47-862MHz	4.5	2.5	5	3
	SAT 950-1750MHz	5	3	5.5	3
	SAT 1750-2150MHz	5.5	4.5	5.5	4.5
	SAT 2150-2400MHz	7	5.5	7	5.5
RC 5-40MHz	RC 5-40MHz	16	20	16	20
	TV 47-862MHz	16	20	16	20
	SAT 950-1750MHz	16	20	16	20
	SAT 1750-2150MHz	16	20	16	20
	SAT 2150-2400MHz	16	20	16	20
Isolation output	RC 5-40MHz	25	24	23	24
	TV 47-862MHz	25	24	23	23
	SAT 950-1750MHz	24	24	22	23
	SAT 1750-2150MHz	22	22	21	22
	SAT 2150-2400MHz	21	21	20	21

TV AND SATELLITE OUTLETS

SPI with IEC socket

Terminal or tapped loop-through sockets with various attenuation levels; **1 output** with male IEC connector for both TV and satellite bands (**5-2400MHz**).

- Equipped with an **innovative clamp** for attaching coaxial cables between 4mm and 7mm in diameter.
- Fully shielded (**class A**).
- **Plastic inserts available** for well known modular outlet plates.
- Complies with EN50083-4.
- **DC isolated between input and output connections**.



SPI00

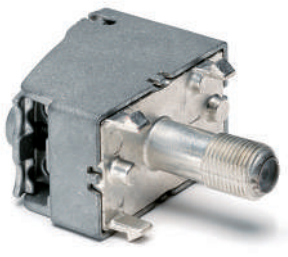
		SPI00	SPI05
Code		220711	220712
	RC 5-40MHz	-	5
	TV 47-862MHz	-	5
	SAT 950-1750MHz	-	7
	SAT 1750-2150MHz	-	7
	SAT 2150-2400MHz	-	8
RC 5-40MHz	RC 5-40MHz	0.5	5
	TV 47-862MHz	0.5	5
	SAT 950-1750MHz	0.8	7
	SAT 1750-2150MHz	0.8	7
	SAT 2150-2400MHz	0.8	8
Type		Terminal	Pass through
Connectors		IEC Male	IEC Male

		SPI10	SPI14
Code		220713	220714
Insertion loss	RC 5-40MHz	2.5	1.5
	TV 47-862MHz	2.5	1.2
	SAT 950-1750MHz	3	2.2
	SAT 1750-2150MHz	3	2.2
	SAT 2150-2400MHz	3.2	2.5
RC 5-40MHz	RC 5-40MHz	10.5	15
	TV 47-862MHz	10	14.5
	SAT 950-1750MHz	10.5	14.5
	SAT 1750-2150MHz	10.5	14.5
	SAT 2150-2400MHz	11	15
Type		Pass through	Pass through
Connectors		IEC Male	IEC Male

SPF with F socket

Terminal or tapped loop-through sockets with various attenuation levels; 1 output with female F connector for both TV and satellite bands (**5-2400MHz**).

- Equipped with an **innovative clamp** for attaching coaxial cables between 4mm and 7mm in diameter.
- Fully shielded (**class A**).
- **Plastic inserts available** for well known modular outlet plates.
- Complies with EN50083-4.
- **DC pass** between the F connector and the input in terminal sockets and between the input/output connections in loop-through sockets is available.



SPF00

		SPF00	SPF05
Code		220721	220722
	RC 5-40MHz	-	5
	TV 47-862MHz	-	5
	SAT 950-1750MHz	-	7
	SAT 1750-2150MHz	-	7
	SAT 2150-2400MHz	-	8
RC 5-40MHz	RC 5-40MHz	0.5	5
	TV 47-862MHz	0.5	5
	SAT 950-1750MHz	0.8	7
	SAT 1750-2150MHz	0.8	7
	SAT 2150-2400MHz	0.8	8
Type		Terminal	Pass through
Connectors		F Female	F Female

TV AND SATELLITE OUTLETS

PDM with diplexed sockets

Terminal or tapped loop-through sockets with various attenuation levels; **2 diplexed outputs** with male IEC connection for the TV band (**47-862MHz**) and female F connection for the satellite band (950-2400MHz).

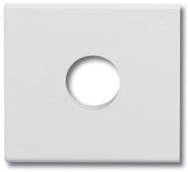
- **DC pass** between the F connector and the input connection in terminal sockets and between the F connector and the input/output connections in loop-through sockets is available.
- Equipped with an **innovative clamp** for attaching coaxial cables between 4mm and 7mm in diameter.
- Fully shielded (**class A**).
- **Plastic inserts** available for well known modular outlet plates.
- EN50083-4 compliant

PDM00

		PDM00	PDM05	PDM10	PDM14
Code		220003	220002	220001	220004
	RC 5-40MHz	-	-	-	-
	TV 47-862MHz	-	6	4	3
	SAT 950-1750MHz	-	6	4	3.5
	SAT 1750-2150MHz	-	6	4	3.5
	SAT 2150-2400MHz	-	6	4	3.5
Insertion loss	RC 5-40MHz	-	-	-	-
	TV 47-862MHz	2	6	10	14
	SAT 950-1750MHz	2	6	11	15
	SAT 1750-2150MHz	2	6	11	15
	SAT 2150-2400MHz	2	6	11	15
Type		Terminal	Pass through	Pass through	Pass through
Connectors		IEC Male, F Female	IEC Male, F Female	IEC Male, F Female	IEC Male, F Female

OUTLET ADAPTORS

Plastic inserts available for **well known modular outlet plates**.



AV-SBA

BT-INT

BT-LIG2

Name	Code	Description	Colour	Type	Pcs.
AB-CH	280831	ABB Chiara ®	White	Single	20
AB-CH2	280832	ABB Chiara ®	White	Demix	10
AV-44DO	287543	Ave Sistema 44 Domus ®	White	Single	20
AV-44DO2	287538	Ave Sistema 44 Domus ®	White	Demix	10
AV-44LI	287542	Ave Sistema 44 Life ®	Black	Single	20
AV-44LI2	287539	Ave Sistema 44 Life ®	Black	Demix	10
AV-SBA	280745	Ave Sistema 45 Banquise ® Occupies two slots	Ice	Single	20
AV-SBA2	280817	2-hole adaptor for demix sockets - Series AVE SIS, Banquise ®	Ice	Demix	10
AV-SBL	280746	Ave Sistema 45 blanc ® Occupies two slots	White	Single	20
AV-SBL2	280818	2-hole adaptor for demix sockets - AVE SIS series, theme 45 ® white	White	Demix	10
AV-SNO	280743	Ave Sistema 45 noir ® Occupies two slots	Black	Single	20
AV-SN02	280816	2-hole adaptor for demix sockets - AVE SIS series, theme 45 ® black	Black	Demix	10
BT-AX	287126	BTicino Axolute ® and Axolute Air ®	White	Single	20
BT-AX2	287127	BTicino Axolute ® and Axolute Air ®	White	Demix	10
BT-AXS	289737	BTicino Axolute ® silver	Silver	Single	20
BT-AXS2	289739	BTicino Axolute ® silver	Silver	Demix	10
BT-INT	280754	BTicino International ® and International Air ®	Black	Single	20
BT-INT2	280801	BTicino International ® and International Air ®	Black	Demix	10
BT-LIG	280752	BTicino Light ® and Light Air ®	Ice	Single	20
BT-LIG2	280802	BTicino Light ® and Light Air ®	Ice	Demix	10
BT-LIGT	280699	BTicino Light Tech ® and Light Tech Air ®	Dark grey	Single	20
BT-LIGT2	280803	BTicino Light Tech ® and Light Tech Air ®	Dark grey	Demix	10
BT-LIV	280753	BTicino Living ®	Black	Single	20
BT-LIV2	280805	BTicino Living ®	Black	Demix	10
BT-LNOW	287549	BTicino Living Now ®	Universal	Single	20
BT-LNOW2	287540	BTicino Living Now ®	Universal	Demix	10

TV AND SATELLITE OUTLETS

OUTLET ADAPTORS

Plastic inserts available for **well known modular outlet plates**.

BT-LIG

BT-LU2

BT-MAT

BT-MA2

LG-VEC2

VI-PL

Name	Code	Description	Colour	Type	Pcs.
BT-LU	280756	BTicino Luna ®	White	Single	20
BT-LU2	280806	BTicino Luna ®	White	Demix	10
BT-MA	280755	BTicino Magic ®	Ivory	Single	20
BT-MA2	280804	BTicino Magic ®	Ivory	Demix	10
BT-TT	280742	BTicino Magic TT ®	Ivory	Single	20
BT-MATT2	280808	BTicino Magic TT ®	Ivory	Demix	10
BT-MAT	280757	BTicino Matix ®	White	Single	20
BT-MAT2	280807	BTicino Matix ®	White	Demix	10
BT-MG-W	287780	BTicino MatixGO ®	White	Single	20
BT-MG-W2	287781	BTicino MatixGO ®	White	Demix	10
GW-CB	280837	Gewiss Chorus ® gloss white	Brilliant white	Single	20
GW-CB2	280838	Gewiss Chorus ® gloss white	Brilliant white	Demix	10
GW-CN	280835	Gewiss Chorus ® black satin	Glossy black	Single	20
GW-CN2	280836	Gewiss Chorus ® black satin	Glossy black	Demix	10
GW-CT	280833	Gewiss Chorus ® titan painted	Painted titanium	Single	20
GW-CT2	280834	Gewiss Chorus ® titan painted	Painted titanium	Demix	10
GW-PL	280797	Gewiss Playbus ®	Black	Single	20
GW-PL2	280813	Gewiss Playbus ®	Black	Demix	10
GW-SYW	280798	Gewiss System ® white	White	Single	20
GW-SYW2	280815	Gewiss System ® white	White	Demix	10
GW-SYB	280796	Gewiss System ® black	Black	Single	20
GW-SYB2	280814	Gewiss System ® black	Black	Demix	10
LG-CR	280747	Legrand Cross ®	White	Single	20
LG-VEC	280799	Legrand Vela Chiara ®	Ice	Single	20
LG-VEC2	280822	Legrand Vela Chiara ®	Ice	Demix	10
LG-VES2	280821	Legrand Dark Sail ®	Black	Demix	10
VI-80	280750	Vimar 8000 ®	Ivory	Single	20
VI-802	280809	Vimar 8000 ®	Ivory	Demix	10
VI-ARK-W	287330	Vimar Arke ® white	White	Single	20
VI-ARK2-W	287303	Vimar Arke ® white	White	Demix	10
VI-ARK-B	287331	Vimar Arke ® black	Black	Single	20
VI-ARK2-B	287304	Vimar Arke ® black	Black	Demix	10
VI-EKW	280839	Vimar Eikon ® white	White	Single	20
VI-EKW2	280840	Vimar Eikon ® white	White	Demix	10
VI-EKB	289741	Vimar Eikon ® black	Black	Single	20
VI-EKB2	289742	Vimar Eikon ® black	Black	Demix	10
VI-EKN	289798	Vimar Eikon Next ®	Dark grey	Single	20
VI-EKN2	289799	Vimar Eikon Next ®	Dark grey	Demix	10
VI-IDB	280748	Vimar Idea ® white	White	Single	20
VI-IDB2	280811	Vimar Idea ® white	White	Demix	10
VI-ID	280749	Vimar Idea ®	Black	Single	20
VI-ID2	280810	Vimar Idea ®	Black	Demix	10
VI-LI-B	287776	Vimar Linea ® white	White	Single	20
VI-LI-B2	287777	Vimar Linea ® white	White	Demix	10
VI-LI-N	287778	Vimar Linea ® black	Black	Single	20
VI-LI-N2	287779	Vimar Linea ® black	Black	Demix	10
VI-PL	280751	Vimar Plana ®	White	Single	20
VI-PL2	280812	Vimar Plana ®	White	Demix	10
VI-PLS	287121	Vimar Plana silver ®	Silver	Single	20
VI-PLS2	287122	Vimar Plana silver ®	Silver	Demix	10

TV AND SATELLITE OUTLETS

OUTLETS PAS00xxx

Outlets with 2, 3 or 4 outputs; female IEC **radio** connector, male IEC **TV** connector and female F **SAT** connectors.

- They allow the **combined input signals** to be filtered to the individual output connectors.
- High shielding.
- Excellent isolation between bands.
- Low through loss.
- Maximum current on F connector **500mA**.

			PAS0021511	PAS0032	PAS00322	PAS0042D
Code			PAS0021511	PAS0032	287103	280793
TV	Connectors		IEC male	IEC male	2 x IEC male	IEC male
TV	Bandwidth	MHz	5-68 / 120-862	5-68 / 120-862	5-862	5-68 / 260-862
TV	Insertion loss	dB	2	1.5	5	2.5
R	Connectors		IEC female	IEC female	-	IEC female
R	Bandwidth	MHz	88-108	88-108	-	88-240
R	Insertion loss	dB	3	2	-	2.5
SAT1	Connectors		-	F female	F female	F female
SAT1	Bandwidth	MHz	-	950-2150	950-2300	950-2150
SAT1	Insertion loss	dB	-	2	3	2
SAT2	Connectors		-	-	-	F female
SAT2	Bandwidth	MHz	-	-	-	5-2150
SAT2	Insertion loss	dB	-	-	-	3
Type			Terminal	Terminal	Terminal	Terminal
Dimensions			80 x 80 x 48	80 x 80 x 48	80 x 80 x 48	80 x 80 x 48

PAS0032

PAS0042D

COAXIAL CABLE CONNECTORS

IEC Connectors

Male and female IEC connectors for coaxial cables.

- Center conductor fixed with screw
- Quick and easy to install
- Compact size

PR1

CCOM_IEC6F

		SP1	PR1	PR11
Code		290351	290451	290365
Connectors		IEC Male	IEC Female	IEC 90° female
Central fixing		Screw	Screw	Screw
Braid clamp		Screw	Screw	Collar
Diameter	mm	≤ 9.5	≤ 9.5	≤ 7.5
Cables		All	All	All
Pcs.		100	100	50

		CIM95	CIF95
Code		289772	289774
Connectors		IEC Male	IEC Female
Central fixing		Clamp	Clamp
Braid clamp		Collar	Collar
Diameter	mm	≤ 9.5	≤ 9.5
Cables		All	All
Pcs.		20	20

		CCOM_IEC6F	CCOM_IEC6M
Code		287298	287300
Connectors		IEC Female	IEC Male
Central fixing		-	-
Braid clamp		Compression	Compression
Diameter	mm	5.9 - 6.0	5.9 - 6.0
Cables		PAS4037104, PAS4016102, PAS4017101, PAS4007111, PAS4117101	PAS4037104, PAS4016102, PAS4017101, PAS4007111, PAS4117101
Pcs.		100	100

COAXIAL CABLE CONNECTORS

F Connectors

Screw or crimp F connectors for different types of coaxial cable.

- Quick and easy to install
- Compact size

CF50B

CFR50B

CCF66

		CF50B	CF60B	CF66B	CF70B
Code		287189	287190	287191	287192
Connectors		Screw F male	Screw F male	Screw F male	Screw F male
Braid clamp		Screw	Screw	Screw	Screw
Diameter	mm	4.9-5.0	5.9-6.0	6.5-6.6	6.9-7.0
Cables		PAS4025103, PAS4025202	-	PAS4016102, PAS4036104, PAS4017101, PAS4017251, PAS4007111, PAS4046100, PAS4037104, PAS4117101, PAS4136104	PAS4008251
Colour		Red	Green	Yellow	Blue
Pcs.		100	100	100	100

		CFR50B	CFR60B	CFR66B	CCF66
Code		287193	287194	287195	289768
Connectors		Quick F male	Quick F male	Quick F male	Screw F male
Braid clamp		Screw	Screw	Screw	Crimp
Diameter	mm	4.9-5.0	5.9-6.0	6.5-6.8	6.5-6.6
Cables		PAS4025103, PAS4025202	-	PAS4016102, PAS4036104, PAS4017101, PAS4017251, PAS4007111, PAS4046100, PAS4037104, PAS4117101, PAS4136104	
Colour		Red	Green	Yellow	Yellow
Pcs.		100	100	100	100

LOADS AND ADAPTORS

75Ω LOADS

F-connector or coaxial loads.

Name	Code	Description	Pcs.
CA75F	289085	75 Ω load with F connector	100
T75IF	290002	75 Ω load isolated with F-connector	20
CR75I	289776	75 Ω load (Isolated)	20

CA75F

T75IF

CR75I

COAXIAL CABLE ACCESSORIES

Adjustable attenuator and other accessories for different coaxial cable requirements.

Name	Code	Description	Pcs.
TF90	289543	90°F male - F female adaptor	50
GCF	289544	F female - F female Adaptor	50
GC1	290030	F male - F male adaptor	100
PAS3236Q	PAS3236Q	Quick adaptor F male - F male	10
PAS3213001	PAS3213001	F male - F female adaptor with DC blocking	20
AR20F	287202	20dB adjustable inline attenuator with F connector and DC pass-through.	5
CAP	280347	Connector cover	50

TF90

GCF

PAS3236Q

PAS3213001

AR20F

COAXIAL CABLES

INTERNAL cables

PAS4025103

PAS4025202

PAS4016102

			PAS4025103	PAS4025202	PAS4016102
Code			287161	289700	PAS4016102
Inner conductor	Material		Ccs	Cu	Cu
	Diameter	mm	0.80	0.80	1.0
Dielectric	Material		PEE	PEE	PEE
	Diameter	mm	3.5	3.5	4.7
Screen	Foil material		Al/PET	Al/PET	Al/PET
		%	100%	100%	100%
	Braid material		CuSn	CuSn	CuSn
		%	40%	40%	40%
Antimigrating foil			PET	PET	PET
Outer sheath	Material		White PVC	White PVC	White PVC
	Diameter	mm	5	5	6.7
Impedence	@200MHz	Ohm	75	75	75
Capacitance		pF/m	52	52	52
Propagation speed			85%	85%	85%
Minimum bending radius		mm	-	35	35
Attenuation (100m)	@5MHz	dB	2.0	2.0	1.6
	@50MHz	dB	6.2	5.9	4.6
	@200MHz	dB	11.3	11.3	9.0
	@470MHz	dB	18.0	17.6	14.5
	@800MHz	dB	23.0	23.3	18.6
	@1000MHz	dB	26.8	26.3	21.1
	@1350MHz	dB	31.5	30.8	25.0
	@1750MHz	dB	36.2	35.6	27.9
	@2150MHz	dB	40.4	40.0	31.7
	@2400MHz	dB	42.5	42.2	33.2
	@2700MHz	dB	45.2	45.2	35.8
Return loss	@30-470MHz	dB	>28	>28	>30
	@470-862MHz	dB	>26	>26	>25
	@862-1750MHz	dB	>20	>20	>20
	@1750-2400MHz	dB	>20	>20	>20
Shielding efficiency	@5-30MHz	dB	>65	>65	>75
	@30-1000MHz	dB	>80	>80	>85
	@1000-2150MHz	dB	>85	>85	>85
Resistance		Ohm/ km	146	35	22.5
External conductor resistance		Ohm/ km	68	33	27
Reel length		m	100	200	100
CPR compliance			Eca EN60322-1-2 EN50575:2014+A1:2016 available at ce.fracarro.com		

COAXIAL CABLES

INTERNAL cables

PAS4036104

PAS4017101

PAS4017251

			PAS4036104	PAS4017101	PAS4017251
Code			PAS4036104	PAS4017101	PAS4017251
Inner conductor	Material		Cu	Cu	Cu
	Diameter	mm	1.0	1.13	1.13
Dielectric	Material		PEE	PEE	PEE
	Diameter	mm	4.7	4.8	4.8
Screen	Foil material		Al/PET	Al/PET	Al/PET
		%	100%	100%	100%
	Braid material		Al	CuSn	CuSn
		%	35%	30%	40%
Antimigrating foil			PET	PET	PET
Outer sheath	Material		White PVC	White PVC	White PVC
	Diameter	mm	6.7	6.8	6.8
Impedence	@200MHz	Ohm	75	75	75
Capacitance		pF/m	52	52	52
Propagation speed			85%	85%	85%
Minimum bending radius		mm	35	35	35
Attenuation (100m)	@5MHz	dB	1.6	1.3	1.3
	@50MHz	dB	4.6	4.3	4.3
	@200MHz	dB	9.0	8.4	8.4
	@470MHz	dB	14.5	13.4	13.4
	@800MHz	dB	18.6	17.2	17.2
	@1000MHz	dB	19.8	19.5	19.5
	@1350MHz	dB	23.3	23.0	23.0
	@1750MHz	dB	27.0	26.2	26.2
	@2150MHz	dB	31.7	29.5	29.5
	@2400MHz	dB	33.2	31.9	31.9
	@2700MHz	dB	35.8	33.0	33.0
Return loss	@30-470MHz	dB	>30	>30	>30
	@470-862MHz	dB	>25	>28	>28
	@862-1750MHz	dB	>20	>23	>23
	@1750-2400MHz	dB	>20	>23	>23
Shielding efficiency	@5-30MHz	dB	>65	>75	>75
	@30-1000MHz	dB	>75	>75	>85
	@1000-2150MHz	dB	>80	>80	>85
Resistance		Ohm/ km	22.5	18	18
External conductor resistance		Ohm/ km	27	26	26
Reel length		m	100	100 (*)	250
CPR compliance			Eca EN60322-1-2 EN50575:2014+A1:2016 available at ce.fracarro.com		

(*) this cable is also available in 200m reel, part number PAS4017251

COAXIAL CABLES

INTERNAL cables

PAS4007111

PAS4046100

PAS4037104

			PAS4007111	PAS4046100	PAS4037104
Code			PAS4007111	289802	PAS4037104
Inner conductor	Material		Cu	CCS	Cu
	Diameter	mm	1.13	1.13	1.13
Dielectric	Material		PEE	PEE	PEE
	Diameter	mm	4.8	4.8	4.85
Screen	Foil material		Al/PET/Al	Al/PET	Al/PET
		%	100%	100%	100%
	Braid material		CuSn	At	At
		%	40%	40%	35%
	Foil material		Al/PET	-	-
		%	100%	-	-
Antimigrating foil			PET	PET	PET
Outer sheath	Material		White PVC	White PVC	White PVC
	Diameter	mm	6.8	6.8	6.8
Impedence	@200MHz	Ohm	75	75	75
Capacitance		pF/m	52	52	52
Propagation speed			85%	85%	85%
Minimum bending radius		mm	35	35	35
Attenuation (100m)	@5MHz	dB	1.3	4.1	1.5
	@50MHz	dB	4.1	4.1	4.3
	@200MHz	dB	8.0	7.8	8.4
	@470MHz	dB	12.6	12.3	13.6
	@800MHz	dB	16.8	17.2	17.2
	@1000MHz	dB	18.9	18.3	19.8
	@1350MHz	dB	22.3	22.7	23.3
	@1750MHz	dB	25.5	24.6	27.0
	@2150MHz	dB	28.7	27.9	30.6
	@2400MHz	dB	30.4	32.0	32.5
	@2700MHz	dB	32.8	32.5	35.0
Return loss	@30-470MHz	dB	>30	>25	>29
	@470-862MHz	dB	>28	>25	>25
	@862-1750MHz	dB	>25	>20	>20
	@1750-2400MHz	dB	>20	>20	>20
Shielding efficiency	@5-30MHz	dB	>85	>65	>65
	@30-1000MHz	dB	>95	>75	>80
	@1000-2150MHz	dB	>90	>75	>70
Resistance		Ohm/ km	18	74	21.5
External conductor resistance		Ohm/ km	21	65	27
Reel length		m	100	100	100
CPR compliance			Eca EN60322-1-2 EN50575:2014+A1:2016 available at ce.fracarro.com		

COAXIAL CABLES

INTERNAL cables B2Ca

They meet the requirements of class **B2ca** according to CPR EN 50575.

PAS4008251

			PAS4008251
Code			287618
Inner conductor	Material		Cu
	Diameter	mm	1.02
Dielectric	Material		PEE
	Diameter	mm	4.6
Screen	Foil material		Al/PET/Al
		%	100%
	Braid material		CuSn
		%	60%
	Foil material		Al/PET
		%	100%
Antimigrating foil			PET
Outer sheath	Material		White PVC
	Diameter	mm	7.1
Impedence	@200MHz	Ohm	75
Capacitance		pF/m	52
Propagation speed			85%
Minimum bending radius		mm	35
Attenuation (100m)	@ 5 MHz @5MHz	dB	1.9
	@50MHz	dB	4.6
	@200MHz	dB	9.0
	@470MHz	dB	13.0
	@800MHz	dB	19.0
	@1000MHz	dB	20.9
	@1350MHz	dB	25.5
	@1750MHz	dB	29.6
	@2150MHz	dB	33.4
	@2400MHz	dB	35
	@2700MHz	dB	36.0
Return loss	@30-470MHz	dB	>30
	@470-862MHz	dB	>28
	@862-1750MHz	dB	>25
	@1750-2400MHz	dB	>20
Shielding efficiency	@5-30MHz	dB	>85
	@30-1000MHz	dB	>95
	@1000-2150MHz	dB	>90
Resistance		Ohm/ km	18
External conductor resistance		Ohm/ km	21
Reel length		m	250
CPR compliance			B2Ca, s1a, d1, a1 EN60322-1-2 EN50575:2014+A1:2016 available at ce.fracarro.com

COAXIAL CABLES

EXTERNAL cables

PAS4117101

PAS4136104

			PAS4117101	PAS4136104
Code			PAS4117101	PAS4136104
Inner conductor	Material		CU	CU
	Diameter	mm	1.13	1.0
Dielectric	Material		PEE	PEE
	Diameter	mm	4.8	4.7
Screen	Foil material		Al/PET	Al/PET
		%	100%	100%
	Braid material		CuSn	At
		%	30%	35%
Antimigrating foil			PET	PET
Outer sheath	Material		PE Black	PE Black
	Diameter	mm	6.8	6.7
Impedence	@200MHz	Ohm	75	75
Capacitance		pF/m	52	52
Propagation speed			85%	85%
Minimum bending radius		mm	35	35
Attenuation (100m)	@5MHz	dB	1.3	1.6
	@50MHz	dB	4.3	4.6
	@200MHz	dB	8.4	9.0
	@470MHz	dB	13.4	14.5
	@800MHz	dB	17.2	18.6
	@1000MHz	dB	19.5	19.8
	@1350MHz	dB	23.0	23.3
	@1750MHz	dB	26.2	27.0
	@2150MHz	dB	29.5	31.7
	@2400MHz	dB	31.9	33.2
	@2700MHz	dB	33.0	35.8
Return loss	@30-470MHz	dB	>30	>30
	@470-862MHz	dB	>28	>25
	@862-1750MHz	dB	>23	>20
	@1750-2400MHz	dB	>23	>20
Shielding efficiency	@5-30MHz	dB	>75	>65
	@30-1000MHz	dB	>75	>75
	@1000-2150MHz	dB	>80	>80
Resistance		Ohm/ km	18	22.5
External conductor resistance		Ohm/ km	26	27
Reel length		m	100	100
CPR compliance			Fca EN60322-1-2 EN50575:2014+A1:2016 available at ce.fracarro.com	

RACK CABINETS

19" RACK CABINETS

Floor Standing

19" floor standing cabinets designed for installation in server rooms and other communications areas. Easy to disassemble and reassemble making them ideal if access to the installation point is restricted. Supplied fully assembled.

RK42U 810S

RK42U 68S

RK36U 68P

		RK42U 810S	RK42U 88S	RK36U 68P	RK36U 66P	RK42U 68S	RK24U 68P	RK24U 66P
Code		287676	287677	287678	287679	287683	287681	287680
Specifications								
Height		42U	42U	36U	36U	42U	24U	24U
Dimensions	mm	800 x 1000 x 2000	800 x 800 x 2000	600 x 800 x 1735	600 x 600 x 1735	600 x 800 x 2000	600 x 800 x 1200	600 x 600 x 1200
Net Weight	kg	116	104	81	71	92	62	54
Load capacity	kg	800	800	600	400	600	600	400
Base structure and roof								
Material		Sheet steel						
Thickness	mm	15/10	15/10	15/10	15/10	15/10	15/10	15/10
Chassis		Pre-cut base for cable entry and roof for cooling fan installation.						
External uprights								
Material		Sheet steel						
Quantity		4	4	4	4	4	4	4
Thickness	mm	20/10	20/10	20/10	20/10	20/10	20/10	20/10
Side panels								
Type		Removable with quick release 1/4 turn key						
Quantity		2	2	2	2	2	2	2
Thickness	mm	12/10	12/10	12/10	12/10	12/10	12/10	12/10
Back panel								
Type		Removable with quick release 1/4 turn key						
Thickness	mm	12/10	12/10	12/10	12/10	12/10	12/10	12/10
Reversible front door								
Type		Grill	Grill	Tempered glass	Tempered glass	Tempered glass	Tempered glass	Tempered glass
Handle		Ergonomic retractable with key						
Opening angle	°	130	130	130	130	130	130	130
Internal uprights								
Type		Depth adjustable						
Quantity		4	4	4	2	4	4	2
Material		Galvanised steel						
Thickness	mm	20/10	20/10	20/10	20/10	20/10	20/10	20/10
Floor supports								
Type		Adjustable feet						
Quantity		4	4	4	4	4	4	4

19" RACK CABINETS

Floor Standing

	RK42U 810S	RK42U 88S	RK36U 68P	RK36U 66P	RK42U 68S	RK24U 68P	RK24U 66P
Code	287676	287677	287678	287679	287683	287681	287680
Finish							
Type				Epoxy-polyester			
RAL	9005	9005	9005	9005	9005	9005	9005
Colour	Black	Black	Black	Black	Black	Black	Black
Packaging							
Pcs.	1	1	1	1	1	1	1

Wall Mounted

19" wall mounted cabinets designed for smaller rooms. Provide excellent access for equipment installation and maintenance. The ventilated top allows fans to be installed. Cable gland slot and wall bracket included.

RK12U 64PW, RK9U 64PW

		RK12U 64PW	RK9U 64PW
Code		287682	287684
Specifications			
Height		12U	9U
Dimensions	mm	600 x 450 x 615	600 x 450 x 485
Net Weight	kg	17.3	14.7
Base structure and roof			
Material		Sheet steel	
Chassis		Pre-cut base for cable entry and roof for cooling fan installation	
Side panels			
Type		Removable via quick release	
Reversible front door			
Type		Reversible tempered glass with locking key	
Opening angle	°	180	
External uprights			
Type		Fixed	
Finish			
Type		Epoxy-polyester	
RAL		9005	
Colour		Black	
Packaging			
Pcs.		1	

19" RACK CABINETS

Accessories

OPB24IR

RKA PPO19A

RKA PPO19C

RKA PS1U

RKA CCV 842U

RKA RR1000

Name	Code	Description
RKA PPO19A	287665	Horizontal slotted cable entry panel. 1U for installation in 19" rack cabinet including 4 fixed rings.
RKA PPO19C	287685	Cable management panel. 1U with 5 fixed rings, for 19" rack cabinet
RKA PS1U	287662	Panel with brush. 1U for installation in 19" rack cabinet.
RKA CCV 824U	287660	Pair of vertical panels for organising copper and fibre cables in 24U rack cabinets with 800mm width
RKA CCV 842U	287659	Pair of vertical panels for organising copper and fibre cables in 42U rack cabinets with 800mm width
RKA AP600	287667	Cable management panel for 600mm deep rack
RKA AP800	287666	Cable loop for 800mm deep rack cabinets
RKA RF350	287671	Fixed 350mm deep shelf for 19" rack cabinets, fixed on 2 uprights, for supporting small equipment not designed for 19" rack mounting.
RKA RR800	287672	Adjustable shelf for rack cabinets up to 800mm deep, with 4 post fixing, for supporting equipment that is not designed for 19" rack mounting.
RKA RR1000	287669	Adjustable shelf for rack cabinets up to 1000mm deep, with 4 post fixing, for supporting equipment that is not designed for 19" rack mounting.
RKA RR600	287661	Adjustable shelf for rack cabinets up to 600mm deep, with 4 post fixing, for supporting equipment that is not designed for 19" rack mounting.
RKA RE800	287670	Adjustable, pull-out shelf for rack cabinets up to 800mm deep, with 4 post fixing, for supporting equipment that is not designed for 19" rack mounting.
RKA PC1U	287652	1U blank panel for installation in 19" rack cabinet to cover unoccupied units.
RKA PC2U	287654	2U blank panel for installation in a 19" rack cabinet to cover unoccupied units.
RKA PC3U	287663	3U blank panel for installation in 19" rack cabinet to cover unoccupied units.
RKA KMT	287650	Earthing kit for rack cabinets, consisting of 4 cables with eyelets and corresponding screws
RKA KVD50	287651	50 piece screw and cage nut kit for attaching rack accessories to vertical uprights
RKA K2VT	287664	2 fan air extraction system for rack cabinet installation
RKA CM36U	287657	Pair of additional uprights for 36U rack cabinets
RKA CM24U	287656	Pair of additional uprights for 24U rack cabinets
RKA Z810	287674	Plinth for floor standing rack cabinets 800 x 1000 suitable for cable routing and protection.
RKA Z88	287668	Plinth for floor standing 800 x 800 rack cabinets suitable for cable routing and protection.
RKA Z68	287675	Plinth for floor standing 600 x 800 rack cabinets suitable for cable routing and protection.
RKA Z66	287673	Plinth for floor standing rack cabinets 600 x 600 suitable for cable routing and protection.

INSTRUMENTS

INSTRUMENTS

Fibre Optic fusion splicer

The technology used by the **FST-V6 professional fusion splicer** enables a significant reduction in splicing and warmup time. Precision fibre **core alignment with 6 motors** and advanced contour inspection technology ensure accuracy of splicing and splice loss estimation. All menus are accessible via the **5" LCD touch screen display** and the splicing procedure is fully automated with the advantage of optimising the time of the fibre optic system deployment.

- **Automated splicing procedure** adopting Artificial Intelligence to minimise optical fusion loss
- **High precision "Digital Analysis Core Alignment System" electrodes** for fusion arc control
- **Active 6 motor core alignment**
- High resolution **5" touch screen display**
- Many types of fibre optics supported: e.g. SM, MM, DS, NZDS
- **Simplified graphical user interface**
- Optical zoom: up to **500x** fibre magnification
- Complete with hard case and professional quality cleaver

		FST-V6
Code		287617
Fibre type		SM/MM/DS/NZDS
Fibre alignment		Core on 3 axes (automatic with 6 motors)
Splicing mode		Auto or manual
Typical splice loss	dB	0.02 SM - 0.01 MM
Return loss	dB	>60
Splicing time	secs.	6 (Single Mode Fast Time)
Display		High resolution 5" colour touch LCD
Battery	mAh	5200 (11.1Vdc)
Fibre magnification		X, Y, XY, X/Y 500x zoom
Power supply	Vac/Hz	100-240/50-60 external power supply 12.6Vdc, 2A
Operating temperature	°C	• -10 to +50 • relative humidity 0 to 95% • Alt. 0-5000m
Storage temperature	°C	• -40 to +80 • relative humidity 0 to 95%
Connections		Mini USB 2.0
Dimensions	mm	130 x 170 x 170
Weight	kg	2.23

INSTRUMENTS

Fibre Optic test instruments

Handheld optical test meters for signal verification in fibre optic networks. Capable of measuring signals at different wavelengths. **Fast measurements** and intuitive operation.



		OPT Meter	OPTmet+RJ45test	CERT-OPT-SOURCE	CERT-OPT-METER
Code		287537	287568	287589	287590
Optical input		FC & 2.5mm UPP (option: SC, ST)	2.5mm UPP universal	SC/PC (certified flange included)	SC/APC (certified flange included)
Wavelength	nm	850/1300/1310/1490/1550/1625	850/1300/1310/1490/1550/1625	850/1300/1310/1490/1550	850/1300/1310/1490/1550/1625
Optical return loss	dB	>60	>60	-	>60
Max. optical input power	dBm	1310/1490/1550/1625: +10 to -70	1310/1490/1550/1625: +26 to -50	-	1300/1310/1490/1550/1625: +10 to -65 - 850: +17 to -57
Accuracy	%	0.2	0.2	-	±5%
Light source		VFL	-	-3 (850), -12 (1300), -9 (1310), -10 (1550)	-
Display		LCD	LCD	LCD	LCD
Battery	mAh	1.5 (3 x AA)	Lithium Integrated	3 x AA NiMH rechargeable	3 x AA NiMH rechargeable (2700mAh)
Charging		External	Via micro USB port	Via mini USB port	Via mini USB port
Operating temperature	°C	-10 to +50	-10 to +50, <90% relative humidity	-10 to +50, <90% relative humidity	-10 to +50, <90% relative humidity
Storage temperature	°C	-20 to +60	-20 to +60	-40 to +70	-40 to +70
Connections		Mini USB 1.0	Micro USB	Mini USB 2.0	Mini USB 2.0
LCD screen		Multifunctional display	Multifunctional display	Multifunctional display	Multifunctional display
Dimensions	mm	170 x 97 x 38	59 x 98 x 27	165 x 80 x 40	165 x 80 x 40
Weight	kg	0.33	0.1	0.34	0.31

Cleaning Kit

Name	Code	Description
KIT PULIZIA	287536	Optical cleaning kit including cleaning solution, various wipes and cleaning sticks.

Name	Description	Code
AL-MBX 7	MBX7 Series power supply	071603
AL_MBJ	MBJ Series power supply	071612
AL_MBJ_EVO	MBJ EVO and OPT MBJ Series power supply	071628
AL_MBX5	MBX5 Series power supply	071613
AL_SWI45-55	SWI45-55 Series Power Supply	071614
AL_SWI59	SWI59 and AMP9254 Series power supply	071615
Alim.Dmatrix4sE	DMatrix 4SEVO Power Supply	071618
Alim.Dmatrix8T	DMatrix 8T Power Supply	071619
ALM OPT 15x0	OPT TX 15X0 power supply	071620
BAG FST-83A	Hard bag FST-83A	074002
BATT FST83-A	Auxiliary battery FST-83A	074004
CLEAVER FST-83A	Professional Cutter for Optical Splicer	074003
Coperchio 3DG	Assembled cover for 3DGFlex central unit	4CP396
CTRL UNIT EVO	Control Unit for 3DGFLEX EVO with keyboard and display	071621
DIP BLU700	BLU 700 and ALPHA aerial dipole	071627
DIP ELIKA700	ELIKA 700 aerial dipole	071623
DIP ELIKAPRO700	Dipole aerial ELIKA PRO 700	071625
ELE FST-83A	Replacement Electrodes FST-83A	074005
FIBER STRIPPER	Professional fiber stripper for optical fiber (3 holes)	287548
PSU FST-83A	Power Supply FST-83A	074001
PSU1215TS	SWP5..TS and SWP9..TS Series power supply	287622
PSU1225J	FRPRO programmable Series power supply	287552
PSU1240TS	SWP17..TS Series power supply	287728
Sacc.ACC. PENTA	Penta 85 accessory bag	071617
THERMO60	Thermo shrinking joint covers 60mm (conf. 100pcs)	287547

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