



Product Catalog



Catalogo Out Line

Versione Documento 4.0

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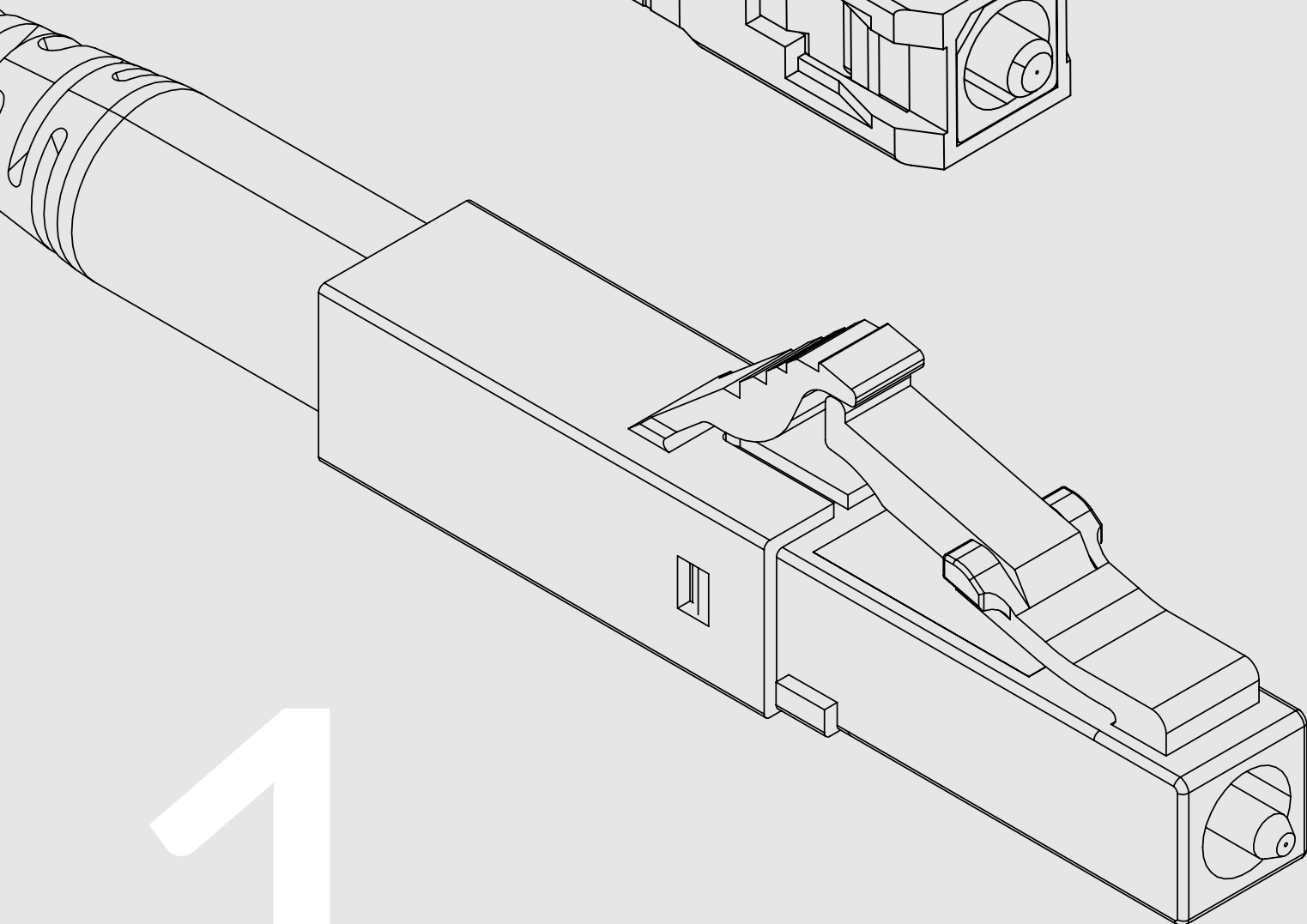
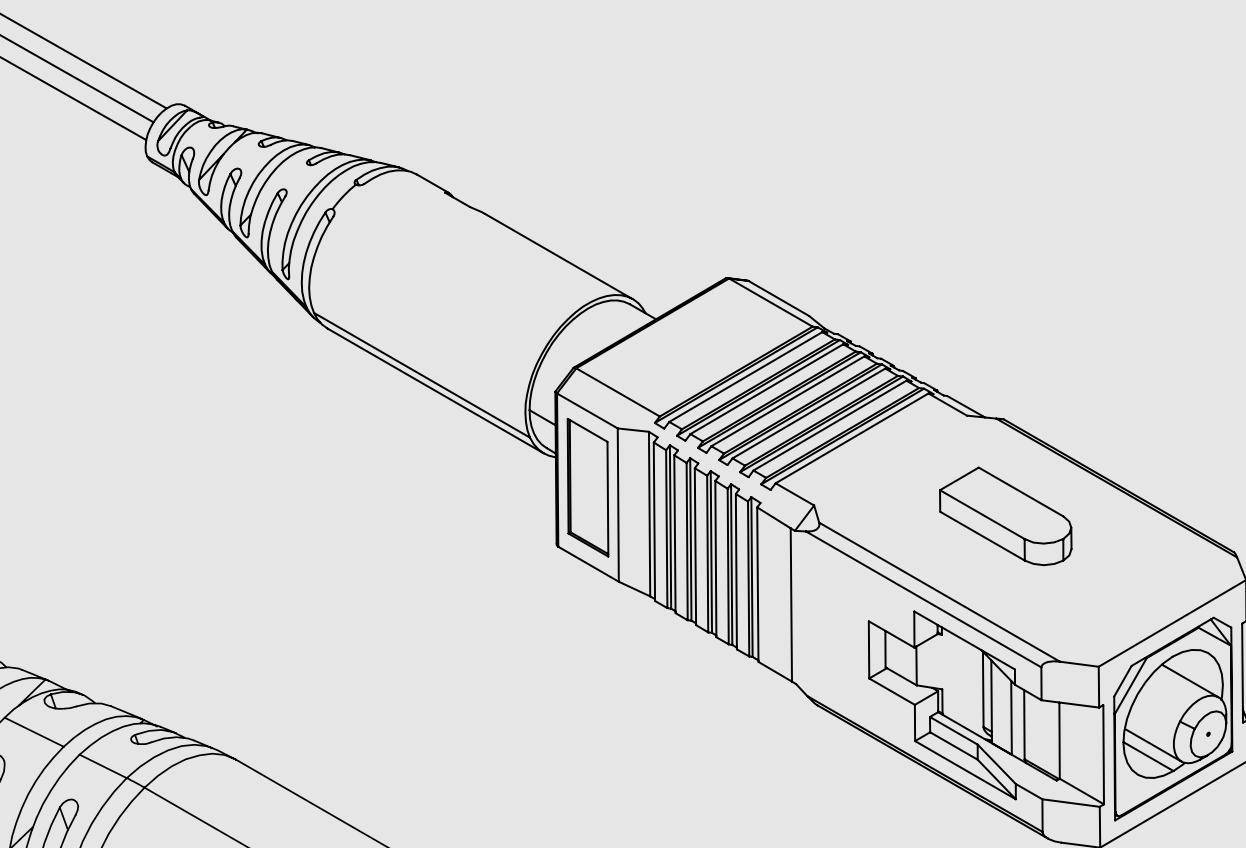
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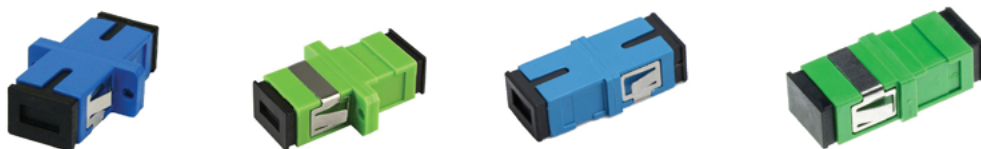
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fiber components



ADAPTER SC SIMPLEX



The SC Simplex Adapter for optical fiber allows a simple and fast connection between two connectors, it is designed to ensure the alignment between the fibers which maximizes the passage of light inside. The Adapter can be provided with flanges or without flanges.

PRODUCT CODE

AD-1-SCP-SCP-S-F | WITH FLANGES
AD-1-SCA-SCA-S-F | WITH FLANGES
AD-1-SCP-SCP-S-N | FLANGELESS
AD-1-SCA-SCA-S-N | FLANGELESS

TECHNICAL FEATURES

DURATION (INSERTION CYCLES)	1000
WORKING TEMPERATURES	da -40C° a +85C°
MATERIALS	UL94-V0

ADAPTER COLOR

SM PC	Blue
SM APC	Green

CHARACTERISTICS

SLEEVE MATERIALS	Zirconia (SM)
TYPICAL INSERTION LOSS (dB)	-
SM PC (@1310 - 1550nm)	0,10
SM APC (@1310 - 1550nm)	0,10



ADAPTER SC DUPLEX



The SC Duplex Adapter for optical fiber allows a simple and fast connection between couples of connectors, it is designed to ensure the alignment between the fibers which maximizes the passage of light inside. The Adapter can be provided with flanges or without flanges.

PRODUCT CODE

AD-2-SCP-SCP -S-F | WITH FLANGES

AD-2-SCA-SCA-S- F | WITH FLANGES

AD-2-SCP-SCP-S-N | FLANGELESS

AD-2-SCA-SCA-S-N | FLANGELESS

TECHNICAL FEATURES

DURATION (INSERTION CYCLES)	1000
WORKING TEMPERATURES	da -40C° a +85C°
MATERIALS	UL94-V0

ADAPTER COLOR

SM PC	Blu
SM APC	Verde

CHARACTERISTICS

SLEEVE MATERIALS	Zirconia (SM)
TYPICAL INSERTION LOSS (dB)	-
SM PC (@1310 - 1550nm)	0,10
SM APC (@1310 - 1550nm)	0,10



ADAPTER LC DUPLEX



The LC Duplex Adapter for optical fiber allows a simple and fast connection between 4 LC connectors, it is designed to ensure the alignment between the fibers which maximizes the passage of light inside. The Adapter can be provided with flanges or without flanges.

PRODUCT CODE

AD-2-LCP-LCP-S-F | WITH FLANGES

AD-2-LCA-LCA-S-F | WITH FLANGES

AD-2-LCP-LCP-S-N | FLANGELESS

AD-2-LCA-LCA-S-N | FLANGELESS

TECHNICAL FEATURES

DURATION (INSERTION CYCLES)	1000
WORKING TEMPERATURES	da -40C° a +85C°
MATERIALS	UL94-V0

ADAPTER COLOR

SM PC	Blu
SM APC	Verde

CHARACTERISTICS

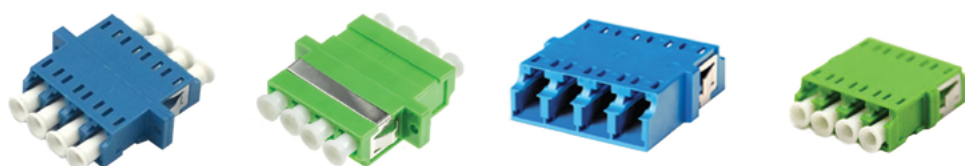
SLEEVE MATERIALS	Zirconia (SM)
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TYPICAL INSERTION LOSS (dB)

SM PC (@1310 - 1550nm)	0,10
SM APC (@1310 - 1550nm)	0,10



ADAPTER LC QUAD



The LC Quad Adapter for optical fiber allows a simple and fast connection between 8 LC connectors, it is designed to ensure the alignment between the fibers which maximizes the passage of light inside. The Adapter can be provided with flanges or without flanges.

PRODUCT CODE

AD-4-LCP-LCP-S-F | WITH FLANGES

AD-4-LCA-LCA-S-F | WITH FLANGES

AD-4-LCP-LCP-S-N | FLANGELESS

AD-4-LCA-LCA-S-N | FLANGELESS

TECHNICAL FEATURES

DURATION (INSERTION CYCLES)	1000
WORKING TEMPERATURES	da -40C° a +85C°
MATERIALS	UL94-V0

ADAPTER COLOR

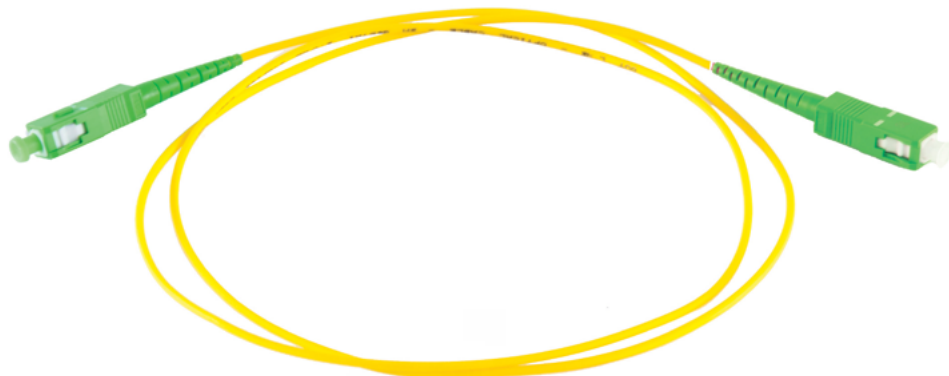
SM PC	Blu
SM APC	Verde

CHARACTERISTICS

SLEEVE MATERIALS	Zirconia (SM)
TYPICAL INSERTION LOSS (dB)	-
SM PC (@1310 - 1550nm)	0,10
SM APC (@1310 - 1550nm)	0,10



PATCHCORD SC /APC 2MM



The 2,00 mm Optical Patchcord is a connectorized fiber optic cable that allows the connection between two points of a fiber optic network. Based upon customer request or technical specifications, it can be provided in different colors, different cable lengths and different types of connectors.

PRODUCT CODE

PC-1-SCA-SCA-SM-C-20-L-YE-0600 / 2MM Simplex 6 MT LSZH Gialla

PC-1-SCA-SCA-SM-C-20-L-YE-0300 / 2MM Simplex 3 MT LSZH Gialla

TECHNICAL FEATURES

FIBER TYPE	SM-9/125 ITU-T G657 A
CABLE DIAMETER	Ø 2,0 mm
EXTERNAL JACKET	LSZH
REINFORCEMENT	ARAMIDIC YARNS
TYPICAL INSERTION LOSS	0,15 dB
TYPICAL RETURN LOSS	APC: >65dB
MINIMUM BENDING RADIUS	15 mm x Ø att. ≤0,03 dB
TRACTION RESISTANCE	200N
CRUSHING RESISTANCE	150 N /100 mm
WORKING TEMPERATURE	-25°C /+70°C



PATCHCORD SC /APC 3MM



The 3,00 mm Optical Patchcord is a connectorized fiber optic cable that allows the connection between two points of a fiber optic network. Based upon customer request or technical specifications, it can be provided in different colors, different cable lengths and different types of connectors.

PRODUCT CODE

PC-1-SCA-SCA-SM-C-30-L-WH-0150 / 3MM Simplex 1,5 MT LSZH White

PC-1-SCA-SCA-SM-C-30-L-WH-6000 / 3MM Simplex 60 MT LSZH White

PC-1-SCA-SCA-SM-C-30-L-YE-0053 / 3MM Simplex 0,53 MT LSZH Yellow

TECHNICAL FEATURES

FIBER TYPE	SM-9 /125 ITU-T G657 A
CABLE DIAMETER	Ø 3,0 mm
EXTERNAL JACKET	LSZH
REINFORCEMENT	Aramid Yarns
TYPICAL INSERTION LOSS	0,15 dB
TYPICAL RETURN LOSS	APC: >65dB
MINIMUM BENDING RADIUS	15 mm x Ø att. ≤0,03 dB
TRACTION RESISTANCE	200N
CRUSHING RESISTANCE	150 N /100 mm
WORKING TEMPERATURE	-25°C /+70°C



PATCHCORD SC /APC METALLIC REINFORCED



The Optical Patchcord with metal reinforcement is a connectorized fiber optic cable that allows the connection between two points of a fiber optic network. Based upon customer request or technical specifications, it can be provided in different colors, different cable lengths and different types of connectors.

PRODUCT CODE

PC-1-SCA-SCA-SM-C-30-LA-WH-0150 / 3MM Simplex 1,5 MT LSZH Metallic reinforced
White

TECHNICAL FEATURES

FIBER	SM-9 /125 ITU-T G657 A
CABLE DIAMETER	Ø 3,0 mm
EXTERNAL JACKET	LSZH
REINFORCEMENT	Aramid Yarns + Metallic Reinforcement
TYPICAL INSERTION LOSS	0,15 dB
TYPICAL RETURN LOSS	APC: >65dB
MINIMUM BENDING RADIUS	15 mm x Ø att. ≤0,03 dB
TRACTION RESISTANCE	250 N
CRUSHING RESISTANCE	3000 N /100mm
WORKING TEMPERATURE	-25°C /+70°C



PATCHCORD

TRANSPARENT PATCHCORDS



PRODUCT CODE

PC-1-SCA-LCA-SM-B3-09-N-TR-1000 / Patchcord SC/APC-LC/APC simplex 0,9mm diameter G657B3 fiber 10-meters length color transparent in a transparent reel

PC-1-SCA-LCA-SM-B3-09-N-TR-2000 / Patchcord SC/APC-LC/APC simplex 0,9mm diameter G657B3 fiber 20-meters length color transparent in a transparent reel

PC-1-SCA-LCA-SM-B3-09-N-TR-3000 / Patchcord SC/APC-LC/APC simplex 0,9mm diameter G657B3 fiber 30-meters length color transparent in a transparent reel

PC-1-SCA-LCA-SM-B3-09-N-TR-4000 / Patchcord SC/APC-LC/APC simplex 0,9mm diameter G657B3 fiber 40-meters length color transparent in a transparent reel

CODE: PC-1-SCA-LCA-SM-B3-09-N-TR-5000 / Patchcord SC/APC-LC/APC simplex 0,9mm diameter G657B3 fiber 50-meters length color transparent in a transparent reel

PARAMETRS	UNIT	SPECIFICATIONS
FIBER		SM G.657 B3
LENGHT	m	Different lenghts described below
COATING DIAMETER	µm	900
COATING COLOR		Transparent
IL @ 1550nm	dB	< 0,3
IL @ 1310 nm	dB	< 0,3
ORL APC @ 1310 AND 1550nm	dB	>60
BENDING RADIUS	mm	$5 \leq R \leq 12$
FIBER HEIGHT	mm	$100 \leq H \leq +100$
APEX OFFSET	mm	$0 \div 50$
ANGLE (APC)	deg	$7.75 \div 8.25$
MAX ROUGHNESS	µm	0,05
MISALIGNMENT KEY ERROR	deg	$0.5 \leq K \leq 0.5$
OPERATING TEMPERATURE		-40~+60 °C
OPERATING HUMIDITY		5~95%RH
STORAGE TEMPERATURE		-40~+85 °C
STORAGE HUMIDITY		5~95%RH
PLUG TYPE		SIDE A: SC/APC; SIDE B: LC/APC



PLC SPLITTER SECONDARY SPLITTER



The PLC (Planar Lightwave Circuit) is a type of optical splitter which uses planar technology and provides low insertion loss, uniformly dividing the optical signal from an input fiber in two or more output fibers. These non-wavelength selective optical splitting devices are supplied with a plastic black case, 1,6mm jacket, SC /APC pre-connectorized. Usually used in street cabinets like CNO or PFS3 in point-to- multipoint topologies (PON networks). These products have been developed upon OPEN FIBER technical specification.

PRODUCT CODE

PLC-1x16-A-16/150-SCA-16/150-SCA-3 / PLC splitter 1x16 BUTT type - in plastic box 100 x 80 x 10mm (L x H x P), G657A1, input 1.6mm no connector, output 1,6mm with connectors SC/APC - for CNO - ST INF-ING-ST-006-19 INFRATEL

PLC-1x16-A-16/150-N-16/150-SCA-3 / PLC splitter 1x16 BUTT type - in plastic box 100 x 80 x 10mm (L x H x P), G657A1, input 1.6mm with connector SC/APC, output 1,6mm with connectors SC/APC - for PFS3 - ST 1716 Rev. V2.0 Open Fiber

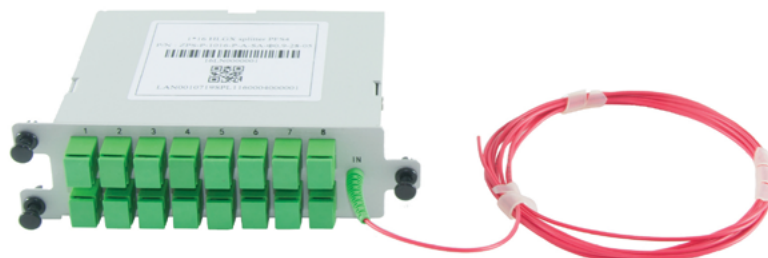
TECHNICAL FEATURES

FIBER	G.657A1
SPLITTING LEVEL	1x16
WORKING BANDWIDTH	1260 / 1650 nm
INSERTION LOSS MAX	13.3 dB
RETURN LOSS	55 dB
PDL (DB)	± 0.5 dB
FIBER DIAMETER	1.6 mm
LENGHT	input 150 cm / output 150 cm
CASE TYPE	Plastic case
CASE SIZE	100x80x10 mm
CONNECTORS	SC /APC



PLC SPLITTER

SECONDARY HGLX SPLITTER



The PLC (Planar Lightwave Circuit) is a type of optical splitter which uses planar technology and provides low insertion loss, uniformly dividing the optical signal from an input fiber in two or more output fibers. These non-wavelength selective optical splitting devices are supplied with HLGX metallic case which includes pre-installed adapters, input with 1,6mm jacket (connectorized or not), pre-cabled and connectorized SC /APC outputs. Usually used in street cabinets like PFS4, SCP in point-to-multipoint topologies (PON networks). These products have been developed upon TIM or OPEN FIBER technical specification.

PRODUCT CODE

HGLX splitter 1x16 - Metal/Plastic case 144 x 40 x 90mm (L x H x P), G657.A1, not-connectorized input 1.6mm with red color jacket, connectorized output SC/APC pre-installed on 16 SC/APC adapters. Compatible with PFS 4 / CRO series / PFS 144 / SCP (1st version)

TECHNICAL FEATURES

FIBER TYPE	G.657A1
SPLITTING LEVEL	1x16
WORKING BANDWIDTH	1260 / 1650 nm
INSERTION LOSS MAX	13.3 dB
RETURN LOSS	55 dB
PDL (DB)	± 0.5 dB
FIBER DIAMETER	1.6 mm
LENGHT	280 cm
CASE TYPE	Plastic or Metallic case
CASE SIZE	144x40x90 mm
CONNECTORS	Output SC /APC – Input SC /APC or Non connectorized



PIGTAIL SC



The Pigtail is a 900 μm diameter fiber optic cable, connectorized on only one of the two ends. Depending on the needs, the Pigtail can be provided in different colors, different cable lengths and different types of connectors.

PRODUCT CODE

PT-1-SCP-SM-C-09-L-WH-200 / Pigtail SC/PC G657-A1, guaina 900um - White 2 MT LSZH easystrip

PT-1-SCA-SM-C-09-L-WH-200 / Pigtail SC/APC G657-A1, guaina 900um - White 2 MT LSZH easystrip

TECHNICAL FEATURES

FIBER TYPE	SM-9 /125 ITU-T G657 A
CABLE DIAMETER	900 μm
EXTERNAL JACKET	LSZH
TYPICAL INSERTION LOSS	0,15 dB
TYPICAL RETURN LOSS	PC: >50dB - APC: >65dB
MINIMUM BENDING RADIUS	15 mm x Ø att. $\leq 0,03$ dB
TRACTION RESISTANCE	5 N att. $\leq 0,01$ db /km
WORKING TEMPERATURE	-25°C /+70°C



PIGTAIL LC



The Pigtail is a 900 μm diameter fiber optic cable, connectorized on only one of the two ends. Depending on the needs, the Pigtail can be provided in different colors, different cable lengths and different types of connectors.

PRODUCT CODE

PT-1-LCA-SM-C-09-L-WH-200 / Pigtail LC/APC G657-A1, guaina 900um - White 2 MT LSZH easystrip

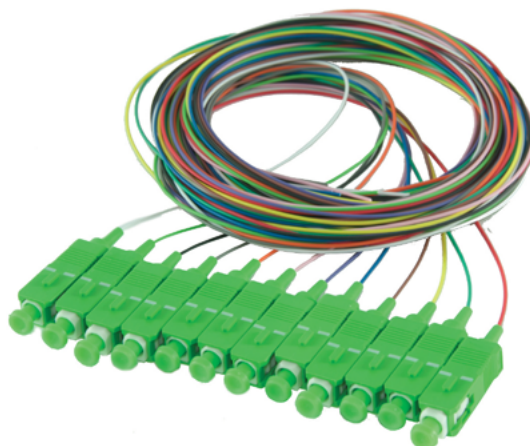
PT-1-LCP-SM-C-09-L-WH-200 / Pigtail LC/PC G657-A1, guaina 900um - White 2 MT LSZH easystrip

TECHNICAL FEATURES

FIBER TYPE	SM-9 /125 ITU-T G657 A
CABLE DIAMETER	900 μm
EXTERNAL JACKET	LSZH
TYPICAL INSERTION LOSS	0,15 dB
TYPICAL RETURN LOSS	PC: >50dB - APC: >65dB
MINIMUM BENDING RADIUS	15 mm x Ø att. $\leq 0,03$ dB
TRACTION RESISTANCE	5 N att. $\leq 0,01$ db /km
WORKING TEMPERATURE	-25°C /+70°C



Kit Pigtail SC /APC



The Pigtail is a 900 μm diameter fiber optic cable, connectorized on only one of the two ends. The Pigtail kit includes a set of colored fiber optic cables following a pre- determined 'color code' configuration. This way it is easier to identify the individual fibers during installation, for example in an optical junction and /or termination subrack or box or closure.

PRODUCT CODE

PT-1-SCA-SM-C-09-L-MC-200-KIT / Guaina 900um 12 pcs colored + 12 pcs colored pins 2 MT LSZH tight

TECHNICAL FEATURES

FIBER TYPE	SM-9 /125 ITU-T G657 A
CABLE DIAMETER	900 μm
EXTERNAL JACKET	LSZH
TYPICAL INSERTION LOSS	0,15 dB
TYPICAL RETURN LOSS	PC: >50dB - APC: >65dB
MINIMUM BENDING RADIUS	15 mm x Ø att. $\leq 0,03$ dB
TRACTION RESISTANCE	5 N att. $\leq 0,01$ db /km
WORKING TEMPERATURE	-25 °C / +70 °C



MTP /MPO TRUNK CABLE



The MTP /MPO Trunk cable is a fiber optical cable connectorized on both sides, it is designed to be used for specific applications in high-density environments, such as data centers.

PRODUCT CODE

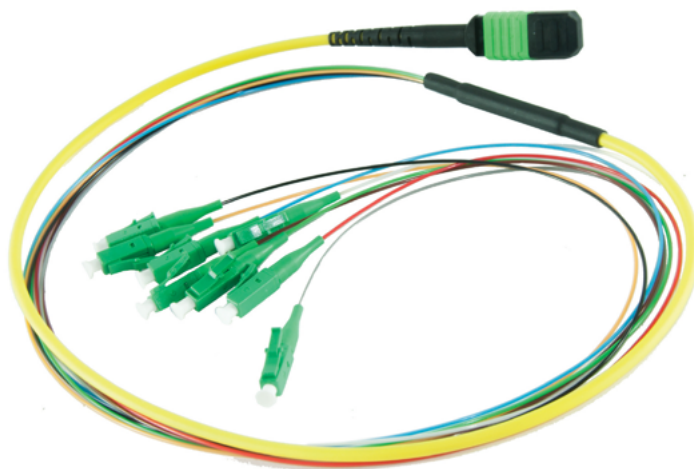
SUPPLIED UPON CUSTOMER REQUEST AND SPECIFICATION.

TECHNICAL FEATURES

FIBER TYPE	OS2 - OM3 - OM4
CABLE DIAMETER	3 mm
EXTERNAL JACKET	LSZH
FIBERS QTY	12 / 24
DYNAMIC BENDING RADIUS	20 x cable Ø
WORKING TEMPERATURE	25 °C / +70 °C
REINFORCEMENT	Aramid Yarns



MTP /MPO FANOUT CABLE



The Fanout cable is terminated on one side with an MTP /MPO connector, and on the other side, using an extremely small cable divider, it is terminated with SC or LC connectors.

PRODUCT CODE

SUPPLIED UPON CUSTOMER REQUEST AND SPECIFICATION.

TECHNICAL FEATURES

FIBER TYPE	OS2 - OM3 - OM4
MICROCABLE EXTERNAL DIAMETER	3 mm
FANOUT EXTERNAL DIAMETER	2 mm
GUAINA	LSZH
EXTERNAL JACKET	12 24
FIBERS QTY	20 x cable Ø
REINFORCEMENT	Aramid Yarns
WORKING TEMPERATURE	-25 °C / +70 °C
TEMPERATURA	-25°C /+70°C



OPTICAL FBG REFLECTOR MONODIRECTIONAL TIM



Fiber Optical Reflectors with FBG Technology are used to check and verify any attenuation or inefficiency by creating reflectance at the end of a passive optical network (PON) without affecting data traffic at all. The monodirectional model is used in the ODBs (like ROE or PTE or OTO) in order to verify the stability of the network till that point of the network, as much as close to the customer premises. This product has been developed based on the TIM technical specification.

PRODUCT CODE

ORF-SC-FBG-S-PL / FBG-S Reflector (monodirectional with green plastic case) - NMU 773292

TECHNICAL FEATURES

PASSING BANDWIDTH	Typ. 1260-1625
U BANDWIDTH	Typ. 1644.5-1655.5
INSERTION LOSS PASSING BANDWIDTH	≤ 1.5 DB
INSERTION LOSS U BANDWIDTH	Min. 20 dB
RETURN LOSS PASSING BANDWIDTH	Min. 22 dB
RETURN LOSS U BANDWIDTH	≤ 1.5 DB
PDL	≤ 0.5 DB
TDL	≤ 0.3 DB
WORKING TEMPERATURES	-25 °C / +70 °C
STORAGE HUMIDITY	5 / 95 %RH
CONNECTOR	SC /APC Male & SC /APC Female



OPTICAL FBG REFLECTOR MONODIRECTIONAL / BIDIRECTIONAL OF



Fiber Optical Reflectors with FBG Technology are used to check and verify any attenuation or inefficiency by creating reflectance at the end of a passive optical network (PON) without affecting data traffic at all. The monodirectional model is used in the ODBs (like ROE or PTE or OTO) in order to verify the stability of the network till that point of the network, as much as close to the customer premises. The bidirectional model is used in the street cabinets for cross-connections. These products have been developed based on the OPEN FIBER technical specification.

PRODUCT CODE

ORF-SC-FBG-S-PL-OF / FBG-S Reflector (monodirectional with green plastic case) - Open Fiber ST1825

ORF-SC-FBG-S-BI / FBG-S Reflector (bidirectional with magenta plastic case) - Open Fiber ST1825

TECHNICAL FEATURES

PASSING BANDWIDTH	Typ. 1260-1625
U BANDWIDTH	Typ. 1644.5-1655.5
INSERTION LOSS (@ 1260 NM - 1360 MN @ 1460 NM - 1610 MN / @ 1610 NM - 1625 MN)	TYP. 0.8 dB (70%) - Max 1.0 dB (100%)
INSERTION LOSS BANDA RIFLESSIONE	Min 25 dB (100%) - TYP. 29 dB (70%)
RETURN LOSS (@ 1260 NM - 1360 MN @ 1460 NM - 1610 MN)	Min. 32 dB
RETURN LOSS @ 1610 NM - 1625 MN)	Min. 25 dB
RETURN LOSS U BANDWIDTH	MIN 0 db - MAX 1 dB
RIPPLE	≤ 0.6 dB
PDL	≤ 0.4 db
TDL	≤ 0.5 db
WORKING TEMPERATURES	-25 °C + 70 °-25 / +70
STORAGE HUMIDITY	5 / 95 %RH
CONNECTOR	SC /APC Male & SC /APC Female



CONNECTORS

FAST MECHANICAL CONNECTOR SC /APC



The fast mechanical connector can be easily mounted directly on the field, because allows a fast and simple mechanical splicing. A pre-polished ferule is supplied from the factory with all the accessories to complete the installation of the connector on a 900 μm cable. Our connectors come in KIT which can include the support for cutting the fiber (holder) and the fiber cleaver itself.

PRODUCT CODE

OUT-CONN-920H-SCA-KIT / KIT COMPOSITION: 60 pcs Mechanical Connectors SC/APC + 1 Pc Fiber Cleaver - NMU 776764

OUT-CONN-920H-SCA / KIT COMPOSITION: 60 pcs Mechanical Connectors SC/APC

TECHNICAL FEATURES

FIBERS COMPATIBILITY	850 ~ 950 μm
INSERTION LOSS	(@1310-1550 NM) ≤ 0.6 dB
RETURN LOSS	(@1310-1550 NM) ≥ 50 dB
INSTALLATION TIME	≥ 30 sec
FERULE	Pre-polished SC /APC
FIBER COUPLING SYSTEM	V-Grove (gel ottico)

Fiber Component





CONNECTORS

SPLICE-ON CONNECTORS (SOC)

SC /APC



(SOC) SC/APC



(SOC) LC/APC

OUT LINE Splice-On connector (SOC) can be mounted directly on the field, using a fusion splicer machine such as Fujikura, Sumitomo and Inno brands. A pre-lapped ferrule is supplied from the factory with all the accessories to complete a connector by installing it on a 900 μ m cable, the kit also includes the support to hold the ferrule on the splicer (holder). (SOC) SC /APC (SOC) LC /APC

PRODUCT CODE

KIT-CONN-SOC-SCA

KIT-CONN-SOC-LCA

TECHNICAL FEATURES

FIBER TYPE	850 ~ 950 MM
INSERTION LOSS	(@1310-1550 NM) $\leq$ 0.25 dB
850 ~ 950 MM	(@1310-1550 NM) $\geq$ 60 dB
(@1310-1550 NM) $\leq$ 0.25 DB	$\leq$ 4 min.
RETURN LOSS	PRE-POLISHED SC /APC
INSTALLATION TIME	Splicing



CONNECTORS

MECHANICAL JOINT



The mechanical joint can be mounted on the field, by means of mechanical splicing. This component allows the alignment and connection between 250 μm fibers, between cables with external jacket of 900 μm and in combination between the two typologies.

PRODUCT CODE

OUT-925 / Mechanical joint for 250/900 μm fibers

TECHNICAL FEATURES

FIBERS COMPATIBILITY	250 μm - 900 μm
INSERTION LOSS	(@1310-1550 NM) $\leq$ 0.15 dB
RETURN LOSS	(@1310-1550 NM) $\geq$ 50 dB
INSTALLATION TIME	$\geq$ 10 sec
FIBER COUPLING SYSTEM	V-Grove (gel)
DIMENSION	45X4X4.7mm
KIT COMPOSITION	25 pcs mechanical joints + 1 pc Holder



CONNECTORS

HEAT-SHRINKABLE TUBE



The heat-shrinkable tube (or Smouv) is a necessary product in the case of fiber optical cable splice joints as it allows the right protection of the spliced point itself from any mechanical stress and /or torsion that it may be subjected to.

PRODUCT CODE

SMV-MIC-35-100/ Metallic pin diameter 1,5mm with lenght 35mm (pack of 100 pcs)

SMV-STD-45-100/ Metallic pin diameter 2,6mm with lenght 45mm (pack of 100 pcs)

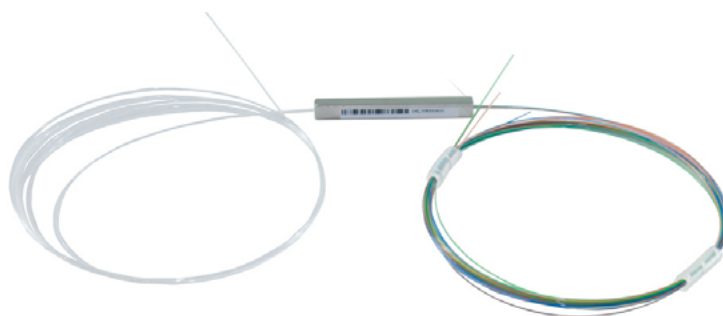
TECHNICAL FEATURES

LENGHT	35 mm 45 mm
INTERNAL HOLE DIAMETER	0.5 mm 1.3 mm
DEPTH	0.5 mm 1.2 mm
METALLIC PIN LENGHT	30 mm 45 mm
AFTER SHIRINK DIAMETER	1.6 mm 2.5 mm



PLC SPLITTER

PLANAR LIGHTWAVE CIRCUIT



The PLC (Planar Lightwave Circuit) is a type of optical splitter which uses planar technology and provides low insertion loss, uniformly dividing the optical signal from an input fiber in two or more output fibers. These non-wavelength selective optical splitting devices are supplied with a small metal case, 250um buffer not connectorized and generally used in ODBs or Closures in point-to-multipoint topologies (PON networks). These products have been developed upon TIM and Open Fiber technical specification.

PRODUCT CODE

PLC-1X4-A-B/200-N-B/200-N-2 (D)/ PLC splitter 1x4 Input 2m, output 2m with deribonized fibers, 250um, G.657 A1, fibre no connectors, stainless steel module 4X4X40mm - N.M.U. TIM 880261 - S.T. 1703 V.1 Open Fiber

PLC-1X8-A-B/200-N-B/200-N-2 (D)/ PLC splitter 1x8 Input 2m, output 2m with deribonized fibers, 250um, G.657 A1, fibre no connectors, stainless steel module - N.M.U. TIM 775641

PLC-2X4-A-B/200-N-B/200-N-2 (D) / PLC splitter 2x4 Input 2m, output 2m, with deribonized fibers, 250um, G.657 A1, fibre no connectors, stainless steel module 4X4X40mm - N.M.U. TIM 768467

PLC-2X8-A-B/200-N-B/200-N-2 (D) / / PLC splitter 2x8 Input 2m, output 2m, with deribonized fibers, 250um, G.657 A1, fibre no connectors, stainless steel module 4X4X40mm - N.M.U. TIM 768468

PLC-2X16-A-B/200-N-B/200-N-2 (D) / PLC splitter 2x16 Input 2m, output 2m, with deribonized fibers, 250um, G.657 A1, fibre no connectors, stainless steel module 4X4X40mm - N.M.U. TIM 768487

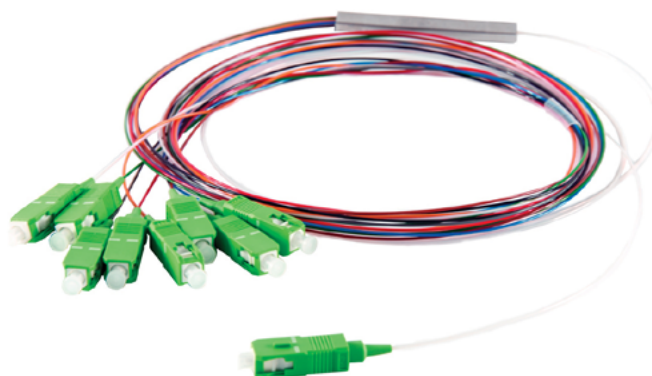
TECHNICAL FEATURES

FIBERS TYPE	G.657A1
SPLITTING LEVEL	1x4 - 1X8 - 2X4 - 2X8 - 2X16
WORKING BANDWIDTH	1260 / 1650 nm
INSERTION LOSS MAX	7,2 dB - 10,7 dB - 7,7 dB - 11,2 dB - 14,7 dB
ATTENUATION UNIFORMITY	1.3 dB
RETURN LOSS	55 dB
PDL	Max 0.3 dB
TEMEPERATURE STABILITY	Var max 0,5 dB @ - 20 / + 70 °C
WORKING TEMPERATURES	- 20 °C / + 70 °C
FIBER DIAMETER	250 µm
FIBER LENGHT	Ingresso /Uscita 200 cm
PACKAGE TYPE	Mini Module Packaging Metal Box
CASE SIZE	40x4x4 - 50x5x4 - 50x4x4 - 50x4x4 - 60x7x4 mm
PACKAGE SIZE	40x4x4 - 50x5x4 - 50x4x4 - 50x4x4 - 60x7x4 mm



PLC SPLITTER

PLC SECONDARY SPLITTER FOR ROE UNIFIED TIM



The PLC (Planar Lightwave Circuit) is a type of optical splitter which uses planar technology and provides low insertion loss, uniformly dividing the optical signal from an input fiber in two or more output fibers. These non-wavelength selective optical splitting devices are supplied with a small metal case, 900um buffer not connectorized and generally used in ODBs or Closures in point-to-multipoint topologies (PON networks). These products have been developed upon TIM technical specification.

PRODUCT CODE

PLC-1X4-A-09/105-SCA-09/095-SCA-2 / PLC splitter 1x4 Input 105cm, output 95cm, 0.9mm jacket, SC/APC connectors, stainless steel module - N.M.U. TIM 768678

PLC-1X8-A-09/105-SCA-09/095-SCA-2 / PPLC splitter 1x8 Input 105cm, output 95cm, 0.9mm jacket, SC/APC connectors, stainless steel module - N.M.U. TIM

PLC-1X16-A-09/105-SCA-09/095-SCA-2 / PLC splitter 1x16 Input 105cm, output 95cm, 0.9mm jacket, SC/APC connectors, stainless steel module - N.M.U. TIM 768615

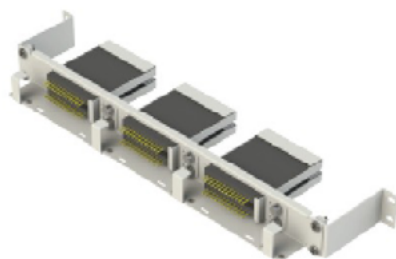
TECHNICAL FEATURES

FIBER TYPE	G.657A1
SPLITTING LEVEL	1X4 - 1X8 - 1x16
WORKING BANDWIDTH	1260 / 1650 nm
INSERTION LOSS MAX	7.3 dB - 10.7 dB - 14.1 dB
RETURN LOSS	55 dB
PDL (DB)	± 0.2 dB - ± 0.3 dB - ± 0.3 dB
FIBER DIAMETER	900 µm
FIBER LENGHT	input 105 cm / output 95 cm
CASE TYPE	Mini Module Stainless steel
CASE SIZES	60x7x4 mm - 60x7x4 mm - 60x12x4 mm
CONNECTORS	SC /APC



PLC SPLITTER

1RU BUTT SPLITTER SUBRACK



Fiber Components



DATACENTER



RETE



FTTH

PRODUCT CODE
OUT-BUTT-SPLITTER-SUB

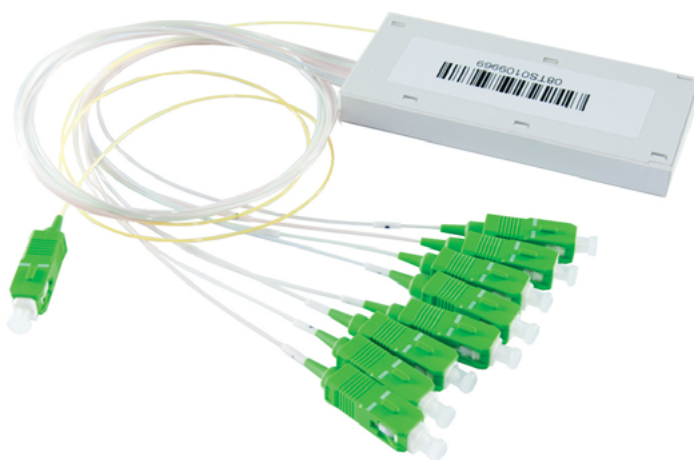
TECHNICAL FEATURES

MATERIAL	Steel
OPENING TYPE	Pivot
HEIGHT	44 MM
WIDTH	430 MM
DEPTH	270 MM
CABLE ENTRANCES	2
CAPACITY	12
SPLICE TRAY	1
SMOUV DIMENSIONS	Standard
ADAPTER	SC Simplex
COLOR	Grey RAL 7035





PLC SPLITTER SECONDARY SPLITTER



The PLC (Planar Lightwave Circuit) is a type of optical splitter which uses planar technology and provides low insertion loss, uniformly dividing the optical signal from an input fiber in two or more output fibers. These non-wavelength selective optical splitting devices are supplied in plastic case with SC /APC connectorized input with 900 μ m jacket, pre-cabled and connectorized SC /APC outputs with 900 μ m jacket. Usually used in ODBs in point-to-multipoint topologies (PON networks).

PRODUCT CODE

PLC-1X4-A-09/060-SCA-09/050-SCA-3-C04 / PLC splitter 1x4, BUTT type – in plastic enclosure 100 × 45 × 10 mm (L × H × D), G657A1, 0.9 mm input with SC/APC connector, 0.9 mm outputs with SC/APC connectors – for ROE Metroweb – V.S. 005_ Issue 2 M.W.

PLC-1X8-A-09/060-SCA-09/050-SCA-3-C04 / PLC splitter 1x8, BUTT type – in plastic enclosure 100 × 45 × 10 mm (L × H × D), G657A1, 0.9 mm input with SC/APC connector, 0.9 mm outputs with SC/APC connectors – for ROE Metroweb – V.S. 005_ Issue 2 M.W.

PLC-1X16-A-09/060-SCA-09/050-SCA-3-C04 / PLC splitter 1x16, BUTT type – in plastic enclosure 100 × 45 × 10 mm (L × H × D), G657A1, 0.9 mm input with SC/APC connector, 0.9 mm outputs with SC/APC connectors – for ROE Metroweb – V.S. 005_ Issue 2 M.W.

TECHNICAL FEATURES

FIBER TYPE	G.657A1
SPLITTING LEVEL	1x16
WORKING BANDWIDTH	1260 / 1650 nm
INSERTION LOSS MAX	13.3 dB
RETURN LOSS	55 dB
PDL (DB)	± 0.5 dB
FIBER DIAMETER	1.6 mm
LENGHT	input 150 cm / output 150 cm
CASE TYPE	Plastic case
CASE SIZE	100x80x10 mm
CONNECTORS	SC /APC



PLC SPLITTER

SECONDARY SPLITTER FOR UNIFIED ROE



The PLC (Planar Lightwave Circuit) is a type of optical splitter which uses planar technology and provides low insertion loss, uniformly dividing the optical signal from an input fiber in two or more output fibers. These non-wavelength selective optical splitting devices are supplied with a plastic case specifically designed for UNIFIED ROE, it has pre-installed SC /APC adapter both for input and output and it is pre- cabled internally.

PRODUCT CODE

PLC-1X8-A-09/XX-SCA-09/XX-SCA-ROEU / Splitter pre-cabled 1x8 for UNIFIED ROE – NMU 776702

TECHNICAL FEATURES

FIBER TYPE	G.657A1
SPLITTING LEVEL	1x8
WORKING BANDWIDTH	1260 / 1650 nm
INSERTION LOSS MAX	10.7 dB
RETURN LOSS	55 dB
PDL (DB)	± 0.3 dB
FIBER DIAMETER	900 µm
ADAPTER TYPES	input SC /APC Simplex - output SC /APC Duplex
CASE TYPE	Plastico per Roe unificato
CASE SIZE	81x129x15,1 mm
CONNECTORS TYPE	SC /APC



CWDM CEX FILTER MODULE FOR FTTH



WDM CEx Filter module (Coexistence Element) used in the optical monitoring of the FTTH network and for the distribution of services on PON architecture, which are described in the ITU-T recommendation G.984.5. These components allow the coexistence, on a single optical fiber, of G-PON, XG-PON, NG-PON2 systems together with the OTDR signal for monitoring the optical connection.

PRODUCT CODE

CWDM-1X4-SCA-100-M-T / CWDM module 1X4 with output: GPON, XG-PON, NG-PON2, OTDR. Input and output 0,9mm SC/APC connectorized, 1 m length, alluminum case

TECHNICAL FEATURES

FIBER TYPE	G.657A1
WORKING BANDWIDTH	1260 ÷ 1675 nm
INSERTION LOSS MAX GPON	1.3 dB
INSERTION LOSS MAX XG-PON	1.6 dB
INSERTION LOSS MAX NG-PON2	1.7 dB
INSERTION LOSS MAX OTDR	1.9 dB
RETURN LOSS	50 dB
Insulation COM - GPON (dB) (1260-1280 nm; 1524-1675 nm)	35 dB
Insulation COM - XG-PON (dB) (1290-1560 nm; 1596-1675 nm)	35 dB
Insulation COM - NG-PON2 (dB) (1260-1500 nm; 1550-1581nm; 1640- 1675 nm)	40 dB
Insulation COM - OTDR (dB)	10 db
PDL (DB)	0.2 dB
FIBER DIAMETER	0.9 mm
FIBER LENGHT	1000 mm
CASE TYPE	Alluminum case
CASE SIZE	60x50x7 mm
CONNECTORS TYPE	SC /APC



CWDM

WDM MODULE PRE-INSTALLED IN FIST TYPE TRAY



Wave Division Multiplexing (WDM) is a technology that divides light into a number of discrete wavelengths or colors. Each wavelength / color is an independent channel capable of carrying independent shape and speed data. Typically, CWDM solutions provide capacity for 8 wavelengths, separated by 20nm, from 1470nm to 1610nm, allowing 8 customers interfaces to be carried on the same fiber.

PRODUCT CODE

F-OADM-C-1-47-0-2-0-L / 2-2x2 CWDM module (OADM) 1471NM, bare fiber 250µm not connectorized, fiber lenght 2M.

F-OADM-C-1-51-0-2-0-L / 2-2x2 modulo CWDM (OADM) 1511NM, bare fiber 250µm not connectorized, fiber lenght 2M.

F-OADM-C-1-53-0-2-0-L / 2-2x2 modulo CWDM (OADM) 1531NM, bare fiber 250µm not connectorized, fiber lenght 2M.

F-OADM-C-1-55-0-2-0-L / 2-2x2 modulo CWDM (OADM) 1551NM, bare fiber 250µm not connectorized, fiber lenght 2M.

F-OADM-C-1-49-0-2-0-L / 2-2x2 modulo CWDM (OADM) 1491NM, bare fiber 250µm not connectorized, fiber lenght 2M.

F-OADM-C-1-59-0-2-0-L / 2-2x2 modulo CWDM (OADM) 1591NM, bare fiber 250µm not connectorized, fiber lenght 2M.

TECHNICAL FEATURES

FIBER TYPE	G.657A2
CHANNELS	4
CHANNEL PASSING BANDWIDTH (NM)	1471±7.5 - 1511±7.5 - 1531±7.5 1551±7.5 - 1491±7.5 - 1591±7.5
INSERTION LOSS MAX	0.7 dB
RETURN LOSS	Min 50 dB
PDL (DB)	Max 0,1 dB
RIPPLE	Max 0.3 dB
INSULATION	Min 30 dB
FIBER DIAMETER	250 µm
FIBER LENGHT	200 cm
CASE TYPE	Fist type splice tray
CASE SIZE	100x148x8 mm
CONNECTORS	Not connectorized



RFID TAGS

RFID



RFIDs are identifiers tags which can be applied to primary and secondary optical distribution network elements, both during the first installation phase and during maintenance on existing elements.

PRODUCT CODE

RFID-TAG-ABS/ RFID Tag for metallic components (rigid ABS support)

RFID-TAG-BOR/ RFID Tag for Open Fiber OTO (White PVC)

RFID-TAG-PL-PVC/ RFID Tag for plastic components

RFID-TAG-TR-FI-TH-SL / RFID Tag for mini-cables (with heat shrink)

RFID-TAG-TR-FI/ RFID Tag for mini-cable (with protective transparent label)

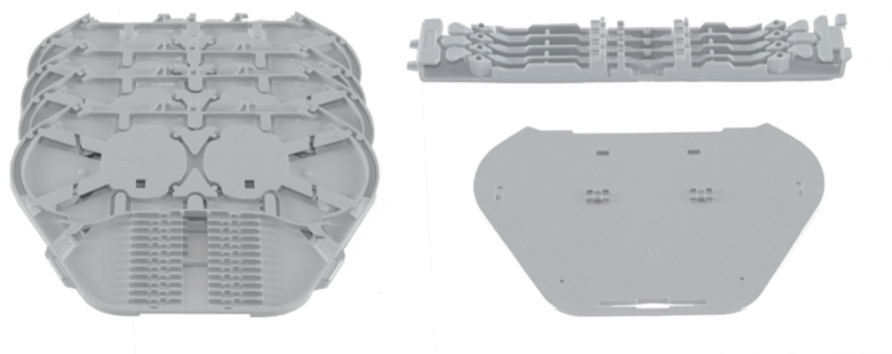
RFID-TAG-TR-FI-2 / RFID Tag for mini-cable (with protective transparent label) and rigid ABS support

TECHNICAL FEATURES

MEMORY CAPACITY	1kb overwritable and lockable
TRANSMISSION FREQUENCY	13,5 MHz
RFID TYPE	Passive Tag A 14443
READING AND WRITING STANDARDS	NFC
DIMENSIONS	15x30x0,4 (PVC)



SPLICE TRAYS KIT 4 SLE FIST TYPE



The FIST type SLE splice trays can be installed inside optical subracks, in closures or in optical cabinets. They can house up to 12 splices, with standard type splice smouvs, allowing the correct management of the fiber extra lenght. The FIST- TRAY-KIT-4SLE-S item includes 4 trays with a 4 mm height, 1 pc tray cover and the 4-position holder (4 mm). The standard product is in gray color.

PRODUCT CODE

FIST-TRAY-KIT-4SLE-S / Kit made of: 4pcs grey splice trays (4mm) which can host 12 smouvs each, 1pc holder for 4 splice trays (4mm) and 1pc cover.

TECHNICAL FEATURES

N. TRAYS	4
TRAYS THICKNESS	4 mm
N. OF SMOUVS	12
SMOUVS DIMENSION	Standard
TRAYS HOLDER	It can host 4 trays (4mm)
COVER	1
MATERIAL	ABS
COLOR	Grey
OPERATING TEMPERATURE	-40 /+70 °C



SPLICE TRAYS KIT 4 SC FIST TYPE



The FIST SC type splice trays can be positioned inside optical subracks, in closures or in optical patch cabinets. They can host up to 4 splices, with standard type splice smouvs, allowing the correct management of the fiber extra lenght. The FIST-TRAY- KIT-4SC-S item includes 4 pcs of 4 mm splice trays, 1 pc tray cover and the 4-position holder (4 mm). The standard product is in gray color.

PRODUCT CODE

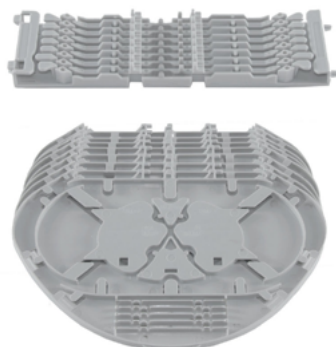
FIST-TRAY-KIT-4SC-S / Kit made of: 4pcs grey splice trays (4mm) which can host 4 smouvs each, 1pc holder for 4 splice trays (4mm) and 1pc cover.

TECHNICAL FEATURES

N. TRAYS	4
TRAYS THICKNESS	4 mm
N. OF SMOUVS	4
SMOUVS DIMENSION	Standard
TRAYS HOLDER	It can host 4 trays (4mm)
COVER	No
MATERIAL	ABS
COLOR	Grey
OPERATING TEMPERATURE	-40 /+70 °C



SPLICE TRAYS KIT 8 SC FIST TYPE



The FIST type SC splice trays can be positioned inside optical subracks, in closures or in optical patch cabinets. They can host up to 4 splices, with standard type splice smouvs, allowing the correct management of the fiber extra lenght. The FIST-TRAY- KIT-8SC-S item includes n. 8 splice trays of 4 mm, 1 pc tray cover and the 8-position holder (4 mm).The standard product is in gray color.

PRODUCT CODE

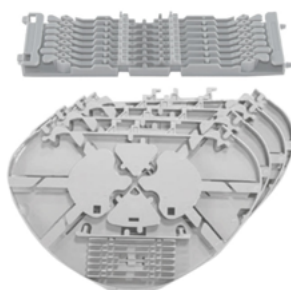
FIST-TRAY-KIT-8SC-S / Kit made of: 8 pcs grey splice trays (4mm) which can host 4 smouvs each, 1pc holder for 8 splice trays (4mm) and 1pc cover.

TECHNICAL FEATURES

N. TRAYS	8
TRAYS THICKNESS	4 mm
N. OF SMOUVS	4
SMOUVS DIMENSION	Standard
TRAYS HOLDER	It can host 8 trays (4mm)
COVER	No
MATERIAL	ABS
COLOR	Grey
OPERATING TEMPERATURE	-40 /+70 °C



SPLICE TRAYS KIT 4 SE FIST TYPE



The FIST type SE splice trays can be positioned inside optical subracks, in closures or in optical patch cabinets. They can host up to 12 splices, with standard type splice smouvs, allowing the correct management of the fiber extra lenght. The FIST-TRAY- KIT-4SE item includes n. 4 splice trays of 8 mm, 1 pc tray cover and the 8-position holder (4 mm). The standard product is in gray color.

PRODUCT CODE

FIST-TRAY-KIT-4SE / Kit made of: 8 pcs grey splice trays (8mm) which can host 12 smouvs each, 1pc holder for 8 splice trays (4mm) and 1pc cover.

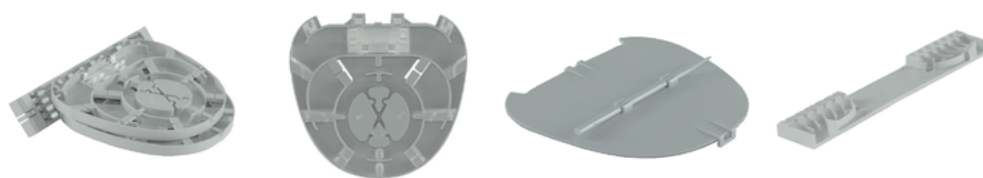
TECHNICAL FEATURES

N. TRAYS	4
TRAYS THICKNESS	8 mm
N. OF SMOUVS	12
SMOUVS DIMENSION	Standard
TRAYS HOLDER	It can host 8 trays (8mm)
COVER	No
MATERIAL	ABS
COLOR	Grey
OPERATING TEMPERATURE	-40 /+70 °C



SPLICE TRAYS KIT

2 COMPACT SE SPLITTER TRAYS



Compact splice trays for closures, optical patch cabinets or optical subracks. The 2SE-02SP-KIT-CLO item includes 2 pcs splice trays of 8 mm that can host up to 2 splitters each, allowing the correct management of the fiber extra lenght. The 4-position holder (4mm) with the ideal passages for closure applications is included and the product is supplied in grey color. The cover includes the pen for fiber handling, and it can be added with the code SE-SC-COVER-PEN. The tube entry for closure support, if necessary, can be ordered with the code TUBES-ENTRY-CLO.

PRODUCT CODE

2SE-02SP-KIT-CLO / Kit made of: 2 pcs grey splice trays (8mm) with 2 splitters space each and a 4-position closure-type support for 4mm trays

SE-SC-COVER-PEN / Cover + pen schede for SE and SC type trays

TUBES-ENTRY-CLO / Tubes entry for closure

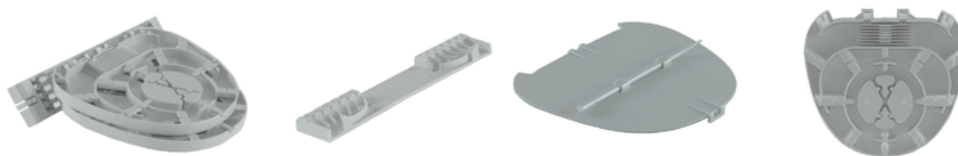
TECHNICAL FEATURES

N. TRAYS	2
TRAYS THICKNESS	8 mm
N. OF SPLITTERS	2
SPLITTER CASE DIMENSION	1 (4x4x40mm) + 1 (4x7x60mm)
TRAY HOLDER	It can host 2 trays (8mm)
COVER	No
MATERIAL	ABS + PC
COLOR	Grey
OPERATING TEMPERATURE	-40 /+70 °C



SPLICE TRAYS KIT

2 COMPACT SE FOR 12 MICRO-SMOUV



Compact splice trays for closures, optical patch cabinets or optical subracks. The 2SE-12FO-KIT-CLO item includes 2 pcs splice trays of 8 mm that can host up to 12 micro-smouv splices each, allowing a correct management of the fiber extra lenght. The 4-position support (4mm) with the ideal passages for closure applications is included and the product is supplied in gray color. The cover includes the pen for fiber handling, and it can be added with the code SE-SC-COVER-PEN. The tube entry for closure support, if necessary, can be ordered with the code TUBES-ENTRY-CLO.

PRODUCT CODE

2SE-12FO-KIT-CLO / Kit made of: 2 pcs grey splice trays (8mm) with 12 micro-smouvs space each and a 4-position closure-type support for 4mm trays

SE-SC-COVER-PEN / Cover + pen schede for SE and SC type trays

TUBES-ENTRY-CLO / Tubes entry for closure

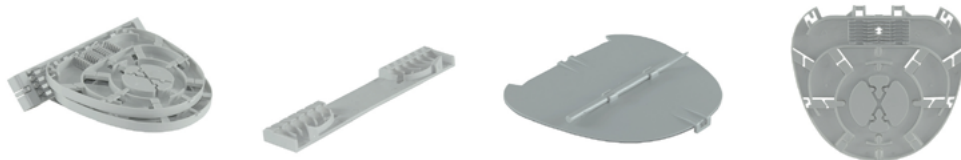
TECHNICAL FEATURES

N. TRAYS	2
TRAYS THICKNESS	8 mm
N. OF SMOUVS	12
SMOUVS DIMENSION	Tipo Micro
TRAY HOLDER	Da 4 posizioni per schede di giunzione da 4 mm per muffola
COVER	No
MATERIALE	ABS + PC
COLORE	Grigio
OPERATING TEMPERATURE	-40 ÷ +70 °C



SPLICE TRAYS KIT

2 COMPACT SE TRAYS FOR 24 MICRO-SMOUV



Compact splice trays for closures, optical patch cabinets or optical subracks. The 2SE-24FO-KIT-CLO item includes 2 pcs splice trays of 8 mm that can host up to 24 micro-smouv splices each, allowing a correct management of the fiber extra lenght. The 4-position support (4mm) with the ideal passages for closure applications is included and the product is supplied in gray color. The cover includes the pen for fiber handling, and it can be added with the code SE- SC-COVER-PEN. The tube entry for closure support, if necessary, can be ordered with the code TUBES-ENTRY-CLO.

PRODUCT CODE

2SE-24FO-KIT-CLO / Kit made of: 2 pcs grey splice trays (8mm) with 24 micro-smouvs space each and a 4-position closure-type support for 4mm trays

SE-SC-COVER-PEN / Cover + pen schede for SE and SC type trays

TUBES-ENTRY-CLO / Tubes entry for closure

TECHNICAL FEATURES

N. TRAYS	2
TRAYS THICKNESS	8 mm
N. OF SMOUVS	24
SMOUVS DIMENSION	Micro-smouv type
TRAY HOLDER	It can host 2 trays (8mm)
COVER	No
MATERIAL	ABS + PC
COLOR	Grey
OPERATING TEMPERATURE	-40 /+70 °C



SPLICE TRAYS KIT

4 COMPACT SC TRAYS FOR 6 MICRO-SMOUV



Compact splice trays used in closures, in optical patch cabinets or optical subracks. The item 4SC-06FO-KIT-CLO includes 4 pcs splice trays of 4 mm which can host up to 6 micro-smouv splices each, allows a correct management of the fiber extra lenght. The 4-position holder (4 mm) with the ideal passages for closure applications is included and the product is supplied in gray color. The cover includes the pen for fiber handling, can be added with the code SE-SC-COVER-PEN. The tube entry for closure support, if necessary, can be ordered with the code TUBES-ENTRY-CLO.

PRODUCT CODE

4SC-06FO-KIT-CLO / Kit made of: 4 pcs grey splice trays (4mm) with 6 micro-smouvs space each and a 4-position closure-type support for 4mm trays

SE-SC-COVER-PEN / Cover + pen schele for SE and SC type trays

TUBES-ENTRY-CLO / Tubes entry for closure

TECHNICAL FEATURES

N. TRAYS	4
TRAYS THICKNESS	4 mm
N. OF SMOUVS	6
SMOUVS DIMENSION	Tipo Micro
TRAY HOLDER	It can host 4 trays (4mm)
COVER	NO
MATERIAL	ABS + PC
COLOR	Grey
OPERATING TEMPERATURE	-40 /+70 °C



SPLICE TRAYS KIT

4 COMPACT SC TRAYS FOR 12 MICRO-SMOUV



Compact splice trays used in closures, in optical patch cabinets or optical subracks. The 4SC-12FO-KIT-CLO item includes 4 pcs of 4mm splice trays that can host up to 12 micro-smouv splices each, allowing for proper management of the fiber extra length. The 4-position (4mm) holder with the ideal passages for closure applications is included and the product is supplied in gray color. The cover includes the pen for fiber handling, can be added with the code SE-SC-COVER-PEN. The tube entry for closure support, if necessary, can be ordered with the code TUBES-ENTRY-CLO.

PRODUCT CODE

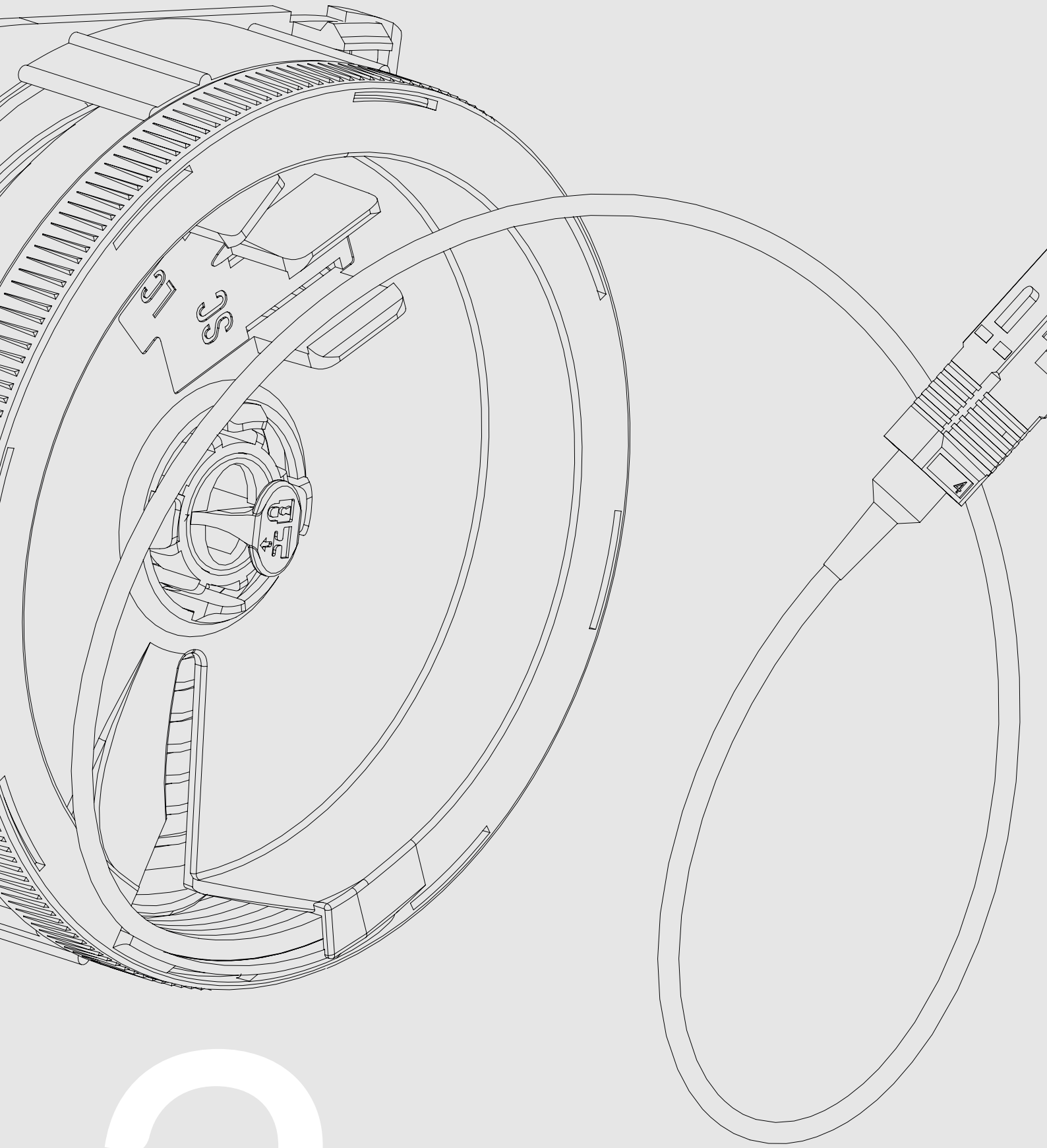
4SE-12FO-KIT-CLO / Kit made of: 4 pcs grey splice trays (4mm) with 12 micro-smouvs space each and a 4-position closure-type support for 4mm trays

SE-SC-COVER-PEN / Cover + pen schele for SE and SC type trays

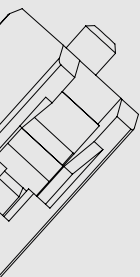
TUBES-ENTRY-CLO / Tubes entry for closure

TECHNICAL FEATURES

N. TRAYS	4
TRAYS THICKNESS	4 mm
N. OF SMOUVS	12
SMOUVS DIMENSION	Micro type
TRAY HOLDER	It can host 4 trays (4mm)
COVER	No
MATERIAL	ABS + PC
COLOR	Grey
OPERATING TEMPERATURE	-40 /+70 °C



2



FTTH
FTTR



FTTH

FIBER TO THE HOME

The FTTH (Fiber To The Home) network is the one that allows the direct arrival of fiber optic cables to your home, greatly improving the performance of your Internet connection compared to previous copper connections. In this case, the speed can reach up to 1,000 Megabits per second (both in upload and download).

The chosen technology upstream for the FTTH structure is called GPON (Gigabit Passive Optical Network).

With GPON technology, which uses glass fiber to transmit light signals, it is possible to transmit and receive very large quantities of data over long distances without any 'active' network components, with great scalability and reduced maintenance.

OUT LINE has been developing projects and providing products for the installation of the fiber optic network throughout Italy and other countries for years. Furthermore, thanks to its Research and Development department, it has become a point of reference for the largest operators in the TLC sector. Although continuously developing, OUT LINE's offer for FTTH can be divided as follows:

FTTH in-Building products

When inside the building, it is needed a complete kit with all the components necessary to reach each flat and serve the users. OUT LINE offers a complete portfolio of products that allows each operator to carry out the complete cabling.

FTTH connection products

OUT LINE can supply a complete range of metal/plastic boxes, usually installed on the façade or inside buildings, for the connection and management of fiber optical cables coming from the manholes installed on the street.

Wide range of fiber optical components

OUT LINE has been supplying for several years most of the optical components and accessories needed for the deployment of the network infrastructure: Splitters, Pigtails, Connectors, Reflectors and much more.

FTTH



WALL OUTLET / OTO



COMPACT FLOOR BOX



SECONDARY DIVIDER



PRIMARY DIVIDER



PVC DUCT 5MM



PVC DUCT 3MM



SPLICE PROTECTION SYSTEM



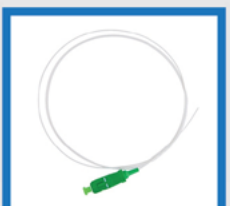
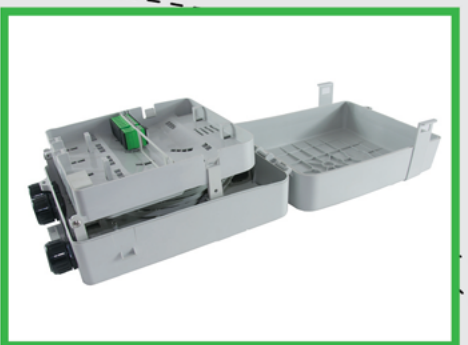
SINGLE-FIBER RISER CABLE



MULTI-FIBER RISER CABLE



PTE UNI



PLC SPLITTER

PIGTAIL

FMC / SOC

SMOUVS

FBG REFLECTOR

ADAPTERS



FTTH IN-BUILDING PRODUCTS

PRIMARY FLOOR DIVIDER



The Primary floor divider is a product designed and developed to allow the protection and separation of single fibers and fiber groups that are extracted from a vertical multi-fiber drop cable installed in the building.

PRODUCT CODE

VERT-DIR-PRINC/ Primary Floor Divider (30 pcs pack)

TECHNICAL FEATURES

MATERIAL	ABS
HEIGHT	26 mm
LENGHT	86 mm
DEPTH	86 mm
COLOR	White
FLAME RESISTANCE	UL94-V0
INPUT	N. 1 passing cable up to 9 mm diameter
OUTPUT FOR 3 MM PROTECTIVE TUBES	12
OUTPUT FOR 5 MM PROTECTIVE TUBES	2
GUARANTEED BENDING RADIO	15 mm

FTTH - FTTR





FTTH IN-BUILDING PRODUCTS

SECONDARY FLOOR DIVIDER



The Secondary floor divider is a product designed and developed to allow the protection and separation of single fibers and groups of fibers coming from the main branch or multi-fibers drop cables to be terminated directly with a branch on the floor.

PRODUCT CODE

VERT-DIR-SECON/ Secondary Floor Divider (30 pcs pack)

TECHNICAL FEATURES

MATERIAL	ABS
DEPTH	10 mm
DIAMETER	40 mm
COLOR	White - RAL 9016
TUBES /CABLES ENTRANCES	1pc up to 5 mm diameter
OUTPUTS FOR 3 MM PROTECTIVE TUBES	8
OUTPUTS FOR 5 MM PROTECTIVE TUBES	3
GUARANTEED BENDING RADIO	15 mm
FLAME RESISTANCE	UL94-V0

FTTH - FTTR





FTTH IN-BUILDING PRODUCTS

MINI FLOOR-BOX



The Mini floor-box allows the extraction and splicing on each floor of the optical fibers, which are used for the cabling of the individual flats, from the vertical multi- fiber drop cable installed in the building.

PRODUCT CODE

VERT-BOX-PIANO / Mini floor-box (30 pcs pack)

TECHNICAL FEATURES

MATERIAL	ABS
HEIGHT	26 mm
LENGHT	70 mm
DEPTH	50 mm
COLOR	White - RAL 9016
FLAME RESISTANCE	UL94-V0
PASSING CABLE ENTRANCES	N. 1 passing cable up to 9 mm diameter
CABLE'S OUTPUT	12
GUARANTEED BENDING RADIO	15 mm
RAGGIO DI CURVATURA GARANTITO	15 mm

FTTH - FTTR



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FTTH



FTTH IN-BUILDING PRODUCTS

PROTECTIVE TUBE



The PE protective tube is needed for the protection of single fibers or groups of fibers and is mainly used for the passage between the various types of branchers and the end customer's apartment. The protective tube for multiple fibers can be used to protect the fibers that come from the cable dividers in the ODF or subracks.

PRODUCT CODE

VERT-TUB-SING/ Protective tube for single fiber (500mt drum)

VERT-TUB-MULTI/ Protective tube for multiple fibers (500mt drum)

TECHNICAL FEATURES

MATERIAL	Single Fiber Multiple Fibers
EXTERNAL DIAMETER	3 mm 5 mm
INTERNAL DIAMETER	1.4 mm 3.5 mm
WORKING TEMPERATURE	-15 / +70 ° C
MINIMUM BENDING RADIUS	15 mm 20 mm
COLOR	Trasparent

FTTH





FTTH IN-BUILDING PRODUCTS

SPLICE PROTECTION SYSTEM



The splice protection system consists in a plastic tube that is used after the branching of a multi-fiber cable for the splice protection. This is used inside a corrugated tube between a fiber of the multi-fiber cable in the building and the fiber of the single-fiber cable that carries the connection to the end user's flat.

PRODUCT CODE

VERT-TUB-SMV/ Splice protection system (100 pcs pack)

TECHNICAL FEATURES

EXTERNAL DIAMETER	5 mm
INTERNAL DIAMETER	3,5 mm
TUBE LENGHT	400 mm
HEATH-SHRINKABLE LENGHT	30 mm
COLOR	Trasparent
TUBE MATERIAL	PE
RING MATERIAL	Brass
FLAME RESISTANCE	UL94V0

FTTH





USER OPTICAL SOCKET (OTO) PLESIO – UNI 503



THE PLESIO - UNI 503 has been developed for Italy market, because it is meant to be mounted above an UNI 503 electrical socket box. It is made in a rectangular geometric structure, which follows the perimeter of a standard UNI 503 box. It is equipped with a front cover which has a central break set, once the set is broken the cover can be installed on a UNI 503 box even in the presence of pre-installed electrical sockets. It allows the fixing of the single-fiber cable with 5 entry options, it provides a fiber extra-length management zone with a 900um jacket, it can host standard fusion splice covers in two opposite positions to offer greater flexibility. It also contains n. 1 SC /APC adapter but it can also host shutter type SC /APC adapters. It is possible to install mechanical connectors, Splice-on connectors and optical reflectors inside it.

PRODUCT CODE

WO-1F-CORN

TECHNICAL FEATURES

MATERIAL	ABS
HEIGHT	86 mm
LENGHT	122 mm
DEPTH	16 mm
COLOR	White
ADAPTER TYPE	SC /APC
COPPER CONNECTION	RJ11 (OPTIONAL)
ADAPTER	SC /APC Flangeless

FTTH





USER OPTICAL SOCKET (OTO) OPEN FIBER OTO



This user optical socket developed and homologated by Open Fiber, allows the connection of individual apartments to the vertical access fiber optic network. Small and aesthetically pleasing, the termination inside the socket can be achieved via a 900 μ m pigtail with SC /APC Splice-on Connector, or with a field-installable SC / APC connector. It can easily host a monodirectional FBG optical reflector. Standard configuration includes an SC /APC shutter adapter.

PRODUCT CODE
WO-1F-SH-OF

TECHNICAL FEATURES

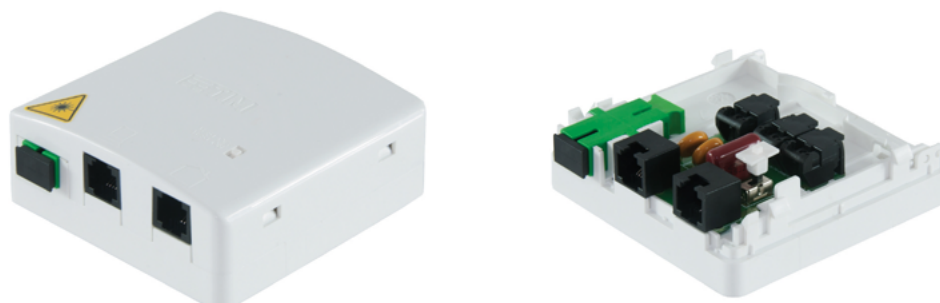
N. OF ADAPTERS	1
ADAPTER TYPE	SC /APC Simplex
MATERIAL	ABS
COLOR	WHITE
HEIGHT	22 mm
WIDTH	85 mm
DEPTH	115 mm

FTTH - FTTR





USER OPTICAL SOCKET (OTO) HYBRID (COPPER / FIBER) OTO



The Unified User Termination with hybrid connectivity has been developed and homologated for a TELECOM ITALIA technical specification, and allows the connection of individual apartments to the vertical access fiber optic network installed in buildings. Small and aesthetically pleasing, it gives an hybrid solution: it includes n. 1 SC /APC adapter, n. 1 RJ11 and n. 1 RJ25 already installed on an electronic card. The RJ connectors are used to restart the phone copper network existing in the apartment.

PRODUCT CODE

WO-IFO/ N.M.U. TIM 767653

TECHNICAL FEATURES

MATERIAL	ABS
HEIGHT	28 mm
WIDTH	80 mm
DEPTH	80 mm
COLOR	White
OPTICAL CONNECTION	SC /APC
COPPER CONNECTION	RJ11 + RJ25
ADAPTER	SC /APC with flanges

FTTH - FTTR



DATACENTER



RETE



FTTH



USER OPTICAL SOCKET (OTO) VDSL2 (CBS) SOCKET



The VDSL2 or CBS user socket has the fundamental characteristic of recovering the system at the customer premises, in response to the activation of an FTTCab / VDSL2 service offer. The VDSL2 User Socket allows connections on the Customer side made using RJ11 and RJ25 connectors, while on the Central side and internal system side with IDC type connectors

PRODUCT CODE

WO-CBS-WDSL2/ NMU 776610

TECHNICAL FEATURES

MATERIAL	ABS
HEIGHT	55 mm
WIDTH	75 mm
DEPTH	35 mm
COLOR	White
COPPER CONNECTION	RJ11 + RJ25

FTTH



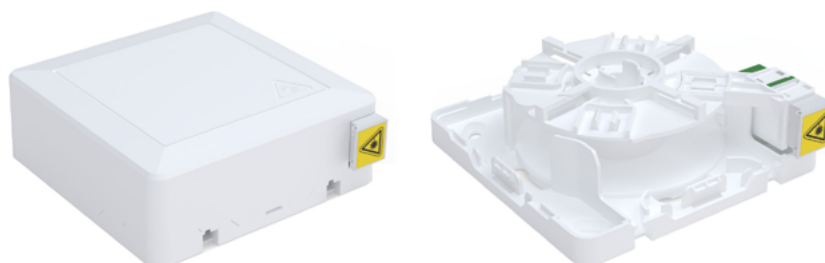
RETE



FTTH



USER OPTICAL SOCKET (OTO) OPTILINK - REEL WALL OUTLET



Fiber wall outlet with a 10 /20 /30 /40 meters SC /LC-APC patch cord connected to an adapter. The patch cord is coiled up inside the outlet on a rotating spool that allows it to be stored inside the outlet as well as unwound to the outside. Optilink can be used to bring a fiber optic Internet connection to any room in the house, thanks to its cable that can be extended up to 40 meters.

PRODUCT CODE

CODE BASED ON OPTIONS - ASK US A QUOTATION BASED ON YOUR NEEDS

TECHNICAL FEATURES

MATERIAL	ABS
HEIGHT	80 mm
WIDTH	80 mm
DEPTH	28,5 mm
COLOR	RAL 9016
GRADO DI INFIAMMABILITÀ	UL94 V0

FTTH - FTTR



RETE



FTTH



USER OPTICAL SOCKET (OTO) DIRECTA REEL WALL OULET



The patch cord consists of two parts: one part is 30 meters of fiber with a diameter of 0.9 mm (for the connection to the flat outlet) and the other part has a diameter of 2 mm (for the connection to the ONT/modem/router). The 0,9 mm diameter part of the patchcord (cord A) is coiled up inside the outlet on a rotating spool that allows it to be stored inside the outlet as well as unwound to the outside. The 2mm diameter part of the patch cord (cord B) with its metal armoring, is wound onto the top of the reel. This can be easily collected and unwound by turning the transparent wheel. It is designed to extend an FTTH connection to any room in the house from a single entry point, avoiding additional trunking whenever the fiber endpoint changes.

PRODUCT CODE
OUT-BUTT-SPLITTER-SUB

TECHNICAL FEATURES

MATERIAL	can be easily collected and unwound by turning the transparent wheel
HEIGHT	92 mm
WIDTH	92 mm
DEPTH	34mm
COLOR	RAL 9016
FLAMABILITY GRADE	UL94 V0

FTTH

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FTTH



DATA CENTER



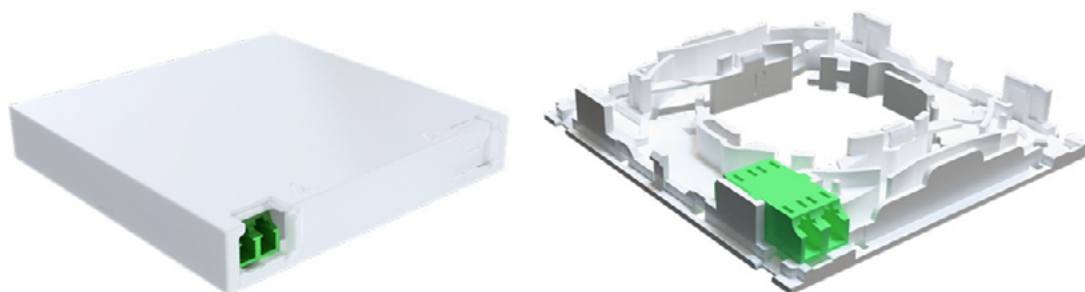
RETE



FTTH



USER OPTICAL SOCKET (OTO) PLESIO – DIN



This user optic socket has been developed to allow the connection of the individual home apartments to the FTTH fiber optic network. Small and aesthetically pleasing, the termination inside the box can accommodate up to 2pcs 900 μ m pigtail with SC / APC (or LC / APC) connector that can be spliced to the optical cable, or with fast SC / APC (or LC / APC) mechanical connector.

PRODUCT CODE

CODE BASED ON OPTIONS - ASK US A QUOTATION BASED ON YOUR NEEDS

TECHNICAL FEATURES

MATERIAL	ABS
HEIGHT	101 mm
WIDTH	101 mm
DEPTH	16,5 mm
COLOR	White
OPTICAL CONNECTION	SC /APC - LC /APC
ADAPTER	SC /APC - LC /APC
FLAMABILITY GRADE	UL94 V0

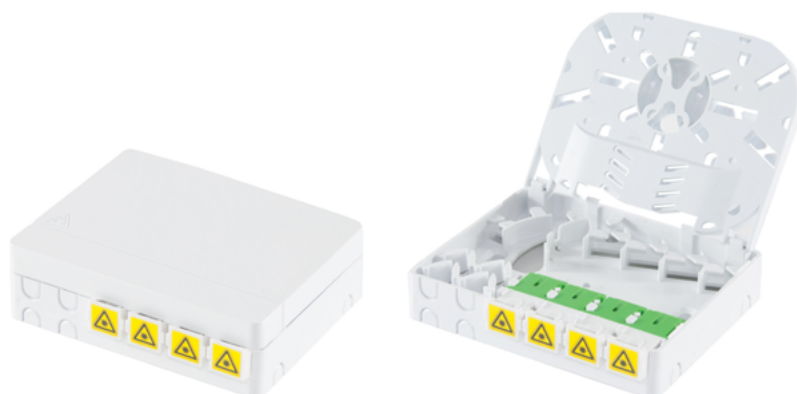
FTTH





USER OPTICAL SOCKET (OTO)

4 FO OTO



This user optical socket allows the connection of individual apartments to the vertical access fiber optic network. Small and aesthetically pleasing, the termination inside the socket can be achieved via a 900 μ m pigtail with SC /APC Splice-on Connector, or with a field-installable SC /APC connector. It can easily host up to 4 fibers.

PRODUCT CODE
WO-4F / 4 FO OTO

TECHNICAL FEATURES

N. OF ADAPTERS	4
ADAPTER TYPE	SC /APC Simplex
MATERIAL	ABS
COLOR	White
HEIGHT	28,8 mm
WIDTH	100,6 mm
DEPTH	80,6 mm

FTTH - FTTR



RETE



FTTH



SILWAY[®]
BRINGS FIBER EVERYWHERE





FTTH
SILWAY

SILWAY®

BRINGS FIBER EVERYWHERE

With SILWAY you can bring the optical fiber and the modem to any point of your home or office.

Where it is not possible to use the existing electrical system ducts, the system allows you to lay the cables in a simple and clean way without any particular masonry work.

The SILWAY system creates a protective path dedicated to the cables, including the optical fiber up to 3 mm outer diameter, overcoming the clogging of junction boxes and corrugated pipes that often hinder the passage of such delicate cables.



FTTH - FTTR





Each KIT includes 50m of SILWAY duct, and:



Inner Curve
Accessory



External Curve
Accessory



Planar Curve
Accessory



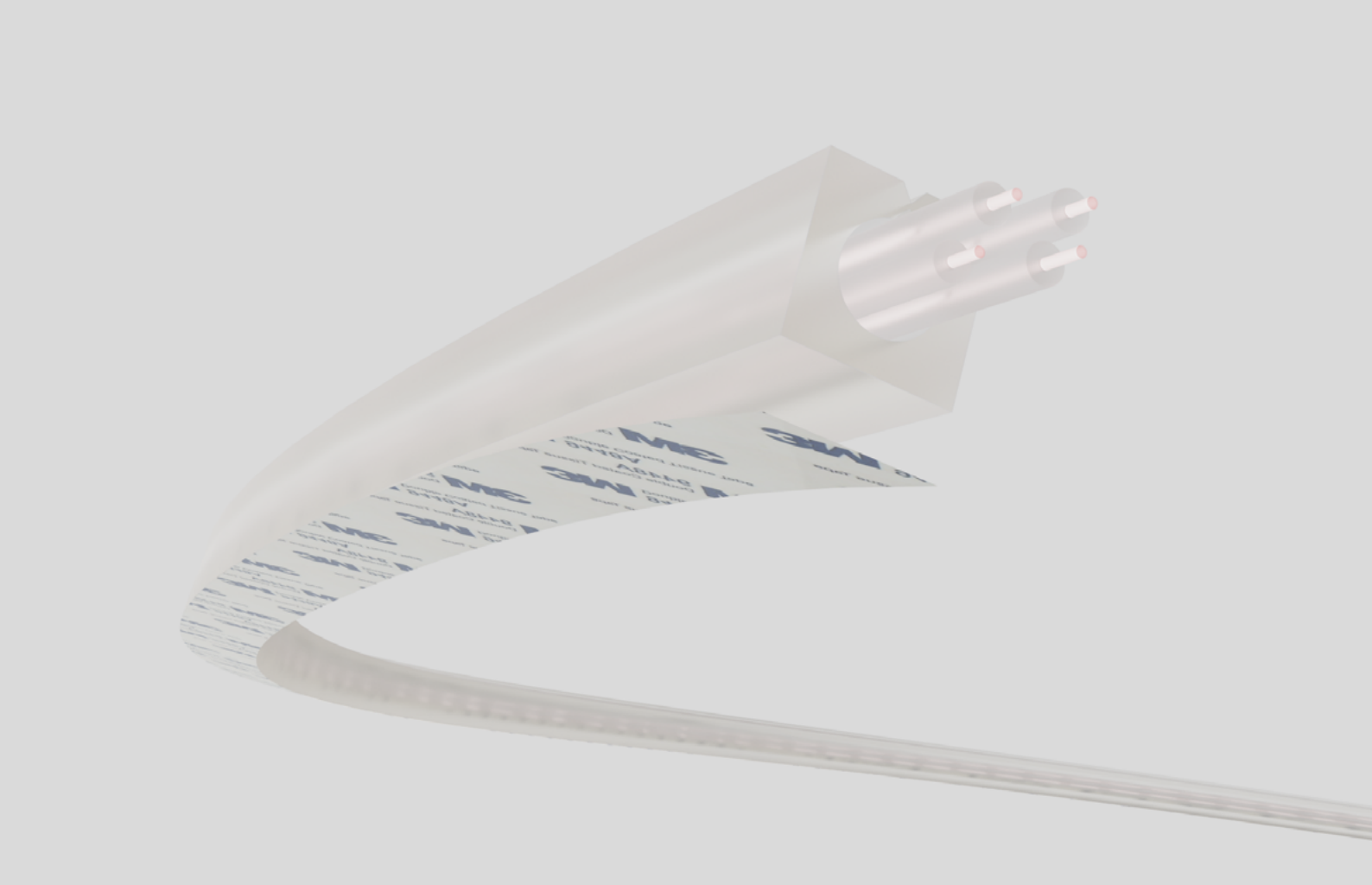
Fiber-Placing
Tool



WPT / Divider
Accessory



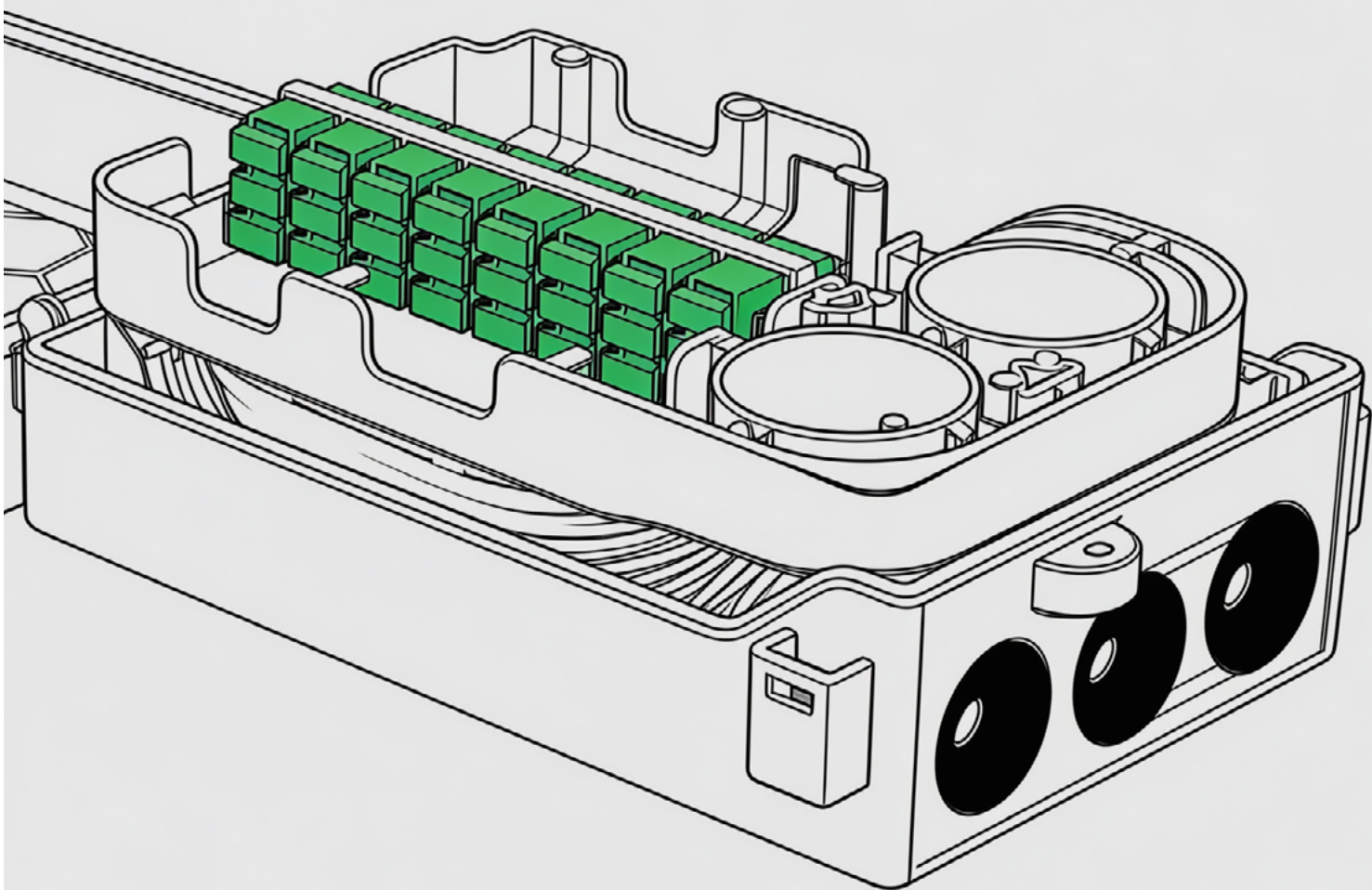
Protective
Tube



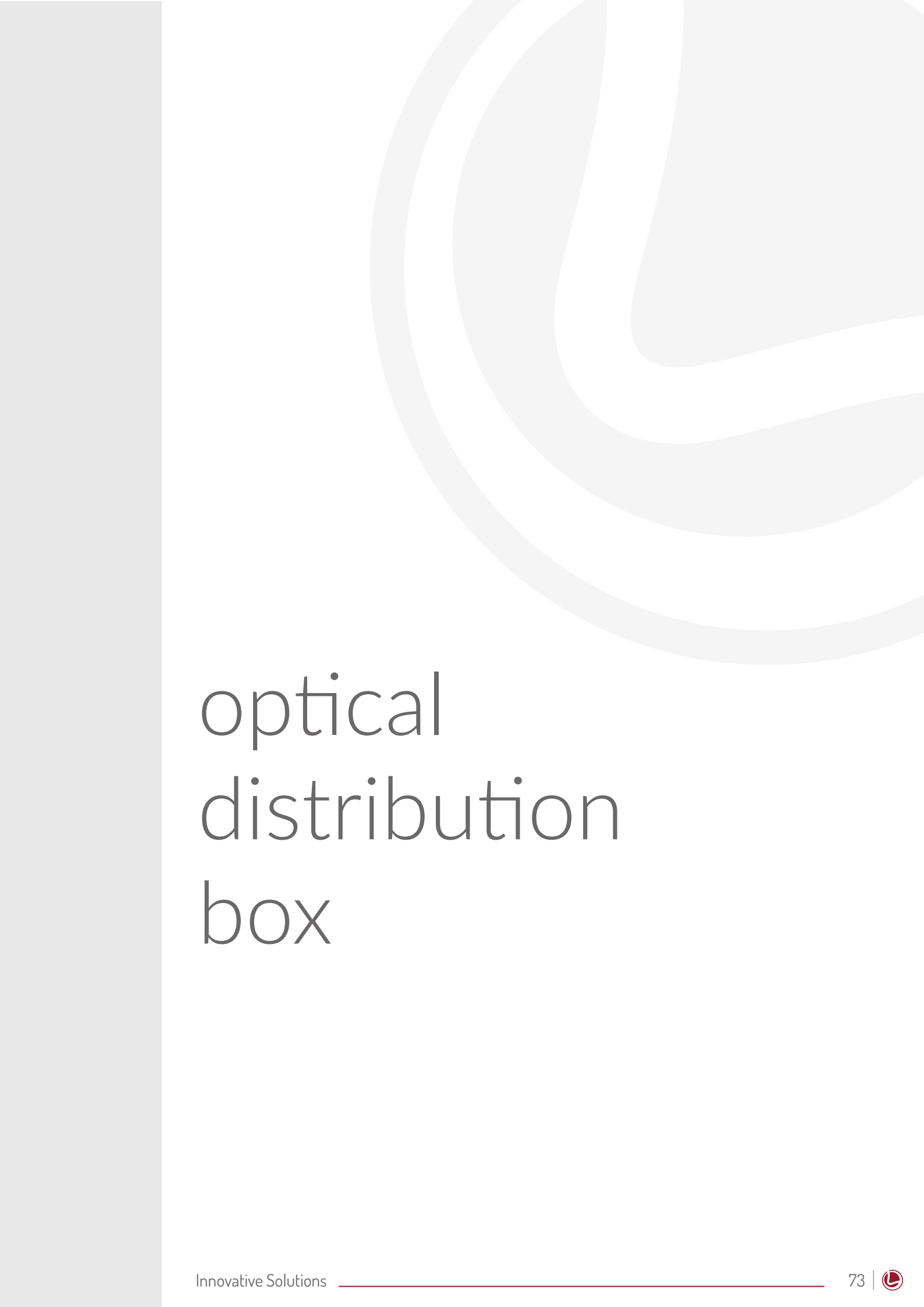
DIM SILWAY SECTION	4X4 mm		5X5 mm			
COLOR	White	Trasparent	White	Trasparent		
KIT	OUT-SILWAY-KIT-50-MT-WH	OUT-SILWAY-KIT-50-MT-TR	OUT-SILWAY-KIT-50-MT-WH-5MM	OUT-SILWAY-KIT-50-MT-TR-5MM		
50 m reel	OUT-DRUM-SILWAY-50MT-WH-4MM	OUT-DRUM-SILWAY-50MT-TR-4MM	OUT-DRUM-SILWAY-50MT-WH-5MM	OUT-DRUM-SILWAY-50MT-TR-5MM		
INNER CURVE	OUT-SILWAY-INNER-90-WH-4MM	OUT-SILWAY-INNER-90-TR-4MM	OUT-SILWAY-INNER-90-WH-5MM	OUT-SILWAY-INNER-90-TR-5MM		
CORNER CURVE	OUT-SILWAY-INNER-90-WH-4MM	OUT-SILWAY-EDGE-90-TR-4MM	OUT-SILWAY-EDGE-90-WH-5MM	OUT-SILWAY-EDGE-90-TR-5MM		
PLANAR CURVE	OUT-SILWAY-PLANAR-90-WH-4MM	OUT-SILWAY-PLANAR-90-TR-4MM	OUT-SILWAY-INNER-90-WH-5MM	OUT-SILWAY-INNER-90-TR-5MM		
CABLE DIAMETER ACCEPTED						
OPTICAL CABLE PLACING TOOL	OUT-SILWAY-FO-PLACING-TOOL					
WALL PASS-THROUGH TOLL	OUT-SILWAY-WPT-WH					

www.silway.com





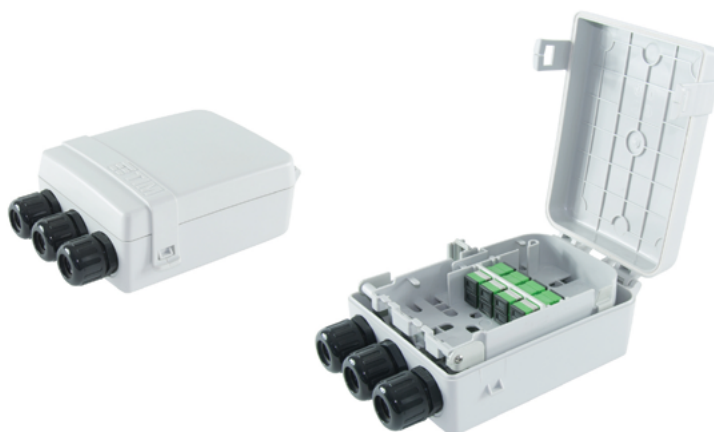
3



optical distribution box



OPTICAL DISTRIBUTION BOX ROE - 8 HH



ROE 8 HH is designed for pole or wall installations and is used for Fiber To The Home applications. It can host n. 1 pc of 1x8 PLC splitter (OL code: PLC-1X8-A- 09 /105-SCA-09 /095-SCA-2), and the incoming cable is divided inside the ODB and then distributed to the individual House-Holds (HH).

PRODUCT CODE

ROE-8-TIM-NL / ROE (NMU 771782) includes n. 1 SC/APC SIMPLEX adapter pre-installed in the secondary branch and n. 8 SC/APC SIMPLEX adapters pre-installed in the user's branch.

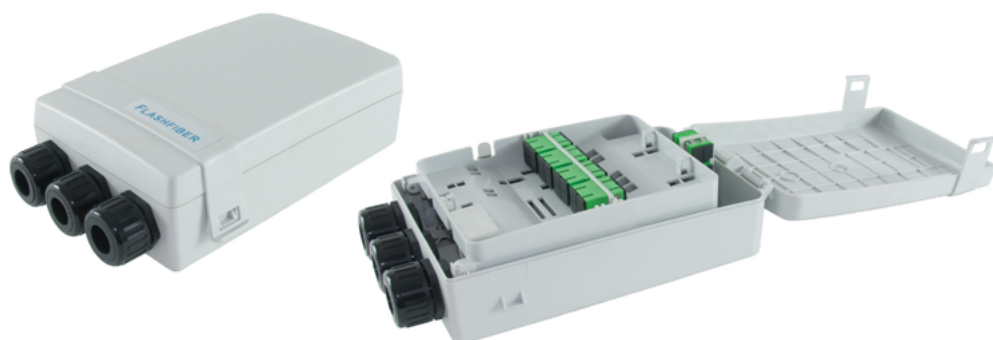
TECHNICAL FEATURES

HEIGHT	150 mm
LENGHT	114 mm
DEPTH	60 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 2 SC /APC Simplex
TERMINATION (USER'S BRANCH)	Up to 8 SC /APC Simplex
CABLE ENTRANCES	3
PROTECTION CLASSIFICATION	IP56 - IK10
MATERIAL	ABS
COLOR	RAL 7035
LOCK	-
PARKING	1



OPTICAL DISTRIBUTION BOX

ROE 16 HH



ROE 16 HH is designed for pole or wall installations and is used for Fiber To The Home applications. It can host n. 2 pc of 1x8 PLC splitter (OL code: PLC-1X8-A- 09 /105-SCA-09 /095-SCA-2), and the incoming cable is divided inside the ODB and then distributed to the individual House-Holds (HH).

PRODUCT CODE

ROE-16-TIM-FF/ ROE 16 HH (NMU 771783) includes n. 6 SC/APC SIMPLEX adapter pre-installed in the secondary branch and n. 16 SC/APC SIMPLEX adapters pre-installed in the user's branch.

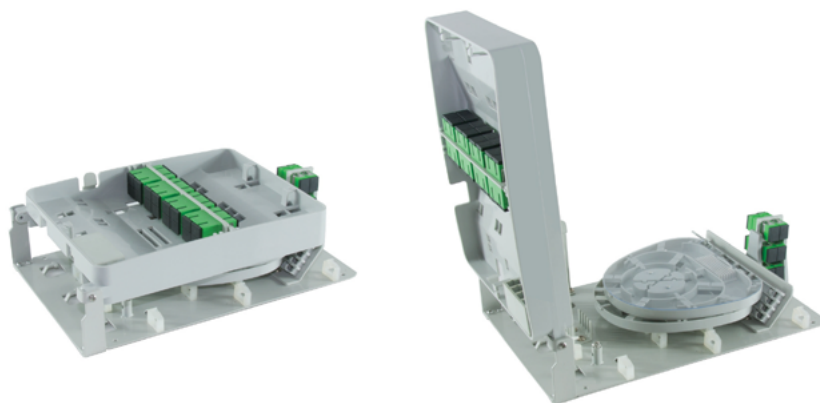
TECHNICAL FEATURES

HEIGHT	250 mm
LENGHT	150 mm
DEPTH	70 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 6 SC /APC Simplex
TERMINATION (USER'S BRANCH)	Up to 8 SC /APC Duplex
CABLE ENTRANCES	3
PROTECTION CLASSIFICATION	IP56 - IK10
MATERIAL	ABS
COLOR	Color RAL 7035
LOCK	-
PARKNG	4



OPTICAL DISTRIBUTION BOX

ROE 16 HH – INTERNAL FRUIT



ROE 16 HH – INTERNAL FRUIT is designed for pole or wall installations and is used for Fiber To The Home applications. It can host n. 2 pc of 1x8 PLC splitter (OL code: PLC-1X8-A-09 /105-SCA-09 /095-SCA-2), and the incoming cable is divided inside the ODB and then distributed to the individual House-Holds (HH).

PRODUCT CODE

ROE-16-TIM-COL-FF / ROE 16 HH INTERNAL FRUIT (NMU 771785) includes n. 6 SC/APC SIMPLEX adapter pre-installed in the secondary branch and n. 8 SC/APC DUPLEX adapters pre-installed in the user's branch.

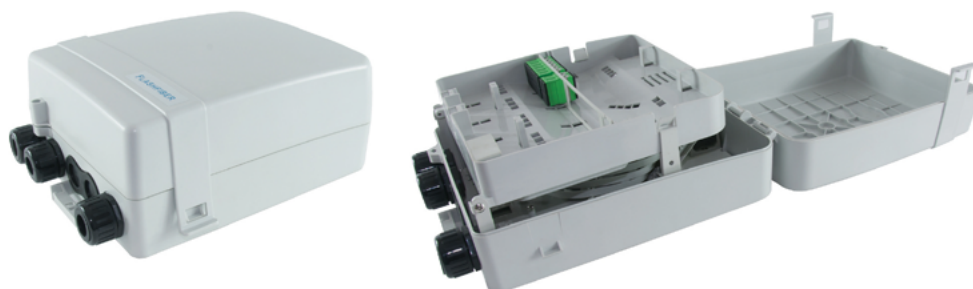
TECHNICAL FEATURES

HEIGHT	250 mm
LENGHT	150 mm
DEPTH	70 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 6 SC /APC Simplex
TERMINATION (USER'S BRANCH)	Up to 8 SC /APC Duplex
CABLE ENTRANCES	3
PROTECTION CLASSIFICATION	IP56 – IK10
MATERIAL	ABS
COLOR	Color RAL 7035
LOCK	-
PARKING	4



OPTICAL DISTRIBUTION BOX

ROE 32 HH



ROE 32 HH is designed for pole or wall installations and is used for Fiber To The Home applications. It can host n. 4 pc of 1x8 PLC splitter (OL code: PLC-1X8-A- 09 /105-SCA-09 /095-SCA-2), and the incoming cable is divided inside the ODB and then distributed to the individual House-Holds (HH).

PRODUCT CODE

ROE-32-TIM-FF / ROE 32 HH (NMU 771784) includes n. 12 SC/APC SIMPLEX adapter pre-installed in the secondary branch and n. 8 SC/APC DUPLEX adapters pre-installed in the user's branch.

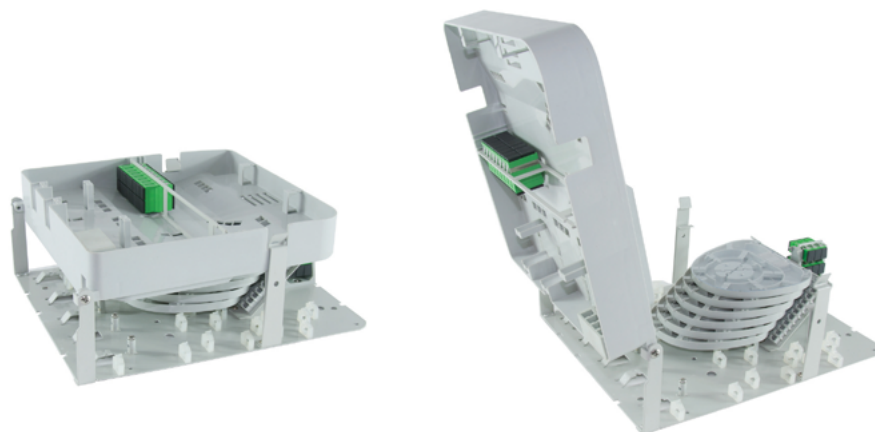
TECHNICAL FEATURES

HEIGHT	300 mm
LENGHT	300 mm
DEPTH	120 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 12 SC /APC SIMPLEX
TERMINATION (USER'S BRANCH)	Up to 16 SC /APC DUPLEX
CABLE ENTRANCES	5
PROTECTION CLASSIFICATION	IP56 - IK10
MATERIAL	ABS
COLOR	Color RAL 7035
LOCK	UPON REQUEST
PARKING	8



OPTICAL DISTRIBUTION BOX

ROE 32 HH – INTERNAL FRUIT



ROE 32 HH is designed for pole or wall installations and is used for Fiber To The Home applications. It can host n. 4 pc of 1x8 PLC splitter (OL code: PLC-1X8-A- 09 /105-SCA-09 /095-SCA-2), and the incoming cable is divided inside the ODB and then distributed to the individual House-Holds (HH).

PRODUCT CODE

ROE-32-TIM-COL-FF / ROE 32 HH INTERNAL FRUIT (NMU 771787) includes n. 12 SC/APC SIMPLEX adapter pre-installed in the secondary branch and n. 8 SC/APC DUPLEX adapters pre-installed in the user's branch.

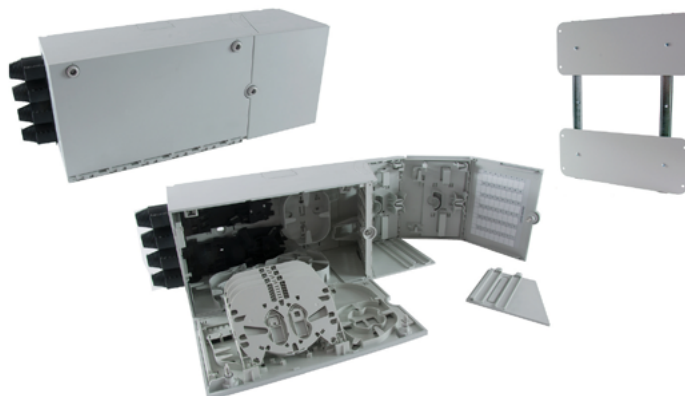
TECHNICAL FEATURES

HEIGHT	300 mm
LENGHT	300 mm
DEPTH	120 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 12 SC /APC SIMPLEX
TERMINATION (USER'S BRANCH)	Up to 16 SC /APC DUPLEX
CABLE ENTRANCES	5
PROTECTION CLASSIFICATION	ABS
MATERIAL	Color RAL 7035
COLOR	-
PARKING	8



OPTICAL DISTRIBUTION BOX

ROE 48 HH



ROE 48 HH is designed for pole or wall installations and is used for Fiber To The Home applications. It can host n. 6 PLC splitter 1x8 (OL CODE: PLC-1X8-A-09 /105- SCA-09 /095-SCA-2), and the incoming cable is divided inside the ODB and then distributed to the individual House-Holds (HH).

PRODUCT CODE

ROE-48-UI-PRY /ROE 48 HH MTCV (NMU 767700)

ROE-48-UI-TEL / DIN RAIL KIT for ROE 48 HH (NMU 767701)

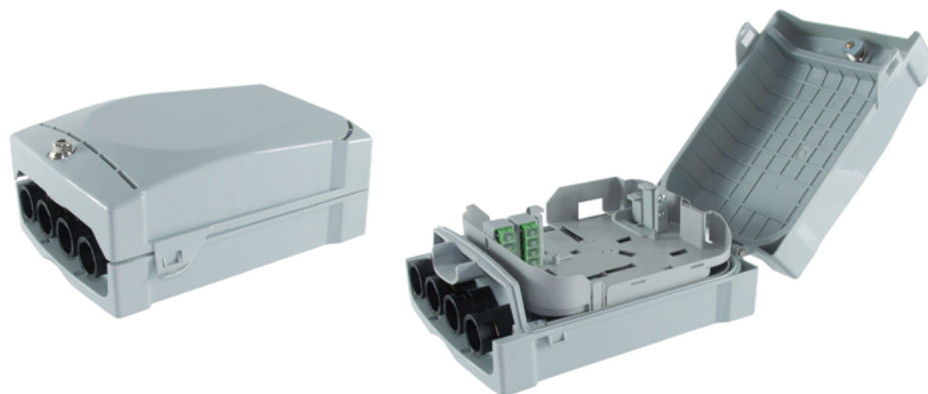
TECHNICAL FEATURES

HEIGHT	150 mm
LENGHT	114 mm
DEPTH	60 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 2 SC /APC Simplex
TERMINATION (USER'S BRANCH)	Up to 8 SC /APC Simplex
CABLE ENTRANCES	3
PROTECTION CLASSIFICATION	IP56 - IK10
MATERIAL	ABS
COLOR	RAL 7035
LOCK	-
PARKING	1



OPTICAL DISTRIBUTION BOX

ROE UNI 16 HH



The ROE UNI 16 HH is designed for internal and external installation, for the cabling of buildings part of a FTTH architecture network, it hosts 1X8 plastic splitters (OL CODE: PLC-1X8-A-09 /XX-SCA-09 /XX-SCA-ROEU). It has a back-panel appropriately designed so that it can be dismantled and easily assembled /cabled with more comfort in the field. Furthermore, the external case can be replaced in the event of damage, without any service interruption.

PRODUCT CODE

ROE-16-UNI-IE-OL-TIM / ROE UNI 16 HH (NMU 777328) includes n. 2 SC/APC DUPLEX adapter pre-installed in the secondary branch and n. 8 SC/APC SIMPLEX adapters pre-installed in the user's branch.

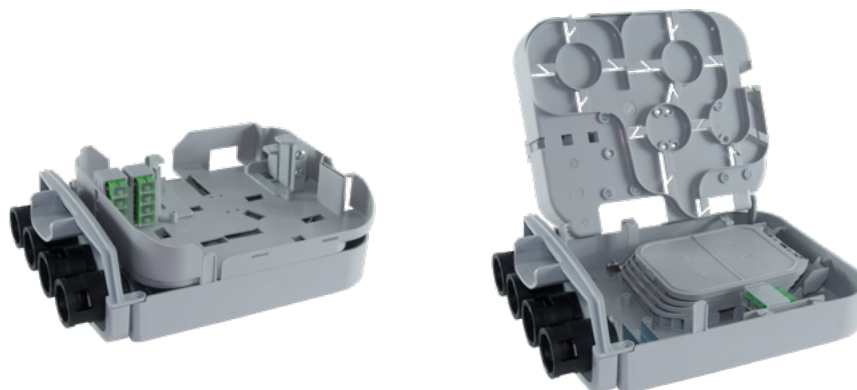
TECHNICAL FEATURES

HEIGHT	288 mm
LENGHT	215 mm
DEPTH	108 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 2 SC /APC Duplex
TERMINATION (USER'S BRANCH)	Up to 8 SC /APC Simplex
CABLE ENTRANCES	4
PROTECTION CLASSIFICATION	IP56 - IK10
MATERIAL	ABS /PC
COLOR	Color RAL 7035
LOCK	Sicurvite TYPE



OPTICAL DISTRIBUTION BOX

ROE UNI 16 HH – INTERNAL FRUIT



The ROE UNI 16 HH – INTERNAL FRUIT is designed for internal and external installation, for the cabling of buildings part of a FTTH architecture network, it hosts 1X8 plastic splitters (OL CODE: PLC-1X8-A-09 /XX-SCA-09 /XX-SCA-ROEU). It can be easily assembled /cabled with more comfort in the field but it must be installed in a bigger box or cabinet.

PRODUCT CODE

ROE-16-UNI-COL-OL-TIM / ROE UNI 16 HH – INTERNAL FRUIT (NMU 777375) includes n. 2 SC/APC DUPLEX adapter pre-installed in the secondary branch and n. 8 SC/APC SIMPLEX adapters pre-installed in the user's branch.

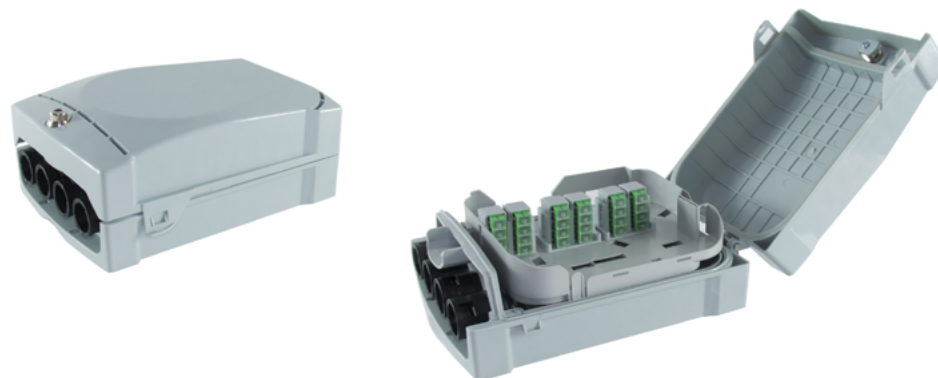
TECHNICAL FEATURES

HEIGHT	288 mm
LENGHT	215 mm
DEPTH	108 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 2 SC /APC Duplex
TERMINATION (USER'S BRANCH)	Up to 8 SC /APC Simplex
CABLE ENTRANCES	4
MATERIAL	ABS /PC
COLOR	Color RAL 7035
LOCK	-



OPTICAL DISTRIBUTION BOX

PTE UNI 24 HH



PTE UNI 24 HH is designed for internal and external installation, for the cabling of buildings part of a FTTH architecture network. It has a back-panel appropriately designed so that it can be dismounted and easily assembled /cabled with more comfort in the field. Furthermore, the external case can be replaced in the event of damage, without any service interruption.

PRODUCT CODE

PTE-24-UNI-IE-OL-TIM / PTE UNI 24 HH (NMU 777390) includes n. 24 SC/APC SIMPLEX adapters pre-installed in the user's branch.

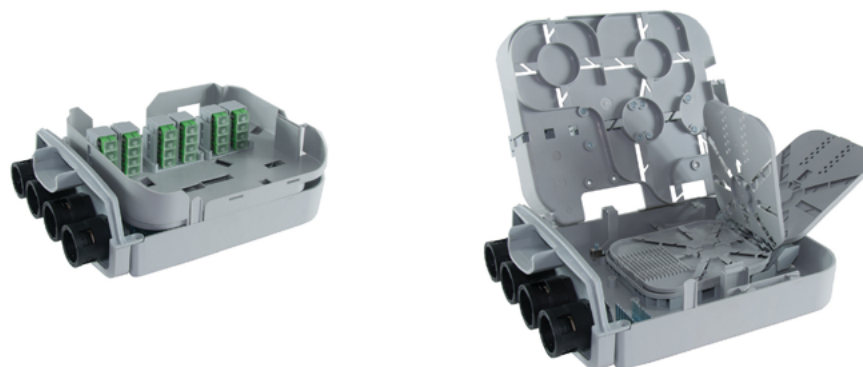
TECHNICAL FEATURES

HEIGHT	288 mm
LENGHT	215 mm
DEPTH	108 mm
TERMINATION (USER'S BRANCH)	Up to 24 SC /APC Simplex
CABLE ENTRANCES	4
PROTECTION CLASSIFICATION	IP56 - IK10
MATERIAL	ABS /PC
COLOR	Color RAL 7035
LOCK	Sicurvite TYPE



OPTICAL DISTRIBUTION BOX

PTE UNI 24 HH – INTERNAL FRUIT



PTE UNI 24 HH – INTERNAL FRUIT is designed for internal and external installation, for the cabling of buildings part of a FTTH architecture network. It has a back-panel appropriately designed so that it can be dismantled and easily assembled /cabled with more comfort in the field but it must be installed in a bigger box or cabinet.

PRODUCT CODE

PTE-24-UNI-COL-OL-TIM / PTE UNI 24 HH – INTERNAL FRUIT (NMU 777392) includes n. 24 SC/APC SIMPLEX adapters pre-installed in the user's branch.

TECHNICAL FEATURES

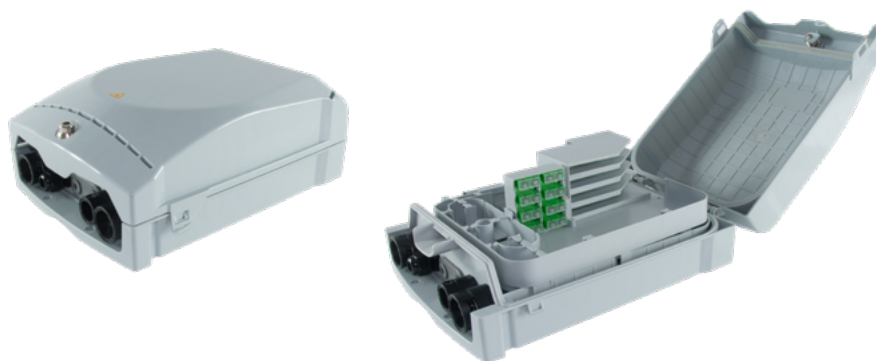
HEIGHT	255 mm
LENGHT	182 mm
DEPTH	87 mm
TERMINATION (USER'S BRANCH)	Up to 24 SC /APC Simplex
CABLE ENTRANCES	4
MATERIAL	ABS /PC
COLOR	Color RAL 7035
LOCK	-





OPTICAL DISTRIBUTION BOX

ROE UNI 32 HH



The ROE UNI 32 HH is designed for internal and external installation, for the cabling of buildings part of a FTTH architecture network, it hosts 1X8 plastic splitters (OL CODE: PLC-1X8-A-09 /XX-SCA-09 /XX-SCA-ROEU). It has a back-panel appropriately designed so that it can be dismantled and easily assembled /cabled with more comfort in the field. Furthermore, the external case can be replaced in the event of damage, without any service interruption.

PRODUCT CODE

ROE-32-UNI-IE-OL-TIM / ROE UNI 32 HH (NMU 777327) includes n. 4 SC/APC DUPLEX adapter pre-installed in the secondary branch and n. 8 SC/APC DUPLEX adapters pre-installed in the user's branch.

TECHNICAL FEATURES

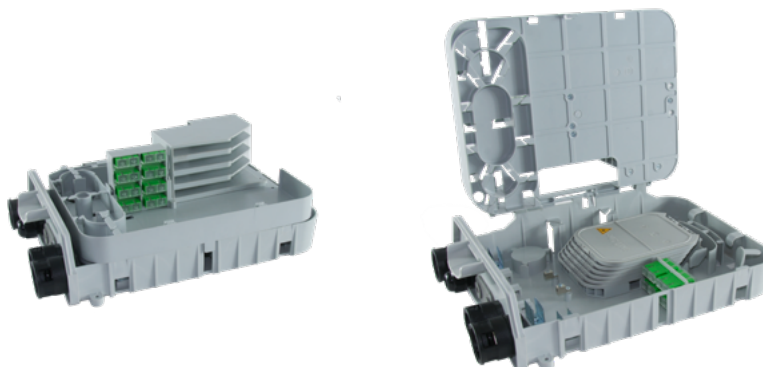
HEIGHT	360 mm
LENGHT	260 mm
DEPTH	133 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 4 SC /APC Duplex
TERMINATION (USER'S BRANCH)	Up to 8 SC /APC Duplex
CABLE ENTRANCES	3
PROTECTION CLASSIFICATION	IP56 - IK10
MATERIAL	ABS /PC
COLOR	Color RAL 7035
LOCK	Sicurvite TYPE





OPTICAL DISTRIBUTION BOX

ROE UNI 32 HH – INTERNAL FRUIT



The ROE UNI 32 HH – INTERNAL FRUIT is designed for internal and external installation, for the cabling of buildings part of a FTTH architecture network, it hosts 1X8 plastic splitters (OL CODE: PLC-1X8-A-09 /XX-SCA-09 /XX-SCA-ROEU). It can be easily assembled /cabled with more comfort in the field but it must be installed in a bigger box or cabinet.

PRODUCT CODE

ROE-32-UNI-COL-OL-TIM / ROE 32 HH – INTERNAL FRUIT (NMU 777329) includes n. 4 SC/APC DUPLEX adapter pre-installed in the secondary branch and n. 8 SC/APC DUPLEX adapters pre-installed in the user's branch.

TECHNICAL FEATURES

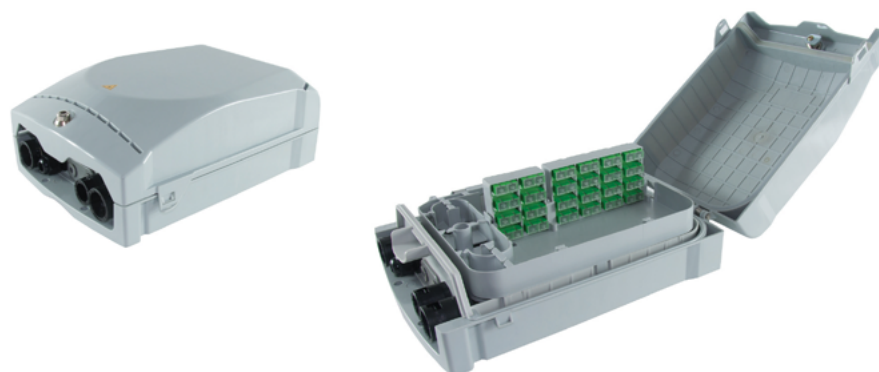
HEIGHT	328 mm
LENGHT	220 mm
DEPTH	140 mm
TERMINATION (HORIZONTAL BRANCH)	Up to 4 SC /APC Duplex
TERMINATION (USER'S BRANCH)	Up to 8 SC /APC Duplex
CABLE ENTRANCES	6
MATERIAL	ABS /PC
COLOR	Color RAL 7035
LOCK	-





OPTICAL DISTRIBUTION BOX

PTE UNI 48 HH



PTE UNI 48 HH is designed for internal and external installation, for the cabling of buildings part of a FTTH architecture network. It has a back-panel appropriately designed so that it can be dismounted and easily assembled /cabled with more comfort in the field. Furthermore, the external case can be replaced in the event of damage, without any service interruption.

PRODUCT CODE

PTE-48-UNI-IE-OL-TIM / PTE UNI 48 HH (NMU 777376) includes n. 24 SC/APC DUPLEX adapters pre-installed in the user's branch.

TECHNICAL FEATURES

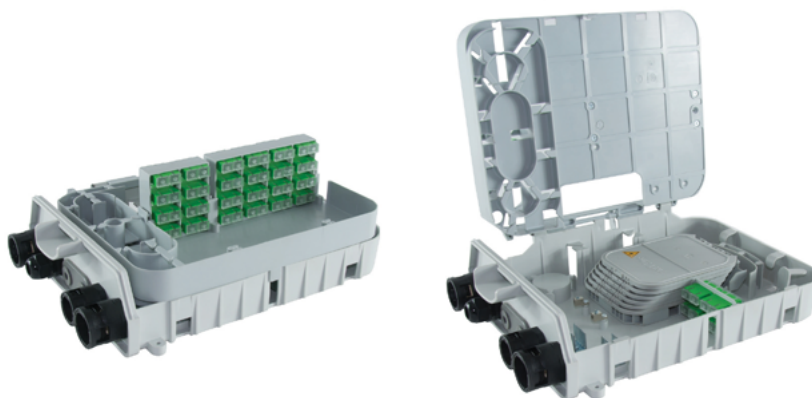
HEIGHT	360 mm
LENGHT	260 mm
DEPTH	133 mm
TERMINATION (USER'S BRANCH)	Up to 24 SC /APC Duplex
CABLE ENTRANCES	6
PROTECTION CLASSIFICATION	IP56 - IK10
MATERIAL	ABS /PC
COLOR	Color RAL 7035
LOCK	Sicurvite TYPE





OPTICAL DISTRIBUTION BOX

PTE UNI 48 HH – INTERNAL FRUIT



PTE UNI 48 HH – INTERNAL FRUIT is designed for internal and external installation, for the cabling of buildings part of a FTTH architecture network. It has a back-panel appropriately designed so that it can be dismantled and easily assembled /cabled with more comfort in the field but it must be installed in a bigger box or cabinet.

PRODUCT CODE

PTE-48-UNI-COL-OL-TIM /PTE 48 HH – INTERNAL FRUIT (NMU 777391) includes n. 24 SC/APC DUPLEX adapters pre-installed in the user's branch.

TECHNICAL FEATURES

HEIGHT	328 mm
LENGHT	240 mm
DEPTH	114 mm
TERMINATION (USER'S BRANCH)	Up to 24 SC /APC Duplex
CABLE ENTRANCES	6
MATERIAL	ABS /PC
COLOR	Color RAL 7035
LOCK	-



OPTICAL DISTRIBUTION BOX

PTE 8 /16 /24 HH



PTE 8 /16 /24 HH represent the termination point of the optical fibers coming from the primary network, inside or outside the Customer's buildings with the possibility of being mounted on a pole. The structure is composed of three compartments: the lower base; the removable internal part (so called 'fruit') with cable entries, locking systems and splice trays; the tilting module which hosts an adapter branch for up to 24 positions for SC type connectors and the extra length management area for network cables. Furthermore, on the front part of the internal fruit there is an extra length management area also for branch cables or riser cables.

PRODUCT CODE

PTE-24UI-08AD/ PTE 8 HH includes n. 8 SC/APC SIMPLEX adapters in the user's branch.

PTE-24UI-16AD/ PTE 16 HH includes n. 16 SC/APC SIMPLEX adapters in the user's branch.

PTE-24UI-24AD/ PTE 24 HH includes n. 24 SC/APC SIMPLEX adapters in the user's branch.

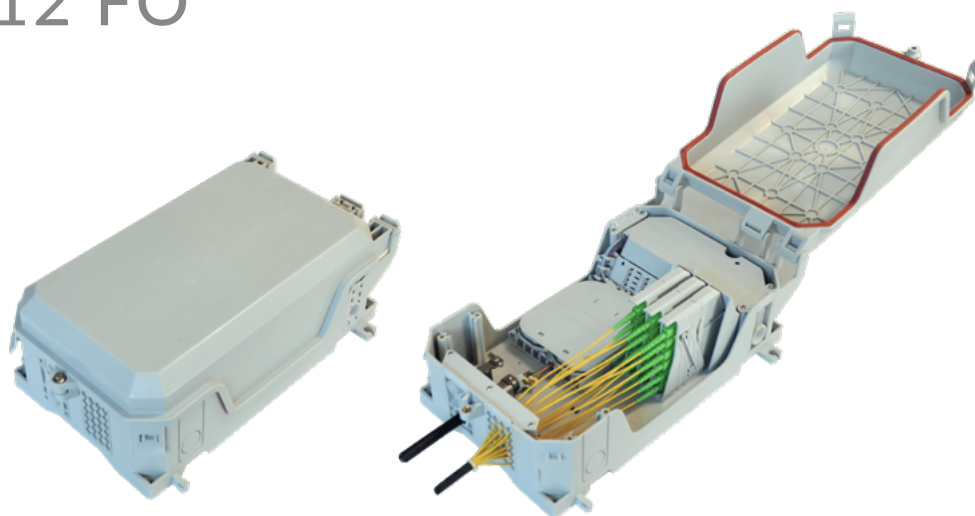
TECHNICAL FEATURES

ADAPTER TYPE	SC Simplex (or LC Duplex upon request)
HEIGHT	235 mm
LENGTH	145 mm
DEPTH	90 mm
MAX NUMBER OF POSITIONS	24
CABLE ENTRANCES	6
NUMBER OF OUTPUTS	2
PROTECTION CLASSIFICATION	IP65 - IK09
MATERIAL	ABS
COLOR	Grigio
WORKING TEMPERATURES	40 / +70 °C





OPTICAL DISTRIBUTION BOX BUILDING ENTRY POINT BEP 2-12 FO



The Building Entry Point (BEP) Box represents the termination point of access network serving buildings with less than 3 floors and less than 3 HouseHolds (HHs), It's equipped with connectors. The BEP can be used in case of colocation with Multi Operator Box (MOB) as mutualization point towards MOB for optical continuity between Horizontal Network and HH Connection either for buldings with less than 3 Floors and less than 5 Households either for building with more than 2 Floors and less than 4 Households Generally, this box is located within the private property of one of the served buildings and it can be installed outside or inside.

PRODUCT CODE

OUT-BEP-SMALL-XXHH-V2

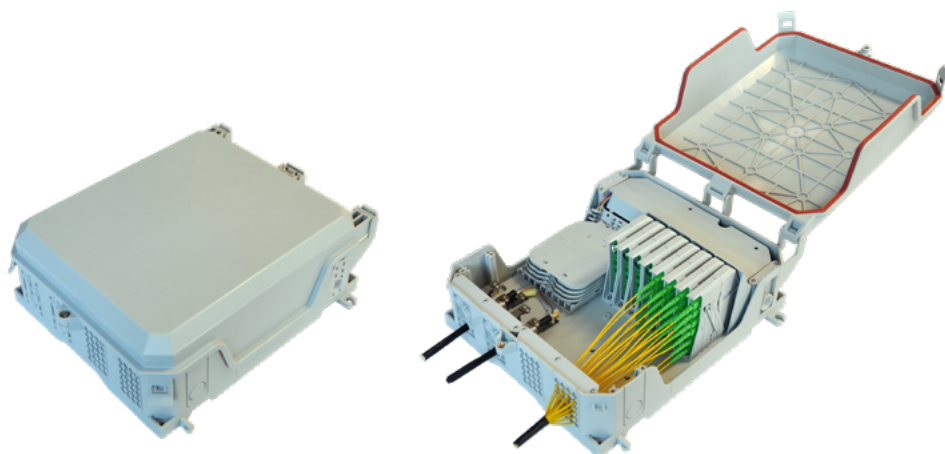
TECHNICAL FEATURES

EXTERNAL CASE MATERIAL	PP+GF
INTERNAL PLASTIC COMPONENTS MATERIAL	PC+ABS FR
INTERNAL METAL COMPONENTS MATERIAL	SUS304 STAINLESS STEEL
HEIGHT	365 mm
LENGHT	202 mm
DEPTH	121 mm
COLOR	RAL7035, OTHER AVAILABLE
PROTECTION LEVEL	IP65, IK09





OPTICAL DISTRIBUTION BOX BUILDING ENTRY POINT BEP 16- 96 FO



The Building Entry Point (BEP) Box represents the termination point of access network serving buildings with less than 3 floors and less than 3 HouseHolds (HHs), It's equipped with connectors. The BEP can be used in case of colocation with Multi Operator Box (MOB) as mutualization point towards MOB for optical continuity between Horizontal Network and HH Connection either for buldings with less than 3 Floors and less than 5 Households either for building with more than 2 Floors and less than 4 Households Generally, this box is located within the private property of one of the served buildings and it can be installed outside or inside.

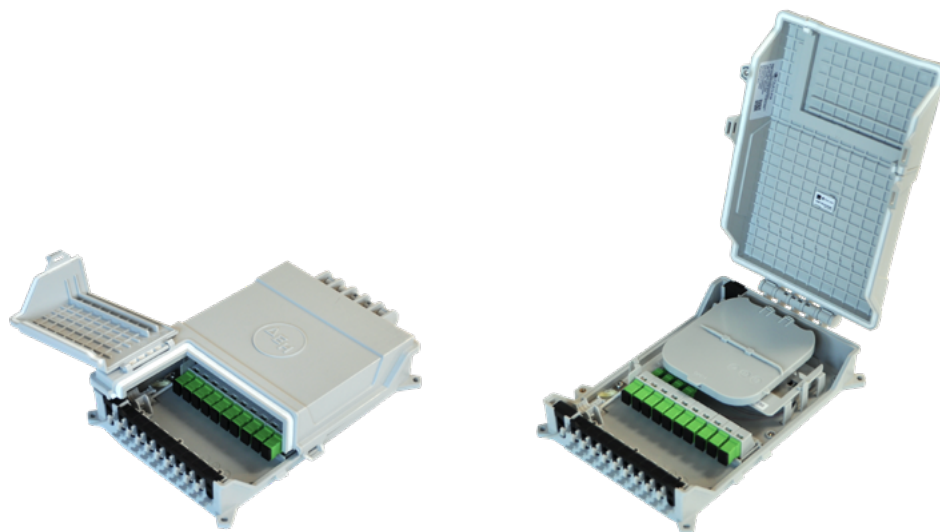
PRODUCT CODE
OUT-BEP-LARGE-XXHH-V2

TECHNICAL FEATURES

EXTERNAL CASE MATERIAL	PP+GF
INTERNAL PLASTIC COMPONENTS MATERIAL	PC+ABS FR
INTERNAL METAL COMPONENTS MATERIAL	SUS304 STAINLESS STEEL
HEIGHT	365 mm
LENGHT	202 mm
DEPTH	121 mm
COLOR	RAL7035, OTHER AVAILABLE
PROTECTION LEVEL	IP65, IK09



FB BOX FLOOR BOX 10HH



The Floor Box (FB) represents the termination point of access network at each floor within buildings with up to 20 HouseHolds (HHs) and it's a mutualization point for HH connection. On bottom part there is one cables entrance for 2 cables up to 12mm and 20 circular outputs for 20 cables up to 5mm diameter, on the opposite upper side there is one entrance for 2 cables up to 12mm; this product can cover the functional scheme as showed; the internal part is suitable for 2 splice tray for 12 splices and extra length managers for loop uncut vertical cables.

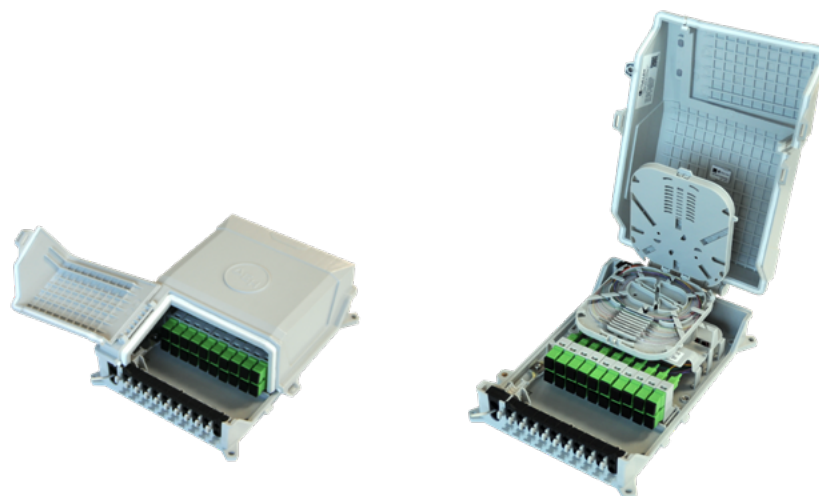
PRODUCT CODE OUT-FB-10HH

TECHNICAL FEATURES

DURATION (INSERTION CYCLES)	PP+GF
INTERNAL PLASTIC COMPONENTS MATERIAL	PC+ABS FR
INTERNAL METAL COMPONENTS MATERIAL	SUS304 STAINLESS STEEL
HEIGHT	250 mm
LENGHT	160 MM
DEPTH	50 MM
COLOR	RAL7035, OTHER AVAILABLE
PROTECTION LEVEL	IP65, IK09



FB BOX FLOOR BOX 20HH



The Floor Box (FB) represents the termination point of access network at each floor within buildings with up to 20 HouseHolds (HHs) and it's a mutualization point for HH connection. On bottom part there is one cables entrance for 2 cables up to 12mm and 20 circular outputs for 20 cables up to 5mm diameter, on the opposite upper side there is one entrance for 2 cables up to 12mm; this product can cover the functional scheme as showed; the internal part is suitable for 2 splice tray for 12 splices and extra length managers for loop uncut vertical cables.

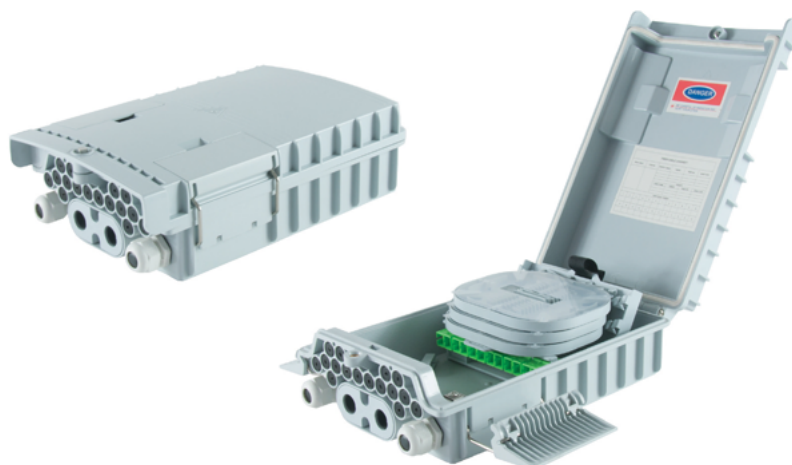
PRODUCT CODE OUT-BEP-LARGE-XXHH-V2

TECHNICAL FEATURES

EXTERNAL CASE MATERIAL	PP+GF
INTERNAL PLASTIC COMPONENTS MATERIAL	PC+ABS FR
INTERNAL METAL COMPONENTS MATERIAL	SUS304 STAINLESS STEEL
HEIGHT	250 mm
LENGHT	160 MM
DEPTH	75 MM
COLOR	RAL7035, OTHER AVAILABLE
PROTECTION LEVEL	IP55, IK09



FO BOX 12 USERS



The RDB-12E optical box can manage up to 12 SC fibers, it can in fact host 12 Simplex SC Adapters, it has a space set up for housing 1 splitter. Below the trays there is the area for splicing the single fibres and a space for any management of the extra lengths.

PRODUCT CODE

RDB-12E/ Up to 12 SC fibers connections

TECHNICAL FEATURES

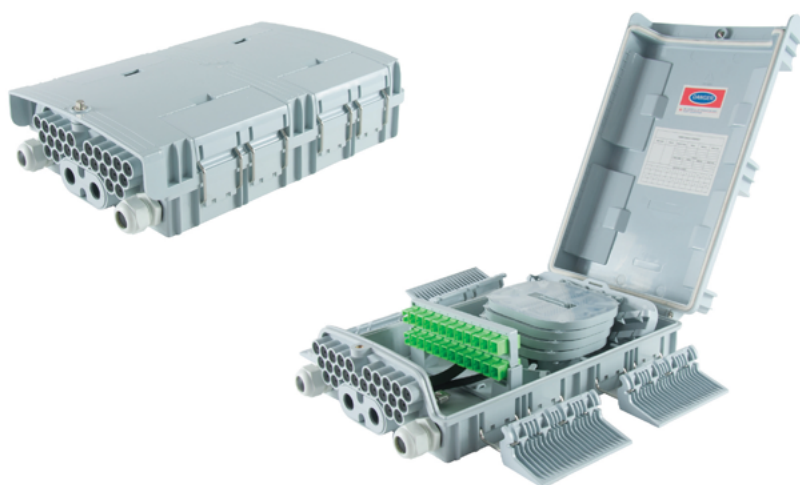
ADAPTER TYPE	SC Simplex / LC Duplex
N. OF POSITIONS	12
CABLES INPUTS	4
USERS EXITS	16
OPERATING TEMPERATURE	-40 / +60 °C
PLC SPLITTER	1x4 /8
HEIGHT	82 mm
WIDTH	175 mm
DEPTH	274 mm
MATERIAL	ABS
COLOR	Grey
PROTECTION CLASS	IP65





FO BOX

ODB 24 HH



The RDB-24N optical box can manage up to 24 SC fibers, it can in fact host 24 Simplex SC Adapters, it has a space set up for housing up to 4 PLC splitters. Below the trays there is the area for splicing the single fibres and a space for any management of the extra lengths.

PRODUCT CODE

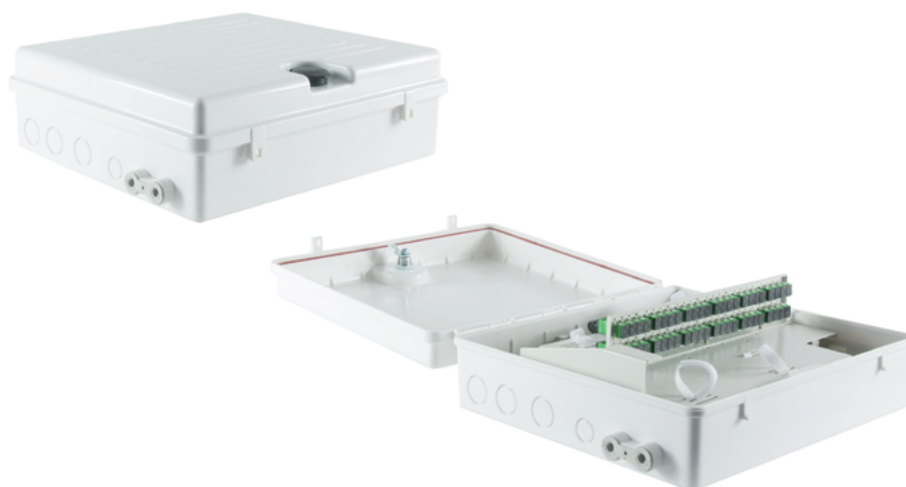
RDB-24N / Up to 24 SC fibers

TECHNICAL FEATURES

ADAPTER TYPE	SC Simplex – LC Duplex
NUMERO DI POSIZIONI	24
NUMERO INGRESSI CAVI	4
NUMERO USCITE UTENTE	24
TEMPERATURA OPERATIVA	40 / +60 °C
PLC SPLITTER	4
ALTEZZA	87 mm
LARGHEZZA	210 mm
PROFONDITÀ	330 mm
MATERIALE	ABS
COLORE	Grey
PROTEZIONE	IP65



OPTICAL BOX ODB 48 HH



The optical box RDB-48 can manage up to 48 SC fibers, it can in fact host 48 Simplex SC Adapters, it has a space set up for housing up to 4 PLC splitters. Below the trays there is the area for splicing the single fibres and a space for any management of the extra lengths.

PRODUCT CODE

RDB-48 / Up to 48 SC fibers

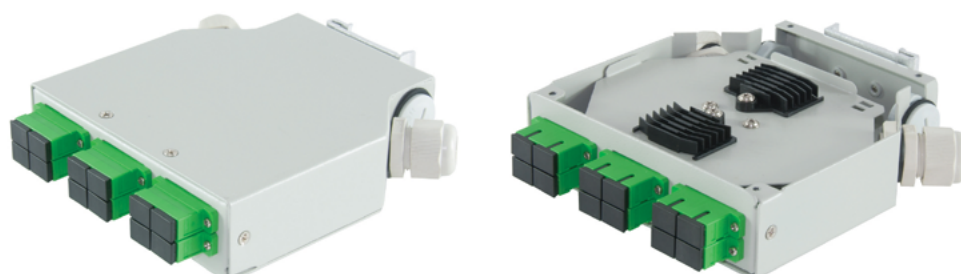
TECHNICAL FEATURES

ADAPTER TYPE	SC Simplex – LC Duplex
N. OF POSITIONS	48
CABLES INPUTS	4
USERS EXITS	2
OPERATING TEMPERATURE	40 / +60 °C
PLC SPLITTER	4
HEIGHT	114 mm
WIDTH	330 mm
DEPTH	350 mm
MATERIAL	ABS
COLOR	Light Grey
PROTECTION CLASS	IP65



DIN FO BOX

OPTICAL BOX DIN FIXING



The optical box with DIN fixing point has a metal case which can insure an high resistance in critical environments, it can manage 12 Optical fibers on a frontal plate which can host 6 SC /SC duplex positions. It can be used with 1 passing cable input / output or 2 cable Input /ouput 45° angled.

PRODUCT CODE

DIN-M003/12C/SCD / MMETAL 12FO SC DUPLEX DIN fixing box

TECHNICAL FEATURES

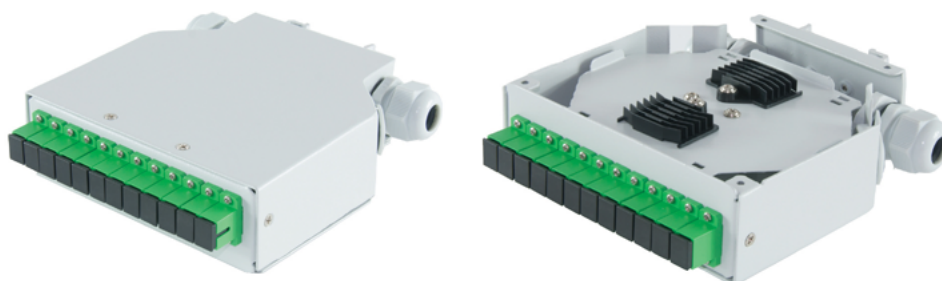
HEIGHT	130 MM
WIDTH	125 MM
DEPTH	34 MM
MATERIAL	Stainless Steel
CABLES INPUT /OUTPUT	2 A 45° / 1 PASSING
MAXIMUM CAPACITY	12 FO
HOSTABLE SMOUVS	Standard Smouvs
SMOUV DIMENSIONS	Ø 2,5 MM
FRONT PLATE	6 SC DUPLEX
COLOR	Color RAL 7035





DIN FO BOX

OPTICAL BOX DIN FIXING



The optical box with DIN fixing point has a metal case which can insure an high resistance in critical environments, it can manage 12 Optical fibers on a frontal plate which can host 12 SC /SC simplex positions. It can be used with 1 passing cable input /output or 2 cable Input /ouput 45° angled.

PRODUCT CODE

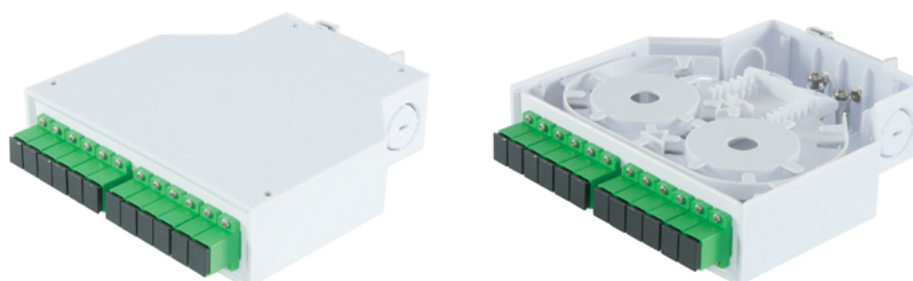
DIN-M004/12C/SCD / METAL 12FO SC SIMPLEX DIN fixing box

TECHNICAL FEATURES

HEIGHT	130 MM
WIDTH	125 MM
DEPTH	34 MM
MATERIAL	Stainless Steel
CABLES INPUT /OUTPUT	2 A 45° / 1 PASSING
MAXIMUM CAPACITY	12 FO
HOSTABLE SMOUVS	Standard Smouvs
SMOUV DIMENSIONS	Ø 2,5 MM
FRONT PLATE	6 SC DUPLEX
COLOR	Color RAL 7035



DIN FO BOX OPTICAL BOX DIN FIXING



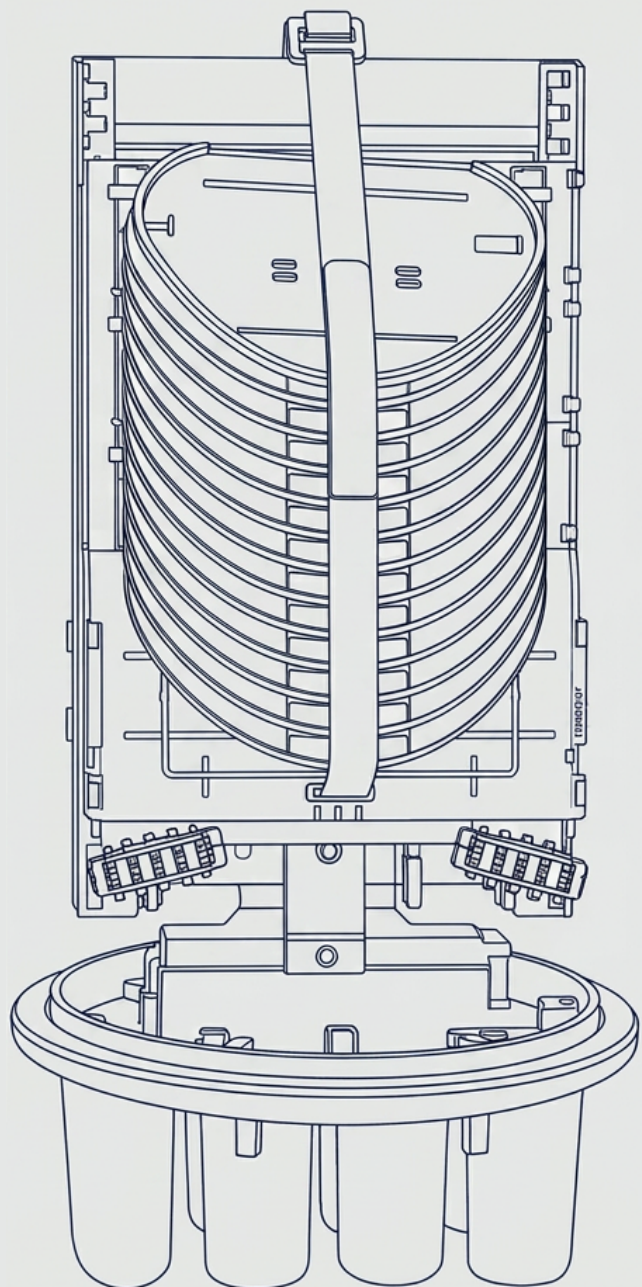
The plastic optical box with DIN fixing point allows to manage 12 SC-SC simplex adapters, The internal tray allows an inversion of fiber cables and on the base there are 2 input /output for multi-fiber cable termination or the blocking of a passing fiber cable.

PRODUCT CODE

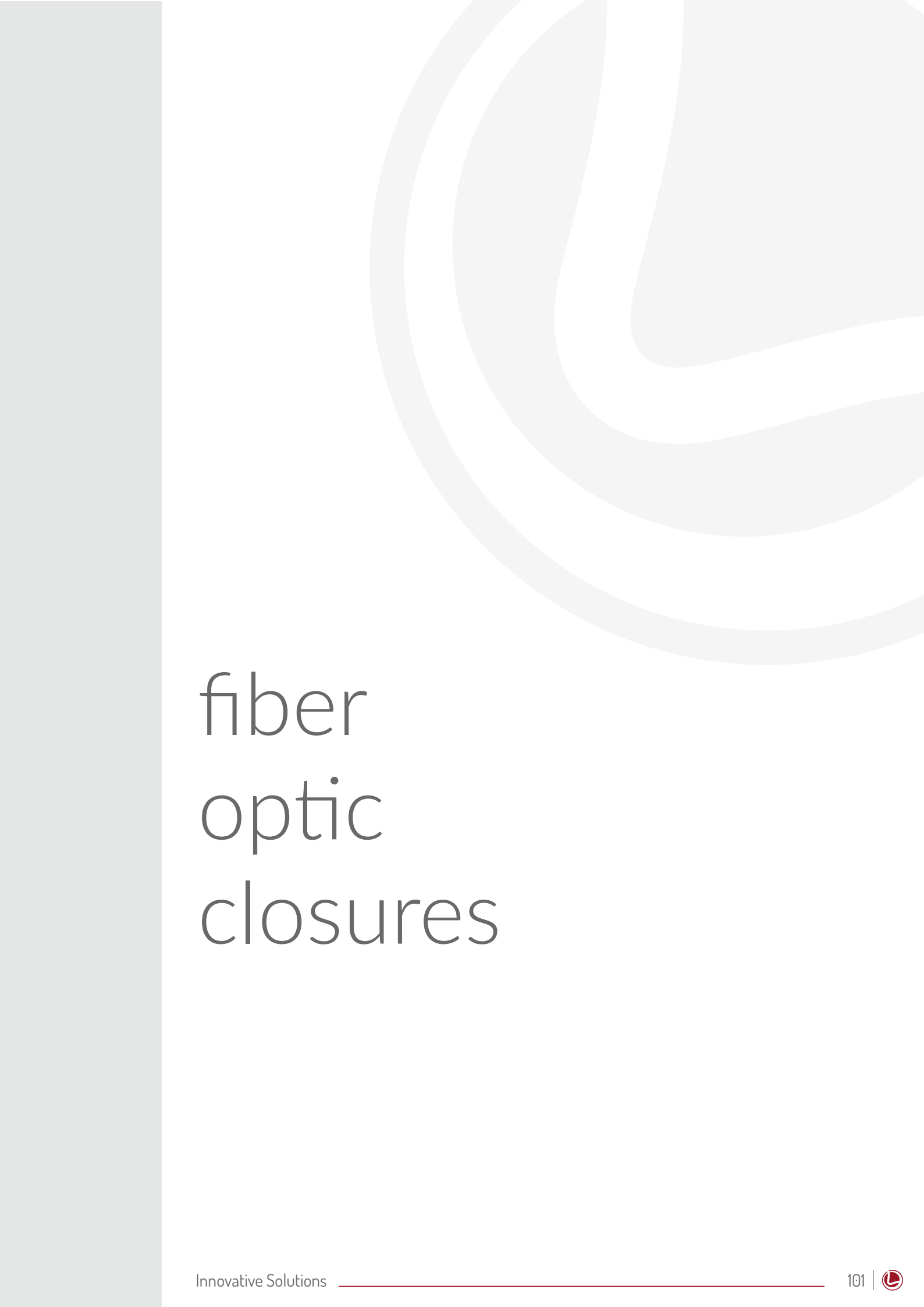
DIN-P001/12C/SCD / PLASTIC 12FO SC SIMPLEX DIN fixing box

TECHNICAL FEATURES

HEIGHT	130 MM
WIDTH	125 MM
DEPTH	34 MM
MATERIAL	Stainless Steel
CABLES INPUT /OUTPUT	2 A 45° / 1 PASSING
MAXIMUM CAPACITY	12 FO
HOSTABLE SMOUVS	Standard Smouvs
SMOUV DIMENSIONS	Ø 2,5 MM
FRONT PLATE	6 SC DUPLEX
COLOR	Color RAL 7035



4



fiber optic closures



OPTICAL CLOSURE SPLICES / 3+1 INPUT



The compact 48-junction, with 3 round inlet and 1 oval inlet, optical closure is a passive and watertight F.O. box, which guarantees a high degree of IP protection and therefore impermeability to external agents such as water, dust, humidity and extreme temperatures. It guarantee a resistance capacity range from -40° to 70°. Supplied with splice trays, heat-shrink kits for cable entry and a pole or wall anchoring kit, it is mainly used in hostile environments, ensuring the management and operability of the fiber in safety.

PRODUCT CODE

Q-CL-03 / OPTICAL CLOSURE up to 48 splices with 3 circular input and 1 oval input

TECHNICAL FEATURES

OVAL INPUTS	1
ROUND INPUTS	3
OVERALL DIAMETER (INCLUDING CLAMP)	188
OVERALL HEIGHT (INCLUDING BASE)	300
OVAL INPUT DIAMETER FOR HE-AT-SHRINKABLE APPLICATION	20
ROUND INPUT DIAMETER FOR HE-AT-SHRINKABLE APPLICATION	16
SPLICE TRAYS	4
MAX SPLICE CAPACITY FOR EACH TRAY	12 F.O.
MAX SPLICING CAPACITY	up to 48 F.O



OPTICAL CLOSURE 288-SPLICES / 6+1 INPUTS



The 288-SPLICES, 6-round input + 1-oval input FIST-type OPTICAL CLOSURE is a watertight, passive F.O. BOX, which guarantees a high degree of IP protection and therefore impermeability to external agents such as water, dust, humidity and extreme temperatures. It guarantees a resistance capacity range from -40° to 70°. Supplied with splice trays, heat-shrink kits for cable entry and pole or wall anchoring kit, it is mainly used in hostile environments, ensuring the management and operability of the fiber in safety.

PRODUCT CODE

Q-CL-FST-6 / OPTICAL CLOSURE tipo FIST fino a 288 giunzioni con 6 ingressi circolari ed un ingresso ovale

TECHNICAL FEATURES

OVAL INPUTS	1
ROUND INPUTS	6
OVERALL DIAMETER (INCLUDING CLAMP)	298 mm
OVERALL HEIGHT (INCLUDING BASE)	504 mm
OVAL INPUT DIAMETER FOR HE-AT-SHRINKABLE APPLICATION	For 2 cables 10-25 mm
ROUND INPUT DIAMETER FOR HE-AT-SHRINKABLE APPLICATION	From 6 to 33 mm
SPLICE TRAYS	24
MAX SPLICE CAPACITY FOR EACH TRAY	12 F.O.
MAX SPLICING CAPACITY	Up to 288 F.O.



OPTICAL CLOSURE

288-SPLICES / 16+1 INPUTS



The 288-SPLICES, 16-round input + 1-oval input FIST-type OPTICAL CLOSURE is a watertight, passive F.O. BOX, which guarantees a high degree of IP protection and therefore impermeability to external agents such as water, dust, humidity and extreme temperatures. It guarantees a resistance capacity range from -40° to 70°. Supplied with splice trays, heat-shrink kits for cable entry and pole or wall anchoring kit, it is mainly used in hostile environments, ensuring the management and operability of the fiber in safety.

PRODUCT CODE

Q-CL-FST-16 / FIST type up to 288 splices with 16 circular input and 1 oval input

TECHNICAL FEATURES

OVAL INPUTS	1
ROUND INPUTS	16
OVERALL DIAMETER (INCLUDING CLAMP)	298 mm
OVERALL HEIGHT (INCLUDING BASE)	504 mm
OVAL INPUT CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION	2 cables from 20 to 25 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE N. 8 PCS 16MM ROUND INPUT	6-16 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE N. 8 PCS 21MM ROUND INPUT	6-21 mm
SPLICE TRAYS	24
MAX SPLICE CAPACITY FOR EACH TRAY	12 F.O.
MAX SPLICING CAPACITY	Up to 288 F.O.



OPTICAL CLOSURE

96-SPLICES / 8+1 INPUTS



The 96-SPLICES, 8-round input + 1-oval input FOSC-type OPTICAL CLOSURE is a watertight, passive F.O. BOX, which guarantees a high degree of IP protection and therefore impermeability to external agents such as water, dust, humidity and extreme temperatures. It guarantees a resistance capacity range from -40° to 70°. Supplied with splice trays, heat-shrink kits for cable entry and pole or wall anchoring kit, it is mainly used in hostile environments, ensuring the management and operability of the fiber in safety.

PRODUCT CODE

Q-CL-B-8-TrayA-4 / FOSC type up to 96 splices with 8 circular input and 1 oval input

TECHNICAL FEATURES

OVAL INPUTS	1
ROUND INPUTS	8
OVERALL DIAMETER (INCLUDING CLAMP)	160 mm
OVERALL HEIGHT (INCLUDING BASE)	530 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE OVAL INPUT	2 cables from 20 to 25 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE N. 8 PCS ROUND INPUT	7-10 mm
SPLICE TRAYS	24
MAX SPLICE CAPACITY FOR EACH TRAY	12 F.O.
MAX SPLICING CAPACITY	Up to 96 F.O.



OPTICAL CLOSURE

96-SPLICES / 4+1 INPUTS



The 96-SPLICES, 4-round input + 1-oval input FOSC-type OPTICAL CLOSURE is a watertight, passive F.O. BOX, which guarantees a high degree of IP protection and therefore impermeability to external agents such as water, dust, humidity and extreme temperatures. It guarantees a resistance capacity range from -40° to 70° . Supplied with splice trays, heat-shrink kits for cable entry and pole or wall anchoring kit, it is mainly used in hostile environments, ensuring the management and operability of the fiber in safety.

PRODUCT CODE

Q-CL-B-4-TrayB-4 / OPTICAL CLOSURE FOSC type up to 96 splices with 4 circular input and 1 oval input

TECHNICAL FEATURES

OVAL INPUTS	1
ROUND INPUTS	4
OVERALL DIAMETER (INCLUDING CLAMP)	160 mm
OVERALL HEIGHT (INCLUDING BASE)	530 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE OVAL INPUT	2 cables from 20 to 25 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE N. 4 PCS ROUND INPUT	7-18 mm
SPLICE TRAYS	24
MAX SPLICE CAPACITY FOR EACH TRAY	12 F.O.
MAX SPLICING CAPACITY	Up to 96 F.O.





OPTICAL CLOSURE

96-SPLICES / 4+1 INPUTS



The COMPACT 96-SPLICES, 4-round input + 1-oval input FOSC-type OPTICAL CLOSURE is a watertight, passive F.O. BOX, which guarantees a high degree of IP protection and therefore impermeability to external agents such as water, dust, humidity and extreme temperatures. It guarantees a resistance capacity range from -40° to 70°. Supplied with splice trays, heat-shrink kits for cable entry and pole or wall anchoring kit, it is mainly used in hostile environments, ensuring the management and operability of the fiber in safety.

PRODUCT CODE

Q-CL-A-4-TrayS1-4 / OPTICAL CLOSURE COMPACT FOSC type up to 96 splices with 4 circular input and 1 oval input

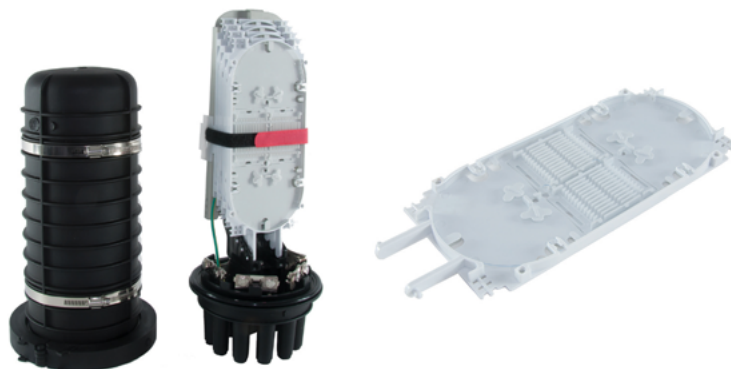
TECHNICAL FEATURES

OVAL INPUTS	1
ROUND INPUTS	4
OVERALL DIAMETER (INCLUDING CLAMP)	160 mm
OVERALL HEIGHT (INCLUDING BASE)	530 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE OVAL INPUT	2 cables from 20 to 25 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE N. 4 PCS ROUND INPUT	7-18 mm
SPLICE TRAYS	24
MAX SPLICE CAPACITY FOR EACH TRAY	12 F.O.
MAX SPLICING CAPACITY	Up to 96 F.O.



OPTICAL CLOSURE

96-SPLICES / 8+1 INPUTS



The COMPACT 96-SPLICES, 8-round input + 1-oval input FOSC-type OPTICAL CLOSURE is a watertight, passive F.O. BOX, which guarantees a high degree of IP protection and therefore impermeability to external agents such as water, dust, humidity and extreme temperatures. It guarantees a resistance capacity range from -40° to 70°. Supplied with splice trays, heat-shrink kits for cable entry and pole or wall anchoring kit, it is mainly used in hostile environments, ensuring the management and operability of the fiber in safety.

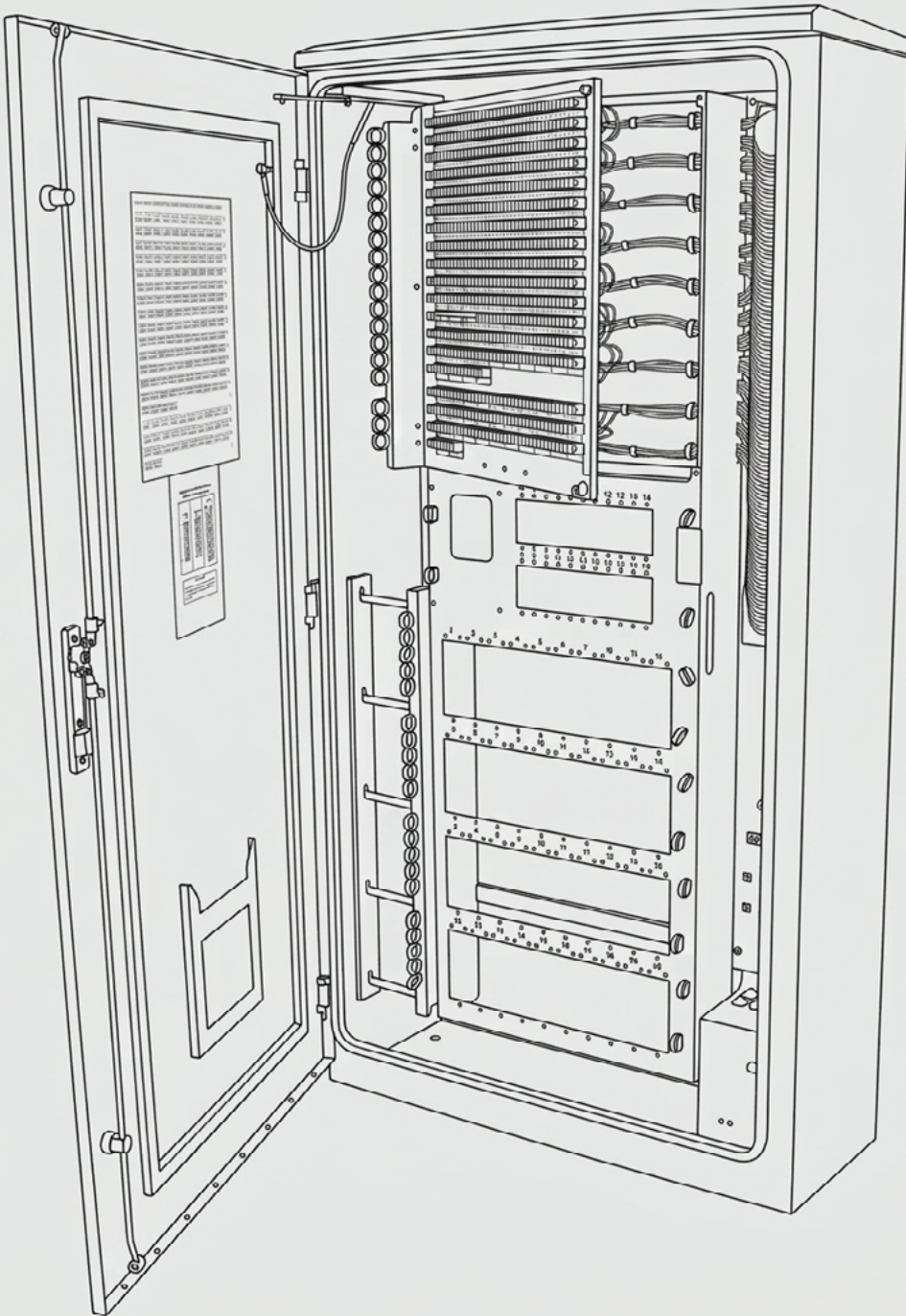
PRODUCT CODE

Q-CL-A-8-TrayS1-4 / OPTICAL CLOSURE COMPACT FOSC type up to 96 splices with 8 circular input and 1 oval input

TECHNICAL FEATURES

OVAL INPUTS	1
ROUND INPUTS	8
OVERALL DIAMETER (INCLUDING CLAMP)	160 mm
OVERALL HEIGHT (INCLUDING BASE)	530 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE OVAL INPUT	2 cables from 20 to 25 mm
CABLE DIAMETER RANGE FOR HEAT-SHRINKABLE APPLICATION ON THE N. 8 PCS ROUND INPUT	7-10 mm
SPLICE TRAYS	24
MAX SPLICE CAPACITY FOR EACH TRAY	12 F.O.
MAX SPLICING CAPACITY	Up to 96 F.O.





5



optical distribution box



F.O. OUTDOOR CABINET CRO 128 FO



The 128 FO CRO has been developed for the outdoor infrastructure and it is configured for the termination of primary and secondary network cables. Even if the dimension of this cabinet is very small and compact, it still can host up to 128 HH (secondary network). It can host 1x2, 1x4 and 1x16 HGLX splitters. It's external case, including door and roof, can be dismantled in case of damage without interrupting the connections inside.

PRODUCT CODE
MINICRO-FC-2020-V1

TECHNICAL FEATURES

MATERIALS	EXTERNAL PARTS: SUS 304 sp 1,5 mm DOOR: SUS 304 sp 1,2 mm INTERNAL PARTS: SUS 430 sp 1,2 mm
EXTERNAL DIMENSIONS	1220x335x300mm (AxLxP)
COLOR	Cabinet: RAL7037 Dusty Grey Roof: RAL 3020 Traffic Red
ADAPTERS QTY	128 + 48 SC /APC (secondary network + primary network)
SPLICE TRAYS QTY	16 + 6 grey color (splicing + secondary network parking) 6 + 4 red color (splicing + primary network parking)
SPLITTER QTY	up to 8 secondary splitters 1:16 up to 8 primary splitters 1:2 or 1:4
LOCK TYPE	Handle with three-point locking system Lock with Sicurvite profile



F.O. OUTDOOR CABINET CRO 384 FO



The 384 FO CRO has been developed for the outdoor infrastructure and it is configured for the termination of primary and secondary network cables. Despite the compact dimension of this cabinet it can host up to 384 HH (secondary network). It can host 1x2, 1x4 and 1x16 HGLX splitters.

PRODUCT CODE CRO 2023-V0

TECHNICAL FEATURES

MATERIALS	EXTERNAL PARTS: SUS 304 sp 1,5 mm DOOR: SUS 304 sp 1,2 mm INTERNAL PARTS: SUS 430 sp 1,2 mm
EXTERNAL DIMENSIONS	1300x750x250mm (AxLxP)
PROTECTION DEGREE	IP55 & IK10
COLOR	Cabinet: RAL7037 Grigio Polvere Tetto: RAL 3020 Rosso Traffico
ADAPTERS QTY	384 + 64 SC /APC (secondary network + primary network)
SPLICE TRAYS QTY	48 + 24 grey color (splice + secondary network parking) 8 + 8 red color (splice + primary network parking)
SPLITTER QTY	Up to 24 secondary splitter 1:16 Up to 14 primary splitter primari (1:2 or 1:4)
LOCK TYPE	TIM special lock (Can be changed according to the request)





F.O. OUTDOOR CABINET CRO 576 FO



The 576 FO CRO is configured for the termination of primary and secondary network cables and the execution of permutations between the two multiplication levels and the secondary network. The cabinet is designed for the placement of optical branch devices: up to 21 primary optical splitters and up to 40 secondary optical splitters. This cabinet has a secondary and primary network termination area, consisting of a panel with 704 (576+128) adapters, which can be opened up to 90° to perform testing and maintenance operations. The maximum estimated length required for the patchcords is 2,5 m. The maximum estimated length required for the secondary splitter input is 1,5 m. The cabinet is equipped with 128 splice trays for the splicing and parking of the FO and each tray can accommodate up to 12 splices.

PRODUCT CODE 576CRO-FC-2025-V0

TECHNICAL FEATURES

MATERIALS	EXTERNAL PARTS: SUS 304 sp 1,5 mm DOOR: SUS 304 sp 1,2 mm INTERNAL PARTS: SUS 430 sp 1,2 mm
EXTERNAL DIMENSIONS	1600x900x300mm (AxLxP)
COLOR	Cabinet: RAL7037 Dusty Grey Roof: RAL 3020 Traffic Red
LOCK TYPE	Handle with three-point locking system Lock with Sicurvite profile
ADAPTERS QTY	576 SC /APC secondary network 128 SC /APC primary network
SPLICE TRAYS QTY	72 secondary network (gray color) 24 primary network (red color)
PARKING TRAYS QTY	24 secondary network (gray color) 8 primary network (red color)
SPLITTER QTY	up to 40 secondary splitters 1:16 up to 21 primary splitters 1:2 or 1:4





F.O. OUTDOOR CABINET CNO



The CNO cabinet allows, on a multi- operator passive network (PON) that supports point-to-point and point- multipoint technologies, the optical connection of up to 256 HH (secondary network), with the possibility of swapping, between the cables coming from a primary concentration element and the cables directed to the individual HH. It's external case, including door and roof, can be dismantled in case of damage without interrupting the connections inside.

PRODUCT CODE
LNIT-CNO-INFRATEL

TECHNICAL FEATURES

MATERIALS	Stainless steel AISI 304 for the external enclosure and stainless steel AISI 430 or higher-grade for the internal components.
EXTERNAL DIMENSIONS	1100x700x200 mm (AxLxP)
COLOR	STANDARD RAL 7035
ADAPTERS QTY	256 + 24 SC/APC (secondary network + primary network)
SPLICE TRAYS QTY	Splicing /parking area of optical fibers connected to the cabinet, consisting of: - no. 22 SE trays for secondary network fiber splices, gray color; - no. 20 SF trays for secondary network fiber splices, gray color; - no. 2 SE trays for primary network fiber splices GPON, red color. - no. 5 SE trays for point-to-point network fiber splices, blue color; - no. 3 SF trays for primary network fiber splices, yellow color;
SPLITTER QTY	No. 1 optical splitter type 1:16 BUTT, fully SC /APC connectorized
LOCK TYPE	European type cylinder 333 (EN1303) with the possibility of a unified key with a single encryption.



F.O. OUTDOOR CABINET PFS 3



The PFS 3 cabinet allows, on a multi-operator passive network (PON) that supports point-to-point and point- multipoint technologies, the optical connection of up to 256 HH (secondary network), with the possibility of swapping, between the cables coming from a primary concentration element and the cables directed to the individual HH. It's external case, including door and roof, can be dismantled in case of damage without interrupting the connections inside.

PRODUCT CODE LNIT-PFS3

TECHNICAL FEATURES

EXTERNAL DIMENSIONS	110x70x20 cm.
PROTECTION GRADE	IP55 - IK10.
MATERIAL	SUS 304
WEIGHT	40 KG
LOCK TYPE	European type cylinder 333 (EN1303) with the possibility of a unified key with a single encryption.





F.O. OUTDOOR CABINET PFS 4



The PFS 4 cabinet HLGX version allows, on a multi-operator passive network (PON) that supports point-to-point and point-multipoint technologies, the optical connection of up to 256 HH (secondary network), with the possibility of swapping, between the cables coming from a primary concentration element and the cables directed to the individual Real Estate Units. The cabinet is designed to house up to 24 HGLX 1x16 optical splitters.

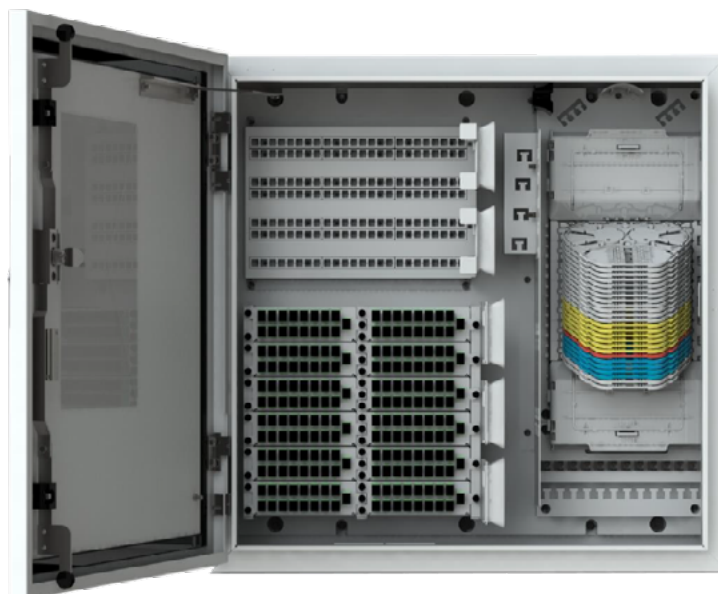
PRODUCT CODE PFS4-PNRR

TECHNICAL FEATURES

EXTERNAL DIMENSIONS	110x65x20 cm
PROTECTION GRADE	IP55 - IK10.
MATERIAL	Stainless steel AISI 304 for both the external enclosure and the internal components.
WEIGHT	RAL 7035
LOCK TYPE	European type cylinder 333 (EN1303) with the possibility of a unified key with a single encryption.



F.O. OUTDOOR CABINET PFS 144



The PFS 144 is a wall /pole mounting cabinet and allows, on a multi-operator passive network (PON) that supports point-to-point and point- multipoint technologies, the optical connection of up to 144 HH (secondary network), with the possibility of swapping, between the cables coming from a primary concentration element and the cables directed to the individual Real Estate Units. The cabinet is designed to house up to 12 HGLX 1x16 optical splitters.

PRODUCT CODE
OUT-PFS-144FO

TECHNICAL FEATURES

MATERIAL	SUS 304
EXTERNAL DIMENSIONS	600X600X200 mm (AxLXP)
COLOR	RAL 7035
ADAPTERS QTY	256 SC /APC
SPLICE TRAYS QTY	Splicing /parking area of optical fibers connected to the cabinet, consisting of: -12 PCS GREY (RAL 7035) SC splice trays -6 PCS YELLOW (RAL 1023) SC splice trays -1 PCS RED (RAL 3028) SC splice tray 4 PCS BLUE (RAL 5015) SC splice trays - 2 PCS GREY (RAL 7035) SC splice trays
SPLITTER QTY	Up to 12 pre-installed HLGX type splitters with inputs prepared in the primary network junction area included
LOCK TYPE	European type cylinder 333 (EN1303) with the possibility of a unified key with a single encryption.





F.O. OUTDOOR CABINET SCP

The New SCP Pole&Street cabinet is designed for distribution and connection of optical fiber. It is intended for outdoor installation on poles or on the ground (as stand-alone). The cabinet allows, on a multi-operator passive network (PON) that supports point- to-point and multi-point technologies, the optical connection, with the possibility of exchange, between the cables coming from a primary concentration element and the cables directed to the individual customer.



PRODUCT CODE OUT-SCP-NEW

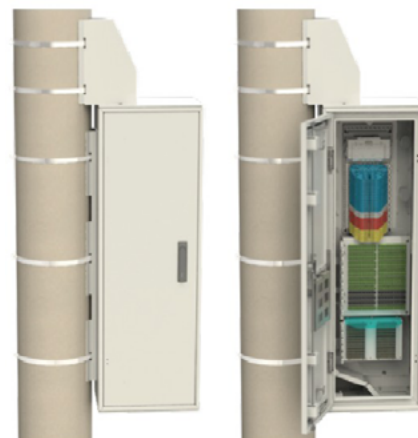
TECHNICAL FEATURES

DURATION (INSERTION CYCLES)	Alluminun
MATERIAL BOTH POLE FIXING KITS	SUS 304
BASEMENT ACCESSORY	Alluminun
CABLE ENTRY PROTECTION ACCESSORY	Alluminun
COLOR	Light Grey RAL 7035
PROTECTION	IP65 & IK10
MISURE	1200mm (Body) 400mm 300mm (AxLxP)
ADAPTERS QTY	360 SC /APC ports (256 for secondary network, 72 for parking and 24 for primary network)
SPLICE TRAYS QTY	Splicing /parking area for optical fibers connected to the cabinet, consisting of: - Distribution GPON splices: 22 blue trays - Aggregation GPON splices: 4 grey trays - P2P splices: 8 red trays - Parking of unused fibers: 8 yellow trays
SPLITTER QTY	Up to 24 pcs of 1x16 BUTT type optical splitters with pre-connectorized SC /APC input and output
INGRESSI	Top Cable entry Area (which is reversible to have the entrances on the left side or right side): a) 6 round entrances for ADSS cables with diameter up to 16,5 mm b) 1 oval entrances for ADSS cables with diameter up to 16,5 mm Bottom Cable entry Area (which is reversible to have the entrances on the left side or right side): a) 4 round entrances for ADSS cables with diameter up to 16,5 mm b) 2 round entrances for a 24x4 /7+1x10 /14 mm bundle with diameter up to 45 mm
PROTECTION CLASS	RC2 - IK10 - IP55



F.O. OUTDOOR CABINET NEW SCP - POLE MOUNTING

The New SCP Pole-mounting cabinet is designed for distribution and connection of optical fiber. It is intended for outdoor installation on both concrete and wooden poles. The cabinet allows, on a multi-operator passive network (PON) that supports point-to-point and multi-point technologies, the optical connection of up to 256 HH (secondary network), with the possibility of exchange, between the cables coming from a primary concentration element and the cables directed to the individual customer. The door and the input /output can be changed based on the on-field installation needs. RC2 compliant.



PRODUCT CODE OUT-SCP-NEW-POLE

TECHNICAL FEATURES

MATERIAL	Alluminun
MATERIAL BOTH POLE FIXING KITS	SUS 304
BASEMENT ACCESSORY	Alluminun
CABLE ENTRY PROTECTION ACCESSORY	Alluminun
COLOR	Light Grey RAL 7035
PROTECTION	IP65 & IK10
MISURE	1200mm (Body) 400mm 300mm (AxLxP)
ADAPTERS QTY	360 SC /APC ports (256 for secondary network, 72 for parking and 24 for primary network)
SPLICE TRAYS QTY	Splicing /parking area for optical fibers connected to the cabinet, consisting of: - Distribution GPON splices: 22 blue trays - Aggregation GPON splices: 4 grey trays - P2P splices: 8 red trays - Parking of unused fibers: 8 yellow trays
SPLITTER QTY	Up to 24 pcs of 1x16 BUTT type optical splitters with pre-connectorized SC /APC input and output
INGRESSI	Top Cable entry Area (which is reversible to have the entrances on the left side or right side): a) 6 round entrances for ADSS cables with diameter up to 16,5 mm b) 1 oval entrances for ADSS cables with diameter up to 16,5 mm Bottom Cable entry Area (which is reversible to have the entrances on the left side or right side): a) 4 round entrances for ADSS cables with diameter up to 16,5 mm b) 2 round entrances for a 24x4 /7+1x10 /14 mm bundle with diameter up to 45 mm
PROTECTION CLASS	RC2 - IK10 - IP55





F.O. OUTDOOR CABINET SCP-DG CABINET

The New SCP Pole-mounting cabinet is designed for distribution and connection of optical fiber. It is intended for outdoor installation on both concrete and wooden poles. The four main areas of the cabinet (cable entry, extra length managing, splicing and splitter) are designed to be completely independent one from the other.

To do on- field operations on one of these areas, it is not necessary to operate on the others. Based on our cabinet experience, we designed the cabinet to avoid any movement of the elements inside.



The only exception is the splicing panel, that must be open only to open the door, but the cable management is designed to protect all radius of curvatures. Up to 576 splices. RC2 compliant.

PRODUCT CODE OUT-NEW-SCP-DG

TECHNICAL FEATURES

MATERIAL	Aluminium
MATERIAL - CABINET INTERNAL	AISI 430 stainless steel
BASEMENT ACCESSORY	Aluminium
HEIGHT	1203mm (Body)
HEIGHT	2192mm (Total)
WIDTH	399mm
DEPTH	299mm
COLOR	Light Grey RAL 7035
PROTECTION	IP55 & IK10



F.O. OUTDOOR CABINET PASSIVE ACCESS NODE (PAN)



The Passive Access Node (PAN) type 2 is a street cabinet designed for distribution and connection of optical fiber. It is intended for outdoor installation on the ground (as stand-alone). It is used for accommodation of the primary network cables and distribution of distributive cables to multi-dwelling or family houses, and it is also used to directly connect users by drop cables suitable for external applications (underground or self-supporting).

PRODUCT CODE OUT-CAB-PAN

TECHNICAL FEATURES

MATERIAL	EXTERNAL: SUS 304 INTERNAL: SUS 430
COLOR	Light Grey RAL 7035
PROTECTION	IP65 & IK10
DIMENSIONS	830mm (Body) 400mm 300mm (AxLxP)



F.O. OUTDOOR CABINET FWA



The FWA cabinet includes TLC, power and air cooling /heating devices, and has been developed for Fixed Wireless Application technology. The cabinet is designed and built for use in outdoor environments and it is used to house telecommunications equipment in areas open to the public or private, along roads and sidewalks, on building terraces or near pylons. Typically, each cabinet is equipped with an input protection panel, a -48Vdc power station with relative management module and back-up batteries to ensure continuity of power supply even in the absence of the 230Vac main power voltage, and an integrated fiber optical distribution panel.

PRODUCT CODE OUT-FWA-2023-03

TECHNICAL FEATURES

MATERIAL	Painted Galvanized Steel
DIMENSIONS	596x599x1599mm (AxLxP)
COLOR	RAL 7035
PROTECTION	IP55 / IK10
N. OF RACK UNITS	N. 21
WEIGHT	126 KG (BATTERIES NOT INCLUDED)





F.O. OUTDOOR CABINET CABINET IP 65 - 30RU

This is a cabinet specifically designed for use in railways or underground tunnel application, where the temperature range is between 14°C and 20°C, with an heavy presence of dust.

The cabinet has a space capacity to house 30 Rack Units and is made up of a single equipment compartment which will contain, in addition to the optical and data transmission equipment, also the electrical panels.

It includes a plinth to manage the cable input and output. This cabinet does not allow air exchange with the outside environment but is equipped with a complex system of heat exchangers that make it able to dissipate the inside thermal power (up to 1.000 W), this solution to prevent dust from entering the cabinet and damaging the equipments inside.



PRODUCT CODE RFI TUNNEL CABINET

TECHNICAL FEATURES

DIMENSIONS	750x900x1850 (AxLxP)
DIMENSIONS (HEAT-SINKS INCLUDED)	750x900x1850 (AxLxP)
MATERIAL	Galvanized painted steel
WEIGHT	220 Kg
COLOR	RAL 7035
THERMAL DATA /OPERATING ENVIRONMENTAL CONDITIONS	Dissipated power: 1200 W with AC unit External operating temperature: -20 °C to +45 °C Altitude: 0 to 800 m a.s.l.
N. OF RACK UNITS	Total units: No. 68
PROTECTION	IP 55 / IK 10



F.O. OUTDOOR CABINET CABINET IP 55 - 34RU

This is a cabinet designed and built for outdoor usage, it can house 34 RU on the front and 34 RU on the rear, for a total of 68 RU.

It has a single equipment compartment which will contain, in addition to the optical and data transmission equipment, also the electrical panels.

It includes a 150 mm plinth with a complex system of cable entries meant to guarantee the management and insertion of cables at the base of the cabinet itself.



PRODUCT CODE

RFI OUTDOOR CABINET + CDZ 1500

RFI OUTDOOR CABINET + CDZ 2000

RFI OUTDOOR CABINET NO CDZ

TECHNICAL FEATURES

DIMENSIONS	750x900x1850 (AxLxP)
DIMENSIONS (HEAT-SINKS INCLUDED)	750x900x1850 (AxLxP)
MATERIAL	Galvanized painted steel
WEIGHT	220 Kg
COLOR	RAL 7035
THERMAL DATA /OPERATING ENVIRONMENTAL CONDITIONS	Dissipated power: 1200 W with AC unit External operating temperature: -20 °C to +45 °C Altitude: 0 to 800 m a.s.l.
N. OF RACK UNITS	Total units: No. 68
PROTECTION	IP 55 / IK 10



F.O. OUTDOOR CABINET AIR CONDITIONER MODUL FOR OUTDOOR CABINET



The air conditioner is designed for climate control of telecommunications cabinets in harsh indoor and outdoor environments. With a short air duct and well-distributed airflow, it effectively solves the heat management issues of indoor /outdoor cabinets.

PRODUCT CODE

RFI CDZ AC1500H

RFI CDZ AC2000H

TECHNICAL FEATURES

DIMENSIONS	746x446x200 (AxLxP)
POWER CONSUMPTION	600W
COOLING CAPACITY	1500W
NOISE LEVEL	60 dBA
PROTECTION	IP55 protection against dust and water according to EN 60529
INPUT VOLTAGE AND FREQUENCY RANGE	AC187-253V, 50Hz
COLOR	RAL 7035



F.O. OUTDOOR CABINET CABINET IP 55 STANDARD



IP55 freestanding cabinets are designed for industrial applications. Based on the EN60529 standard, they are guaranteed to protect against water and dust with an IP55 rating. Application areas are semi- open areas such as factories, warehouses, sloping sheds and other conditions where cabinets are not in direct contact with strong weather agents.

PRODUCT CODE OUT-IP55-FREE STANDING

TECHNICAL FEATURES

MATERIAL	Galvanized and painted metal
DIMENSIONS	600X600xRU mm (LxPxA)
COLOR	RAL 7035 - Dust Grey
PROTECTION	IP 55 - IK 10
MOUNTING RAIL 19"	2 front panels + 2 rear panels
INCLUDED ACCESSORIES	Pre-installed ventilation unit under the roof
CABLE ENTRIES	No. 2 PG48 (Ø 37-45 mm) + No. 2 PG21 (Ø 13-18 mm) No. 2 PVC (Ø 7-25 mm)**



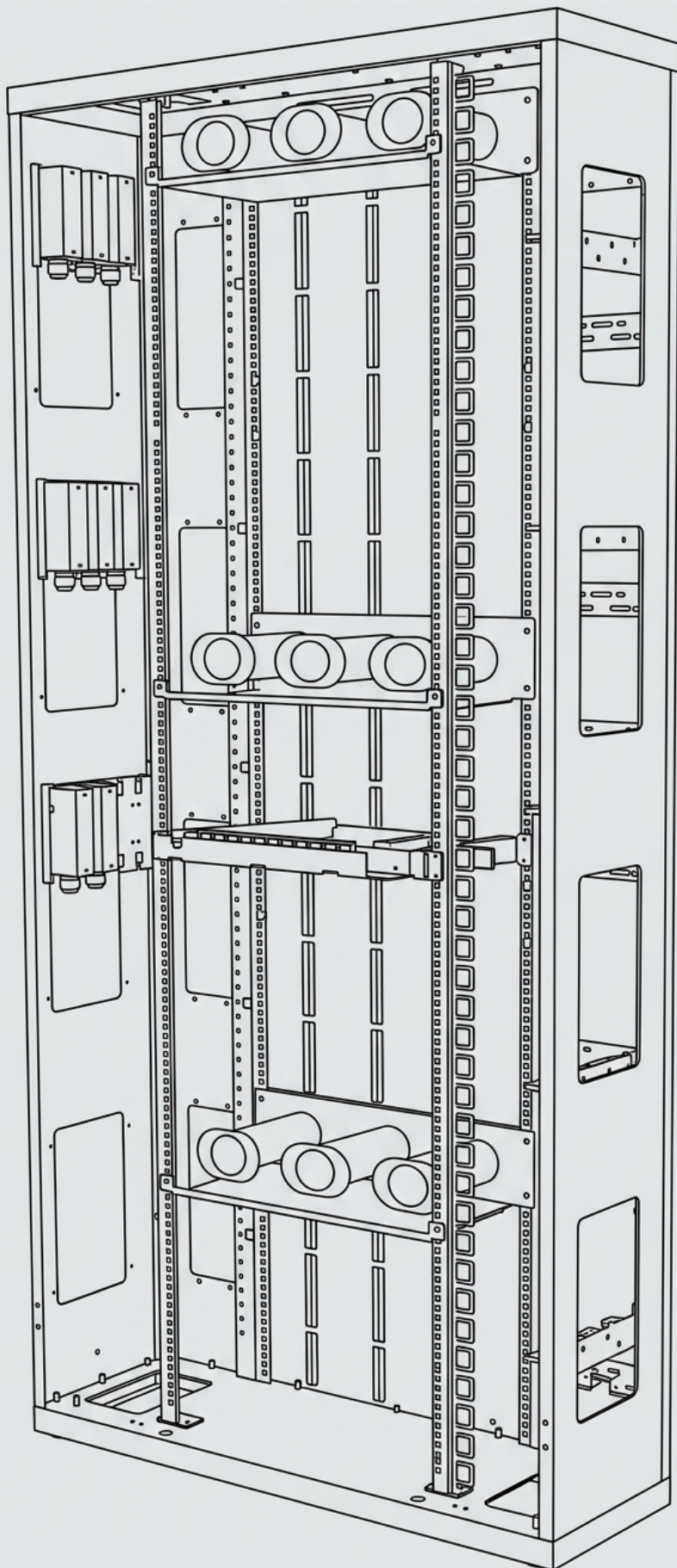
UNDERGROUND CABINET 1000X1700



Underground cabinet with swivelling equipment compartment for telecommunication.
Innovative Hand hole structure with Underground Mechanism
Made of Concrete durable system solution that can be Adapted to the specific location.

PRODUCT CODE
FRQ-OUT-UC-1100-1700

TECHNICAL FEATURES	
OVERALL EXTERNAL DIMENSIONS	1100x1700x950 (WxLxH)mm
HEIGHT ABOVE SOIL WITH OPENED HOOD	≈ 1200mm, Hood opening angle ~115°
TOTAL WEIGHT	ton ≈ 3
CABINET PROTECTION RATING	IP68
COVER MATERIAL COVER:	paveable, cast iron paved-design cover
CABINET HOOD MATERIAL	stainless steel with powder coated
MANHOLE MATERIAL	concrete, as per Mobily approved supplier
NUMBER OF UNITS IN CABINET	EIA RACK 20U
NUMBER OF CABLE IN CABINET	6 cables (13-18mm) (Customization available on request)





data center & data rooms

RACK/ODF

IN-RROW STRUCTURES

CABLE DUCTS

ENERGY MANAGEMENT

FIBER OPTIC MANAGEMENT





data center & data rooms

RACK/ODF

IN-RROW STRUCTURES

CABLE DUCTS

ENERGY MANAGEMENT

FIBER OPTIC MANAGEMENT



RACK/ODF

NETWORKING RACKS

These cabinets are the result of careful design and a production process carried out using the latest-generation machinery for cutting/bending and welding of sheet metal. Made up of a double welded frame that together with the bottom and the roof form the load-bearing structure of the Rack. Extremely sturdy cabinet, perfect in its geometry, carefully finished, versatile and easy to assemble as well as light in weight. Static load of 800 kg.

- According to the standards: EIA 310-E, IEC 60297, DIN 41494
- Protection degree according to EN60529: IP20
- Elegant design
- Resistant to industrial environments through special phosphate treatments and epoxy powder coating
- Accurate finishes
- Quick and easy assembly
- No special tools are required for assembly
- Robust structure and resistant to a maximum static load of 800 kg.
- Material: cold-rolled steel
- Adjustable cable passage on the lid and bottom
- Interchangeable front/back doors, installable on both the right and left side
- Opening angle of the front door greater than 180°
- Earthing points on the structure and on the doors
- Number of units on the uprights
- Lock with handle
- Round lock for blind door
- Ventilation provided on the lid and bottom
- Glass or perforated doors for high ventilation
- 5mm thick tempered glass
- Side panels removable for easy set-up
- With adjustable feet
- A wide range of accessories available
- Custom models available
- Colours: Black RAL 9004 or Grey RAL 7035
- Delivered in reduced packaging or assembled RoHS



Rack/ODF





19" uprights numbered and adjustable in depth.



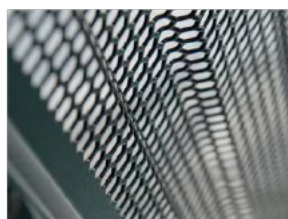
Removable side panels with snap.



Front and rear doors quick release, reversible right/left and interchangeable front/back.



Roof with predisposition for 2 and 4 fan ventilation system.



Particular ribbing of the doors, with high ventilation, which gives strength and a pleasant aesthetic.



19" rack system usable on the 4 sides of the rack starting from the 800x800 size (with appropriate adjustments of the uprights).



TECHNICAL FEATURES

WIDTH	600 o 800 mm
DEPTH	600 o 800 mm
HEIGHT	2650mm
CAPACITY	800KG

Configurations not present in the catalogue available upon request



RACK/ODF

DATA CENTER & SERVER RACKS

The rack cabinets for server rooms and data centers have been designed to be inserted in contexts that are not strictly professional but also suitable for larger work spaces.

While maintaining a decidedly high level of quality and technology related to energy saving, we also wanted to favor the aesthetic and ergonomic aspect of the cabinets that, more and more often, are chosen by small/large companies and professionals in the most varied sectors.



Rack/ODF



DATACENTER



RETE



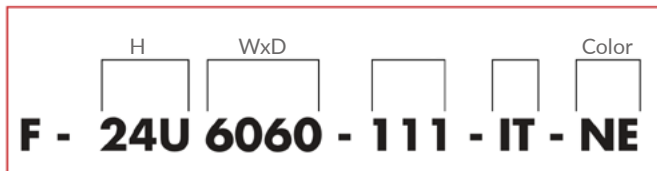
FTTH

DIMENSIONS

H mm	W mm	D mm	GREY	BLACK	GREY	BLACK
1200	600	1000	F-24U6010-XXX-OT-NE	F-24U6010-XXX-OT-GR	F-24U6010-XXX-IT-NE	F-24U6010-XXX-IT-GR
1200	800	1000	F-24U8010-XXX-OT-NE	F-24U8010-XXX-OT-GR	F-24U8010-XXX-IT-NE	F-24U8010-XXX-IT-GR
1500	600	1000	F-30U6010-XXX-OT-NE	F-30U6010-XXX-OT-GR	F-30U6010-XXX-IT-NE	F-30U6010-XXX-IT-GR
1500	800	1000	F-30U8010-XXX-OT-NE	F-30U8010-XXX-OT-GR	F-30U8010-XXX-IT-NE	F-30U8010-XXX-IT-GR
1800	600	1000	F-37U6010-XXX-OT-NE	F-37U6010-XXX-OT-GR	F-37U6010-XXX-IT-NE	F-37U6010-XXX-IT-GR
1800	800	1000	F-37U8010-XXX-OT-NE	F-37U8010-XXX-OT-GR	F-37U8010-XXX-IT-NE	F-37U8010-XXX-IT-GR
2000	600	1000	F-42U6010-XXX-OT-NE	F-42U6010-XXX-OT-GR	F-42U6010-XXX-IT-NE	F-42U6010-XXX-IT-GR
2000	800	800	F-42U8080-XXX-OT-NE	F-42U8080-XXX-OT-GR	F-42U8080-XXX-IT-NE	F-42U8080-XXX-IT-GR
2000	800	1000	F-42U8010-XXX-IT-NE	F-42U8010-XXX-OT-GR	F-42U8010-XXX-IT-NE	F-42U8010-XXX-IT-GR
2000	800	1200	F-42U8012-XXX-OT-NE	F-42U8012-XXX-OT-GR	F-42U8012-XXX-IT-NE	F-42U8012-XXX-IT-GR
2200	600	1000	F-46U6010-XXX-OT-NE	F-46U6010-XXX-OT-GR	F-46U6010-XXX-IT-NE	F-46U6010-XXX-IT-GR
2200	600	1200	F-46U6012-XXX-OT-NE	F-46U6012-XXX-OT-GR	F-46U6012-XXX-IT-NE	F-46U6012-XXX-IT-GR
2200	800	1000	F-46U8010-XXX-OT-NE	F-46U8010-XXX-OT-GR	F-46U8010-XXX-IT-NE	F-46U8010-XXX-IT-GR
2200	800	1200	F-46U8012-XXX-OT-NE	F-46U8012-XXX-OT-GR	F-46U8012-XXX-IT-NE	F-46U8012-XXX-IT-GR

CODE GENERATION EXAMPLE

The following example refers to a rack with glass front door and rear blind door, BLACK RAL 9005 color, 600x600x1200 mm dimension.



111	GLASS FRONT DOOR - BLIND REAR DOOR
211	VENTED FRONT DOOR - BLIND REAR DOOR
131	GLASS FRONT DOOR - VENTED REAR DOOR
231	VENTED FRONT DOOR - VENTED REAR DOOR
141	GLASS FRONT DOOR - VENTED REAR DOUBLE DOOR
241	VENTED FRONT DOOR - VENTED REAR DOUBLE DOOR
411	VENTED FRONT DOUBLE DOOR - BLIND REAR DOOR
311	BLIND FRONT DOOR - BLIND REAR DOOR
431	VENTED FRONT DOUBLE DOOR - VENTED REAR DOOR
331	BLIND FRONT DOOR - VENTED REAR DOOR
441	VENTED FRONT DOUBLE DOOR - VENTED DOUBLE REAR DOOR
341	BLIND FRONT DOOR - VENTED DOUBLE REAR DOOR



RACK/ODF

WMA (WALL MOUNTING ASSEMBLED) RACKS

The WMA (WALL MOUNTING ASSEMBLED) series has been designed with a simple structure but with elegantly finished lines, the racks arrive fully assembled and ready to use. Ideal choice for the safe mounting of Routers, Switches, media converters and other Networking and structured cabling equipment.



Capacity (U)	Dimensions	Code
6	600*450*370	WMA-06U6045-SA-NE
6	600*600*370	WMA-06U6060-SA-NE
9	600*450*500	WMA-09U6045-SA-NE
9	600*600*500	WMA-09U6060-SA-NE
12	600*450*635	WMA-12U6045-SA-NE
12	600*600*635	WMA-12U6060-SA-NE

High Load Capacity

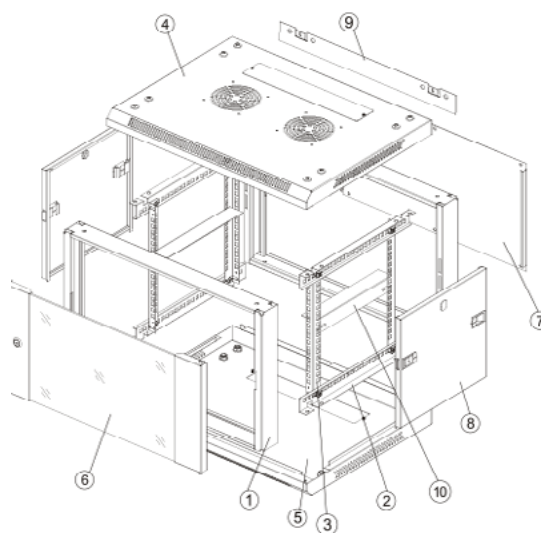
Highly reliable structure, maximum load capacity of 90

Robust Structure

Fully welded and assembled structure.

Wide door opening

The front door allows 180 degree opening.



S/N	Name	Quantity
1	Frame	2
2	Horizontal bracket	4
3	Vertical rail	4
4	Top cover	1
5	Bottom panel	1
6	Front door	1
7	Rear panel	1
8	Side panel	2
9	Mounting bracket	1
10	L-shaped bracket	2

Rack/ODF



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RACK/ODF

WMD (WALL MOUNTING DISASSEMBLED) RACKS

The WMD (WALL MOUNTING DISASSEMBLED) series has been designed with a simple structure but with elegantly finished lines, the racks arrive fully assembled and ready to use. Ideal choice for the safe mounting of Routers, Switches, media converters and other Networking and structured cabling equipment.



Capacity (U)	Dimensions	Code
6	600*450*370	WMD-06U6045-SA-NE
6	600*600*370	WMD-06U6060-SA-NE
9	600*450*500	WMD-09U6045-SA-NE
9	600*600*500	WMD-09U6060-SA-NE
12	600*450*635	WMD-12U6045-SA-NE
12	600*600*635	WMD-12U6060-SA-NE

Space Saving

Disassembled racks occupy 1/3 of the volume of assembled ones.

Load capacity

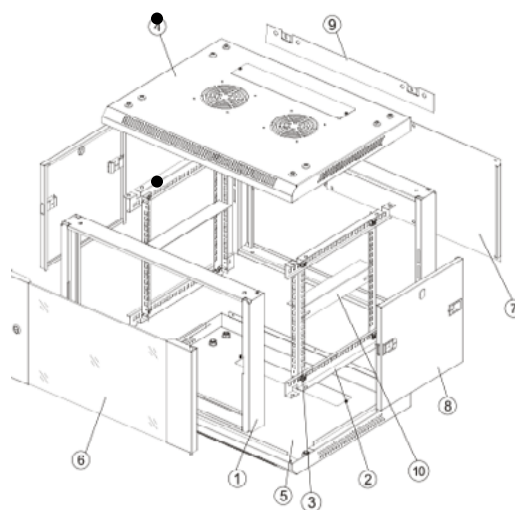
Structure with maximum load capacity of 40 kg.

Wide door opening

The front door allows a 180 degree opening.

Easy Installation

Extremely easy to assemble, a trained person will take about 5 minutes to assemble the rack.



S/N	Name	Quantity
1	Frame	2
2	Horizontal bracket	4
3	Vertical rail	4
4	Top cover	1
5	Bottom panel	1
6	Front door	1
7	Rear panel	1
8	Side panel	2
9	Mounting bracket	1
10	L-shaped bracket	2

Rack/ODF





DATA ROOMS AND DATA CENTERS

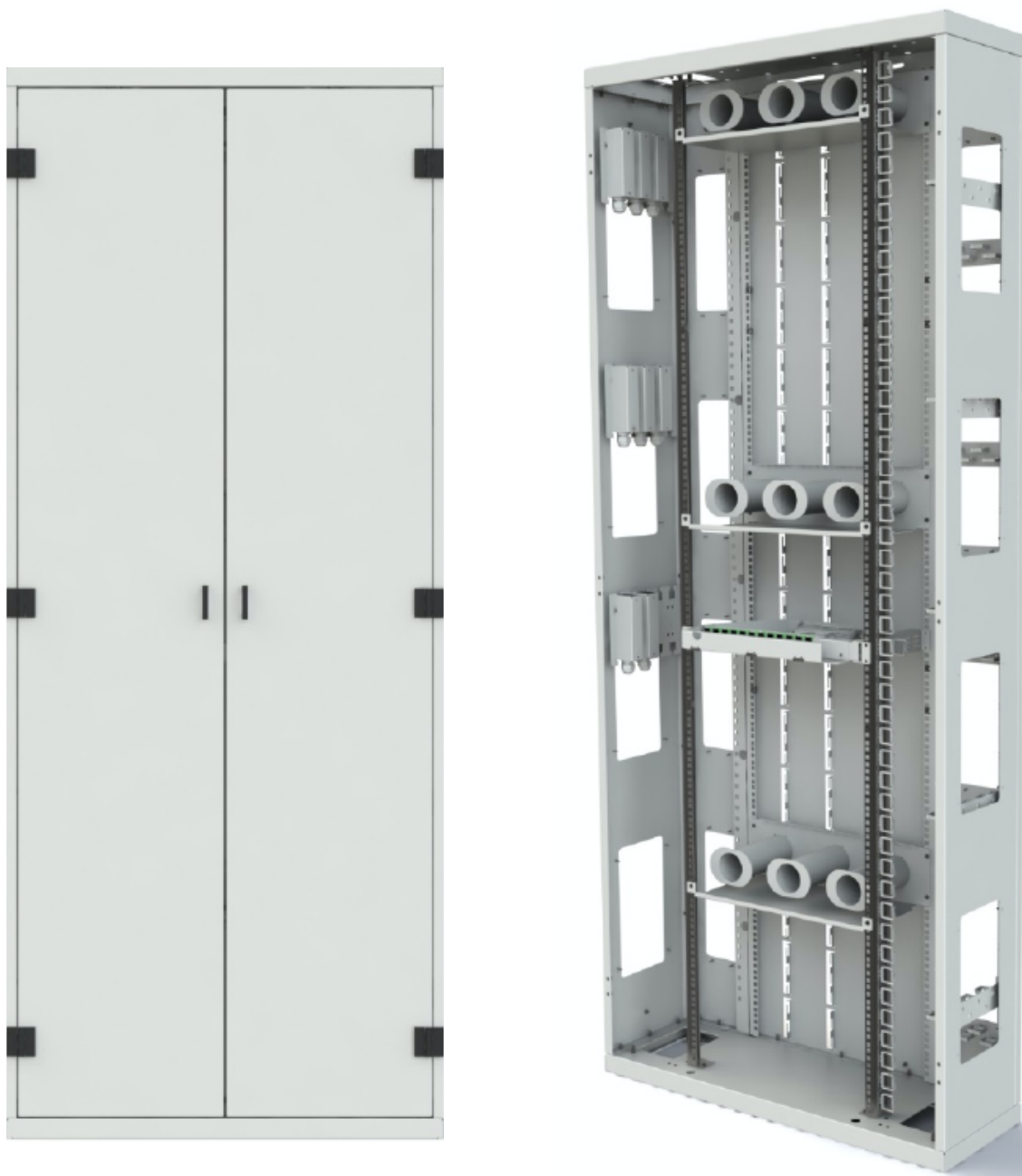
ODF DISTRIBUTION FRAME

ODF frame is a 900x300x2.200 mm rack equipped with 19" 47RU uprights where the distance between the pair of rear uprights and the rear panel is 20mm and the distance between the two pairs of uprights is 220mm.

The uprights have 9.5mm square holes. The frame has an optional double-door with 180° opening, door closure with magnets. Standard color is RAL 7035.

PRODUCT CODE

ODF-900x300x2200



Rack/ODF



DATA CENTER



RETE



FTTH

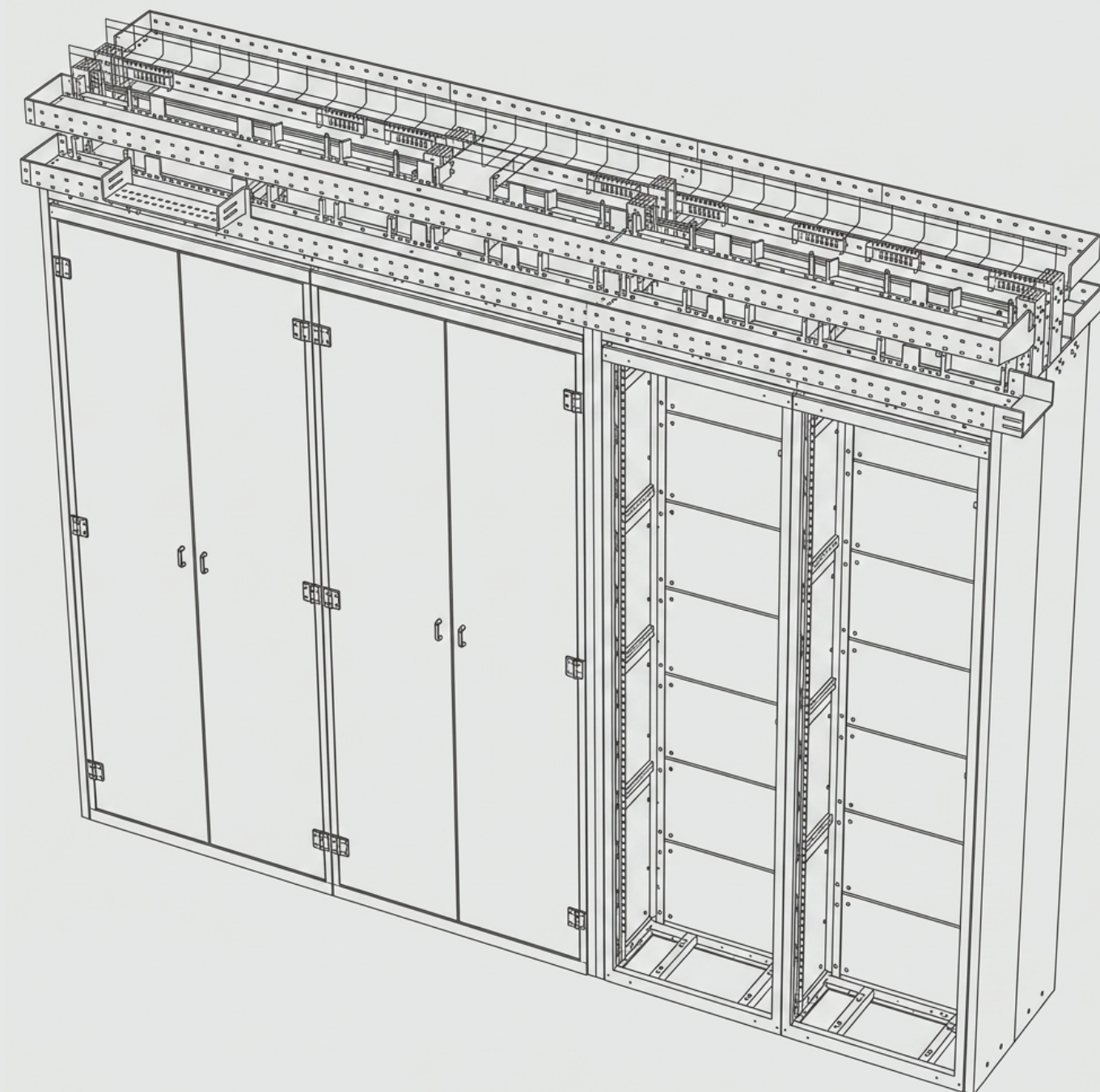


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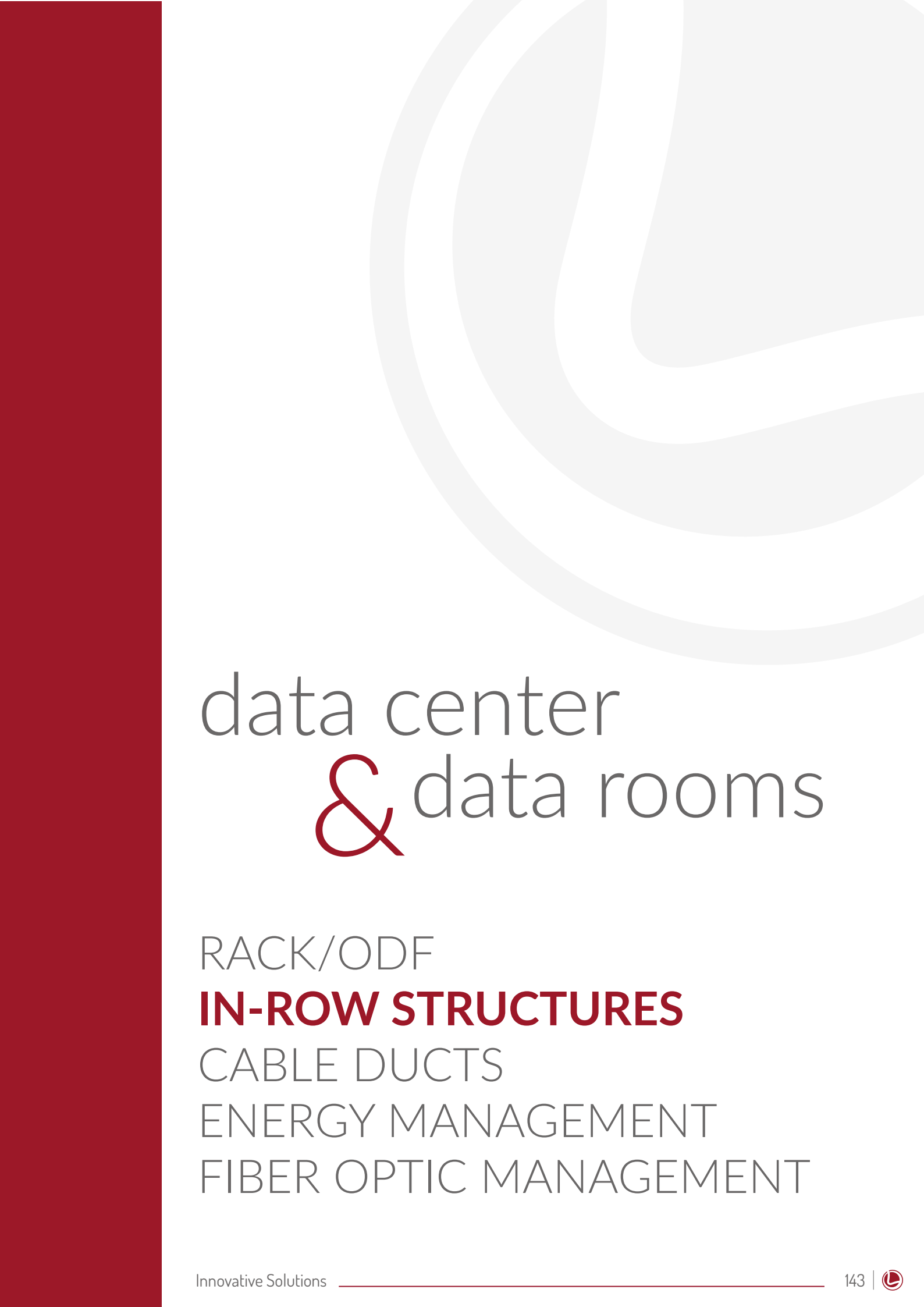
- Fiber curvature radius protected throughout the frame;
- Complete accessibility thanks to the front doors (optional) that can be opened at 180°;
- N.4 300x150 holes for fiber passage on both side walls,
- closeable with special panels;
- N.8 300x100 holes for fiber passage on the back wall, closeable with special panels;
- N.3 horizontal panels for 3RU fiber dispersion supplied;
- Rear panel completely prepared for accompanying tubes in drawers for each of the 47RU;
- Right side of the frame with ring elements for accompanying fibers;
- standard Ral 7035 color;
- Provision for back to back fixing;
- Provision for wall and floor fixing;
- N.3 left side brackets for mounting up to 12 fiber optical dividers;
- Optional 192 FO optical dividers;
- Optional F.O. protection tube;
- Fiber management rings on right front upright available for all 47RU.

COMPLIANCES & CONFORMITIES

- EN 61587 -1:2012 Mechanical Structures for Electronic Equipment;
- IEC 297-2 Overall cabinet dimensions;
- CE conform to EN 60950-1:2006 Information Technology Equipment – Safety Part-1-General Requirement;
- UL listed to: UL 2416, Outline of Investigation for Audio/Video, Information and Communication Technology Equipment Cabinet, Enclosure and Rack Systems;
- UL 60950-1 and CSA C22.2 NO.;
- 60950-1-07, Information Technology Equipment Safety Part 1: General requirements;
- ISO9227-ASTM B117-85 Epoxy Polyester Powder Coated 80-120micron-
- 500+ hours Salt Spray resistance to corrosion Operating Temperature -25 °C - +70 °C;
- - based on IEC 60068-2-1 cold test- IEC 60068-2-2 – dry heat.
- based on IEC 60068-2-1 cold test- IEC 60068-2-2 – dry heat.



6.1



data center & data rooms

RACK/ODF

IN-RROW STRUCTURES

CABLE DUCTS

ENERGY MANAGEMENT

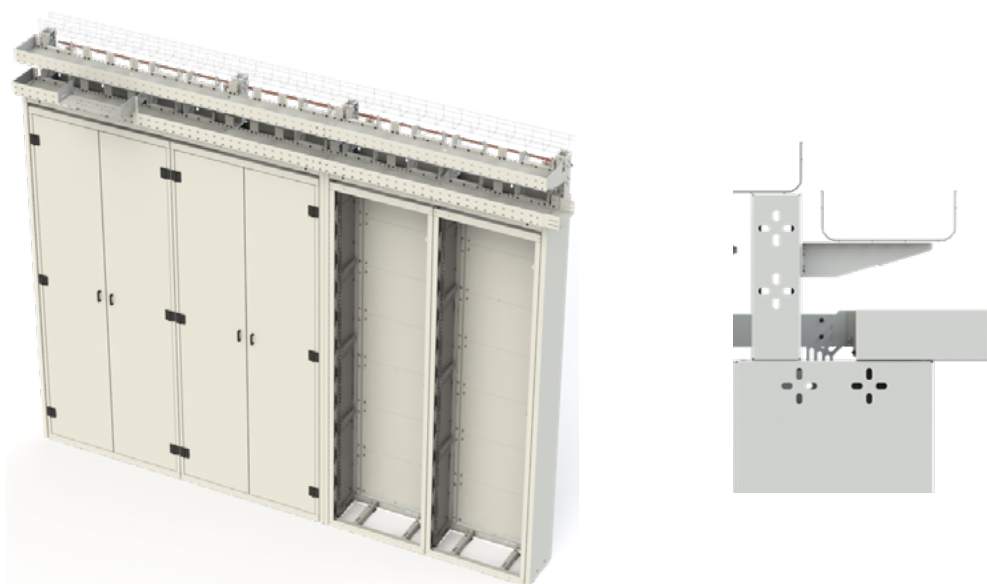
FIBER OPTIC MANAGEMENT



DATA ROOMS AND DATA CENTERS MODULAR IN-ROW MULTI-LAYER STRUCTURE FOR DATA ROOMS

Modular in-row multi-layer structure is designed for installation inside data rooms and shelters / outdoor POPs. It is composed of a load-bearing base (bridge) and a multi-layer upper channel for cable passage and management. The structure is designed for side-to-side, back-to-back mounting and for fixing to the ground and/or to the wall.

The entire structure is standardly painted with RAL 7035 powder paint, textured finish, minimum thickness 80µm. Other colors available only upon request.



COMPLETE SINGLE-SIDE CONFIGURATION

The complete single-side configuration, with two complete levels, includes:

1. Bridge structures of variable length according to the project needs;
2. Copper bar for equipotential connection, with relative fixing brackets and insulators;
3. First level with full cable tray, dedicated to the FO cables, with relative lateral protection brackets;
4. Second level with full cable tray, dedicated to the FO and data cables, with relative lateral protection brackets;
5. Descents for the FO, no. 2 for each cabinet foreseen by the project (the number can be changed on request);
6. Turrets and shelves for assembling the upper levels;
7. Third level with commercial-type wire walkway for energy cables, with relative assembly clamps.

PRODUCT CODE

CODE BASED ON OPTIONS - ASK US A QUOTATION BASED ON YOUR NEEDS

TECHNICAL FEATURES

WIDTH	900 mm - 1,5 POS 1200 mm - 2 POS 1500 mm - 2,5 POS 1800 mm - 3 POS 2400 mm - 4 POS
DEPTH	400mm
HEIGHT	2650mm

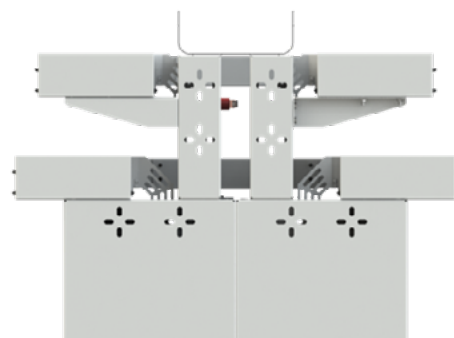


DATA ROOMS AND DATA CENTERS

MODULAR IN-ROW MULTI-LAYER STRUCTURE FOR DATA ROOMS

Modular in-row multi-layer structure is designed for installation inside data rooms and shelters / outdoor POPs. It is composed of a load-bearing base (bridge) and a multi-layer upper channel for cable passage and management. The structure is designed for side-to-side, back-to-back mounting and for fixing to the ground and/or to the wall.

The entire structure is standardly painted with RAL 7035 powder paint, textured finish, minimum thickness 80µm. Other colors available only upon request.



COMPLETE DOUBLE-SIDE CONFIGURATION

The complete single-side configuration, with two complete levels, includes:

1. Bridge structures of variable length according to the project needs;
2. Copper bar for equipotential connection, with relative fixing brackets and insulators;
3. First level with full cable tray, dedicated to the FO cables, with relative lateral protection brackets;
4. Second level with full cable tray, dedicated to the FO and data cables, with relative lateral protection brackets;
5. Descents for the FO, no. 2 for each cabinet foreseen by the project (the number can be changed on request);
6. Turrets and shelves for assembling the upper levels;
7. Third level with commercial-type wire walkway for energy cables, with relative assembly clamps.

PRODUCT CODE

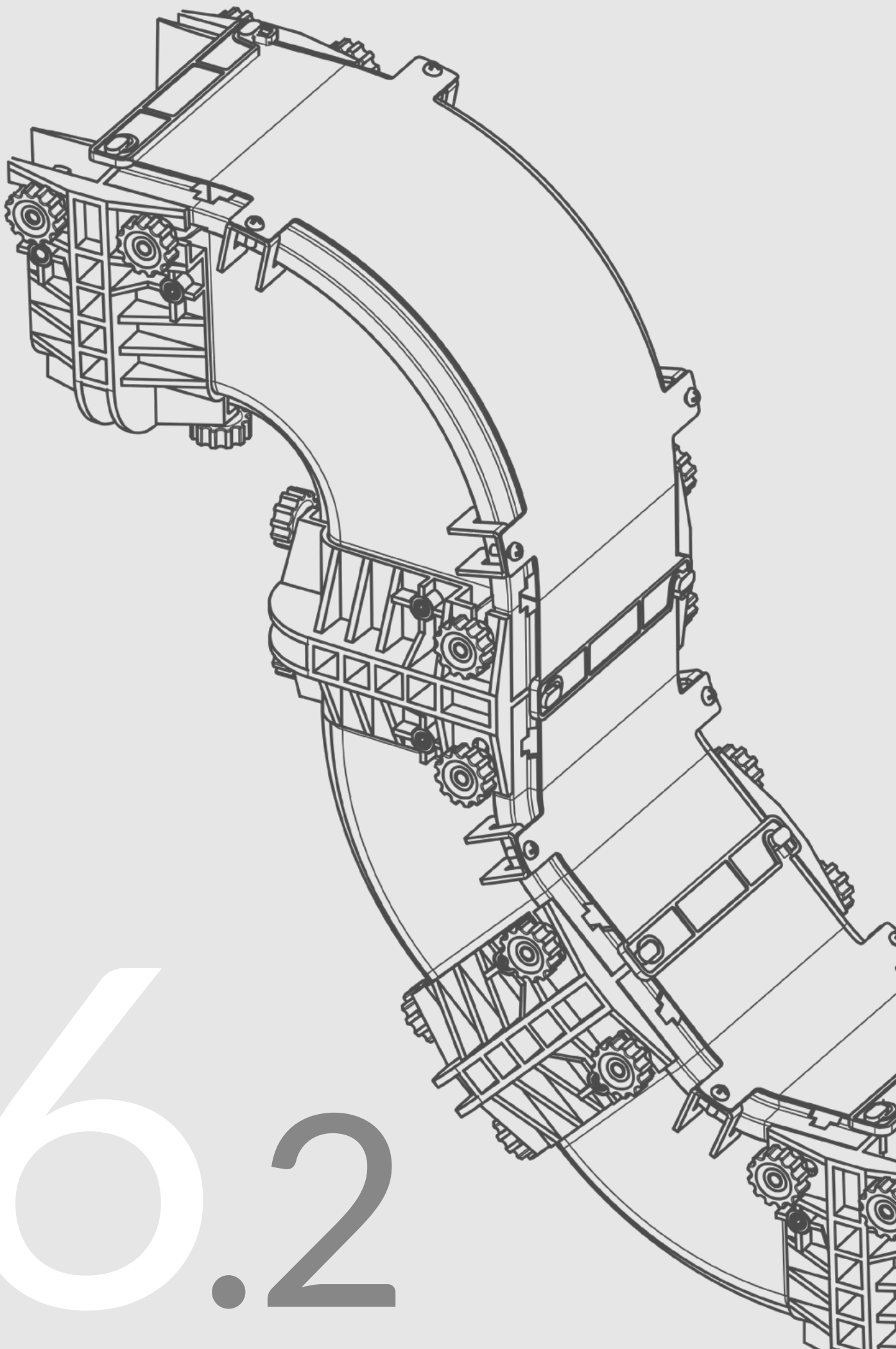
CODE BASED ON OPTIONS - ASK US A QUOTATION BASED ON YOUR NEEDS

TECHNICAL FEATURES

WIDTH	900 mm - 1,5 POS 1200 mm - 2 POS 1500 mm - 2,5 POS 1800 mm - 3 POS 2400 mm - 4 POS
DEPTH	400mm + 400mm = 800mm
HEIGHT	2650mm

In Row Structures





6.2



data center & data rooms

RACK/ODF

IN-RROW STRUCTURES

CABLE DUCTS

ENERGY MANAGEMENT

FIBER OPTIC MANAGEMENT



DATA CENTER



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FIBER MANAGEMENT YELLOW FIBER DUCTS



Fiber optic fiber ducts are necessary for housing and transportation of fiber optic cables and patch cords and are complete with all the branches, descents, ascents, supports and exits necessary for their installation. They are mostly used in situations such as data rooms, data centers and shelters.

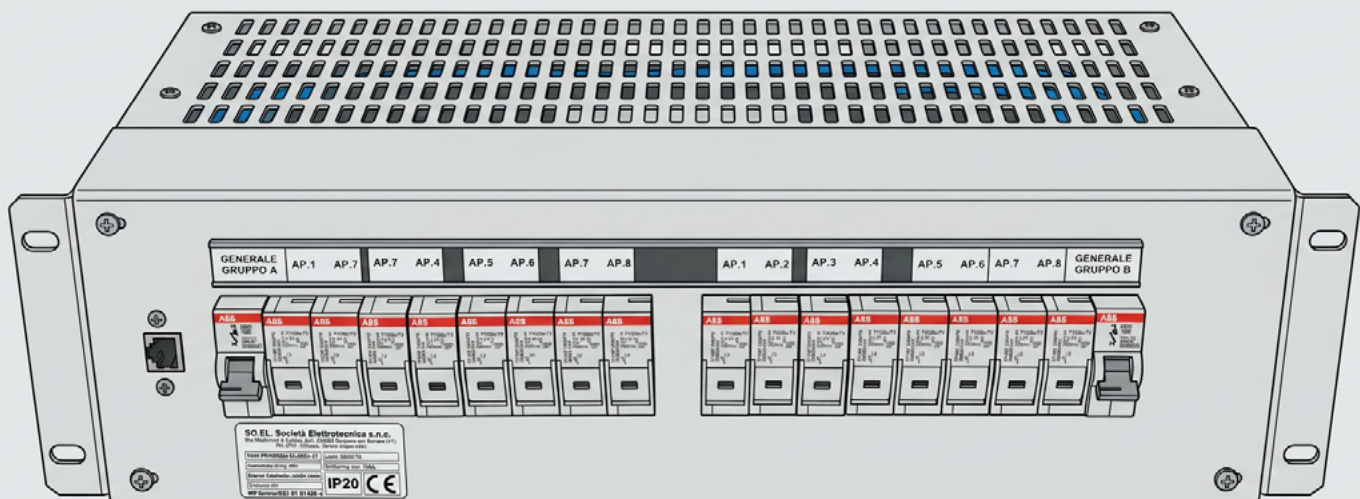
PRODUCT CODE

PLEASE CHECK THE SPECIFIC CATALOGUE

TECHNICAL FEATURES

FIBER DUCT TYPE	2"x2" - 4"x4" - 4"x6" - 4"x12"
ACCESSORIES	Planar curve, end caps, coupler, down curve and up curve, Tee, Cross, exits and support bracket
COLOR	Yellow
MATERIAL STRAIGHT SECTION	PVC
MATERIAL ACCESSORIES	ABS
FIRE RESISTANCE	UL94V0





6.3



data center & data rooms

RACK/ODF

IN-RROW STRUCTURES

CABLE DUCTS

ENERGY MANAGEMENT

FIBER OPTIC MANAGEMENT



ENERGY STATION

ENERGY STATION 5KW-101KW

48 VDC



High-performance modular power system designed for reliable and flexible applications. It supports a wide AC input range (85–300 Vac) and ensures high efficiency thanks to active power factor correction ($PF \geq 0.99$), delivering optimal performance even in extreme operating conditions (-40°C to $+85^{\circ}\text{C}$).

PRODUCT CODE

ENERGY-STATION-5KW-10KW-48-VDC

TECHNICAL FEATURES

Typical efficiency	>96% Peak
Voltage range	-42.0Vto-58.0Vdc
Reliability - MTBF	>500,000hours
Protective function	Input overvoltage, under-voltage output overvoltage, overload, short circuit over-temperature and fan failure
Dimensions	450-352-88MM
Weight	8.0kg



PDU - 48VCC

8+8 MULTI-USER 48VDC SMART PDU - 3RU



8+8 Multi-user 48Vcc SMART PDU can be installed in rack cabinets with 19" (And 21" uprights with adaptation brackets), suitable for redundant power supply of active devices at 48V in DC, with a system for measuring and controlling the supply voltage and the individual absorbed currents.

PRODUCT CODE

PDU48-8+8-2L100A-01

TECHNICAL FEATURES

DIMENSIONS	139x181x484 mm (HxPxL)
IP PROTECTION DEGREE	IP 20
CURRENT RATING	100A
POWER SUPPLY	Two separate disconnectable lines
CASE MATERIAL	Galvanized painted steel
COLOR	RAL 7035
OPERATING TEMPERATURE RANGE	0...+40 °C
VOLTAGE RATING	48V in Direct Current





PDU - 48VCC

4+4 MULTI-USER 48VCC SMART PDU - 4RU



4+4 Multi-user 48Vcc SMART PDU can be installed in rack cabinets with 19" (And 21" uprights with adaptation brackets), suitable for redundant power supply of active devices at 48V in DC, with a system for measuring and controlling the supply voltage and the individual absorbed currents.

PRODUCT CODE

PDU48-4+4-2L100A-01 NEW

TECHNICAL FEATURES

DIMENSIONS	175X185X435 mm (HxPxL)
IP PROTECTION DEGREE	IP 20
CURRENT RATING	100A
POWER SUPPLY	Two separate disconnectable lines
CASE MATERIAL	Galvanized painted steel
COLOR	RAL 7035
OPERATING TEMPERATURE RANGE	0...+40 °C
VOLTAGE RATING	48V in Direct Current





PDU - 48VCC

2+2 MULTI-USER 48VDC PDU - 3RU



2+2 Multi-user 48Vcc PDU can be installed in rack cabinets with 19" (And 21" uprights with adaptation brackets), suitable for redundant power supply of active devices at 48V in DC.

PRODUCT CODE

PDU48-2+2-4RU-200A-NM

TECHNICAL FEATURES

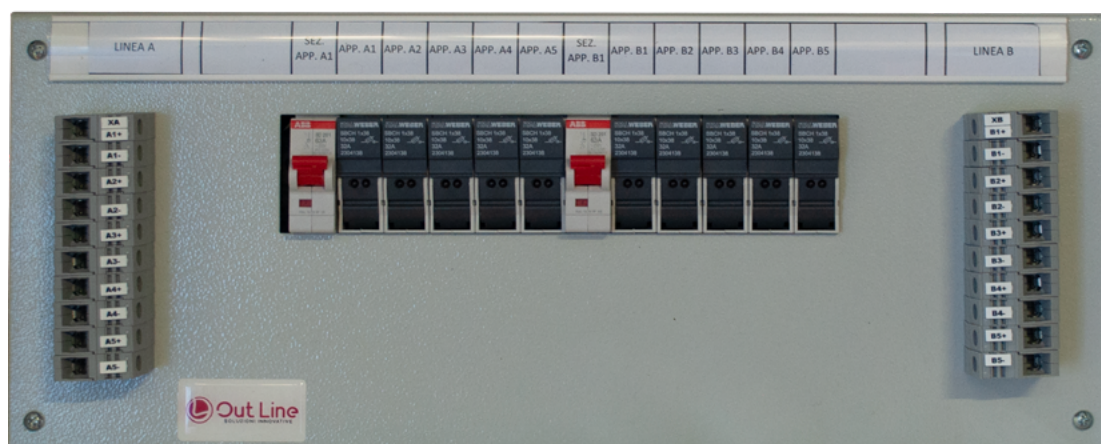
DIMENSIONS	180x181x484 mm (HxPxL)
IP PROTECTION DEGREE	IP 20
CURRENT RATING	100A +100A
POWER SUPPLY	Two separate disconnectable lines
CASE MATERIAL	Galvanized painted steel
COLOR	RAL 7035
OPERATING TEMPERATURE RANGE	0...+40 °C
VOLTAGE RATING	48V in Direct Current





PDU - 48VCC

5+5 MULTI-USER 48VDC PDU - 3RU



Multi-user PDU that can be installed in rack cabinets with 19" (and 21" uprights with an optional adaptation bracket), it is suitable for redundant power supply of active devices at 48V DC. The multi-user PDU has 2 lines with $I_n=63A$, 5+5 fuse holder bases with $I_n=32A$ with optical signaling of blown fuse, for power supply and protection of the devices.

PRODUCT CODE
PDU48-5+5-2L-63A

TECHNICAL FEATURES

DIMENSIONS	175X185X435 mm (HxPxL)
IP PROTECTION DEGREE	IP 20
CURRENT RATING	63A
POWER SUPPLY	Two separate disconnectable lines
CASE MATERIAL	Galvanized painted steel
COLOR	RAL 7035
OPERATING TEMPERATURE RANGE	0...+40 °C
VOLTAGE RATING	48V in Direct Current





PDU - 230 VAC

PDU 230VAC 10 LINES



This PDU can be installed in rack cabinets with 19" (and 21" uprights with an adapter bracket), it is suitable for being powered by an automatic transfer system (ATS), to section and protect 10 devices from short circuits and overloads.

PRODUCT CODE

QA 230VCA-3RU-32A-10UT-001 (BMS ATS)

TECHNICAL FEATURES

DIMENSIONS	139x181x484 mm (HxPxL)
IP PROTECTION DEGREE	IP 40
CURRENT RATING	32A
POWER SUPPLY	Two separate disconnectable lines
CASE MATERIAL	Galvanized painted steel
COLOR	RAL 7035
OPERATING TEMPERATURE RANGE	0...+40 °C
VOLTAGE RATING	230V in Alternate Current



PDU - 230 VAC HEAD-ROW ELECTRIC PANEL QCC 630A



The QCC receives continuous power from Energy Station 1 and Energy Station 2 and is functional to power the TLC devices installed in the row structures of OLO room. It can be installed either at the beginning /end of a modular in-row multi-layer structure or independently. The QCC is equipped with remote monitoring systems for the state of the fuses and consumption measurements.

PRODUCT CODE
QCC48-20+20-630A

TECHNICAL FEATURES

DIMENSIONS	600X450X2200 (b x p x h)
COLOR	Light Grey ral 7035
IP PROTECTION DEGREE	IP30
CASE MATERIAL	AISI 304
CURRENT RATING	630A
POWER SUPPLY	n. 2 distribution lines
VOLTAGE RATING	48V DC





RETE



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PDU - 230 VAC AUTOMATIC TRANSFER SWITCH (ATS)



Basic ATS



Smart ATS (1U)



ATS – Automatic Transfer Switch – combines the characteristics of data center power management technology with the development of power distribution technology. It applies the latest hot-swappable technology, integrates network communication, remote control and automatic transfer. The power distribution technology in the specially designed Automatic Transfer Switch can be upgraded from local management to remote management upon request with dedicated accessories.

PRODUCT CODE
ATS-AR228T0122

TECHNICAL FEATURES

DIMENSIONS	482.6x220x88.8 mm(LxPxH)
RACK UNITS	U2
MOUNTING	19"
TRANSFER TIME	$10 \leq 16$ ms
INPUT	IEC60309 32A PLUG
VOLTAGE RATING	180 ~260VAC 50 /60Hz
INPUT CURRENT LOAD	32A
OUTPUT CURRENT LOAD	32A
VOLTAGE RATING	IEC60309 32A





PDU - 230 Vac DATA CENTER POWER DISTRIBUTION UNITS

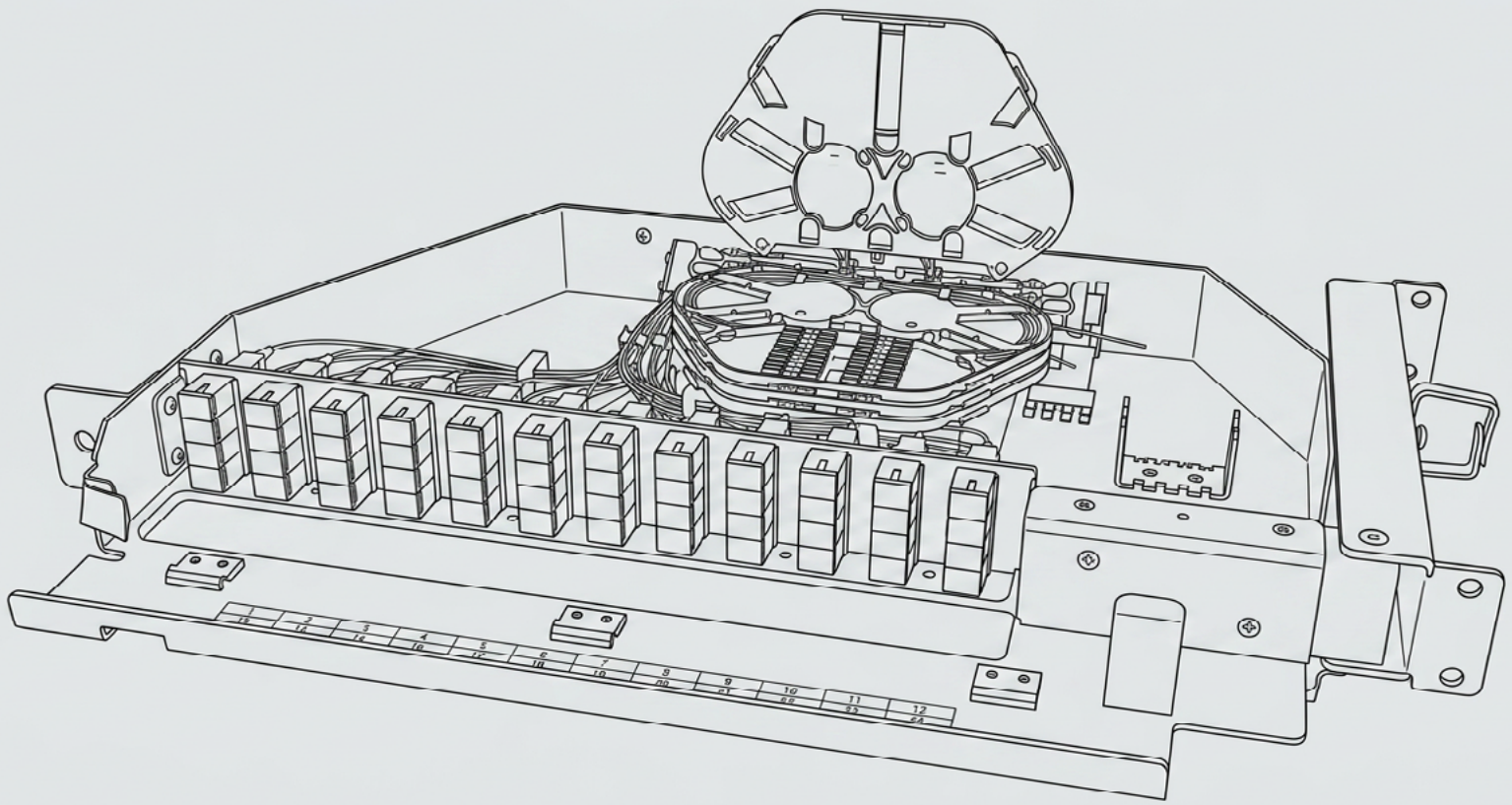
230Vac Power Distribution Units (PDUs) are essential devices for efficient power management within rack cabinets, typically used in data centers, server rooms, and IT environments. Designed to ensure safe and reliable power distribution, PDUs allow centralized and organized supply to servers, switches, network equipment, and other electronic devices installed in the rack.

Available in various configurations (horizontal or vertical, with Schuko, IEC C13/C19 outlets, etc.), they may include advanced features such as remote power consumption monitoring, surge protection, or selective outlet switching.

Built to be robust and dependable, our 230Vac PDUs are engineered for professional environments where power continuity and safety are critical.

Please refer to the specific catalogue





6.4



data center & data rooms

RACK/ODF

IN-RROW STRUCTURES

CABLE DUCTS

ENERGY MANAGEMENT

FIBER OPTIC MANAGEMENT



DATACENTER



RETE



FTTH

FO CABLE MANAGEMENT U-SHAPE



The U-Shape Fiber Slack Storage Device is the protection for ADSS and standard cables installed on the poles. Its scope is the management and the safe routing of the cables those are coming down /up from the pole reversing and storage the cable slack. Use tie wraps plastic or metallic on the upper external part to store the cables and internal tie wraps plastic or metallic as fixing points at the central position to fix the passing through cables.

PRODUCT CODE U-SHAPED_AEH

TECHNICAL FEATURES

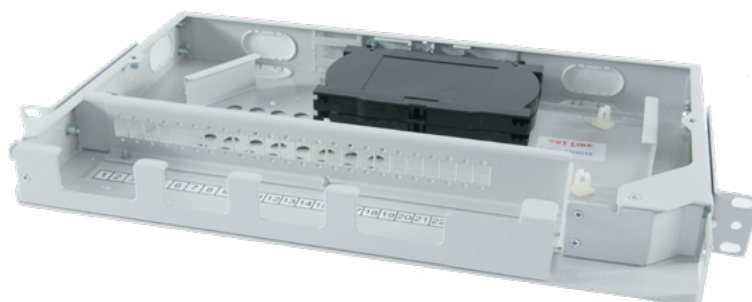
MATERIAL	GF+PP
HEIGHT (overall)	248mm
WIDTH (overall)	345mm
WIDTH (excluding locking system)	374,5mm
DEPTH (overall)	110mm
DEPTH (excluding locking system)	90mm
COLOR	RAL7035, other available
PROTECTION LEVEL	IK10 +UV





MOC 24

24SC PIVOT SUBRACK



The 24-position Compact Optical Module (or MOC) for simplex adapters is a pivot subrack that can be installed on ETSI N3 or 19-inch uprights. It is necessary for the splicing and termination of fibre optic cables and has been designed and developed on the basis of the TIM technical specification.

PRODUCT CODE

MOC-24-TIM / Compact Optical Module (MOC) termination on ETSI N3 and 19" frames with 24 positions for simplex SC adapters - VS 030-1. NMU 774931

TECHNICAL FEATURES

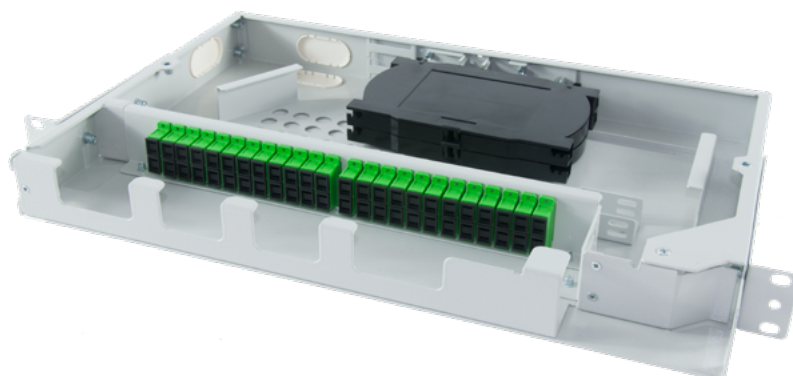
MATERIAL	STEEL
OPENING TYPE	Pivot
HEIGHT	44 mm
WIDTH	430 MM
DEPTH	270 MM
CABLE ENTRANCES	2
CAPACITY	24
SPLICE TRAY	2(24FO)
SMOUV DIMENSIONS	Standard
ADAPTER	SC SIMPLEX
COLOR	Grey RAL 7035





MOC 48

48SC PIVOT SUBRACK



The 24-position Compact Optical Module (or MOC) for duplex adapters is a pivot subrack that can be installed on ETSI N3 or 19-inch uprights. It is necessary for the splicing and termination of fibre optic cables and has been designed and developed on the basis of the TIM technical specification.

PRODUCT CODE

MOC-48 / Compact Optical Module (MOC) termination on ETSI N3 and 19" frames with 24 positions for duplex SC adapters (48 ports).

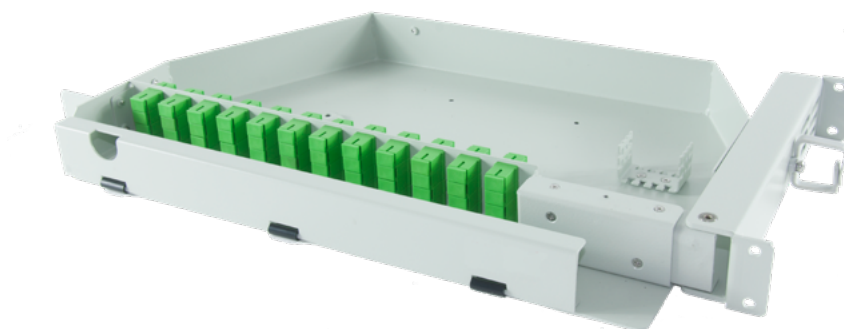
TECHNICAL FEATURES

MATERIAL	STEEL
OPENING TYPE	Pivot
HEIGHT	44 MM
WIDTH	430 MM
DEPTH	270 MM
CABLE ENTRANCES	2
CAPACITY	48
SPLICE TRAY	2 (24FO)
SMOUV DIMENSIONS	Standard
ADAPTER	SC DUPLEX
COLOR	Grey RAL 7035





SUBRACK TERMINATION /PATCHING OPEN FIBER



The subrack termination has a 90° pivot opening on three fixing points, 1 19" Rack Unit height, the distance from the fixing of the front uprights to the rear ones is 220mm, it is equipped with 48 pre-installed SC /APC simplex type adapters and the internal space to manage the extra-length of cables that will be terminated inside it. This product has been designed and developed on the basis of the Open Fiber technical specification.

PRODUCT CODE

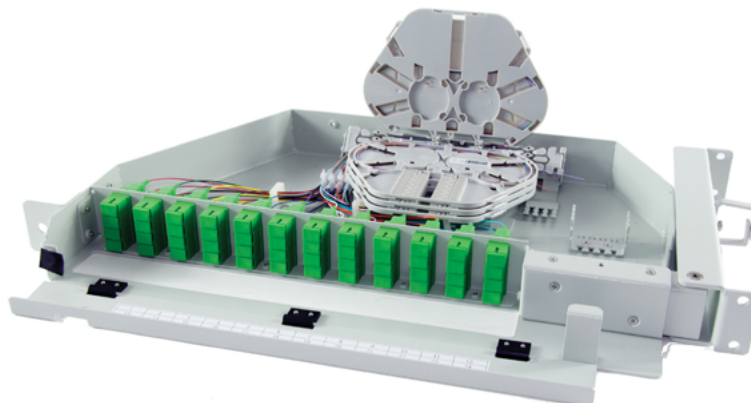
SUB-48SC-TERM / Temination/patching subrack with 48 adapter SC/APC included - OPEN FIBER

TECHNICAL FEATURES

MATERIAL	Steel
OPENING TYPE	Pivot on 3 fixing points
HEIGHT	44 MM
WIDTH	430 MM
DEPTH	260 MM
CABLE ENTRANCES	2 (24 FO)
CAPACITY	48
SPLICE TRAY	Not included
SMOUV DIMENSIONS	/
ADAPTER	SC Simplex
COLOR	Grey RAL 7035



SUBRACK JUNCTION/TERMINATION OPEN FIBER/INFRANEL



The subrack junction and termination has a 90° pivot opening on three fixing points, 1 19" Rack Unit height, the distance from the fixing of the front uprights to the rear ones is 220mm, it is equipped with 48 SC /APC simplex type adapters, 48 pre-installed coloured half-braces and 4 junction cards with 12 positions each. This product was designed and developed on the basis of the Open Fiber /Infratel technical specification.

PRODUCT CODE

SUB3P-A-48SCA-SX-48PTA1-J-T-CD/ Pivot opening subrack, 3 fixing points, for splice and patch, precabled with 48 adapter and 48 pigtails SC/APC – INFRATEL color code for fibers.

SUB3P-A-48SCA-SX-48PTA1-J-T-AB / Pivot opening subrack, 3 fixing points, for splice and patch, precabled with 48 adapter and 48 pigtails SC/APC – OPEN FIBER color code for fibers.

TECHNICAL FEATURES

MATERIAL	Steel
OPENING TYPE	Pivot on 3 fixing points
HEIGHT	44 MM
WIDTH	430 MM
DEPTH	260 MM
CABLE ENTRANCES	2 (24 FO)
CAPACITY	48
SPLICE TRAY	4 (12 FO)
SMOUV DIMENSIONS	standard
ADAPTER	SC Simplex
COLOR	Grey RAL 7035





SUBRACK

24 ADAPTER SC SIMPLEX



The sliding optical subrack for 24 SC Simplex or 24 LC Duplex adapters allows the operator an orderly management and organization system of the optical patchcords. Flexibility and convenience are the main features of the product.

PRODUCT CODE

SUB-1RU-19"-24/48FO-BK / Subrack black color sliding type up to 24 adapter SC simplex type (24 positions) or LC duplex type (48 positions)

SUB-1RU-19"-24/48FO-GR / Subrack grey color sliding type up to 24 adapter SC simplex type (24 positions) or LC duplex type (48 positions)

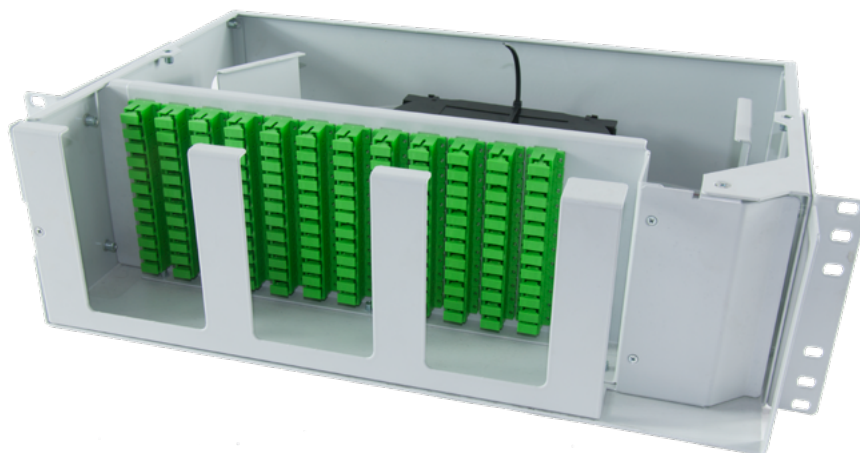
TECHNICAL FEATURES

MATERIAL	Steel
OPENING TYPE	Sliding
HEIGHT	44 MM
WIDTH	434 MM
DEPTH	243 MM
CABLE ENTRANCES	2
CAPACITY	24 / 48
SPLICE TRAY	Not included
SMOUV DIMENSIONS	-
ADAPTER	SC Simplex / LC Duplex
COLOR	BLACK RAL9005





SUBRACK PIVOT 144 ADAPTERS SC SIMPLEX



The subrack with pivot opening allows the operator to work more comfortably once the tray is open, in fact the subrack can be opened by rotating 90°. It can accommodate up to 144 SC Simplex adapters, allows the splicing and termination of fiber optic cables and was designed and developed based on the Infratel technical specification.

PRODUCT CODE

PIV-144-7035 /Subrack Pivot for splicing and termination up to 144 F.O.

TECHNICAL FEATURES

MATERIAL	Steel
OPENING TYPE	Pivot
HEIGHT	132 MM
WIDTH	482 MM
DEPTH	270 MM
CABLE ENTRANCES	2
CAPACITY	144
SPLICE TRAY	6 (24FO)
SMOUV DIMENSIONS	Standard
ADAPTER	SC Simplex
COLOR	Grey RAL 7035





RETE



FTTH

MOC 12

12SC PIVOT SUBRACK



The 12 FO Compact Optical Module (or MOC) for FWA cabinets is a pivot subrack that can be installed on ETSI N3 or 19-inch uprights, it is necessary for the splicing and termination of fiber optic cables, it is equipped with 12 SC /APC simplex adapters, 1 24-splice tray and 4 pre-installed pigtails. This product was designed and developed on the basis of the Open Fiber technical specification.

PRODUCT CODE

MOC-12-12SCA-4PTSCA / Compact Optical Module (MOC) for termination on ETSI N3 and 19 inch frames for FWA cabinets complete with 12 SC/APC simplex adapters and 4 SC/APC pigtails.

TECHNICAL FEATURES

MATERIAL	Steel
OPENING TYPE	Pivot
HEIGHT	44 MM
WIDTH	430 MM
DEPTH	270 MM
CABLE ENTRANCES	2
CAPACITY	12
SPLICE TRAY	1
SMOUV DIMENSIONS	Standard
ADAPTER	SC Simplex
COLOR	Grey RAL 7035

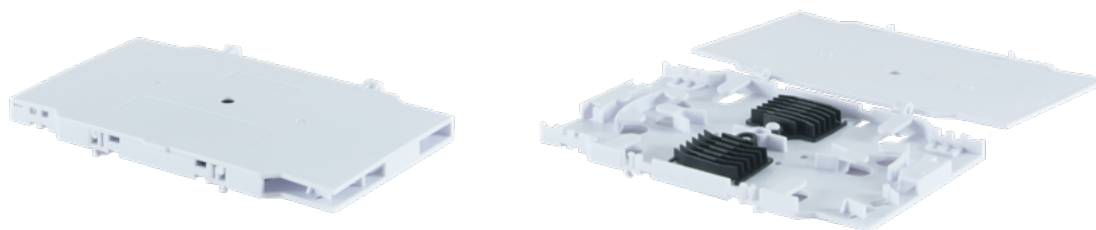


RETE



FTTH

SPLICE TRAY 12 FO WHITE



These splice trays are positioned inside the optical subracks, they can house up to 12 splices, with standard type splice covers, allowing the correct management of the fiber slack of the fibers. They have the possibility to be installed one above on each other, ensuring the opening of each of them, through the hinges that also hook the cover. The cover is included and the product is supplied in white.

PRODUCT CODE

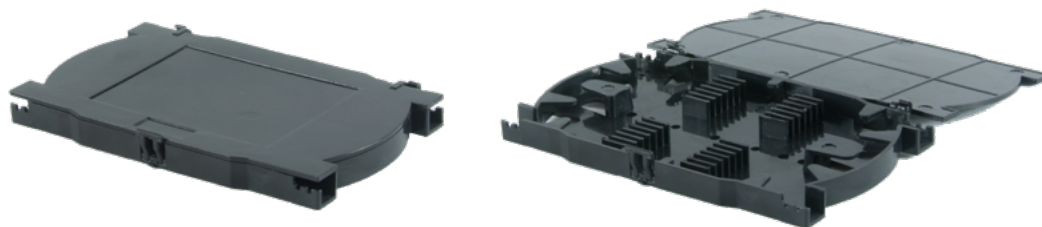
12-24-SPL-TRAY-16 / Splice tray 12 FO white dimensions: 154,5x100,7x14,9mm

TECHNICAL FEATURES

HEIGHT	14,9 MM
WIDTH	154,5 MM
DEPTH	100,7 MM
MATERIAL	ABS
COLOR	White
WEIGHT	60 GR
OPERATING TEMPERATURE	-40 /+60 °C
SPLICES	12
SMOUV DIMENSIONS	Standard



SPLICE TRAY 24 FO BLACK



These splice trays are positioned inside the optical subracks, they can house up to 24 splices, with standard type splice covers, allowing the correct management of the fiber slack of the fibers. They have the possibility to be installed one above on each other, ensuring the opening of each of them, through the hinges that also hook the cover. The cover is included and the product is supplied in black.

PRODUCT CODE

TRAY-STD-SUB-BK / Splice tray 12 FO white dimensions: 156x108x14,6mm

TECHNICAL FEATURES

HEIGHT	14,6 mm
LARGHEZZA	156 mm
PROFONDITÀ	108 mm
MATERIALE	ABS
COLORE	Nera
PESO	60 GR
TEMPERATURA DI ESERCIZIO	-40 ÷ +60 °C
QUANTITÀ GIUNTI DISPONIBILI	24
DIMENSIONI GIUNTI	Standard



MPO

4 MODULES SUBRACK



The sliding subrack 1 rack unit 19" allows the operator an orderly system of management and organization of the cables that are terminated in the rear part of the MPO /LC modules. It can contain up to a maximum of 4 modules. Flexibility and convenience are the main features of the product.

PRODUCT CODE

CHA-MPO-L18 / Sliding subrack for 4 MPO modules.

TECHNICAL FEATURES

MATERIAL	Steel
OPENING TYPE	Sliding
HEIGHT	44 MM
WIDTH	430 MM
DEPTH	296 MM
CABLE ENTRANCES	2
CAPACITY	4 MPO modules
SPLICE TRAY	/
SMOUV DIMENSIONS	/
ADAPTER	/
COLOR	Black RAL 9005



MPO

MPO /LC MODULE



The MPO /LC module can contain from a minimum of 1 fan-out with an MPO connector on side A and 12 LC connectors on side B up to a maximum of 2 MPO / LC fan-outs, the adapters such as the polishing of the connectors can be chosen ad hoc based on the requests, OS2, OM3 or OM4 are available.

PRODUCT CODE

REQUEST DATASHEET FOR CODE COMPOSITION

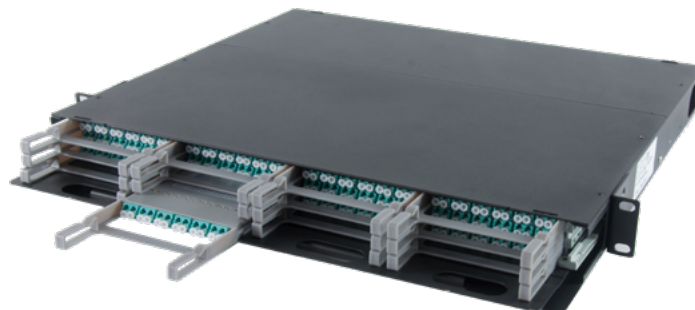
TECHNICAL FEATURES

HEIGHT	37 MM
WIDTH	95 MM
DEPTH	142 MM
ADAPTER LC QUAD TYPE	MTP /MPO
OUTPUTS	24
INPUTS	2
MATERIAL	Steel
COLOR	BLACK RAL 9005



MPO

SUBRACK 144 FO MPO



1U SUBRACK 19" rack mounting for 144 FO, it can contain up to 12 modules of 12 slim MPO /LC optical fibres. Both adapters and connectors type can be chosen upon requests: OS2, OM3 or OM4 are available, flexibility and compactness are the key features of this product.

PRODUCT CODE

SUB-MPO-SPL / 1U SUBRACK complete 12 modules of fan-out MPO-LC of 12 FO each

TECHNICAL FEATURES

MATERIAL	Stainless Steel
OPENING TYPE	Con Snap Latch
HEIGHT	44 MM
WIDTH	430 MM
DEPTH	390 MM
CABLE ENTRANCES	2
MAXIMUM CAPACITY	12
SPLICE TRAY	1
HEAT-SHRINKABLE TYPES	Standard
ADAPTER TYPE	UPON REQUEST
COLOR	BLACK RAL 9005





MPO

1U FRONT PANEL FOR 4 MPO / LC MODULES



The 1U MPO 19" front panel for smaller subracks allows the operator to have a tidy system of cable management and organization, which are terminated on the rear of the MPO /LC modules. It can contain up to 4 modules. Flexibility and convenience are the key features of the product.

PRODUCT CODE

CHA-MPO-L18 / 1U frontal panel for MPO/LC 12 FO modules

TECHNICAL FEATURES

HEIGHT	42 MM
WIDTH	485 MM
DEPTH	15,5 MM
CAPACITY	Up to 4 modules
MATERIAL	Stainless Steel
COLOR	Black RAL 9005



MPO

BLANK PANEL FOR MODULES



The MPO module blank panel can be inserted inside the 1U MPO front panel and is fixed to it using two snap latch buttons. It allows the holes that are not currently being used by the operator to be closed.

PRODUCT CODE

PAN-PLAIN / Blank panel for MPO modules

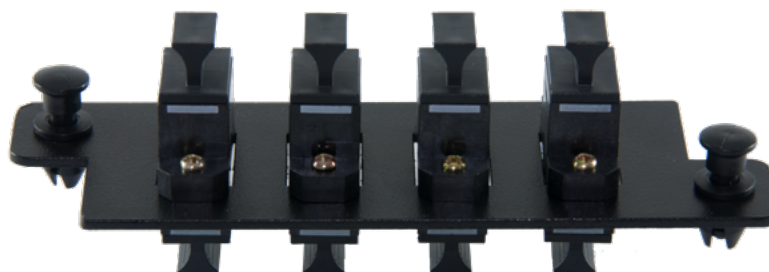
TECHNICAL FEATURES

HEIGHT	25 MM
WIDTH	107 MM
THICKNESS	1,2 MM
CAPACITY	/
MATERIAL	Stainless Steel
COLOR	Black RAL 9005



MPO

PANEL FOR 4 MPO ADAPTER



This small panel for 4 MPO adapter can be inserted inside the 1U frontal panel and is fixed to it using two snap latch buttons. It allows to terminate the MPO trunk cables with other cables which then perform the swaps inside the rack (cabinet).

PRODUCT CODE

PAN-4MPO / Panel for 4 MPO adapter

TECHNICAL FEATURES

HEIGHT	25 MM
WIDTH	107 MM
SPESSORE	1,2 MM
CAPACITY	4 ADAPTER MPO
MATERIAL	Stainless Steel
COLOR	Black RAL 9005





PATCH PANEL RJ45

PATCH PANEL - 24 FTP PORTS



19" patch panel complete with 24 shielded RJ45 Cat. 6 connectors, T568A /B universal wiring, 8 contacts, 110 compatible insulation piercing terminals, supports 22 to 26 AWG Cat. 6 shielded twisted pair (FTP) solid and stranded cable - 1 RU.

PRODUCT CODE

PP-C-24-CAT6-FTP / CAT6 FTP 19" 1U 24 ports panel

TECHNICAL FEATURES

HEIGHT	44,3 MM
WIDTH	482,6 MM
DEPTH	115,8 MM
INPUT	KEYSTONE JACK RJ45 FTP CAT 6
SLOTS	24 CABLES
N. OF CONNECTIONS	24
MATERIAL	Stainless Steel
COLOR	Black RAL 9005





PATCH PANEL RJ45

PATCH PANEL - 24 UTP PORTS



19" Patch panel complete with 24 RJ45 Cat. 6 or Cat. 5E connectors, unshielded, T568A /B universal wiring, 8 contacts, 110 compatible insulation piercing terminals - 1 RU.

PRODUCT CODE

PP-C-24-CAT-UTP / 24 UTP ports patch panel, 1RU, black color, empty

TECHNICAL FEATURES

HEIGHT	44 MM
WIDTH	482 MM
DEPTH	78 MM
INPUT	KEYSTONE JACK RJ45 CAT 5E - CAT 6
SLOTS	24 Cables
N. OF CONNECTIONS	24
MATERIAL	Stainless Steel
COLOR	Black RAL 9005





PATCH PANEL RJ45 KEYSTONE JACK RJ45 UTP



The keystone jack (module) is a standardized snap-in female connector for mounting a variety of low voltage electrical jacks into a patch panel, the rear has an IDC (tool- less) cable connection type for ease of installation.

PRODUCT CODE

RJ45-KJ-CAT6 / RJ45 UTP Cat.6 Keystone Jack

RJ45-KJ-CAT5 / RJ45 UTP Cat.5e Keystone Jack

TECHNICAL FEATURES

HEIGHT	19 MM
WIDTH	19 MM
DEPTH	31 MM
CONTACTS	8 CONTACTS - RJ45
CABLES	AWG 22 - 26
COLOR CODE	T568A T568B SCHEMES
DURABILITY	750 SOCKET INSERTS - 25 TERMINA- TION CYCLES
ELECTRICAL COMPATIBILITY	250 MHZ
MATERIAL	ABS



RACK ACCESSORIES

CABLE MANAGEMENT PANEL 1U



The 19" cable management panel occupies 1 rack unit and has the function of managing cables for the passage from one patch panel to another, meant for both fibre and copper cables. It is made up of 5 front cable management rings which have a cable management DEPTH of approximately 70mm.

PRODUCT CODE

PAN-PASS-5RING-10 / 19" 1U Cable Management, Metal D-rings Product size:
480*46.5*84mm

TECHNICAL FEATURES

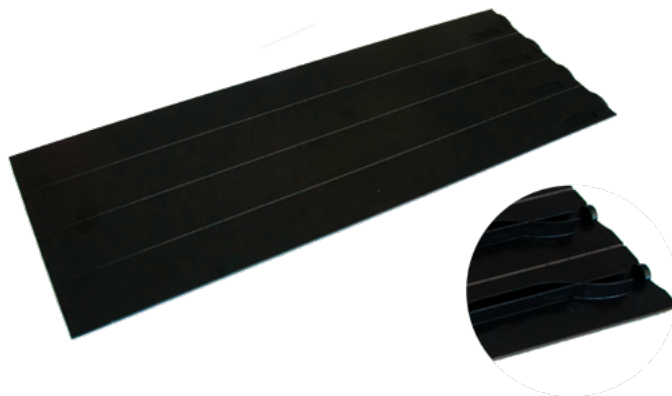
HEIGHT	46,5 MM
WIDTH	480 MM
DEPTH	84 MM
MATERIAL	Metal
COLOR	Black RAL 9005





RACK ACCESSORIES

FLEXIBLANK - 4U FLEXIBLE BLANK PANEL



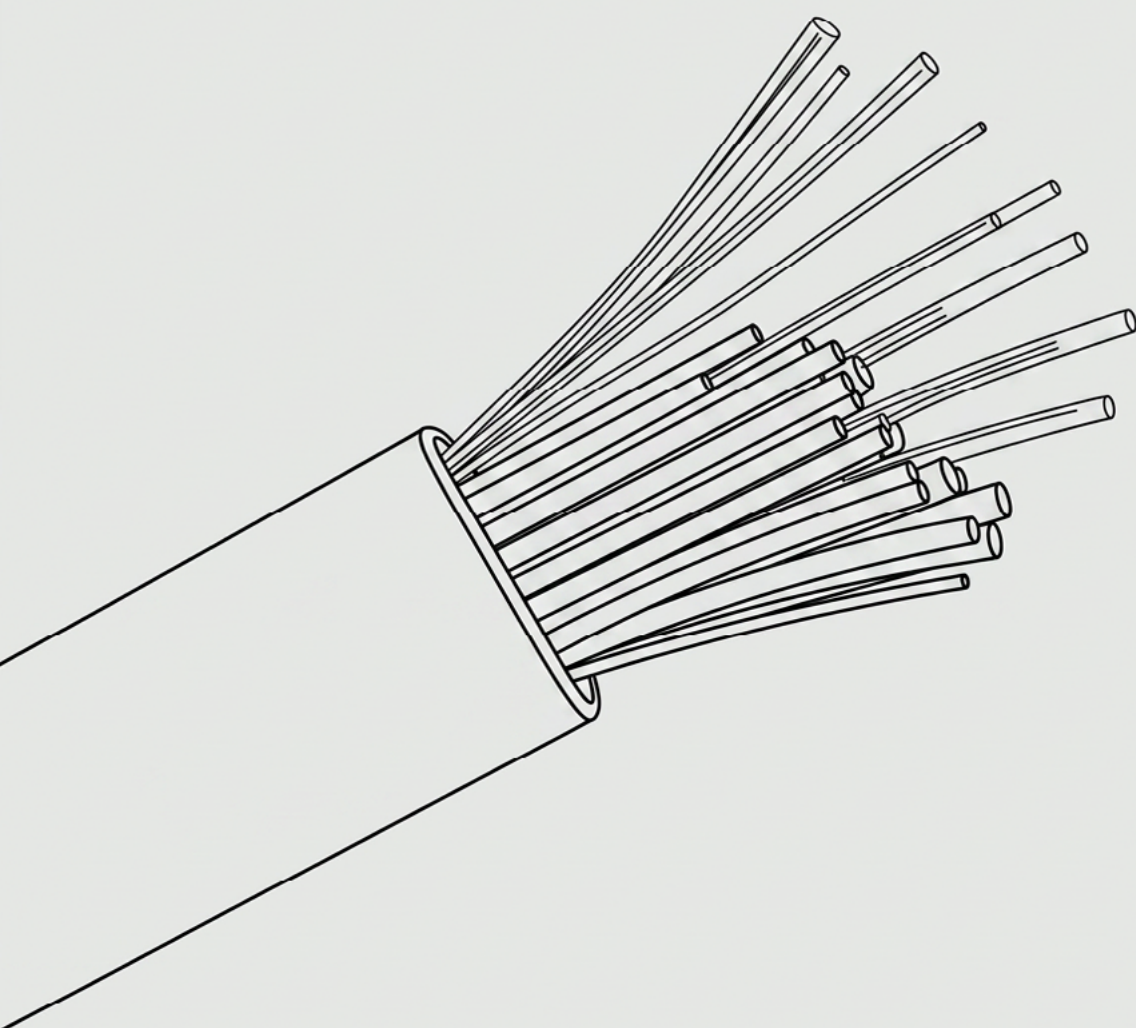
PRODUCT CODE

F-PAN-4U / Flexible blank panel in plastic material, 4RU, toolless

TECHNICAL FEATURES

HEIGHT	17,7mm
WIDTH	48mm
COLOR	BLACK
MATERIAL	FIER-PROOF PLASTIC
MOUNTING	19"
MOUNTINGmode	TOOLLESS





6



fiber optic cable



MICRODUCTS AND ACCESSORIES

SINGLE MICRODUCTS



The Microducts are meant for laying mini-optical fiber cables, are produced by extruding high-density polyethylene (HDPE), and are suitable for laying fibers with “blowing” technique (blowing with compressed air). The Microducts typically used in telecommunications systems have an internal diameter of 10mm (suitable for laying mini-cables up to 144 or 288 optical fibers) while the thickness is established based on their type of use: 10 /12mm microducts (thickness 1mm) to be laid in a pipe and 10 /14 mini-tube (thickness 2mm) to be buried directly in a trench underground (Direct-Bury).

PRODUCT CODE

MDUCT-12-10-OF / 12/10 mm transparent with BLUE lines - OPEN FIBER

MDUCT-12-10-TIM / 12/10 mm transparent with RED lines - TIM

MDUCT-12-10-FW / 12/10 mm transparent with GREEN lines -

MDUCT-14-10-OF / 14/10 mm transparent with BLUE lines - OPEN FIBER

TECHNICAL FEATURES

EXTERNAL DIAMETER	12 mm 14 mm
INTERNAL DIAMETER	10 mm
THICKNESS	1,00 mm 2,00 mm
MATERIAL	PE-HD
COLOR	Depends on the customer network request
TENSILE LOAD	>20 MPa
PULLING	>500%
SOFTENING TEMPERATURE	>120 °C
DENSITY	940 kg /m ³
STANDARD LENGTHS	2000 m 1500 m





MICRODUCTS AND ACCESSORIES

FENDER MULTI-DUCTS



The FENDER Multi-duct consists of a PEHD tape on which 5 to 7 microducts are neatly positioned, individually fixed by tight wrapping of external tape. This conformation also allows for correct and orderly planar positioning of the cables.

PRODUCT CODE

FENDER-5X10-14-OF/ Fender 5 x 10/14 mm transparent with BLUE lines - OPEN FIBER

FENDER-7X10-14-OF / Fender 7 x 10/14 mm transparent with BLUE lines - OPEN FIBER

TECHNICAL FEATURES

EXTERNAL DIAMETER	FENDER Multi-duct 10/12: Internal 10mm - External 12mm FENDER Multi-duct 10/14: External 10mm - External 14mm
N. OF MICRODUCTS	FENDER Multi-duct 10/12: min 3 - max 5 FENDER Multi-duct 10/14: min 3 - max 7
THICKNESS	1,00 mm 2,00 mm
MATERIAL	PE-HD
COLOR	Depends on the customer network request
	Open Fiber, FlashFiber e Infratel
LINES	H 0,1
SHEATH THICKNESS	Min 0,4 mm Max 0,6 mm
STANDARD LENGHT	1500 m





MICRODUCTS AND ACCESSORIES

BUNDLE MULTI-DUCTS



The Bundle Multi-ducts is meant for laying optical minicables and has a PEAD sheath containing 7 minitubes. The minitubes have a smooth external surface and a grooved internal surface to increase the smoothness of the cables deploying during the blowing phase. The loose sheath allows the movement of the tubes in the bundle to adapt their geometry according to the laying needs.

PRODUCT CODE

BUNDLE-7X10-12-OF/ Bundle 7 x 10/12 mm transparent with BLUE lines, external diam. $\varnothing$ 50mm - OPEN FIBER

BUNDLE-7X10-12-TIM / Bundle 7 x 10/12 mm transparent with RED lines, external diam. $\varnothing$ 50mm - TIM

TECHNICAL FEATURES

DIAMETER	50 mm
N. OF MICRODUCTS	3,00 mm
MATERIAL	PE-HD
COLOR	External sheath Orange – Internal upon request
	Open Fiber, FlashFiber e Infratel
TENSILE LOAD	>20 MPa
PULLING	>500%
SOFTENING TEMPERATURE	T>120 °C
DENSITY	> 940 kg /m3
STANDARD LENGHTS	500 m





MICRODUCTS AND ACCESSORIES

MICRODUCTS CUTTER



The microducts cutter is a tool for cutting minitubes or tubes for vertical applications at 90° and shortening them precisely and without burrs.

PRODUCT CODE

TG-TUB / Tool for miniducts cutting

TECHNICAL FEATURES

DUCTS DIAMETER	Up to 14 mm
COLOR	BLACK
MATERIAL	Plastic
BLADE	Stainless Steel - Changable



MICRODUCTS AND ACCESSORIES

MICRODUCTS CONNECTORS



Microducts fast connectors are needed to connect microtubes together, they have tensile strength and pressure resistance according to the specification. These characteristics make them perfectly performing when using cable blowing machines.

PRODUCT CODE

STR12/10MM / 12 mm ducts

STR14/10MM / 14 mm ducts

TECHNICAL FEATURES

MATERIAL	Polycarbonate
BLOCKING SYSTEM	POM, with steel teeth
MATERIAL O-RING	O-RING Nitrile
BLOWING PRESSURE	16 bar @ -20 / +50 °C
BREAKING PRESSURE	> 26 bar
GAS SEAL	Leakage at 16 bar: ~1ml /minute – leakage at 0,7 bar: ~0,1ml /minute
WATER RESISTANCE	I giunti resistono ad una colonna d'acqua di 6 metri
INSERTION FORCE	50 N max (5kg)
TENUTA	125N min microdotti 10mm



MICRODUCTS AND ACCESSORIES

MICRODUCTS END CAPS



Quick-release caps are necessary for closing microtubes and have a perfectly watertight seal.

PRODUCT CODE

EST 12MM / 12 mm ducts

EST 14MM / 14 mm ducts

TECHNICAL FEATURES

MATERIAL	Polycarbonate
BLOCKING SYSTEM	POM, with steel teeth
MATERIAL O-RING	O-RING Nitrile
BLOWING PRESSURE	16 bar @ -20 / +50 °C
BREAKING PRESSURE	> 26 bar
GAS SEAL	Leakage at 16 bar: ~1ml /minute – leakage at 0,7 bar: ~0,1ml / minute
WATER RESISTANCE	Up to 6-meter water column
INSERTION FORCE	50 N max (5kg)
TENUTA	125N min microdotti 10mm
TAPPI DI CHIUSURA	Disponibili nelle versioni con diametro: Ø 12mm e Ø 14mm





MICRODUCTS AND ACCESSORIES

MICRODUTS REDUCER



Quick release reducers are needed to connect two microtubes with different external diameters, they have tensile strength and pressure resistance. These characteristics make them perfectly performing during the use of cable blowing machines.

PRODUCT CODE

BRE 14-12/10MM / 12-14 mm Ducts

TECHNICAL FEATURES

DURATION (INSERTION CYCLES)	Polycarbonate
BLOCKING SYSTEM	POM, with steel teeth
MATERIAL O-RING	O-RING Nitrile
BLOWING PRESSURE	16 bar @ -20 / +50 °C
BREAKING PRESSURE	> 26 bar
GAS SEAL	Leackage 16 bar: ~1ml /minute – Leackage a 0,7 bar: ~0,1ml /minute
WATER RESISTANCE	Up to 6-meter water column
INSERTION FORCE	50 N max (5kg)
TENUTA	125N min microdotti 10mm
RIDUTTORI	Diametro Esterno /Diametro Interno: 14 /12 - 12 /10mm



MICRODUCTS AND ACCESSORIES

MICRODUCTS SEALING FOR MICROCABLES



The quick-release sealing element has the function of sealing the exit of a mini-cable from its microduct, maintaining the watertight seal of the micro-tube.

PRODUCT CODE

SE 12/10MM / 12 mm duct / minicable

SE 14/10MM / 14 mm duct / minicable

TECHNICAL FEATURES

MATERIAL	Glass fibre reinforced plastic
MATERIAL GUARNIZIONE	Silicone
PRESSURE	Up to 0.5 bar
WEIGHT	18 GR
CRUSHING RESISTANCE	$\geq 1000\text{N}$, 10 sec
TENSILE RESISTANCE	$\geq 100\text{N}$
MATERIALE	Fibra di vetro



SINGLE CABLE OUTDOOR APPLICATION



The single-fiber cable is used for laying outside buildings in the section that reaches the end user directly. It is equipped with a special sheath to protect the fiber outside. The CAV-EST-1FO-TIM model is produced with G.657 A2 fiber, and it has a CPR certification Cca, s3, d1, a3.

PRODUCT CODE

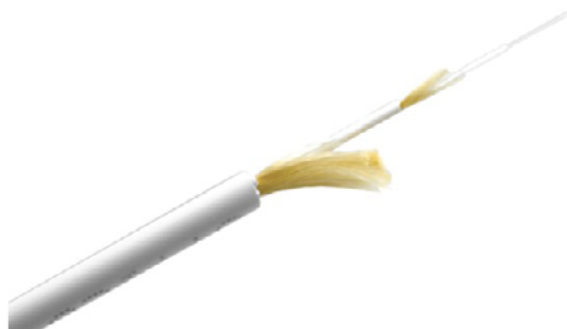
CAV-EST-1FO-TIM / N.M.U. 773219

TECHNICAL FEATURES

FIBER TYPE	ITU-T G.657-A2
MINIMUM BENDING RADIUS	20 x Ø
MAXIMUM LOAD	500 N
CRUSHING	500 N / 10 cm
ENERGY IMPACT	12 J: N. OF IMPACTS 3
TEMPERATURE	-25 / +70°C var. att. ≤0,1dB /km @1550nm
PICOBREAKOUT DIAMETER	0,85 ± 0,05 MM
INTERNAL JACKET MINIMUM THICKNESS	0,6 mm
MIDDLE JACKET MINIMUM THICKNESS	0,7 mm
STRENGTH MEMBER (DTEX)	≥4.500
TOTAL CABLE DIAMETER	4,5 (±0,1)
WEIGHT	20 kg /km



SINGLE CABLE INDOOR APPLICATION



The single-fiber cable is used for laying inside buildings in the section that reaches the end user directly. It carries the fiber from the optical distribution box (ODB) installed inside the building to the user socket in the home. It can also be used for branching to the vertical cable floor. The CAV-INT-1FO-TIM model is produced with G.657 A2 fiber, and it has a CPR certification Cca, s3, d1, a3.

PRODUCT CODE

CAV-INT-1FO-TIM/ N.M.U. 721143

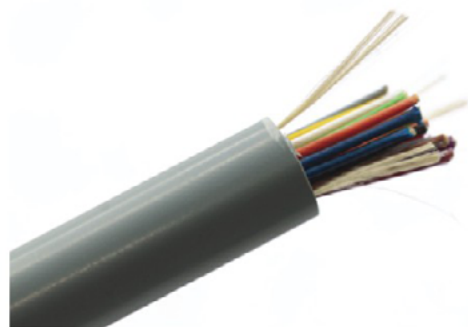
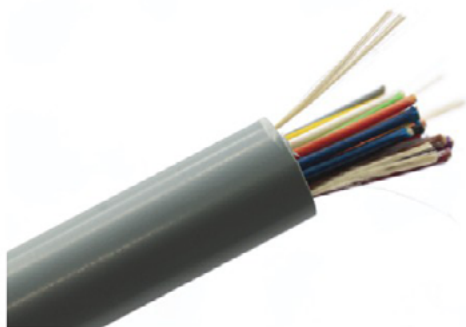
TECHNICAL FEATURES

FIBER TYPE	ITU-T G.657-A2
MINIMUM BENDING RADIUS	10 mm
TENSILE STRENGTH	150 N Δ att. $\leq 0,1$ dB /km
CRUSHING	100 N Δ att. $\leq 0,1$ dB /km
ENERGY IMPACT	1 J N° impatti: 3 Δ att. $\leq 0,1$ dB /km
TEMPERATURE	-10°C /+60°C Δ att. $\leq 0,1$ dB /km
PICOBREAKOUT DIAMETER	0,875 $\pm$ 0,10
INTERNAL JACKET MINIMUM THICKNESS	0,5
STRENGHT MEMBER (DTEX)	≥ 4.500
TOTAL CABLE DIAMETER	2,6 $\pm$ 0,1
WEIGHT	10 kg /km
COLOR	RAL 9002



RISER CABLE

OUTDOOR APPLICATION



The riser cable is used for laying outside buildings in the section preceding the arrival at the user. Each fiber is individually reinforced with Kevlar. It is possible to choose it in two configurations of 12 fibers and 24 fibers of 900um depending on how many real estate units to be served. CPR CLASS Cca, s3, d1, a3.

PRODUCT CODE

CAV-EST-12FO-TIM / Outdoor multifiber cable, dark grey color, TOL12 G.657 A2, ST 922/ST 929 with CPR Euroclass Cca, s3, d1, a3 - MOQ 2.000 meters

CAV-EST-24FO-TIM / Outdoor multifiber cable, dark grey color, TOL24 G.657 A2, ST 922/ST 929 with CPR Euroclass Cca, s3, d1, a3 - MOQ 2.000 meters

TECHNICAL FEATURES

FIBER TYPE	ITU-T G.657-A2
MINIMUM BENDING RADIUS	20 x Ø
MAXIMUM LOAD	500 N
CRUSHING	500 N /10 cm
ENERGY IMPACT	12 J: N. OF IMPACTS 3
TEMPERATURE	-25 / +70°C var. att. ≤0,1dB /km @1550nm
PICOBREAKOUT DIAMETER	0,85 ± 0,05 MM
INTERNAL JACKET MINIMUM THICKNESS	0,6 mm
MIDDLE JACKET MINIMUM THICKNESS	0,7 mm
STRENGTH MEMBER (DTEX)	≥4.500
TOTAL CABLE DIAMETER	4,5 (±0,1)
WEIGHT	20 kg /km



RISER CABLE

INDOOR APPLICATION



The riser cable is used for laying inside buildings in the section preceding the arrival at the user. Each fiber is individually reinforced with Kevlar. It is possible to choose it in two configurations of 12 fibers and 24 fibers of 900um depending on how many real estate units to be served and depending on the possibility of passing through the corrugated pipes existing in the vertical section of the building. CPR CLASS Cca, s3, d1, a3.

PRODUCT CODE

CAV-INT-12FO-TIM / Indoor multifiber cable, light grey color, TOL12 G.657 A2, ST 922/ST 929 with CPR Euroclass Cca, s3, d1, a3 - MOQ 2.000 meters

CAV-INT-24FO-TIM / Indoor multifiber cable, light grey color, TOL24 G.657 A2, ST 922/ST 929 with CPR Euroclass Cca, s3, d1, a3 - MOQ 2.000 meters

TECHNICAL FEATURES

FIBER TYPE	ITU-T G.657-A2
MINIMUM BENDING RADIUS	10 mm
TENSILE STRENGTH	150 N Δ att. $\leq 0,1\text{dB} / \text{km}$
CRUSHING	100 N Δ att. $\leq 0,1\text{dB} / \text{km}$
ENERGY IMPACT	1 J N° impatti: 3 Δ att. $\leq 0,1\text{dB} / \text{km}$
TEMPERATURE	-10°C / +60°C Δ att. $\leq 0,1\text{dB} / \text{km}$
PICOBREAKOUT DIAMETER	0,875 $\pm$ 0,10
INTERNAL JACKET MINIMUM THICKNESS	0,5
STRENGTH MEMBER (DTEX)	≥ 4.500
TOTAL CABLE DIAMETER	2,6 $\pm$ 0,1
WEIGHT	10 kg /km
COLOR	RAL 9002



AERIAL CABLES ADSS

48..72 fibers



96 fibers



144 fibers



192 fibers



- Loose tubes with 12 optical fibers, filled with thixotropic compound - Stranded loose tubes with dummies if necessary
- Central strength member made of FRP with PE coating if necessary
- Cable strand: dry, with water blocking yarns and tape
- Outer sheath: Black HDPE, UV resistant, 2 ripcords under sheath

PRODUCT CODE DS-OUT-CABLES-ADSS

TECHNICAL FEATURES

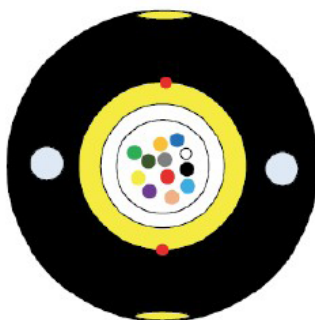
Number of fibers		48	72	96	144	192 200µm
Loose tubes x fibers		4x12	6x12	8x12	12x12	16x12
Loose tubes / Dummies		4/2	6/0	8/0	12/0	I: 4/2 O: 12/0
Loose tube Ø	mm	2.1	2.1	2.1	2.1	2.0
Central Strength Member	mm	2.3	2.3	3.5	6.3(3.5)	2.1
Minimum aramid yarns	dtex	≥20000	≥20000	≥20000	≥25000	≥45000
Outer sheath thickness	mm	1.5			1.6	1.8
Outer diameter (±0.5)	mm	10.3	10.3	11.3	14.4	15.0
Weight /km (± 15%)	kg	87	87	109	162	164



AERIAL CABLES

ADSS DROP CABLE 4-12

4..12 fibers



- Central loose tube with up to 12 optical fibers and jelly inside
- Aramid yarns peripheral strength member with water blocking yarns
- Outer sheath: HDPE, anti-UV, 2 ripcords under the sheath
- 2 parallel FRP rods embedded inside outer sheath
- Colored strips (2, Yellow)

PRODUCT CODE

DS-OUT-CABLES-ADSS-DROP-4-12

TECHNICAL FEATURES

NUMBER OF FIBER	4
PBT Tube Ø	2.5mm
Outer sheath thickness	Nom 1.4mm
Outer diameter	7.0±0.3mm
Weight (±10%)	40kg /km



RETE



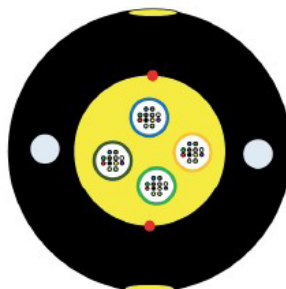
FTTH



AERIAL CABLES

ADSS DROP CABLE 24-48

24..48 fibers



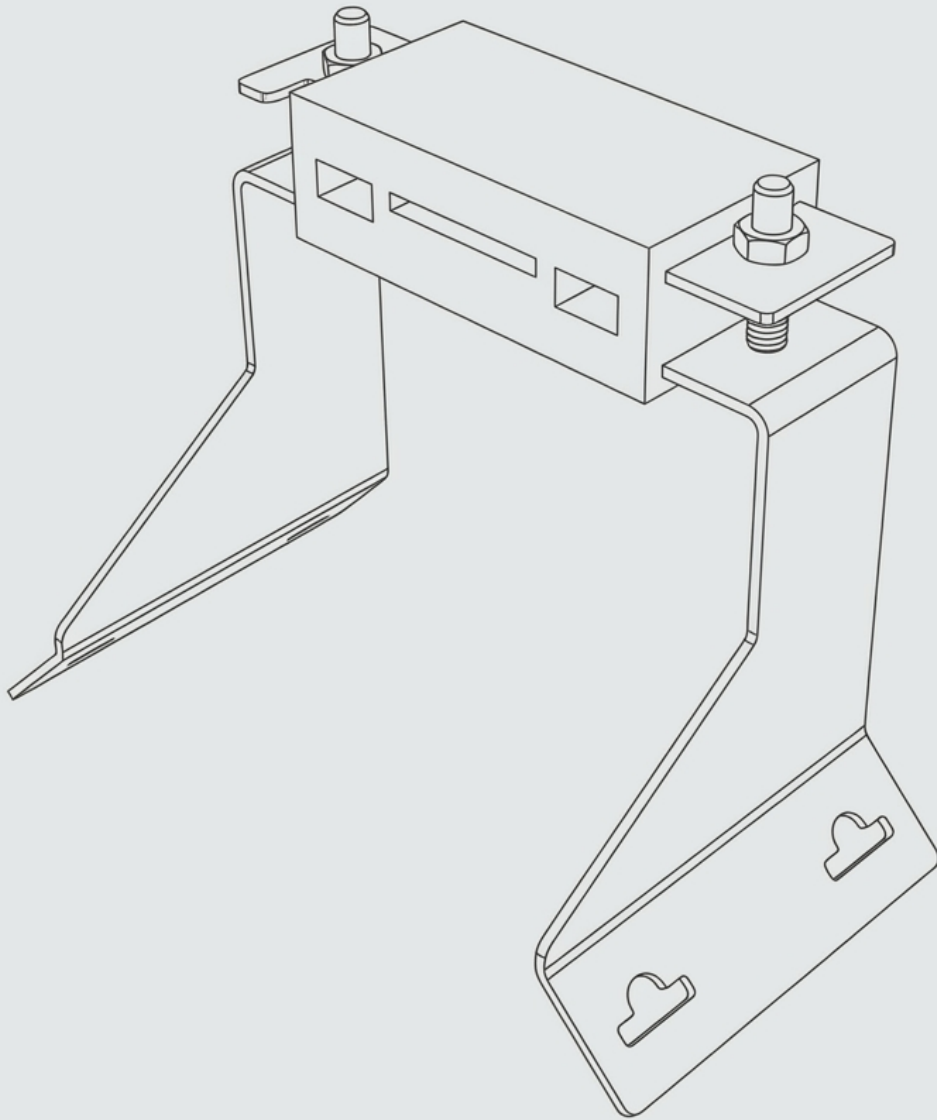
Outdoor aerial installation – 75m span length, NESC Medium, 1% installation sag - Loose tubes with 12 optical fibers, filled with thixotropic compound - Stranded loose tubes with dummies if necessary - Central strength member made of FRP with PE coating if necessary - Cable strand: dry, with water blocking yarns and tape - Outer sheath: Black HDPE, UV resistant, 2 ripcords under sheath

PRODUCT CODE

DS-OUT-CABLES-ADSS-DROP-24-48

TECHNICAL FEATURES

NUMBER OF FIBER	24
Module Ø	1.35mm
Outer sheath thickness	Nom 2.0mm (FRP portion)
Outer diameter	7.7±0.5mm
Weight (±10%)	43kg /km



6

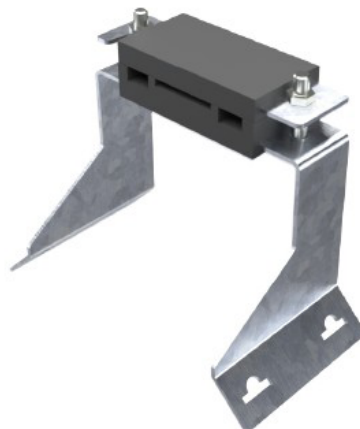


aerial infrastructure



AERIAL INFRASTRUCTURE

CABLE POLE DISTANCER



Cable pole distancer is used for the creation of appropriate distance between the cables being routed along the pole and the pole itself, in case of installation on wooden poles.

PRODUCT CODE
CABLE-DISTANCER

TECHNICAL FEATURES

MATERIAL	HOT DEEP GALVANIZED STEEL
HEIGHT (overall)	240mm
WIDTH (overall)	125mm
POLE DISTANCE TECHNICAL FEATUR	120mm ES:
THICKNESS	3mm



DATACENTER



RETE



FTTH



AERIAL INFRASTRUCTURE

FIBER SLACK POLE DISTANCER



Fiber slack storage pole distancer is used for the creation of appropriate distance between the Fiber slack storage device and the pole, in case of installation on wooden poles.

PRODUCT CODE

FIBER-SLACK-DISTANCER

TECHNICAL FEATURES

MATERIAL	HOT DEEP GALVANIZED STEEL
HEIGHT (overall)	600mm
WIDTH (overall)	Pag 1 di 2 184mm
POLE DISTANC TEECHNICAL FEATU-RES:	120mm
Out Line S.r THICKNESS Tel: +39 06 90405137 F	.l. - Via degli Olmetti, 39D 00060 Formello (RM) - Italia 3mm ax: +39 06 90110315 www.outline.company / P.I. 06661883100



AERIAL INFRASTRUCTURE

FIBER SLACK STORAGE



Fiber slack is a plastic device able to store and manage the fiber optic cable slack or extra length, mainly used for ADSS Cables.

PRODUCT CODE

FIBER SLACK STORAGE

TECHNICAL FEATURES

MATERIAL	PVC+UV
MATERIAL BLOCK Out Line	PA+UV S.r.l. - Via degli Olmetti, 39D 00060 Formello (RM) - Italia





AERIAL INFRASTRUCTURE

CLAMPS FOR CABLES WITH A DIAMETER OF 3-8 MM



The ADSS cable dead-end has designed to anchor and tension ADSS cable in intermediate routes or dead end during outdoor overhead FTTx line constructions. Those are used for Outdoor FTTX fiber optic cable deployment.

PRODUCT CODE

PA-560-B140MM / Clamps for cables with a diameter of 3-8 mm with a bail of 140 mm

PA-560-B260MM / Clamps for cables with a diameter of 3-8 mm with a bail of 260 mm

TECHNICAL FEATURES

CABLE DIAMETER RANGE	from 3mm to 8mm
MAX TENSILE LOAD OF	150 DAN
MAX WEIGHT	100g



AERIAL INFRASTRUCTURE

CLAMPS FOR CABLES WITH A DIAMETER OF 14-18 MM



The ADSS cable dead-end has designed to anchor and tension ADSS cable in intermediate routes or dead end during outdoor overhead FTTx line constructions. Those are used for Outdoor FTTX fiber optic cable deployment.

PRODUCT CODE

PA-3002-B500MM / Clamps for cables with a diameter of 14-18mm with a bail of 500 mm

TECHNICAL FEATURES

CABLE DIAMETER RANGE	from 14mm to 18mm
MAX TENSILE LOAD OF	150 DAN
MAX WEIGHT	100g



AERIAL INFRASTRUCTURE CLAMPS FOR CABLES WITH A DIAMETER OF 8-15 MM



The ADSS cable dead-end has designed to anchor and tension ADSS cable in intermediate routes or dead end during outdoor overhead FTTx line constructions. Those are used for Outdoor FTTX fiber optic cable deployment.

PRODUCT CODE

PA-3603-B360MM / Clamps for cables with a diameter of 8-15 mm with a bail of 360 mm

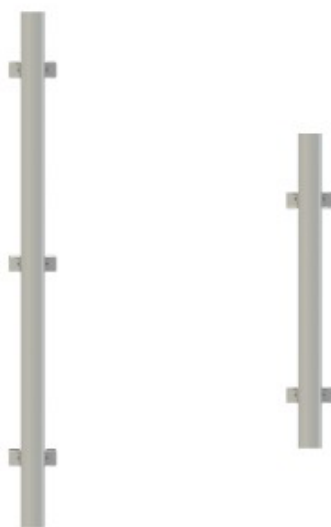
TECHNICAL FEATURES

CABLE DIAMETER RANGE	da 8mm a 15mm
MAX TENSILE LOAD OF	600 DAN
MAX WEIGHT	200g



AERIAL INFRASTRUCTURE

NON METALLIC POLE COVER



The Pole Covers (PC) protect the cables are installed on the poles. There are available in three sizes:

- a) 2 meter long with 6 slots;
- b) 1.5 meter long with 6 slots;
- c) 1 meter long with 4 slots.

Those are ready to be mounted on the pole by using binding tapes. The binding tapes are not part of the offered product. The scope of using covers is to collect and protect the cables are already preinstalled on the pole those are coming up and down from /to the U-shape slack fiber cable storage.

PRODUCT CODE

PC-1.0M / POLE COVER 1meter configuration: • 1pc 1meter length pole cover; • 4pcs slots with screws and nuts.

PC-1.5M / POLE COVER 1.5meters configuration: • 1pc 1.5meters length pole cover; • 6pcs slots with screws and nuts.

PC-2.0M-Ø60MM / POLE COVER 2meters Ø60mm configuration: • 1pc 2meters length Ø60mm pole cover; • 6pcs slots with screws and nuts.

PC-2.0M-Ø35MM / POLE COVER 2meters Ø35mm configuration: • 1pc 2meters length Ø35mm pole cover; • 6pcs slots with screws and nuts.

TECHNICAL FEATURES

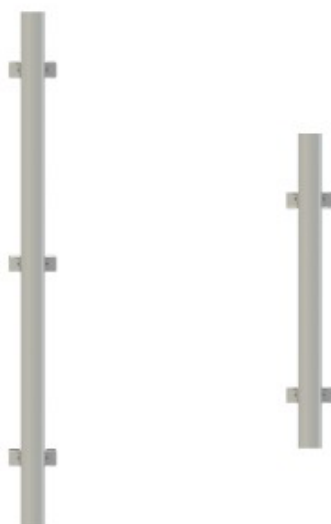
MATERIAL	GF
SCREWS AND NUTS	SUS304 STAINLESS STEEL
HEIGHT	2000mm /1500mm /1000mm
WIDTH	68mm /45.2mm
DEPTH	64.5mm /39.5
COLOR	RAL7035 - other available
PROTECTION LEVEL	IK10 Slot



AERIAL INFRASTRUCTURE

NON METALLIC POLE COVER

OPENABLE



The Pole Covers (PC) protect the cables are installed on the poles. There are available in two sizes:

- a) 1.5 meter long with 6 slots;
- b) 1 meter long with 4 slots.

Those are ready to be mounted on the pole by using binding tapes. The binding tapes are not part of the offered product. The scope of using covers is to collect and protect the cables are already preinstalled on the pole those are coming up and down from /to the U-shape slack fiber cable storage.

PRODUCT CODE

PC-1.0M-V2 / POLE COVER 1meter configuration: 1pc 1meter length pole cover; 4pcs slots with screws and nuts.

PC-1.5M-V2 / POLE COVER 1.5meters configuration: 1pc 1.5meters length pole cover; 6pcs slots with screws and nuts.

TECHNICAL FEATURES

MATERIAL	ABS+GF
SCREWS AND NUTS	GALVANIZED STEEL
HEIGHT	1500mm/1000mm
WIDTH	68mm
DEPTH	64.5mm
COLOR	RAL7035 - other available
PROTECTION LEVEL	IK10 +UV



AERIAL INFRASTRUCTURE

NON METALLIC POLE COVERS

WITH BACK PROTECTION



aerial non-metallic pole covers with back infrastructure protection are used for the protection of cables in case of routing exiting from the top of cabinets installed on wooden poles.

PRODUCT CODE

POLE-COVER-PROT-80

TECHNICAL FEATURES

MATERIAL BACK	HOT DEEP GALVANIZED STEEL
MATERIAL COVER	Glass Fiber
HEIGHT (overall)	800mm
WIDTH (overall)	68mm
POLE DISTANCE	120mm
STEEL THICKNESS	3mm



AERIAL INFRASTRUCTURE

SUSPENSION CLAMPS FOR ABC AND ADSS CABLES



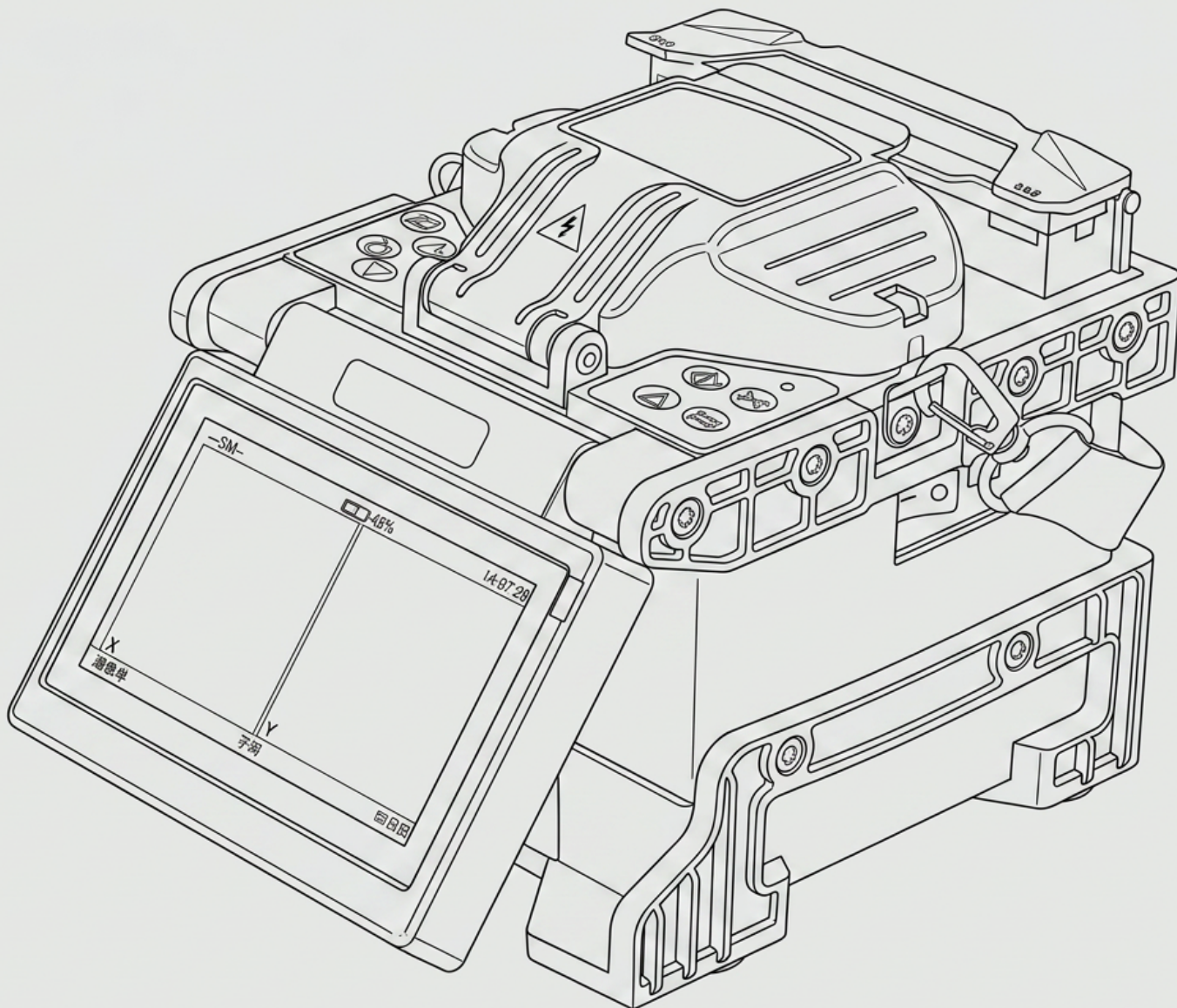
ADSS /Low voltage cable clamp PS-1500 also called ABC cable supporting clamp was designed to attach Low voltage ABC cable to pole during overhead power line distribution. For angles up to 30° towards the pole and up to 50° away from the pole.

PRODUCT CODE

PS-1500 / Suspension Clamps for ABC and ADSS cables diameter from 4,6mm to 11mm

TECHNICAL FEATURES

MATERIAL	require additional tools ABS+GF
• Suspension Clamps SCREWS AND NUTS 11 mm.	for ABC and ADSS cables allow for the installation of cables with d GALVANIZED STEEL
HEIGHT • Suspension Clamps	for ABC and ADSS cable1s5 a0l0lomwm f /o1r0 t0h0em inmstallation of dielectric rop
diameter up to 8 m WIDTH • Suspension Clamps	m, if needed. 68mm for ABC and ADSS cables are suitable to be installed on poles and
DEPTH Suspension Bracket	s for ABC and ADSS cables. 64.5mm
COLOR • Suspension Clamps	for ABC and ADSS caRbAlLe7s 0a3re5 c-oomthpeor saevda iblayb ltehe following compone
• Susp PROTECTION LEVEL • Mov	ension Clamp. IK10 +UV able Connection Element.



7



fiber optic instruments



SPLICING MACHINES

CLADDING ALIGNMENT - FTTH



ACCESSORY
**SHOULDER STRAP FOR SPLICER
MACHINESPLICER MACHINE**



HOL-CON-SUM



HOL-CON-FUJ

This cladding-aligned fusion splicer is designed to work every day for fiber optic splicing. It is small and easy to carry and very robust even if the splicing is performed in the field. This splicer is innovative for fiber optic splicing especially in the creation of FTTH networks for its ease of handling, reliability and the low investment.

PRODUCT CODE

FS-EA-SPL-MK2 / FTTH Splicer machine

FS-EA-SPL-SC / Shoulder strap

HOL-CON-SUM / Sumitomo SOC holder

HOL-CON-FUJ / Fujikura SOC holder

TECHNICAL FEATURES

SPLICING METHOD	V-GROVE (CLADDING)
FIBER TYPE	SMF, MMF 50 /125 μ m fiber, 250 μ m primary jacket and 900 μ m secondary jacket
ACCESSORIES INCLUDED	Fiber holders 2 types (250 μ m and 900 μ m loose type), stripper, cutter
SPLICING SET UPS	2 presets: SMF & MMF
TYPICAL LOSS	0.03dB SMF, 0.01dB MMF
TYPICAL SPLICING TIME	7s + 50s (splicing time + shrinking time in the stove)
SLEEVES DIMENSIONS	Max 64mm, 2-5mm diameter supported by the stove
INTERFACE	USB, mini usb
INTERNAL MEMORY	1MB, External SD-Card
MONITOR	Color LCD, 2.8", 320x240 pixels
	Camera 140x
OPERATING TEMPERATURES	0-40°C, max 95% RH
WEIGHT	800g
DIMENSIONS	230x98x53mm





SPLICING MACHINES

CORE ALIGNMENT - FTTH



This latest-generation fusion splicer, with six-axis positioning, allows fusion on the fiber core in 7 seconds. Lightweight and compact in size, the splicer offers great resistance to shocks and dust. It can splice any type of fiber with very low attenuation thanks to its high level of precision. This type of splicer allows you to operate effectively in work environments such as construction sites and road manholes.

PRODUCT CODE

FS-EA-SPL-MK2 / FTTH Splicer machine

FS-EA-SPL-SC / Shoulder strap

HOL-CON-SUM / Sumitomo SOC holder

HOL-CON-FUJ / Fujikura SOC holder

TECHNICAL FEATURES

SPLICING METHOD	PAS Technology (core alignment)
FIBER TYPE	SSMF, MMF 50 /125 μ m fiber, 250 μ m primary jacket and 900 μ m secondary jacket
ACCESSORIES INCLUDED	stripper, cutter, charger, carrying bag
SPLICING SET UPS	2 presets: SMF & MMF
TYPICAL LOSS	0.02dB SMF, 0.01dB MMF, E 0.05dB DS /NZDS /G.655 /G.657
TYPICAL SPLICING TIME	7s + 30s (splicing time + shrinking time in the stove)
SLEEVES DIMENSIONS	Max 64mm length, 2-5mm diameter supported by the stove
INTERFACE	USB, mini usb
INTERNAL MEMORY	10.000 splices
MONITOR	4.3" color TFT
	Camera 140x
OPERATING TEMPERATURES	-18°C / + 50°C
WEIGHT	2000g (battery included)
DIMENSIONS	122x122x130mm



FIBER CLEAVER

FIBER CLEAVER FOR FMC



The fiber optic cleaver is an high-precision tool that allows cutting the optical fiber at adjustable distances depending on the splicer used, it also allows the replacement of the holder with the one supplied with the mechanical connectors.

PRODUCT CODE

FOSM-740 / Core alignment splicer machine

TECHNICAL FEATURES

HEIGHT	60 mm
WIDTH	56 mm
DEPTH	62 mm
WEIGHT	180 gr
COMPATIBLE FIBER /CABLES	250µm fibre, 900µm fibre, pigtails, drop cables
COMPATIBLE FIBER DIAMETER	125 µm
CUT LENGHT RANGE	5 ÷ 20
CUT ANGLE GUARANTEED	Max 0.5



INSTRUMENTS

FIELD OPTICAL SOURCE



An optical source is an instrument that emits light through a diode or LED at a predetermined wavelength with maximum stability over time in order to measure the optical power and the relative attenuation through an optical power meter or power meter positioned at the other end of the network. The measuring instrument is able to operate in 4 different wavelengths and can be used in applications with single-mode and multi-mode optical fiber.

PRODUCT CODE

OPT-POW-MET-01 / Highly stable field light source supporting two wavelengths @1310nm and @1550nm

TECHNICAL FEATURES

WAVELENGTH	1310 / 1550 nm
SOURCE / DETECTOR	FP-LD
POWER	> -5 dBm @ 1310 / 1550nm frequency modulation
	CW / 270Hz, 1KHz, 2KHz
OPTICAL INTERFACE	FC / PC standard - SC / PC optional
OPERATING TEMPERATURE RANGE	-10 ÷ +60 °C
STOCKING TEMPERATURE RANGE	-25 ÷ +70 °C
AUTOMATIC SHUT-OFF TIME	10 min
BATTERY TIME	60h
DIMENSIONS	155x 76 x 38 mm
POWER SUPPLY	Alkaline batteries (3 AA 1.5V)
WEIGHT (G)	300



INSTRUMENTS

FIELD POWER METER



An optical power meter or power meter is an instrument used to measure the power in an optical signal. The calibrated sensor inside it consists mainly of a photodiode selected for the appropriate wavelength range and power levels. On the display, the measured optical power and set wavelength are shown.

PRODUCT CODE
OPT-LIGH-SOU-01

TECHNICAL FEATURES

WAVELENGTH	850÷1650 nm (850 /980 /1310 /1490 /1550 /1625)
	Resolution 0.01 dBm
SOURCE / DETECTOR	InGaAs
POWER	-70 ÷ +10 dBm
OPTICAL INTERFACE	FC /SC
OPERATING TEMPERATURE RANGE	-10 ÷ +60 °C
STOCKING TEMPERATURE RANGE	-25 ÷ +70 °C
AUTOMATIC SHUT-OFF TIME	10 min
BATTERY TIME	200h
DIMENSIONS	155X 76 X 38 MM
POWER SUPPLY	Alkaline batteries (3 AA 1.5V)
WEIGHT (G)	300



INSTRUMENTS

VISUAL FAULT LOCATOR



The visual or laser fault locator is a tool used to locate fiber faults or stresses due to breaks or unauthorized bending radii.

PRODUCT CODE
VIS-FAULT-LOC-03

TECHNICAL FEATURES

COMPATIBLE CONNECTORS	Con ferula ø 1,25mm - Con ferula ø 2,5mm
WAVELENGTH	650 ±20 nm
OUTPUT POWER	> 1mW
DISTANCE COVERED	5 - 7 Km
MODULATION	Fissa o pulsata
STOCKING TEMPERATURES	-20 / +70 °C - <90% Rh
OPERATING TEMPERATURES	-10 / +60 °C - <90% rh
POWER SUPPLY	n.2 batterie AA
WEIGHT	(GR) 125





INSTRUMENTS AND TOOLS

FTTX INSTRUMENTS



Fiber Optic Stripper



Miller Klevlar Cutter



LC Connector Cleaning Pen 1-Click



SC Connector Cleaning Pen 1-Click



Fiber Optic Cable Stripper



Coax and copper Cable Stripper



DATACENTER



RETE



FTTH





INSTRUMENTS AND TOOLS

FTTX INSTRUMENTS



Isopropyl Alcohol Cleaning Wipes - KIMTECH



Kevlar cutter



Automatic alcohol dispensing bottle



MINIBREAKOUT Cable Stripper Longitudinal



Microscope 400x w/2.2

