



SMART CITIES SOLUTION



SMART CITIES, TOMORROW'S URBAN CHALLENGE

Smart Cities are connected cities established on an infrastructure backbone that improves the management, organisation and design of the area around different focal points. In this way, safety and security, environmental protection, energy management, transport and buildings are transformed and optimised, to make cities more scalable and efficient improve city residents' quality of life.



SMART CITY

The Principle

One of the pillars of a smart city concerns the collection of information, whether it involves environmental sensors (pollution, humidity, temperature, etc.), connected objects or IoT (connected locks, for example) or images captures by cameras (traffic management and urban video surveillance). Together, this will generate a large quantity of data, which will be processed locally to reduce lag time. According to the type of sensor, the information may be analysed in an edge (local) data center or in an urban supervisory control centre for video surveillance cameras.



Your sales contact

With over 30 years' experience in Data and Telecoms networks, FOLAN supports its clients in choosing infrastructure solutions across all the Smart City areas of development. Whether your need concerns smart lighting management in a tunnel, urban video surveillance systems, variable message sign connections, etc. FOLAN supports you in choosing the equipment and hardware that receive and transfer your data:

OUTDOOR BOXES & INDOOR BOXES**8****OPTICAL CABLES****16****PATCH PANELS****20****DATACENTER CABINETS & WALL BOXES****24****ACCESSORIES FOR RACKS & BOXES****26****OVERHEAD ACCESSORIES****30****SEALED CLOSURES****31****OPTICAL PATCHCORDS****32**

FOLAN, THE FRENCH SPECIALIST IN DATA & TELECOMS INFRASTRUCTURE HAS BEEN AT YOUR SERVICE FOR OVER 30 YEARS!

FOLAN, founded in 1988 under the name ICTL, initially specialised in assembling optical connection technology. Our company is now the essential French designer and manufacturer of passive solutions and equipment for fibre-optic networks: core networks, data centers and industries.

At the cutting edge of innovation, FOLAN designs and produces Data & Telecoms network interconnection solutions that meet operators, local authorities and companies' needs.

Involved alongside the France Superfast Broadband plan and local authorities to accelerate the deployment of optical fibre in France, FOLAN has also invested internationally by marketing its products in Europe, the Middle East, Africa and Asia.

WATCH THE VIDEO!



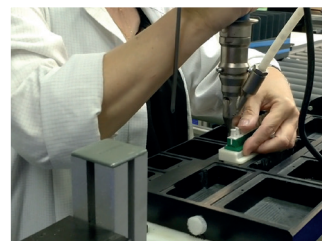
Our strength?

Flexible and responsive teams who listen to our clients!

- **A design office** that designs and tests all our equipment in collaboration with a qualification and product testing laboratory
- **A sales team** of roaming salespeople by your side and office-based salespeople available at any time
- **Production teams** who are responsive and proactive in France, Romania and Asia
- **Quality teams** who inspect all manufacture



+ than 4,000 m² of storage



4 PRODUCTION SITES WORLDWIDE, TO MEET ALL OUR CLIENTS' NEEDS:



LYON – FRANCE:

- For small or medium production runs, customisation and short lead times
- Integration of components (patch panels, racks, etc.) with a dedicated and customisable assembly chain and the possibility of mixed assembly
- Single or two-level preconnectorised risers
- Custom preconnectorised cords and cables
- Standard and specific connectors



SOUTHEND-ON-SEA - UNITED KINGDOM:

- For small and medium production runs



HUNEDOARA – ROMANIA:

- For medium and large production runs, adaptation of standard products
- With a French-speaking department that facilitates discussion



WUHAN – CHINA:

- For very large production runs and standard offers
- With French-speaking employees to supervise production and perform quality control

LOYAL CLIENTS WHO TRUST US:

OPERATORS



DATA CENTERS



PRIVATE OPERATORS



EQUIPMENT MANUFACTURERS



INSTALLERS



PUBLIC INSTITUTIONS



TRANSPORT & ENERGY

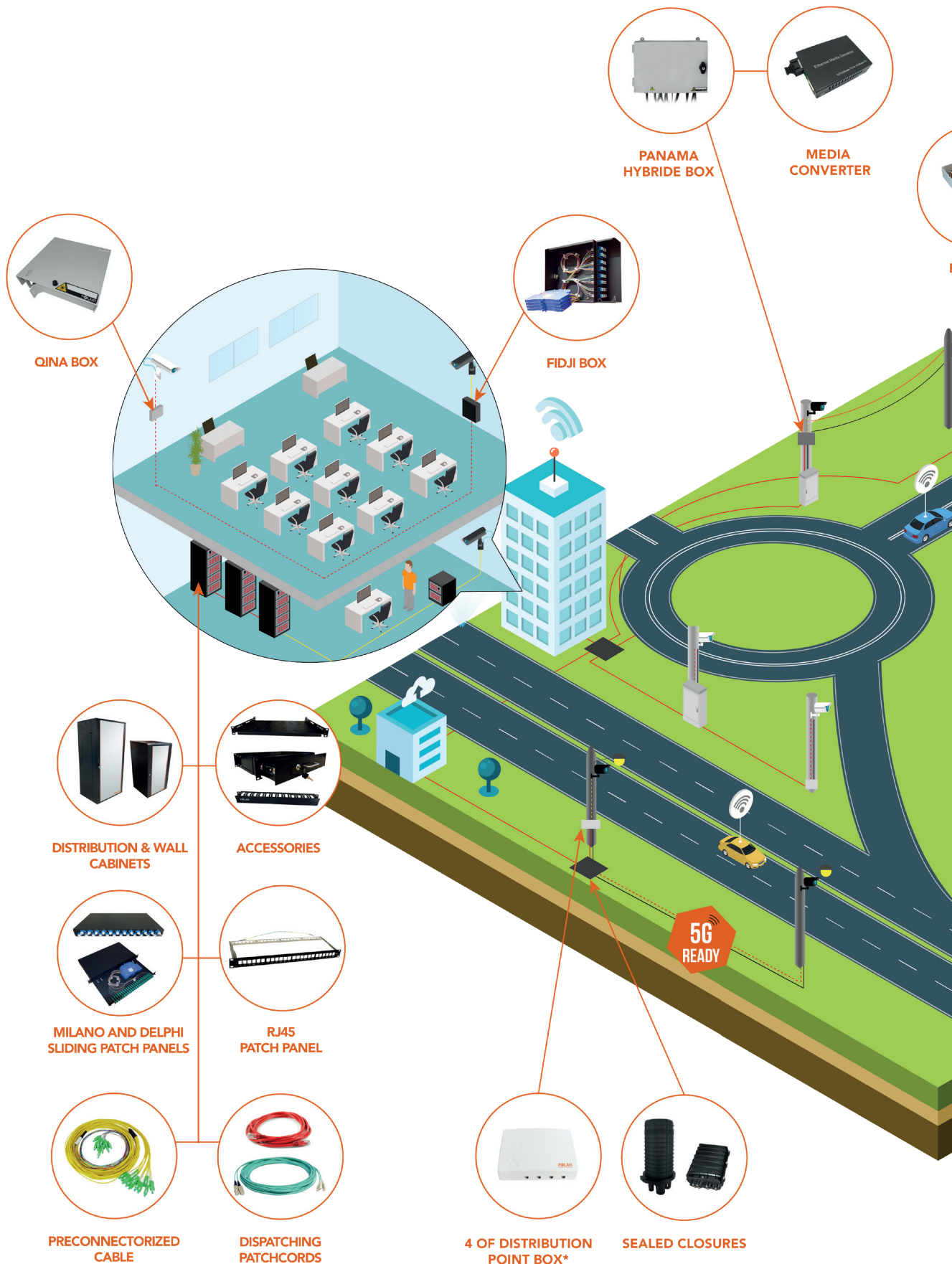


FOLAN IS A MEMBER OF SEVERAL PROFESSIONAL BODIES

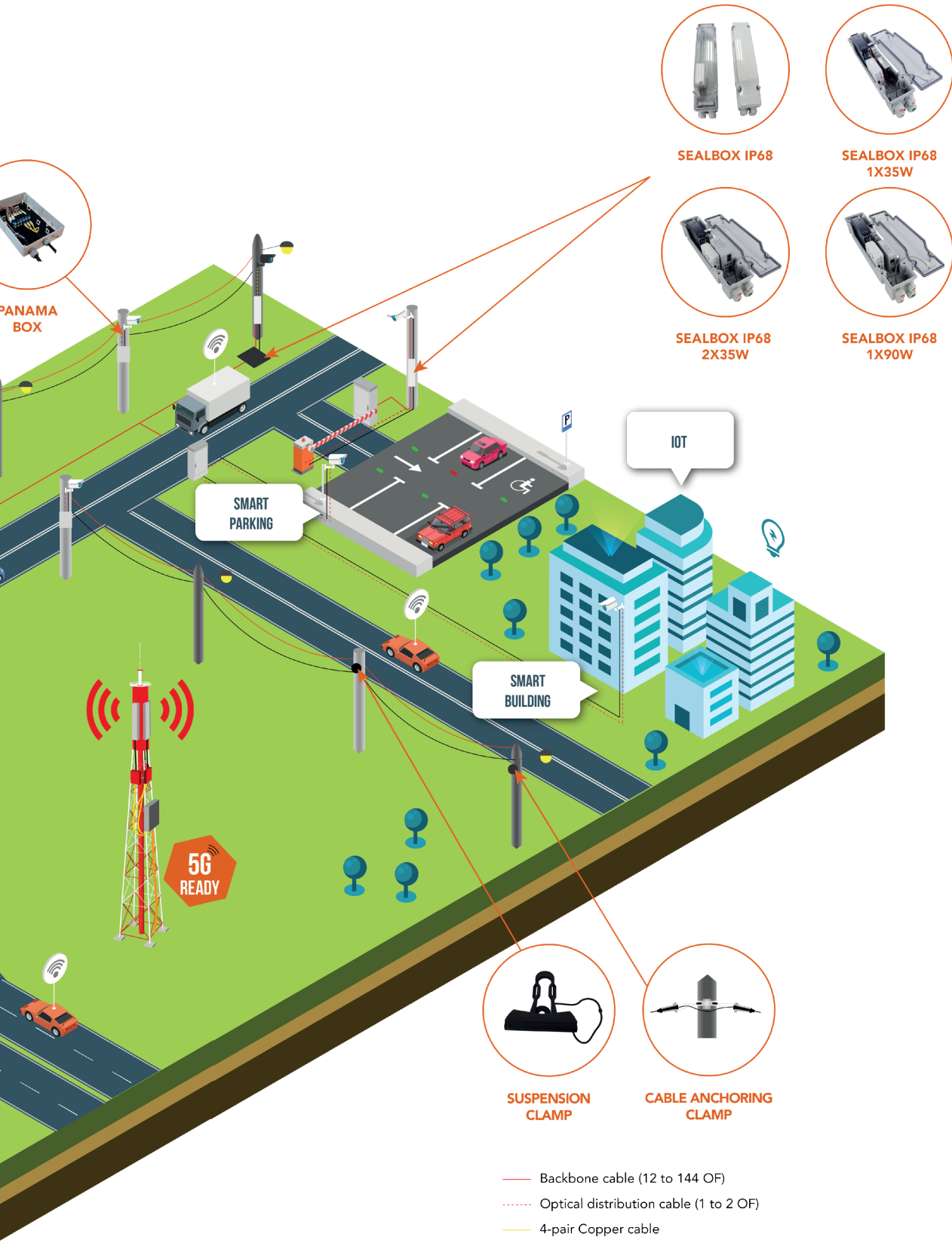


INTERNATIONALLY

- FTTH COUNCIL EUROPE: Development of FTTH in Europe
- FTTH COUNCIL MENA: Development of FTTH in the Middle East and North Africa



FOLAN AND CONNECTED MOBILITY



PANAMA BOX

SMART PARKING

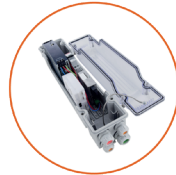
SMART BUILDING

IOT

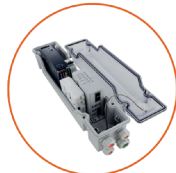
5G READY



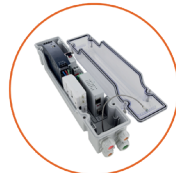
SEALBOX IP68 1X35W



SEALBOX IP68 1X90W



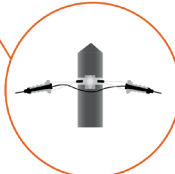
SEALBOX IP68 2X35W



SEALBOX IP68 1X90W



SUSPENSION CLAMP



CABLE ANCHORING CLAMP

- Backbone cable (12 to 144 OF)
- Optical distribution cable (1 to 2 OF)
- 4-pair Copper cable
- 4-pair Outdoor copper cable - category 6A
- 230V Power cable
- Fiber camera with an integrated SFP
- PoE (Power over Ethernet) Camera

* Installation inside the pole requiring the use of a media converter

IP68 SEALBOX

The Sealbox is an IP68 box enabling the connection of urban video surveillance cameras.

Its **IP68 waterproofing** enables any type of installation while guaranteeing a high level of protection for the electrical and electronic equipment installed inside.

Its **transparent front** enables maintenance teams to **see a defect quickly** without having to dismantle the box.

An opaque version is also available to prevent any light pollution if installed on a façade.




In addition to its high level of waterproofing, its dimensions have been optimised to enable **any type of installation** :

- At the top of a lamppost,
- At the top of a mast,
- On a façade,
- In a draw-in box.

NEW!
The first perfectly sealed closure to protect the active hardware in your cameras.



CHARACTERISTICS	
Dimensions (W x H x D mm)	375 x 85 x 120
Tare weight (kg)	1.7
Material/Colour	PC/Grey RAL 7035
Operating temperature	- 40°C to + 125°C
Protection index	IP68
Shock resistance index	IK10
Flame resistance	UL94 V-0
Inputs/Outputs Cable diameter	2 PG11 IP68 cable glands with orange ring for cables Ø 5-10 mm
	1 PG13.5 IP68 cable gland with red ring for cables Ø 7.5-13 mm
	1 PG16 IP68 cable gland with green ring for cables Ø 9.5-15 mm
Cable fastening	With cable gland and inside plate
Accessories included	1 4-fibre junction cassette 2 DIN rails 1 Din rail ground terminal 1 bag of 10 d3 stainless steel screws
Fastening	By hook plate for fastening inside a lamppost By plate for wall and post hanging

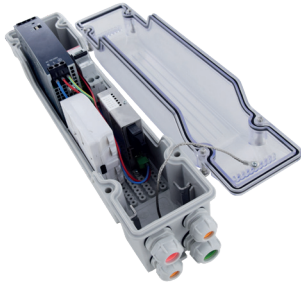
REFERENCES	
SEALBOX IP68 box with transparent cover	305501113
SEALBOX IP68 box with opaque cover	305501114
 Hook plate for lamppost inside fastening 100x45 mm	305991078
 Plate for wall and post hanging 403x40 mm	305991079
 Cable input protection shell	305991080
Simplex SC/SCA patchcord 50 cm	501017374N
Simplex SCA/SCA patchcord 50 cm	501016086N
Simplex LC/SCA patchcord 50 cm	501018168N
Simplex LCA/SCA patchcord 50 cm	501018459N



EQUIPPED IP68 SEALBOX

Three equipped versions exist to cover all cases of power capacity in PoE (Power of Ethernet). These boxes are made in France and CE certified!

Sealbox IP68 - 1 PoE+ port (1x35W)



Equipment included:

- 1 x 4 fibre splice tray
- 1 x 10A circuit breaker
- 1 x 120W 54VDC power supply
- 1 x converter
- 1 RJ45 port, 10/100 PoE+ compatible with IEEE 802.3af (PoE) and IEEE 802.3at (PoE+) standards

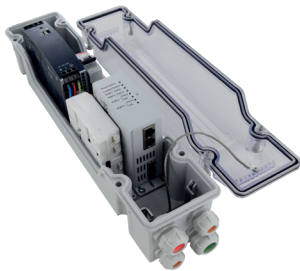
Technical information:

- Weight: 1,4kg
- EMC and electrical safety tested
- CE certified
- Operating temperature range: -20 to +60°C

REFERENCES

Sealbox IP68 PoE 1x35W box with transparent cover	305501124
Sealbox IP68 PoE 1x35W box with opaque cover	305501125

Sealbox IP68 - 2 PoE+ ports (2x35W) + 2 SFP ports



- 1 x 4 fibre splice tray
- 1 x 10A circuit breaker
- 1 x 120W 54VDC power supply
- 1 converter of 4 ports including:
 - 2 RJ45 ports, PoE+ 10/100/1,000 Mbps compatible with IEEE 802.3af (PoE) and IEEE 802.3at (PoE+) standards
 - 2 SFP ports 100/1000 Mbps able to receive optical SFP and RJ45 SFP (SFP not included)

Technical information:

- Weight: 1,7kg
- EMC and electrical safety tested
- CE certified
- Operating temperature range: -20 to +60°C

REFERENCES

Sealbox IP68 PoE 2x35W box with transparent cover	305501126
Sealbox IP68 PoE 2x35W box with opaque cover	305501127

Sealbox IP68 - 1 PoE++ port (1x90W) + 1 SFP port



Equipment included :

- 1 x 4 fibre splice tray
- 1 x 10A circuit breaker
- 1 x 120W 54VDC power supply
- 1 converter of 2 ports including:
 - 1 RJ45 port, PoE++ 10/100/1,000 Mbps compatible with IEEE 802.3af (PoE), IEEE 802.3at (PoE+) and IEEE 802.3bt type 3 and type 4 (PoE++) standards
 - 1 SFP port 100/1,000 Mbps – a dipswitch allows the configuration of the SFP port in 100 or 1,000 Mbps according to the optical SFP inserted (SFP not included)

Technical information:

- Weight: 1,6kg
- EMC and electrical safety tested
- CE certified
- Operating temperature range: -20 to +60°C

REFERENCES

Sealbox IP68 PoE 1x90W box with transparent cover	305501128
Sealbox IP68 PoE 1x90W box with opaque cover	305501129

SHARED REFERENCES

	Hood plate for lamppost inside fastening 100x45 mm	305991078
	Plate for wall and post hanging 403x40 mm	305991079
	Cable input protection shell	305991080
	SFP 100 base FX SM 1310 LCD 15KM	369011254
	SFP 1000 base LX SM 1310 LCD 10KM	369011256
	RJ45 cable 6A S/FTP 8M LSZH Grey	481012434N

PANAMA BOXES

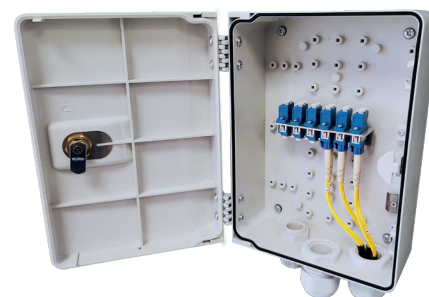
The PANAMA box range includes **plastic boxes** designed to optimise and facilitate the creation of connection infrastructure. Subjected to varying weather conditions, they are perfectly suited to outdoor applications and ensure the connection and distribution (optical and/or power supply) of Smart City applications.

PANAMA COMPACT BOX

The PANAMA COMPACT box includes a **cable input** through a PG16 cable gland and 2 cord outputs through M25 cable glands with a multi-hole ring.

Several box versions are available:

- Basic, non-equipped;
- Pre-equipped:
 - Adaptors for direct connectorisation connection via a preconnectorised cable;
 - Adaptors, pigtails and cassettes for splice connection.



CHARACTERISTICS		
Dimensions (W x H x D mm)	154 x 250 x 90	
Tare weight (kg)	0.8	
Material/Colour	ABS-PC/Light grey	
Operating temperature	- 40 to + 70° C	
Protection index	IP54	
Shock resistance index	IK10	
Direct connectorisation capacity	12 OF	
Splice capacity	12 splices (1 cassette x 12 OF)	
Footprints	12 SC (6 LC Duplex)	
Inputs/Outputs Cable diameter	1 PG16 cable gland for cables Ø ≤ 14 mm	2 M25 cable glands with multi-hole ring for 3 cables Ø 5-7 mm
Cable fastening	With cable glands	
Accessories included	Cable guide Plastic clamp rings Wall fastening kit	
Options	Post fastening kit	
Fastening	Wall with 4 screws (included) or on a post (optional)	

REFERENCES			
	Adaptors	Pigtails	References
Basic version	-	-	621281001
Direct connectorisation version	LC-UPC Duplex	-	622281016
Splice version	LC-UPC Duplex	G652D	622281004

PANAMA BOX

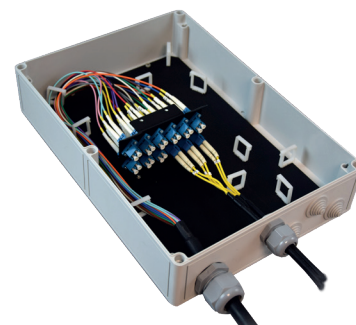
Very easy to use, the PANAMA box includes a **cable input** through an M32 cable gland and up to **4 cord outputs** through M25 cable glands.

Connection operations are through **direct connectorisation** via a plate that can hold up to 24 fibres (12 LC Duplex adaptors).

Depending on needs, the PANAMA box can also accept **splicing management** via the integration of one or two FOLAN 12-splice cassettes.

Several box versions are available:

- Basic, non-equipped;
- Pre-equipped:
 - Adaptors for direct connectorisation connection via a preconnectorised cable;
 - Adaptors, pigtails and cassettes for splice connection.



CHARACTERISTICS		
Dimensions (W x H x D mm)	215 x 360 x 111	
Tare weight (kg)	2.8	
Material/Colour	ABS-PC/Light grey	
Operating temperature	- 40 to + 70° C	
Protection index	IP66	
Shock resistance index	IK08	
Direct connectorisation capacity	24 OF	
Splice capacity	12 splices (2 cassettes x 12 OF)	
Footprints	12 SC (12 LC Duplex)	
Inputs/Outputs Cable diameter	1 M32 cable gland for cables Ø 12-20 mm	4 M25 cable glands with multi-hole ring for 3 cables Ø 5-7 mm
Cable fastening	With cable glands	
Accessories included	Cable guide	
Options	Post fastening kit	
Fastening	Wall with 4 screws (not included) or on a post (optional)	

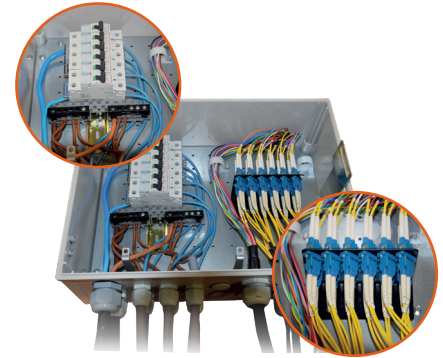
REFERENCES			
	Adaptors	Pigtails	References
Basic version	-	-	621191006
Direct connectorisation version	LC-UPC Duplex	-	622191003
Splice version	LC-UPC Duplex	G652D	622191020

PANAMA HYBRID BOX

Especially compact and lightweight, the PANAMA Hybrid box provides the optical link part and the power supply part with **two separate areas**: one for **fibre management** and the other for **energy management**.

The energy part can receive **circuit breakers and electric terminal blocks**.

For the fibre, connection operations are through **direct connectorisation** via a plate that can hold up to 24 fibres (12 LC Duplex adaptors) as well as a coiling area.



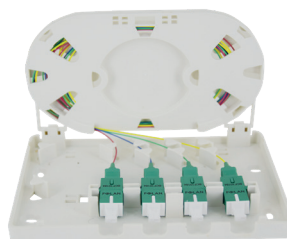
CHARACTERISTICS			
Dimensions (W x H x D mm)		415 x 300 x 185	
Tare weight (kg)		2.5	
Material/Colour		ABS-PC/Light grey	
Operating temperature		- 40 to + 70° C	
Protection index		IP55	
Shock resistance index		IK10	
Direct connectorisation capacity		24 OF	
Footprints		12 SC (12 LC Duplex)	
Inputs/Outputs Cable diameter	FIBRE	2 M32 cable glands for cables Ø 12-20 mm	4 M25 cable glands with multi-hole ring for 3 cables Ø 5-7 mm
	ENERGY	2 M32 cable glands for cables Ø 12-20 mm	8 M20 cable glands for 3 cables Ø 8-13 mm
Cable fastening		With cable glands	
Accessories included		Cable guide	
Options		Post fastening kit Grounding input cables and the box 3 or 6 20 A C20 circuit breakers	
Fastening		Wall with 4 screws (not included) or on a post (optional)	

REFERENCES		
	Adaptors	References
Basic version	-	621231003
Direct connectorisation version	LC-UPC Duplex	622231008
Up to 6 circuit breakers available as an option		

OPTICAL WALL BOX

The Optical Wall Box is the ideal solution for any installation of terminal equipment at the end of the optical network. This box is the last **Distribution Point** of the fibre network before conversion into copper for connection to peripheral devices.

Compact and easy to use, the optical wall box is placed as close as possible to the user's desk, fastened on the wall.



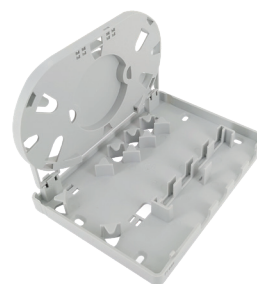
1 to 4 fibres

CHARACTERISTICS

Dimensions (W x H x D mm)	150 x 110 x 32
Material/Colour	PC-ABS plastic/White
Capacity	4 OF
Splice capacity	4 splices (1 cassette x 4 OF)
Footprints	SC Simplex, FC, E2000
Inputs/Outputs Cable diameter	2 For cable Ø 4 mm on the right and Ø 10 mm at the back
Cable fastening	Plastic clamping rings (not included)
Fastening	Wall with screws and wall plugs (not included)

Several optical wall box versions are available:

- Basic, non-equipped;
- Pre-equipped:
 - Adaptors for direct connectorisation connection via a preconnectorised cable;
 - Adaptors, pigtails and cassette for splice connection.



REFERENCES

	Adaptors	Pigtails	References
Basic version	-	-	621151001
Direct connectorisation version	SC-UPC SM	-	622151010
	SC-PC MM	-	622151004
Splice version	SC-APC SM	G652D	622151015
	SC-APC SM	G657A2	622151025
	SC-PC MM	OM3	622151001

QINA BOXES

With its 12-optical fibre capacity and its small size, the Qina box is the 'slim' junction box solution. It adapts to all installation configurations.

A pigtailisation (splicing on pigtails) connection is possible via the FOLAN 12-splice cassette, as well as a direct connection via the adaptor support plate, protected in a compact compartment that can be padlocked.



CHARACTERISTICS

Dimensions (W x H x D mm)	180 x 197 x 47.5
Weight (kg)	1.1
Material/Colour	Steel/Light grey
Direct connectorisation capacity	12 OF
Splice capacity	12 splices (1 cassette x 12 OF)
Footprints	12 SC 8 ST
Inputs/Outputs Cable diameter	1 input/output through the bottom of the box For cable $\varnothing \leq 15$ mm
Cable fastening	With plastic clamping rings
Accessories included	Plastic clamping ring, cable guide, retubing jacket
Options	Fastening on DIN rail
Fastening	Wall with 4 screws (not included)

REFERENCES

Basic version	-	621251002
Direct connectorisation version	SC-APC SM	622251024
Splice version	SC-APC SM	622251002

There are other configurations available!

FIDJI BOXES

With a capacity from **24 to 48 optical fibres** and a **small size**, Fidji boxes can be seamlessly installed in small technical rooms, when a rack or box cannot be installed.

These very compact boxes that can be padlocked receive adaptor plates enabling them to be adapted to all installation configurations. The coiling area guarantees that the fibre bending radius is observed and the pivoting cassettes offer easy and convenient access to fibres and splices, while protecting them effectively.

On request, the boxes can be equipped with a module protecting the adaptors and patchcords, which can also be padlocked, including outputs through the top and bottom.



CHARACTERISTICS

	FIDJI 12	FIDJI 24
Dimensions (W x H x D mm) With protection module	180 x 150 x 94 257 x 150 x 94	250 x 240 x 104 327 x 240 x 104
Weight (kg) excluding screws With protection module	1 1.5	2 2.5
Material/Colour	Steel/Black	
Direct connectorisation capacity	24 OF	48 OF
Splice capacity	24 splices (2 cassettes x 12 OF)	48 splices (4 cassettes x 12 OF)
Footprints	6 SC Duplex 12 SC 12 ST 24 LC Duplex	24 SC Duplex 24 SC 24 ST 48 LC Duplex
Inputs/Outputs Cable diameter	Pre-cut at the top and bottom 2 cables ≤ 15 mm to 6 cables ≤ 8 mm	
Cable fastening	With plastic clamping rings and cable stops	
Accessories included	Cable guides, clamping rings and SC or ST plugs	
Options	Protection module, fastening on DIN rail	
Fastening	Wall with 4 screws (not included) and nylon spacers (included)	

REFERENCES

	Adaptors	Pigtails	FIDJI 12	FIDJI 24
Basic version	SC footprints	-	621081005	621091069
Direct connectorisation version	SC-APC SM		622081092	622091227
	SC-PC Duplex MM		622081048	622091219
Splice version	SC-UPC SM	G652D	622081086	622091159
	SC-PC Duplex MM	OM3	622081386	622091197

The references are given for the maximum optical fibre capacity but other configurations are possible!

MICROMODULE CABLES

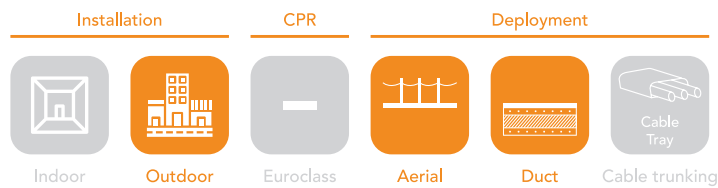
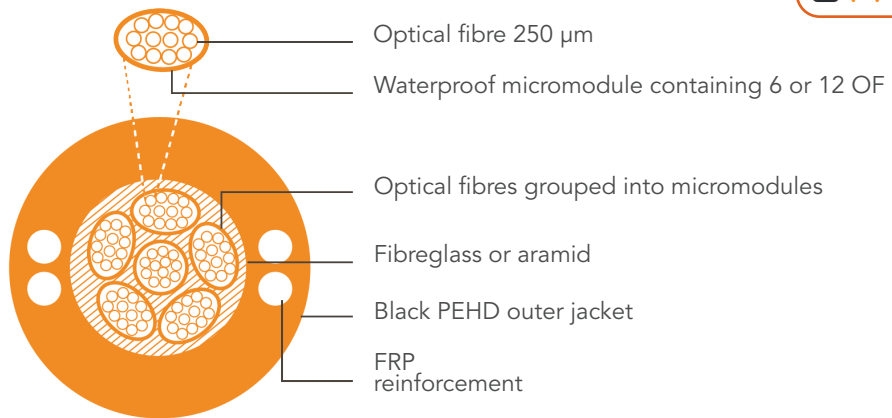
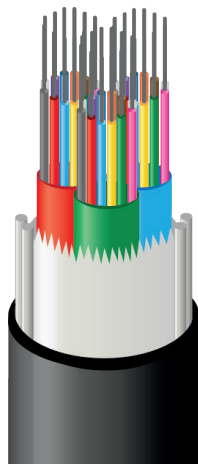
FOLAN micromodule cables have a **lightweight and compact ADSS structure** for very easy handling. This makes them especially suitable for overhead deployment over short ranges (less than 60m) as well as for duct installation by pulling or blowing.

Type of fibre: Monomode G652D or G657A2

Capacity: 12 to 288 optical fibres

MICROMODULE CABLE – GCMG MICROMODULE – BLACK PEHD JACKET – DUCT AND OVERHEAD

**CABLE CUTTING
ON VIDEO!**



CHARACTERISTICS	
Installation	In a duct by pulling or blowing (air or water) and overhead for ranges ≤ 60 m
Structure	Micromodule of 6 or 12 OF
Capacity	12 to 288 OF
Dielectric	Armour
Diameter (mm)	6.5 to 16.5
Weight (kg/km)	32 to 160
Outer jacket	Black PEHD
Colour code (fibre and modulo)	Red, Blue, Green, Yellow, Purple, White, Orange, Grey, Brown, Black, Turquoise and Pink
Euroclass	-

REFERENCES

MONOMODE 9/125 μm			
	G652D	G657A2	
Capacity	Modulo 12 OF	Modulo 12 OF	Modulo 6 OF
12 OF	127121012	127121013	127121014
24 OF	127241015	127241016	127241017
36 OF	127361008	127361009	127361010
48 OF	127481014	127481015	127481016
72 OF	127721011	127721012	127721013
96 OF	127961007	127961008	127961009
144 OF	127441004	127441005	127441006
288 OF	127881001	127881002	-

REFERENCE AVAILABLE CUTTING

MONOMODE 9/125 μm		
	G652D	G657A2
Capacity	Modulo 12 OF	
12 OF	127121012	127121013
24 OF	127241015	127241016
48 OF	127481014	127481015
72 OF	127721011	127721012
96 OF	127961007	-



BREAKOUT CABLE AND REINFORCED BREAKOUT

Generally used to connect an active item of equipment to the front of a passive item of equipment, Breakout cables comprise a **set of 2 mm patchcords** grouped in a jacket whose material may vary according to the applications. They are particularly suitable for 'Plug & Play' solutions within Smart City networks, due to the possibility to preconnectorise them.

Type of fibre: Monomode G652D or Multimode OM1, OM2, OM3 and OM4

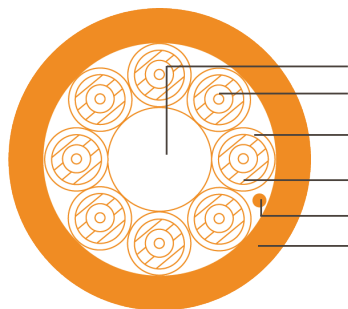
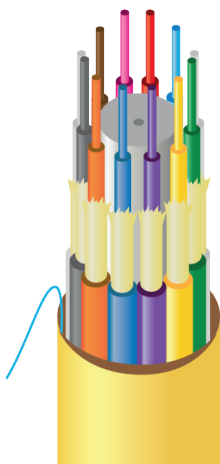
Capacity: 2 to 24 optical fibres

CHARACTERISTICS		
	Breakout	Reinforced breakout
Installation	Cable conduit	Duct by pulling and cable conduit
Structure	Breakout	
Capacity	2 to 24 OF	
Dielectric	Armour	
Anti-rodent protection	Aramid	Fibreglass braid
Diameter (mm)	7.5 to 15	8.2 to 15.4
Weight (kg/km)	50 to 238	75 to 225
Outer jacket	LSZH-FR G652D: Yellow OM1: Orange OM2: Grey OM3: Turquoise OM4: Magenta	LSZH-FR black
Colour code	Blue, Orange, Green, Brown, Grey, White, Red, Black, Yellow, Purple, Pink and Turquoise	
Euroclass	Fca	Dca

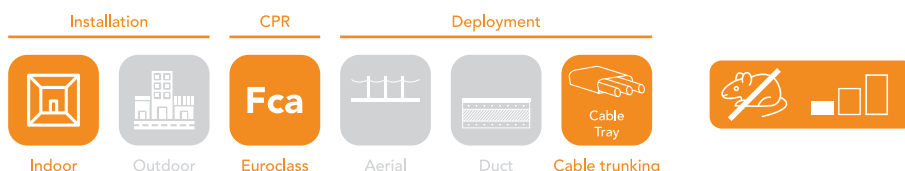
BREAKOUT CABLE – GCB

BREAKOUT – COLOURED LSZH-FR JACKET – CABLE CONDUIT

Applications: The structure of the Breakout cable enables the assembly of connectors directly on the strands. It is recommended for the creation of internal links within Smart City networks for direct connectorisation. It is ideally installed in a cable conduit.



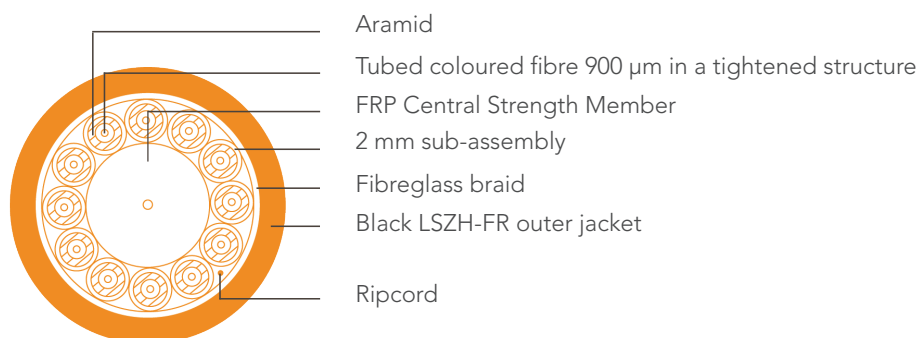
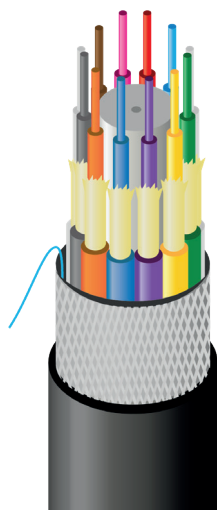
- FRP Central Strength Member
- Tubed coloured fibre 900 µm in a tightened structure
- Coloured 2 mm sub-assembly
- Aramid
- Ripcord
- Coloured LSZH-FR outer jacket




REINFORCED BREAKOUT CABLE – GCBR

BREAKOUT – BLACK LSZH-FR JACKET – DUCT AND CABLE CONDUIT


Applications: Rodent-resistant thanks to its fibreglass braid, the reinforced Breakout cable is recommended for internal and external links. Especially suitable for horizontal and vertical links, it can be installed in a duct or cable conduit for applications between or inside buildings.




Installation CPR Deployment



Indoor




Outdoor




Dca


Euroclass




Aerial



Duct



Cable Tray



REFERENCES				
	Capacity	MONOMODE	MULTIMODE	
		9/125 µm	50/125 µm	
		G652D	OM3	OM4
GCB	2 OF	121021009	121021018	-
	6 OF	121061024	121061030	121061034
	12 OF	121121028	121121035	121121042
	24 OF	121241007	121241012	121241021
GCBR	2 OF	121021014	-	-
	6 OF	121061027	121061031	121061033
	12 OF	121121031	121121038	121121041
	24 OF	121241010	121241017	121241020

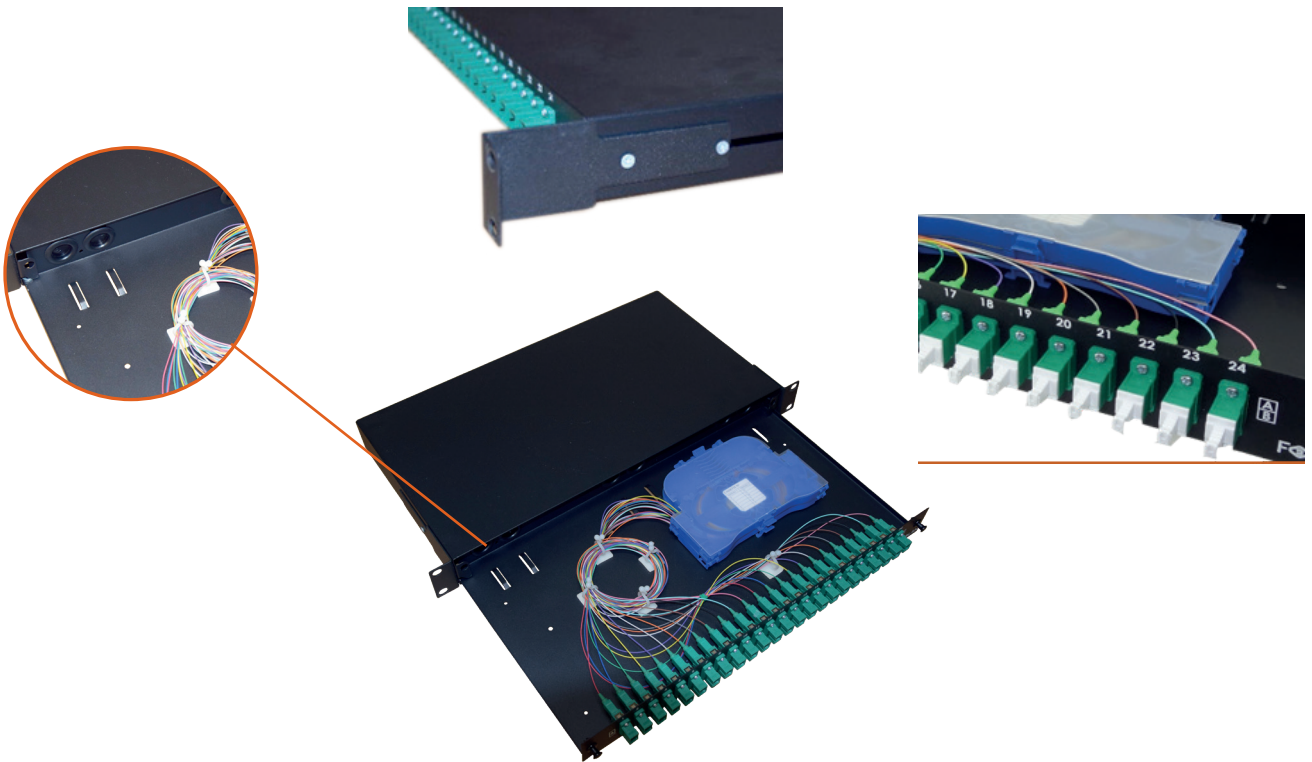
Other type of fibre are available on request!

PATCH PANELS

MILANO PATCH PANELS

The MILANO patch panel is a **sliding patch panel** developed to meet connection needs through the **direct connectorisation** of 48 fibres on 1 U. It is installed in 19" racks and boxes.

Configurable and economical, it is also available with adaptors, pigtails and cassettes for the **connection by pigtailisation** (splicing on pigtails) of up to 36 optical fibres on 1 U.

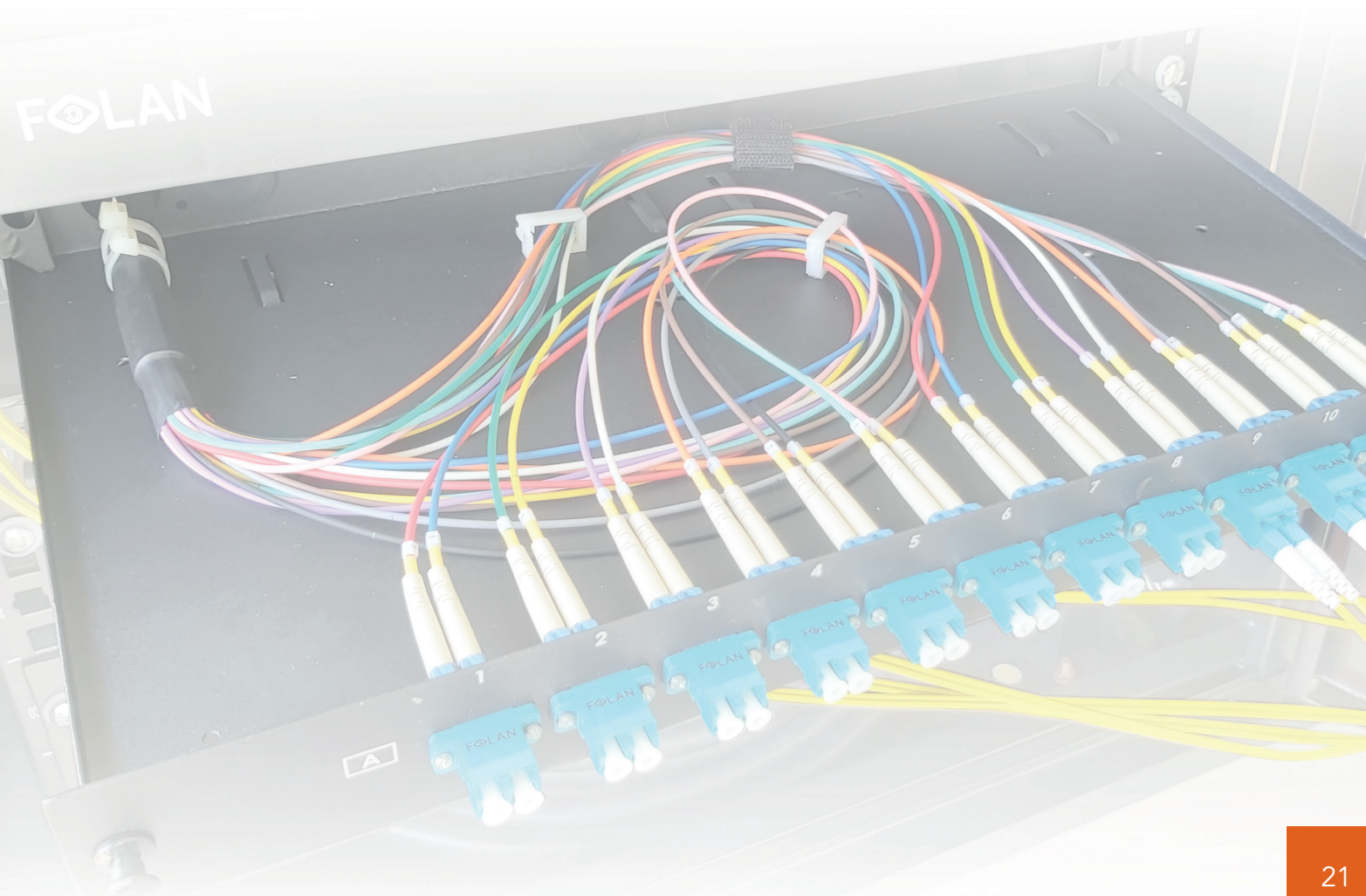


CHARACTERISTICS

Height	1 U
Dimensions (W x H x D mm)	480 x 44 x 240
Weight (kg) excluding screws	2.25
Material/Colour	Steel/Black
Centre distance	19" ETSI - 21" as an option
Direct connectorisation capacity	48 OF
Splice capacity	36 splices (3 cassettes x 12 OF)
Identification	In line
Patching	In line
Footprints	12 SC 24 SC 12 ST 24 ST 12 SC Duplex 24 SC Duplex

REFERENCES				
	Adaptors	Pigtails	12	24
Direct connectorisation version	SC-UPC SM	-	612491302	612491364
	SC-PC MM		612491301	612491339
	LC-UPC Duplex SM		612491306	612491223
	LC-PC Duplex MM		612491244	612491328
	SC-UPC Duplex SM		612491282	612491314
	SC-PC Duplex MM		612491351	612491284
Splice version	SC-UPC SM	G652D	612491287	612491352
	SC-PC MM	OM3	612491315	612491303
	SC-PC MM	OM4	612491380	612491381
	LC-UPC Duplex SM	G652D	612491293	Available with a maximum ca- pacity of 36 splices
	LC-PC Duplex MM	OM3	612491340	
	LC-PC Duplex MM	OM4	612491323	
	SC-UPC Duplex SM	G652D	612491360	
	SC-PC Duplex MM	OM3	612491309	
	SC-PC Duplex MM	OM4	On request	

The references are given for the maximum optical fibre capacity but other configurations are possible!



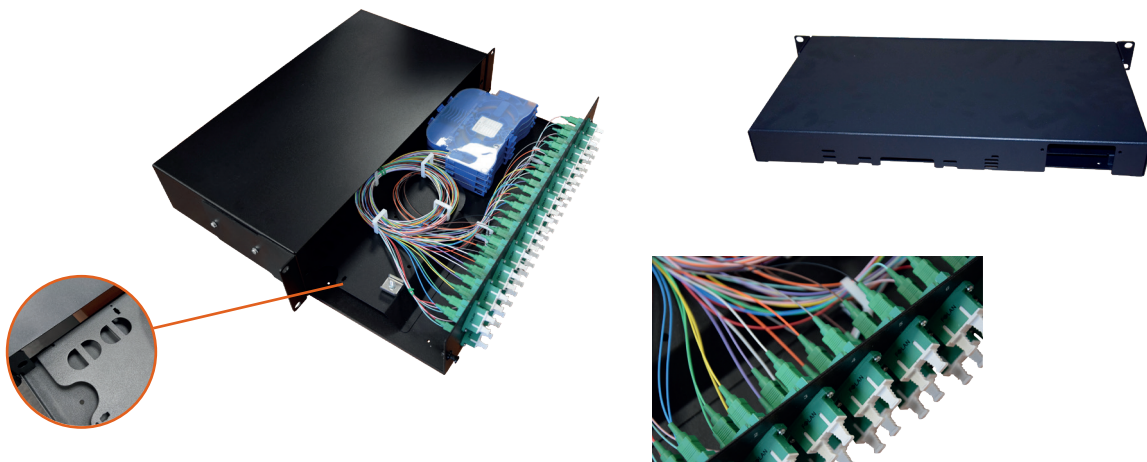
DELPHI PATCH PANELS

DELPHI patch panels have been developed to meet the needs of connection by **pigtailisation** (splicing on pigtails). They are installed in 19" racks and boxes.

DELPHI patch panels come with a **broad range of fastenings** for input cables, on the fixed frame on or then sliding tray to fit optimally in all deployment configurations.

Perfectly suited to demanding environments requiring **enhanced anti-rodent protection**, they may be equipped (as an option) with cable inputs with glands and a cable stop on the sliding tray.

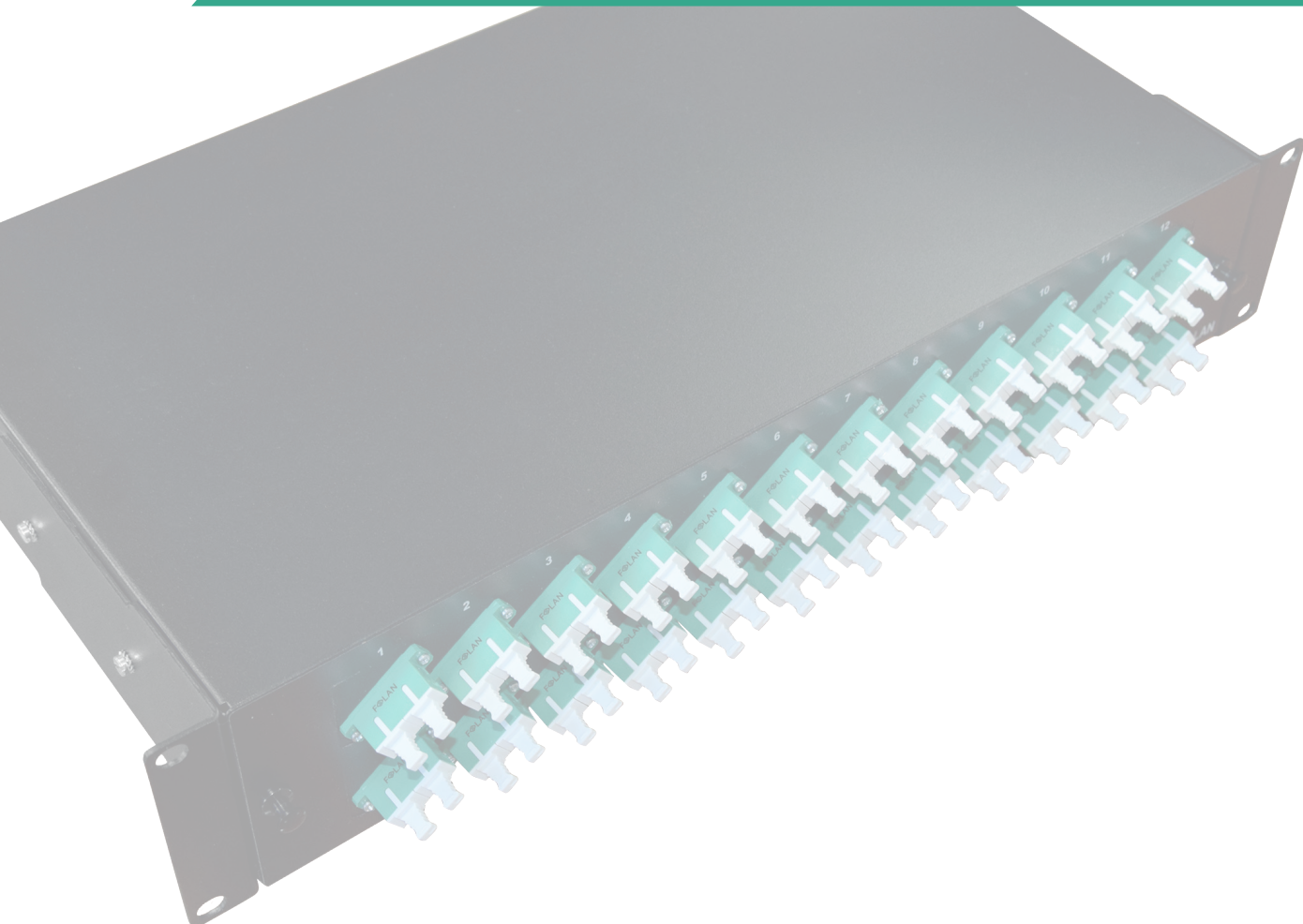
They enable you to connect up to **48 optical fibres on 1 U** and **96 optical fibres on 2 U** by splicing.



CHARACTERISTICS		
	T1D	T2D
Height	1 U	2 U
Dimensions (W x H x D mm)	480 x 44 x 240	480 x 88 x 240
Weight (kg) excluding screws	2.7	3.5
Material/Colour	Steel/Black	
Centre distance	19" ETSI - 21" and 23" as an option	
Direct connectorisation capacity	48 OF	96 OF
Splice capacity	48 splices (4 cassettes 12 OF)	96 splices (8 cassettes 12 OF)
Identification	In line	
Patching	In line	
Footprints	12 SC 24 SC 12 ST 24 ST 12 SC Duplex 24 SC Duplex	48 SC 48 ST 24 SC Duplex

REFERENCES					
	Adaptors	Pigtails	T1D 12	T1D 24	T2D 48
Cable input kit with 2 PG13 cable glands			613001066		613001076
Splice connectorisation version	SC-UPC SM	-	612071658	612071324	612081186
	SC-PC MM		612071430	612071728	612081054
	LC-UPC Duplex SM		612071670	612072616	On request
	LC-PC Duplex MM		612071510	612071592	
	SC-UPC Duplex SM		612071132	612072624	
	SC-PC Duplex MM		612071054	612072972	
Splice version	SC-UPC SM	G652D	612072236	612072248	612081369
	SC-PC MM	OM3	612072272	612072288	612081404
	SC-PC MM	OM4	612072898	612072897	612081420
	LC-UPC Duplex SM	G652D	612072240	612072252	612081273
	LC-PC Duplex MM	OM3	612072274	612072290	On request
	LC-PC Duplex MM	OM4	612072900	612072940	
	SC-UPC Duplex SM	G652D	612072256	612072260	612081185
	SC-PC Duplex MM	OM3	612072302	612072308	On request
	SC-PC Duplex MM	OM4	612072777	612073011	

The references are given for the maximum optical fibre capacity but other configurations are possible!



DATACENTER CABINETS

19" racks and boxes enable dispatching and are designed to incorporate fibre-optic **terminal equipment** as well as the **active equipment** necessary for the deployment of network architecture. They enable you to manage **high densities** of optical fibres and RJ45 patchcords via simple, intuitive, orderly and rapid cabling. FOLAN racks and boxes are available in **different widths, heights and depths** and will fit seamlessly into technical rooms or urban supervisory control centres.

19" DATACENTER CABINETS

Configurable according to needs, 19" racks are equipped as standard with:

- a 5 mm thick tempered glass front door;
- a 70 % perforated back door;
- removable side panels;
- 4 numbered and height-adjustable 19" vertical posts;
- 4 castors, 2 of which have brakes;
- 4 adjustable feet;
- pre-cut holes for cables on the bottom and top of the rack;
- adjustable cable inputs on the bottom of the rack (shutter plates);
- a ventilated top allowing the connection of a ventilation kit.



CHARACTERISTICS			
Height (U)	22	27	42
Width (mm)	600 800		
Depth (mm)	600 800 1000 1200		
Weight excluding accessories (kg)	53 to 147		
Material/Colour	Steel/Black		
Protection index	IP20		
Maximum load (kg)	800		
Cable inputs	Precut holes: 1 on the top and 2 at the back Adjustable on the bottom with shutter plates		
Packaging	Delivered assembled or in a kit		
Options	Lock for side panels Brush plate for cable inputs Additional screw set Grounding Vertical management duct Door change (for 42 U rack: full door, double door, etc.)		

REFERENCES					
Height (U)	Width (mm)	P 600 (mm)	P 800 (mm)	P 1000 (mm)	P 1200 (mm)
22	600	304501123	304501143	-	-
	800	304501144	304501145		
27	600	304501146	304501147	-	-
	800	304501148	304501149		
42	600	304501124	304501154	304501125	304501155
	800	304501126	304501127	304501128	304501156

37 U and 47 U heights available on request!

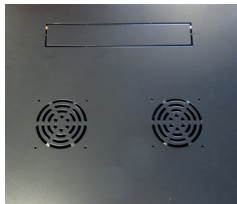
WALL BOXES

19" WALL BOXES

Wall boxes are preferable if there is a low amount of equipment to be included or when installing in restricted spaces.

They include, as standard:

- a 5 mm thick tempered glass front door;
- a full back panel;
- removable side panels;
- 4 numbered and height-adjustable 19" vertical posts;
- pre-cut holes for cables on the back and top of the box;
- wall fasteners;
- a ventilated top allowing the connection of a ventilation kit.



Top of the box



Wall fastening system



Numbered 19" posts

CHARACTERISTICS

Height (U)	6	9	12	15	18	22
Width (mm)	600					
Depth (mm)	450 600					
Weight excluding accessories (kg)	19 to 43					
Material/Colour	Steel/Black					
Protection index	IP20					
Maximum load (kg)	60					
Cable inputs	Precut holes: 1 on the top and 1 at the back					
Packaging	Delivered assembled or in a kit					
Options	Lock for side panels Brush plate for cable inputs Additional screw set Grounding					

REFERENCES

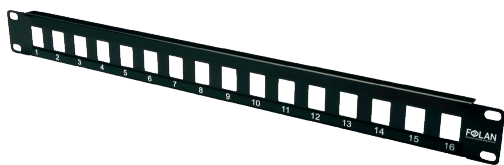
Height (U)	Width (mm)	P 450 (mm)	P 600 (mm)
6	600	304501138	304501132
9		304501129	304501133
12		304501130	304501134
15		304501131	304501135
18		-	304501136
22		-	304501137

DISTRIBUTION PATCH PANELS

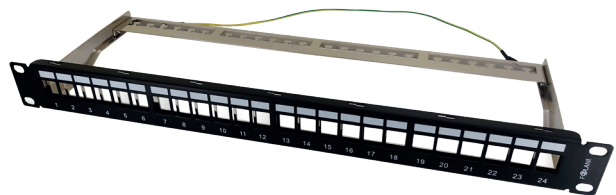
RJ45 DISTRIBUTION PATCH PANELS

RJ45 distribution patch panels are the ideal solution in terms of implementation and cost. Compatible with all 19" racks and boxes, they meet the dispatching and copper connection needs simply through the digital identification of each port.

16-PORT PANEL



24-PORT PANEL

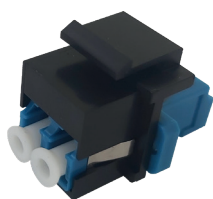
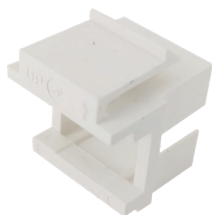
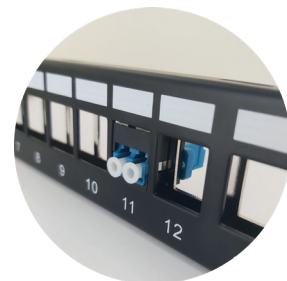


CHARACTERISTICS		
	16-port panel	24-port panel
References	481061021N	481061044N
Height	1 U	
Format	19"	
Material/Colour	Steel/Black	
Capacity	16 ports in keystone format	24 ports in keystone format
Identification	Digital on each port	
Cable fastening	-	Removable device at the back
Grounding	-	Built-in

ADDITIONAL PRODUCTS: ADAPTORS

Compatible with standard market distribution patch panels, these adaptors enable you to switch from an RJ45 footprint to an SC footprint thus combining optical fibre and copper on the same panel.

FOLAN recommends using optical adaptors without ears for optimal use of the 24-port panel.

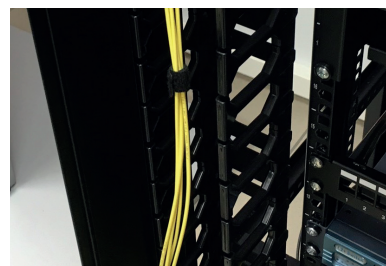


White adaptor: **481031169**
Black adaptor: **481031163**

MISCELLANEOUS ACCESSORIES FOR RACKS & BOXES

VERTICAL CABLE MANAGEMENT DUCT

- For 42 U rack, width 800 mm
- Enables the patchcords to be passed through vertically
- Comprising plastic rings and a cover
- Directly assembled on the rack or delivered separately



Duct for 42 U rack with adaptation kit: **304991313**

GROUNDING KIT



- For racks and boxes
- Comprising 8 cables (4 male + 4 female)

Grounding kit: **304991172**

GROUND BAR

- For racks and boxes
- Enables the grounding of equipment and/or cables
- 2 versions: horizontal 19" and vertical 42 U

Horizontal copper bar: **399061187**
Vertical copper bar: **399061185**



FITTING ACCESSORIES

SLIDING TRAYS

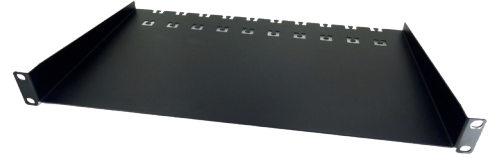


- Enables you to place non-compatible equipment in 19" format simply and securely (a computer, for example)
- Fastening: 4 points
- Format: 19"/1 U
- Depth: 300, 500 or 700 mm
- Maximum load: 40 kg

Depth 300 mm: **304991277**
Depth 500 mm : **304991278**
Depth 700 mm : **304991279**

PATCHCORD MANAGEMENT TRAYS

- For fastening cables or patchcords at the back and managing overlengths
- Fastening: 2 points
- Format: 19"/1 U
- Depth: 265 mm
- Maximum load: 20 kg



Without protection on the front: **304991148**
 With protection on the front and ETSI adaptor tabs: **304501120**

MANAGEMENT ACCESSORIES

CABLE GUIDE STRIP WITH PROTECTION



- Format: 19"/1 U
- Removable pivoting plastic cover
- 24 plastic rings

Cable guide strip with cover: **304991117**

BRUSH STRIP

- Format: 19"/1 U
- Metal strip
- Thick nylon wires



Cable guide strip with brush: **304991071**

FULL STRIPS

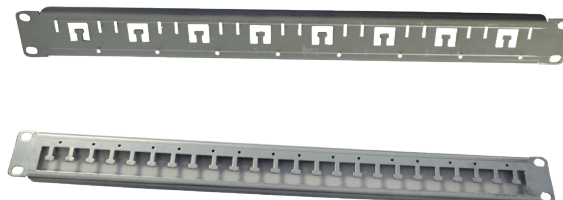


- Format: 19" / 1 to 4 U
- Metal strips

1 U: **304991079**
 2 U: **304991080**
 3 U: **304991090**
 4 U: **304991081**

SUPPORT STRIPS FOR CFO AND CABLE FASTENING

- Compatible with 19" racks and ETSI (via adaptor tabs)
- Installation on front and back 19" posts
- 2 versions available enabling different CFO fastening:
 - For fast CFO fastening (capacity: 8 x CFO 2)
 - For standard CFO fastening with 2 self-tapping screws (capacity: 8 x CFO 2 – 4 x CFO 3 or 4)
- Enable direct fastening of 8 to 24 cables (plastic clamping rings not included)



CFO and/or cable support strip: **649061014**

CFO and/or cable support strip compatible with CFO 2 quick fastening: **649061010**

POWER STRIPS

The use of active equipment in rack or box may require the use of rackable power strips, which are also referred to as PDUs. FOLAN provides strips in 19" 1 U format to manage several connections compliant with French standard NF C61-314.

9-SOCKET POWER STRIPS



- Format: 19"/1 U
- With or without a switch
- Sockets + Ground NF 16 A/250 V
- Cable length: 2.3 m

With switch: **304991141**

With LED: **304991140**

6-SOCKET POWER STRIPS WITH CIRCUIT BREAKER



- Format: 19"/1 U
- 2 versions available:
 - with switch, circuit breaker and 3 light indicators
 - with 30 mA differential circuit breaker
- Sockets + Ground NF 16 A/250 V

With switch, circuit breaker and light indicator: **304991319**

With 30 mA differential circuit breaker: **304991300**

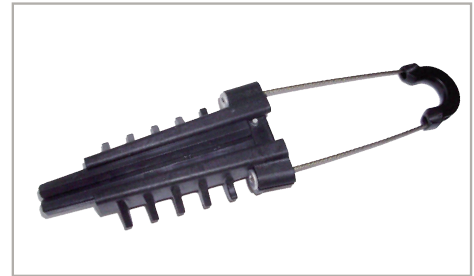
OVERHEAD ACCESSORIES

FOLAN offers a range of overhead accessories here comprising:

- Accessories for anchorage, enabling the fastening and securing of fibre-optic cables,
- Accessories for hanging, which are installed on the lengths situated between two anchoring clamps to support the cable,
- Accessories for overhead deployment comprising crossties with their fastening.

ANCHORING CLAMPS FOR ADSS CABLES

- Compatible with cables of \varnothing 5 to 9 mm
- Cablet length: 200 or 300 mm
- In UV-resistant thermoplastic



Anchoring clamp for cable \varnothing 5 to 7.5 mm: **399041251**
Anchoring clamp for cable \varnothing 6 to 9 mm: **399041236**

SUSPENSION CLAMPS FOR ADSS CABLES

- Fastening on hook or pigtail console with strip or bolt
- Maximum range: 150 m
- Compatible with cables of \varnothing 6.5 to 15 mm or \varnothing 15 to 23 mm
- Thermoplastic elastomer and heat-galvanised steel



Rigid suspension clamp for cable \varnothing 6.5 to 15 mm: **399041228**
Rigid suspension clamp for cable \varnothing 15 to 23 mm: **399041273**

CROSSTIES

- Heat-galvanised steel
- Fastening with bolts



11-hole crosstie – Length 440 mm: **399041277**
13-hole crosstie – Length 820 mm: **399041372**
15-hole crosstie – Length 1090 mm: **399041278**

FASTENING FOR CROSSTIES



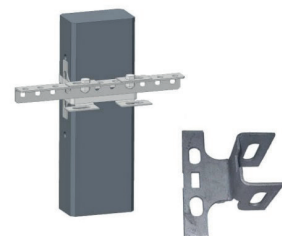
Base plate

- Lightweight model
- For wooden posts
- Galvanised steel



Fastening console

- More resistant model
- For wooden posts
- Galvanised steel



Fastening bracket

- For concrete posts
- Galvanised steel

Base plate for crosstie on wooden post: **399041313**
Fastening console for crosstie on wooden post: **399041275**
Fastening console/bracket for crosstie on concrete post: **399041280**

SEALED CLOSURES

Installed in a draw-in box, sealed closures are designed to **receive, manage and protect** from 96 (FSC model) to 288 (DSC model) splices. The inner configuration is modular by superimposing pivoting cassettes as each cassette can receive up to 24 fibres (12 for the DSC 288).

Compact, waterproof and very resistant, FOLAN closures fit easily in small underground spaces. The body/cover and cable input/output tightness is achieved by seal compression (mechanical tightness). Cables are passed through different ports on only one side of the closure.

FSC FLAT SEALED CLOSURE 12-96 OF



DSC DOME SEALED CLOSURE 12-144 OF



DSC DOME SEALED CLOSURE 12-288 OF



CHARACTERISTICS

	FSC 96	DSC 144	DSC 288
Dimensions (W x H x D mm)	220 x 100 x 300	450 x Ø 230	480 x Ø 260
Tare weight (kg)	2.7	4.8	6.5
Material/Colour	PC-ABS plastic/Black		
Operating temperature	- 40° C / + 55° C		- 40° C / + 65° C
Protection index	IP68 – Mechanical compression – Pressurisation valve		
Inputs/Outputs Cable diameter	<ul style="list-style-type: none"> • 1 oval port 3 inputs: for 3 cables Ø 8-15 mm or 6 cables Ø 4-8 mm • 1 oval port 2 inputs: for 2 cables Ø 8-11 mm or 4 cables Ø 4-8 mm • 1 oval port 5 inputs: for 1 cable Ø 6 mm + 4 pigtails Ø 2 mm 	<ul style="list-style-type: none"> • 1 oval port: for 2 cables Ø 10-17.5 mm or 16 cables Ø 5-7 mm • 4 single ports: for 1 cable Ø 12-17.5 mm or 1 cable Ø 8-12 mm or 4 cables Ø 5-7 mm 	<ul style="list-style-type: none"> • 1 oval port: for 2 cables Ø 10-16 mm or 2 cables Ø 16-22 mm • 2 double ports: for 2 cables Ø 10-17.5 mm or 16 cables Ø 5-7 mm • 2 single ports: for 1 cable Ø 12-17.5 mm or 1 cable Ø 8-12 mm or 4 cables Ø 5-7 mm
Cable fastening	With cable gland and fastening system (outer jacket) With fastening plate (cable reinforcement components)		
Accessories included	Plastic cylinders to plug unused ports Plastic clamping rings Splice protectors		Retubing jacket Insulating strip Hexagon key Wall, overhead and post mounting kit
Options	Additional cassette with splice protectors		
Fastening	Wall, overhead & post		

REFERENCES

Products	Splice capacity	Cassette capacity	Number of cassettes	References
FSC	24	24	1	305501030
	48		2	305501039
	72		3	305501033
	96		4	305501041
	Additional cassette + 24 splice protectors			359031108
	FSC specific splice protectors			359021054
DSC 144	72	24	3	305501034
	144		6	305501096
	Additional cassette + 24 splice protectors			359031109
DSC 288	144	12	12	305501036
	288		24	305501104
	Additional cassette + 12 splice protectors			359031112

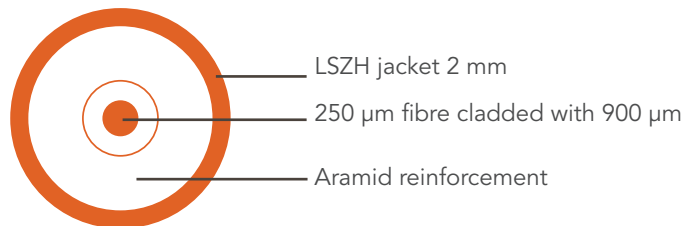
OPTICAL PATCHCORDS

Optical patchcords are essential components of network infrastructure that enable links between patch panels and active equipment such as the direct connection of a camera or in the Urban Supervisory Control Centre technical racks.

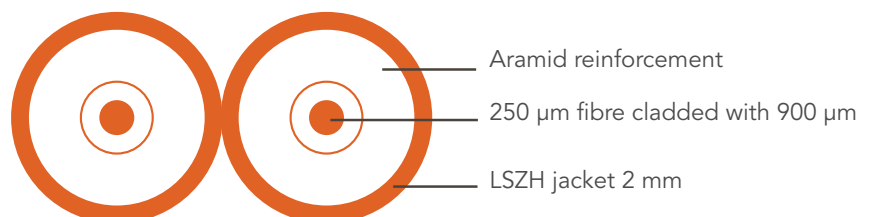
CHARACTERISTICS	
Traction resistance (IEC 61300-2-4)	70N
Usage temperature	- 25 to + 70° C
Mechanical endurance (IEC 61300-2-2)	500 connections
Outer jacket	LSZH-FR
Jacket colour	Monomode G652D: Yellow Multimode OM3: Turquoise Multimode OM4: Magenta
Diameter	2 mm
Type of fibre:	Monomode 9/125 µm G652D Multimode 50/125 µm OM2, OM3 and OM4

Also available as G657A2 on request!

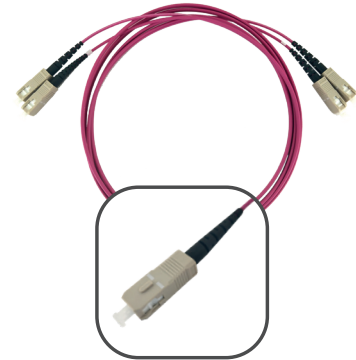
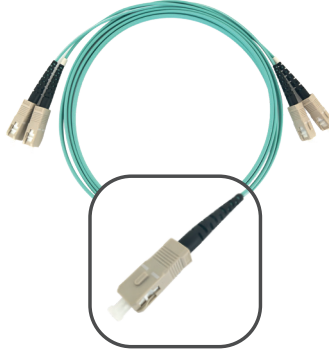
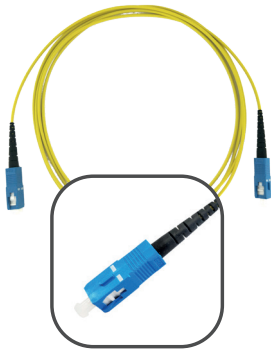
SIMPLEX PATCHCORD



ZIPCORD PATCHCORD



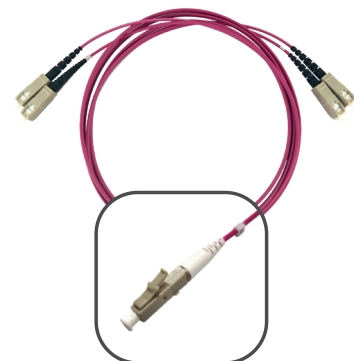
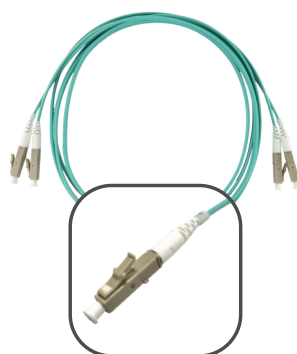
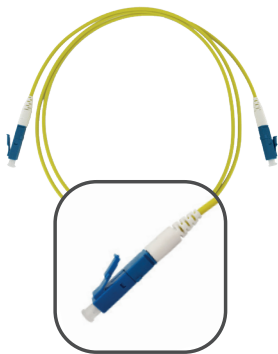
SC-PC/SC-PC PATCHCORDS



REFERENCES

Lengths (m)	MONOMODE G652D		MULTIMODE OM3	MULTIMODE OM4
	Simplex	Zipcord	Zipcord	Zipcord
1	501015584N	502013517N	502103138N	502103757N
2	501015585N	502013518N	502103139N	502103582N
3	501015586N	502013519N	502103140N	502103583N
5	501015588N	502013521N	502103142N	502103584N
10	501015592N	502013787N	502103146N	502103585N
15	501015593N	502013526N	502103147N	502103756N
20	501015594N	502013527N	502103148N	502103758N

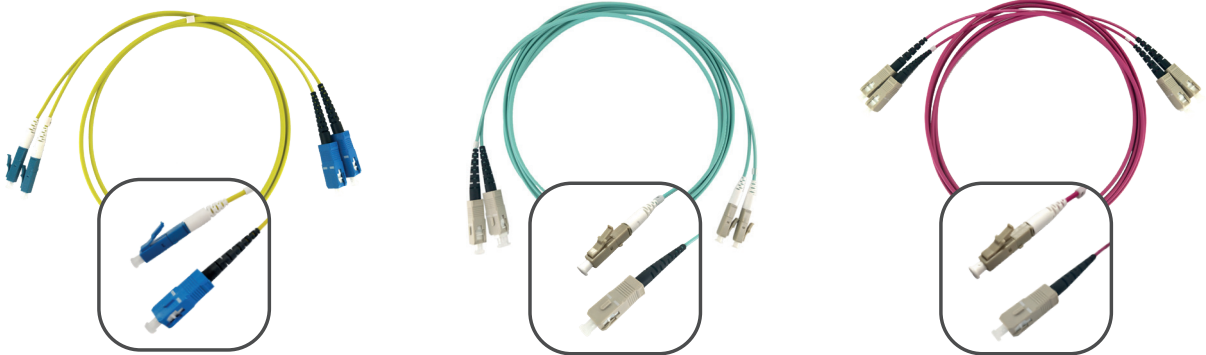
LC-PC/LC-PC PATCHCORDS



REFERENCES

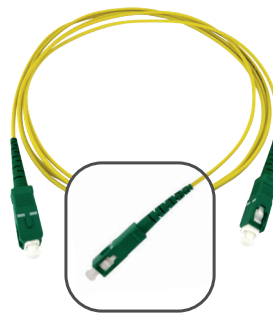
Lengths (m)	MONOMODE G652D		MULTIMODE OM3	MULTIMODE OM4
	Simplex	Zipcord	Zipcord	Zipcord
1	501017885N	502014681N	502103828N	502103896N
2	501017055N	502014663N	502103829N	502103768N
3	501017053N	502014664N	502103787N	502103769N
5	501017828N	502014665N	502103830N	502103818N
10	501017864N	502014667N	502103831N	502103819N
15	501017859N	502014682N	502103832N	502103737N
20	501017950N	502014683N	502103794N	502103738N

LC-PC/SC-PC PATCHCORDS



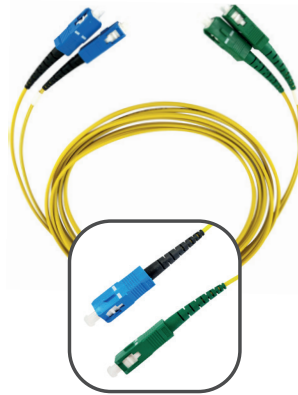
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Lengths (m)	MONOMODE G652D		MULTIMODE OM3	MULTIMODE OM4
	Simplex	Zipcord	Zipcord	Zipcord
1	501017899N	502014687N	502103776N	502103742N
2	501017763N	502014719N	502103777N	502103744N
3	501017751N	502014720N	502103778N	502103745N
5	501017922N	502014696N	502103805N	502103746N
10	501017932N	502014698N	502103824N	502103740N
15	501017923N	502014699N	502103212N	502103741N
20	501017933N	502014689N	502103850N	502103743N

SC-APC/AC-APC PATCHCORDS



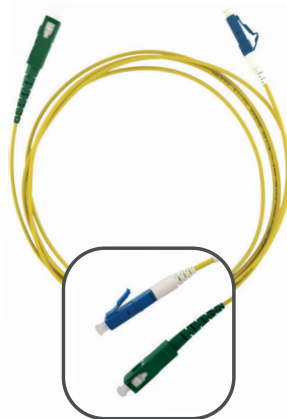
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Lengths (m)	MONOMODE G652D		G657A2
	Simplex	Zipcord	Simplex
1	501015558N	502013491N	501018318N
2	501015559N	502013492N	501018349N
3	501015903N	502013493N	501018607N
5	501015562N	502013495N	501018332N
10	501015566N	502013499N	501018397N
15	501015567N	502013773N	501018453N
20	501015568N	502013501N	501018454N

SC-UPC/SC-APC PATCHCORDS



REFERENCES		
MONOMODE G652D		
Lengths (m)	Simplex	Zipcord
1	501015571N	502013504N
2	501015572N	502013505N
3	501015573N	502013506N
5	501015575N	502013508N
10	501015579N	502013512N
15	501015580N	502013513N
20	501015581N	502013514N

LC-UPC/SC-APC PATCHCORDS



REFERENCES		
MONOMODE G652D		
Lengths (m)	Simplex	Zipcord
1	501015930N	502014705N
2	501017746N	502014638N
3	501017892N	502014700N
5	501017854N	502014288N
10	501017855N	502014642N
15	501017856N	502014701N
20	501017902N	502014706N



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