

#smartconnection



# FTTX Cable & Connectivity

Solutions - Middle East

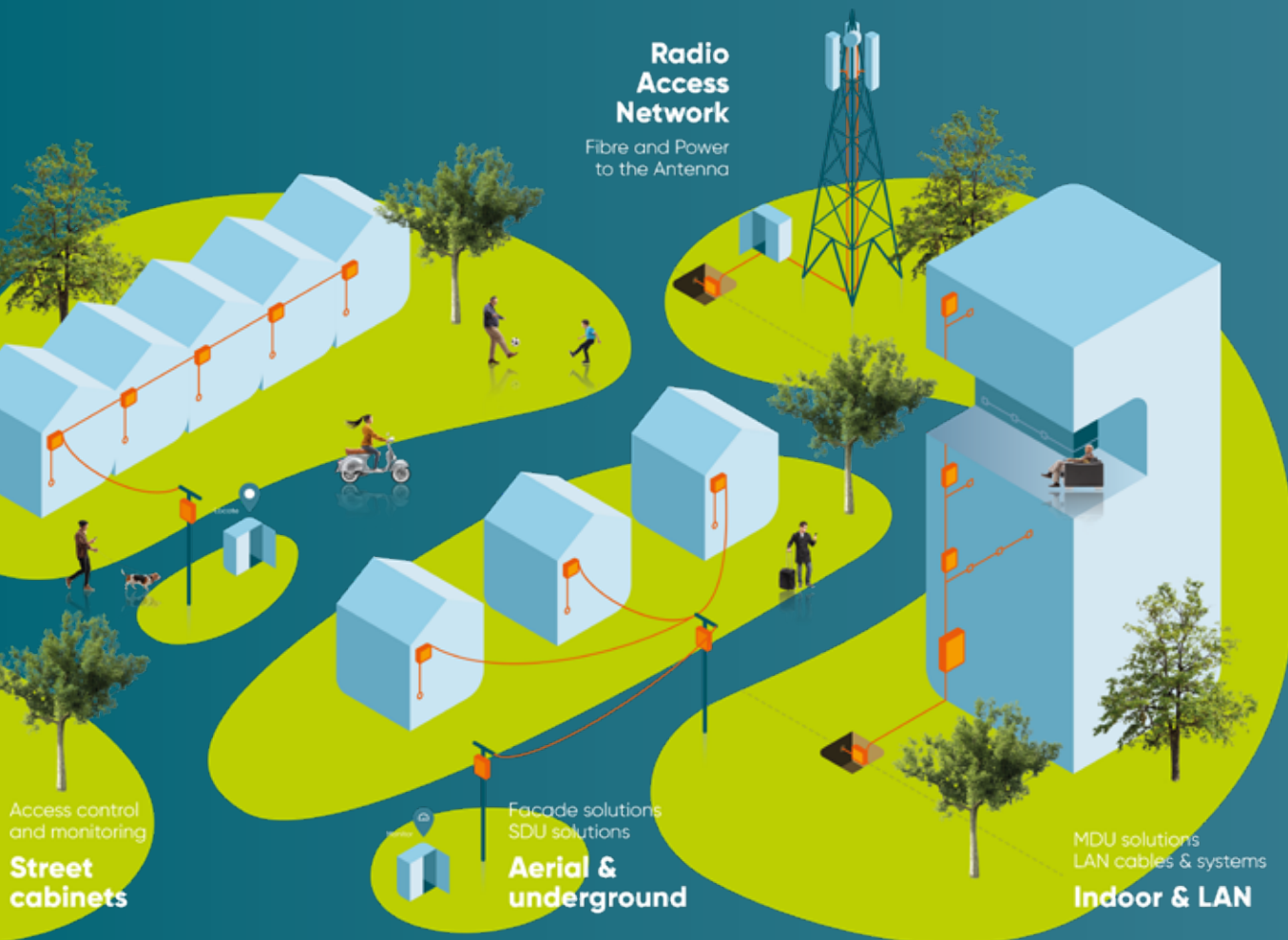
[www.aginode.net](http://www.aginode.net)



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# Make #smartconnections with Aginode.

Aginode, formerly Nexans Telecom Systems, designs & manufactures connectivity solutions for digital networks in FTTx, Mobile, LAN & Data Centre markets. Our goal: to enable the infrastructure which delivers applications that make lives more connected, productive, and enjoyable; today and in future.

Our international teams have over 30 years proven track record of developing, implementing, and servicing advanced infrastructure solutions, with Aginode's diverse product range under our brand names:

- **FTTx & Mobile:** XPLORER™, BRIGHTBOX™, INFRABIRD™, UPSKY™
- **LAN & Data Centres:** LANmark™, LANsense™, LANactive

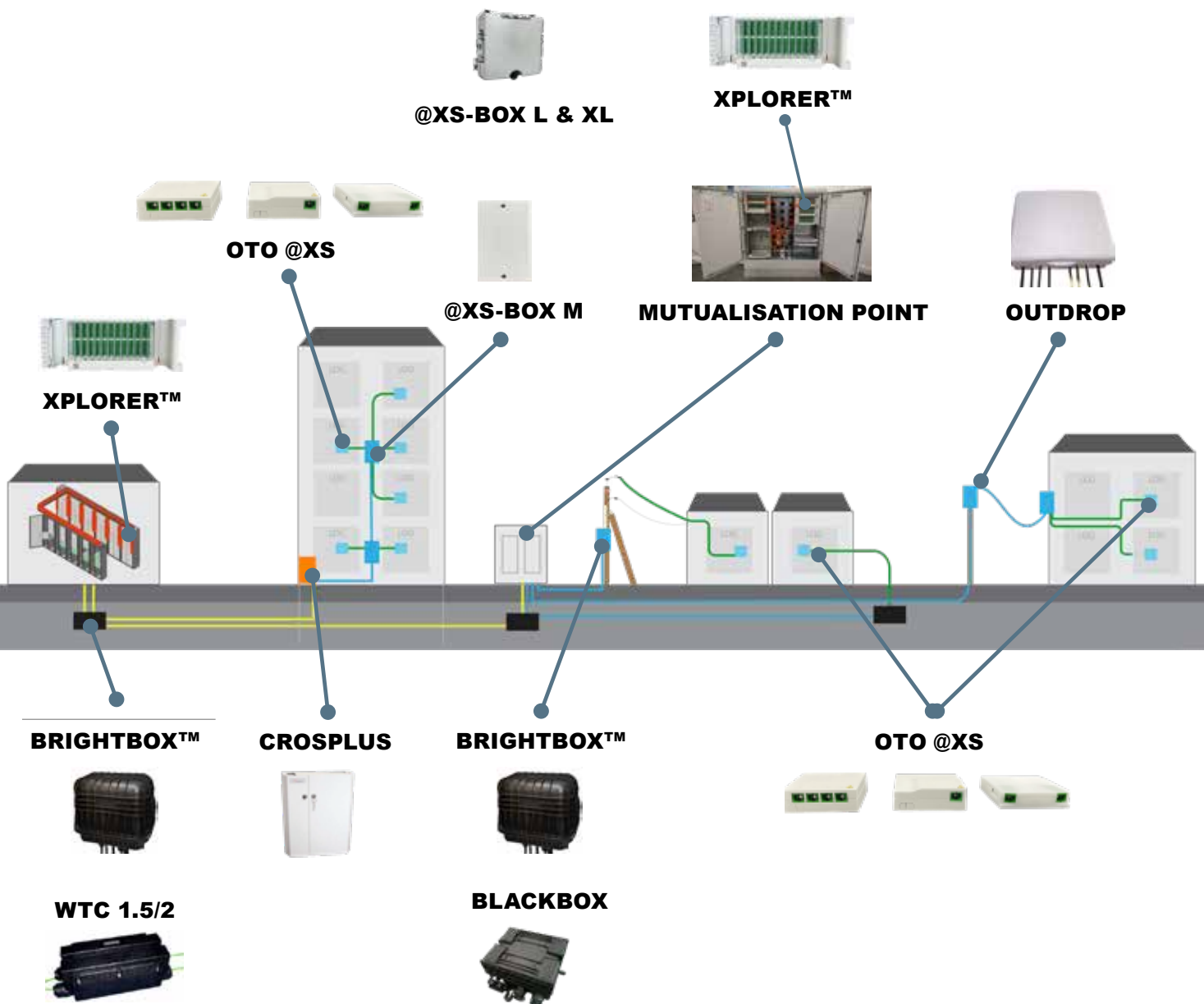
With a state-of-the-art industrial footprint and recognised technological know-how in Europe, Middle East, North-West Africa, and Asia, Aginode is a key player in digitalisation and connectivity.

With cable and component manufacturing facilities located just a few hours from Calais, Aginode is perfectly positioned as a manufacturing partner to meet the stringent demands of worldwide roll out projects.

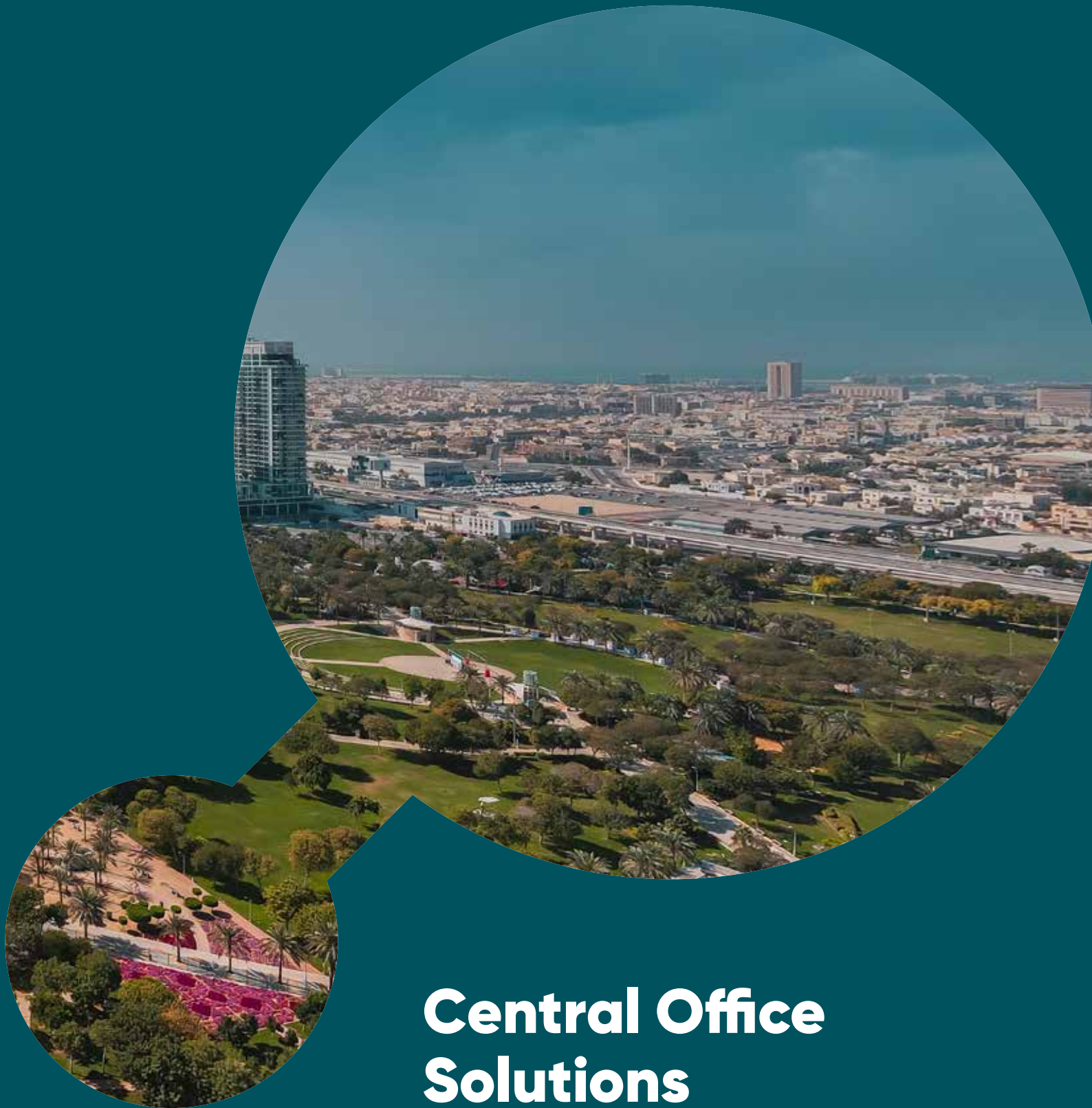
# Global solutions for optical fibre networks

Aginode offers a complete product range covering fibre optic cables as well as components, accessories and indoor and outdoor cabinets for the integration of active and passive equipment.

A customised service offer is available ranging from assistance with infrastructure design, design development to training and field support for product applications.







# Central Office Solutions

# Optical distribution frame modules range



Intuitive splice cassettes for G652.D,  
G657.A1 and G657.A2



Comb to fix tubes or cables



Fixing bracket



Patchcords guided to the side,  
protected by front door with label  
for port identification



Adaptor holder



Titting splice cassettes for G652.D, G657.A1 and G657.A2



Pigtails well arranged to splice cassettes with intuitively designed bridges



Foam and lock to fix pigtails



Coiling area for tubes or cables



19" locking plate for swivelling part



# XPLORER™

## PUSHING THE LIMITS.

### PRE-INSTALLED, MODULAR SOLUTION & PRODUCED LOCALLY

Same platform for every function inside a FTTH network

- Patching, splicing, splitting and storage
- Central Office, Point of Presence or street cabinets
- Same look throughout network
- Reduced learning curve for installers



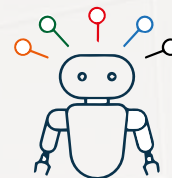
Ready to use panels with pre-installed adaptors/pigtails and splitters

- Fast installation on site
- Error free ordering process, time and time again
- Simplified logistics with limited number of products



Customization for every project

- Modular platform with adjustments according to project needs
- Always right product and subcomponents in the field
- Simplified logistics and ordering process
- Reduced stock holding



Produced locally

- Fast response time
- Reduced transport cost
- Lower environmental impact due to reduced transport
- Local expertise



Perfect symmetry

- One product for left or right axis rotation
- Always right product in the field
- Installer decides in the field for left or right axis

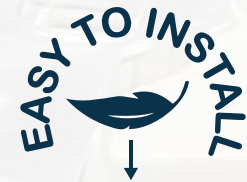




# LIGHT, ROBUST AND ENVIRONMENTAL FRIENDLY SOLUTION

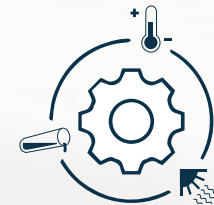
Lightweight panels based on reinforced fibre composite

- All 1U panels < 1,5kg, 3U and 4U panels around 3kg
- All panels can be installed by one technician



Robust platform with superior environmental characteristics

- More robust compared to metal panels
- Corrosion resistant
- Protection against most important aggressive chemicals
- Resistance against fungi and UV
- Wide temperature range (-40°C to 75°C) for indoor and outdoor use



Superior optical performance

- High quality Grade B connectors
- Improved bending with special designed boot



Environmental friendly packaging

- Cardboard packaging: Easy waste treatment and less waste volume
- No large white polystyrene protection blocks for protection



Eco Passport for XPLOER™

- Panels based on reinforced composite are more environmental friendly compared to metal panels
- Supported by White paper "Eco-design at Aginode"



## DESIGNED FOR EASY INTSALLATION

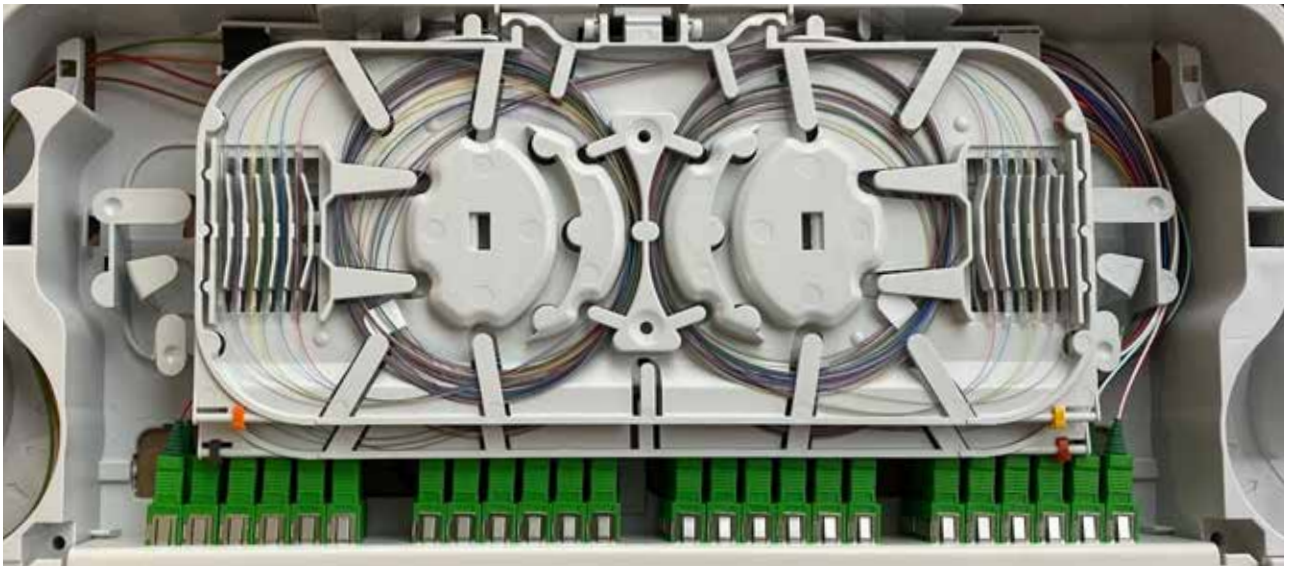
Toolless fixing of XPLOER™ modules with sockets and plugs:

- First sockets are installed from front of cabinet, followed by installation of plugs from front
- Fixed chassis fixed on front rail of cabinet and supportin rail in rear of cabinet
- Lock fixed on other front rail of cabinet
- Compatible with 9.5mm slots



Large splice cassettes:

- Separate area for splicing and storage
- Easy fibre management and installation
- Overhanging fibre retaining clips allow for wide range of fibre ring diameters
- Complete overview in one cassette
- Capacity: 24 or 48 splices
- Direct access to all splice cassettes with tilting function inside swivelling modules



# EASY OPERATION AND MAINTENANCE

Management of patch cords with spool kit:

- Fixed on the side of the front rail of cabinet
- Guides and keeps the patch cord to the pivoting side within the same rack unit as the patch panel
- Keeps the patch cords well-dressed inside the cabinet



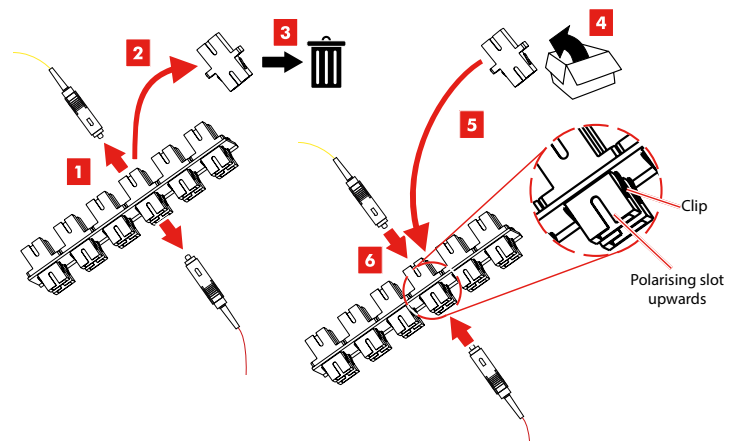
Translucent dust caps for SC adaptors:

- Compatible with Visual Fault Locator (VFL)
- Identification of optical channels and subscribers
- Reduction of laser power by 3.5 dB



Easy maintenance by quick replacement of adaptors:

- Adaptors can be removed from rear by screw driver
- Fast click in of replacement adaptor from front



QR-code link to installation guides:

- QR-code on front door of each patch panel
- Linked to installation guides on website

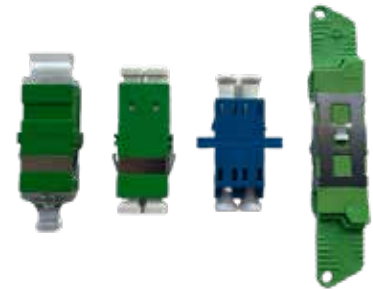




# CUSTOMISED TO YOUR NEEDS

Different densities and connectors:

- SC/APC, LC/APC, SC/UPC, LC/UPC, E-2000/APC
- Density varying between 12 and 48 for SC and LC per 1U



Splicing:

- Heat shrink splice protectors Smoooves or Aluminum "ANT" splice protectors
- Alternative offering: small splice cassettes compatible with G.657.A2



Sequence of fibre colours:

- Fibre sequence modified according to regional or customer needs



Dust caps:

- Standard offering: SC adaptors with translucent dust caps with a reduction of 3.5 dB for easy identification
- Alternative offer: translucent dust caps with a power reduction of 10 dB for improved eye protection against laser light.



#### Cable fixing:

- Standard offering: fixing of 5mm tubes or Micro-Bundles in comb in fixed chassis
- Alternative: fixing of cables with tie wraps on optional metal plate in fixed chassis



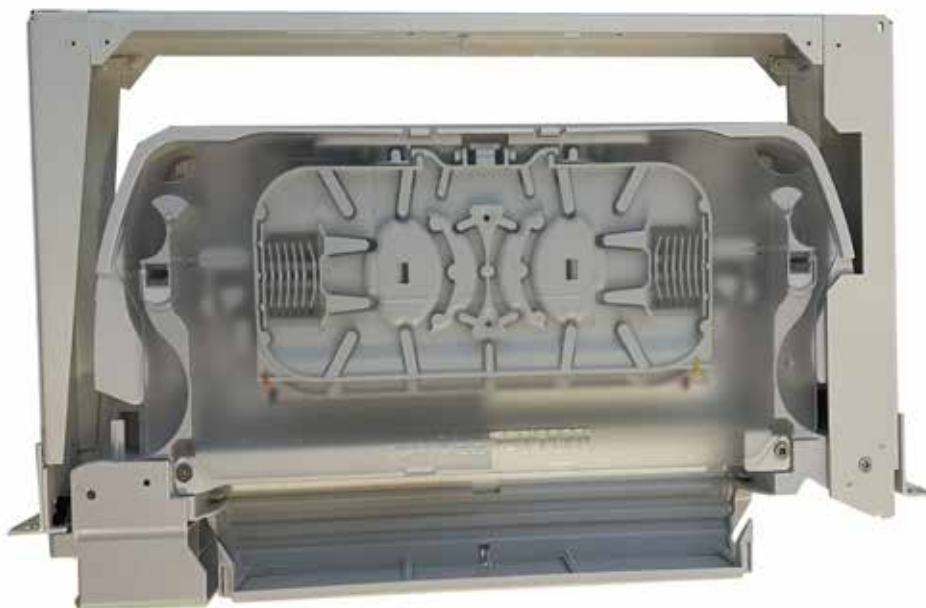
#### Fixing in cabinets:

- Standard offering for 19 inch
  - Sockets and plugs for convenient, fast installation from the front into 9,5mm square slots
  - Metal cage nuts for 8,3mm and 9,5mm square slots
- Optional: fixing kit to adjust for wider ETSI cabinets



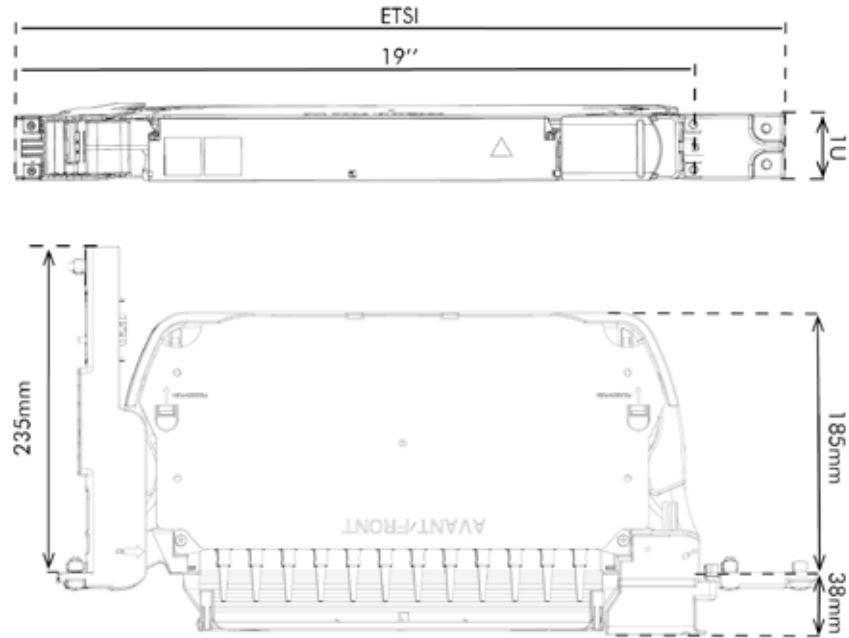
#### Subrack installation

- Standard offering: panels fixed on the front rails of the cabinets and an additional fixing point in the rear of the cabinet for enhanced stability.
- Alternative: panels with a metal subrack that need only fixing from the front and can be installed in any cabinet. Cables can be fixed directly on the metal chassis.

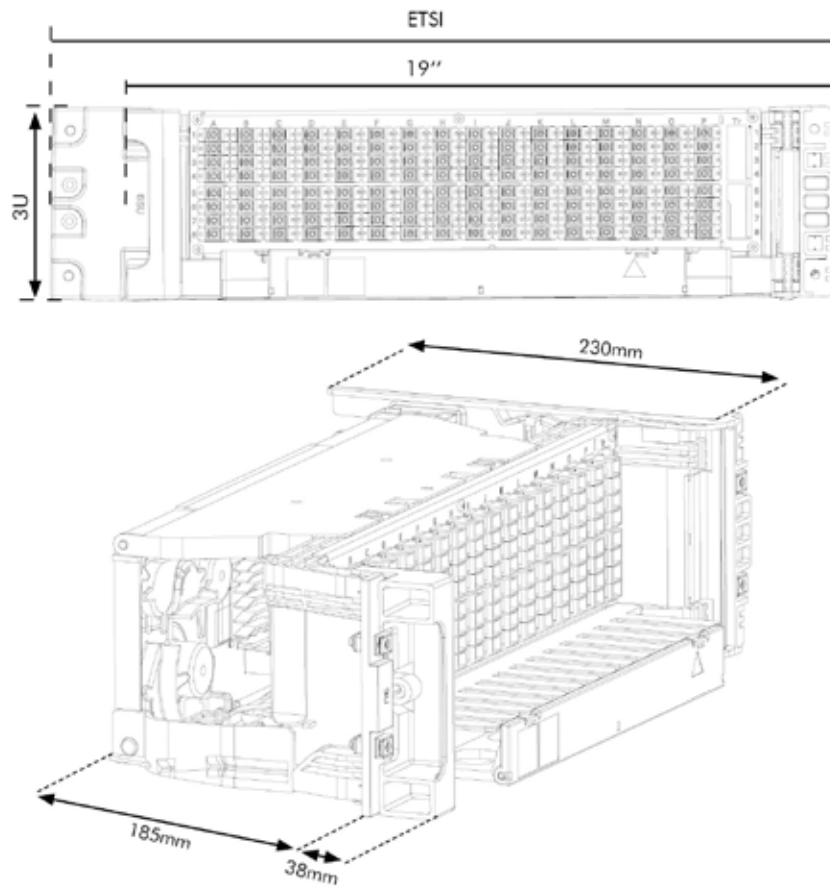


# DIMENSIONS OF XPLOER™ MODULES

## Module 1U

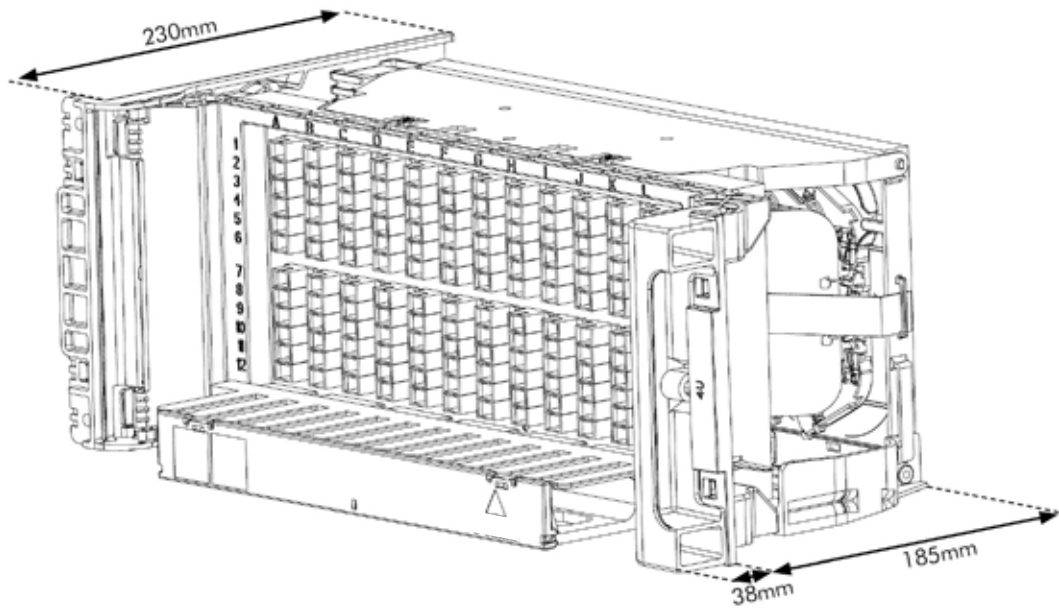
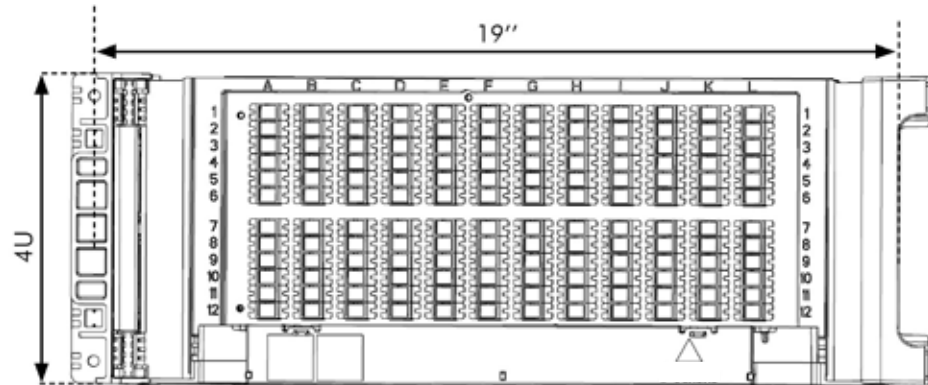


## Module 3U





# Module 4U



# Optical Modules

## XPLORER™ 1U

### Patching

#### General characteristics

- Fixed chassis and swivelling module for patching
- Manufactured with fibre reinforced composite
- Symmetrical design so that left or right configuration can be chosen during installation
- Sockets and plugs for front installation for 9,5mm squares of 19 inch cabinets
- Metal cage nuts for 8,3mm and 9,5mm squares for 19 inch cabinets
- Integrated patch cord manager for guiding patch cords to the side
- Spool kit for patch cord management inside the rack
- A labelling front for patch cord management and identification
- Up to 48 SC/APC with translucent dust caps or LC/APC adaptors with White dust caps
- Kit for fixing 1x breakout in the fixed chassis
- Kit for fixing 4x breakouts in the swivelling module
- Overlengths of breakout organized in management rings



SC/APC connectivity	
<b>13200081</b>	XPLORER™ Patching Grade B 1U 12xSC/APC
<b>13200060</b>	XPLORER™ Patching Grade B 1U 24xSC/APC
<b>13200082</b>	XPLORER™ Patching Grade B 1U 36xSC/APC
<b>13200061</b>	XPLORER™ Patching Grade B 1U 48xSC/APC
LC/APC connectivity	
<b>13200083</b>	XPLORER™ Patching Grade B 1U 12xLC/APC
<b>13200062</b>	XPLORER™ Patching Grade B 1U 24xLC/APC
<b>13200084</b>	XPLORER™ Patching Grade B 1U 36xLC/APC
<b>13200063</b>	XPLORER™ Patching Grade B 1U 48xLC/APC

# Optical Modules

## XPLORER™ 1U

### Splicing Patching

#### General characteristics

- Fixed chassis and swivelling module for patching and splicing
- Manufactured with fibre reinforced composite
- Sockets and plugs for front installation for 9,5mm squares of 19 inch cabinets
- Metal cage nuts for 8,3mm and 9,5mm squares for 19 inch cabinets
- One comb for fixing of tubes or cables with a diameter of 5mm
- Integrated patch cord manager for guiding patch cords to the side
- Spool kit for patch cord management inside the rack
- A labelling front for patch cord management and identification
- Up to 48 SC/APC with translucent dust caps or LC/APC adaptors with White dust caps
- Up to 48 SC/APC or LC/APC splice ready Grade B pigtailed installed
- Fibre sequence of pigtailed according to TIA-598-C (Blue, Orange,..)
- Pigtailed installed for a left axis or right axis pivoting module
- 1 or 2 large splice trays installed compatible with G652.D, G657.A1 and G657.A2 fibres
- 24 splices per splice tray
- Splice cassettes for heat shrink protectors



SC/APC connectivity	
<b>13200052</b>	XPLORER™ Splicing and Patching Grade B 1U Left Axis 12xSC/APC
<b>13200053</b>	XPLORER™ Splicing and Patching Grade B 1U Left Axis 24xSC/APC
<b>13200054</b>	XPLORER™ Splicing and Patching Grade B 1U Left Axis 36xSC/APC
<b>13200055</b>	XPLORER™ Splicing and Patching Grade B 1U Left Axis 48xSC/APC
LC/APC connectivity	
<b>13200056</b>	XPLORER™ Splicing and Patching Grade B 1U Left Axis 12xLC/APC
<b>13200057</b>	XPLORER™ Splicing and Patching Grade B 1U Left Axis 24xLC/APC
<b>13200058</b>	XPLORER™ Splicing and Patching Grade B 1U Left Axis 36xLC/APC
<b>13200059</b>	XPLORER™ Splicing and Patching Grade B 1U Left Axis 48xLC/APC



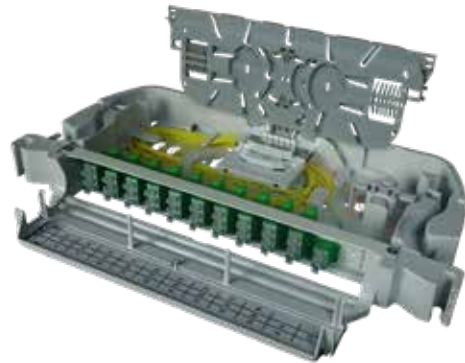
# Optical Modules

## XPLORER™ 1U

### Splicing Patching Splitting

#### General characteristics

- Fixed chassis and swivelling module for splitting, patching and splicing
- Manufactured with fibre reinforced composite
- Sockets and plugs for front installation for 9,5mm squares of 19 inch cabinets
- Metal cage nuts for 8,3mm and 9,5mm squares for 19 inch cabinets
- One comb for fixing of tubes or cables with a diameter of 5mm
- Integrated patch cord manager for guiding patch cords to the side
- Spool kit for patch cord management inside the rack
- A labelling front for patch cord management and identification
- Up to 32 SC/APC with translucent dust caps or 32 LC/APC adaptors with
- White dust caps for subscribers
- Splitters pre-installed: 1:8, 1:16 or 1:32
- Splitter uplink terminated with connector: connected to adaptor on front patch panel or terminated with splicing in a splice cassette
- Pigtails installed for a left axis or right axis pivoting module
- 1 large splice trays installed compatible with G652.D, G657.A1 and G657.A2 fibres
- Splice cassette for heat shrink protectors



SC/APC connectivity	
<b>13200085</b>	XPLORER™ Splicing and Patching Grade B 1U 32xSC/APC 1x 1:32
<b>13200086</b>	XPLORER™ Splicing and Patching Grade B 1U 32xSC/APC 2x 1:16
<b>13200087</b>	XPLORER™ Splicing and Patching Grade B 1U 32xSC/APC 4x 1:8
LC/APC connectivity	
<b>13200088</b>	XPLORER™ Splicing and Patching Grade B 1U 32xLC/APC 1x 1:32
<b>13200089</b>	XPLORER™ Splicing and Patching Grade B 1U 32xLC/APC 2x 1:16
<b>13200090</b>	XPLORER™ Splicing and Patching Grade B 1U 32xLC/APC 4x 1:8

# Optical Modules

## XPLORER™ 1U

### Storage



#### General characteristics

- Fixed chassis and swivelling module for storage
- Manufactured with fibre reinforced composite
- Symmetrical design so that left or right configuration can be chosen during installation
- Sockets and plugs for front installation for 9,5mm squares of 19 inch cabinets
- Metal cage nuts for 8,3mm and 9,5mm squares for 19 inch cabinets
- One comb for fixing of tubes or cables with a diameter of 5mm
- Patch cords are guided to the side with the integrated patch cord manager
- Spool kit included for patch cord management inside the rack
- 3 pivoting modules with each 2 storage zones
- 6 different zones for storage of overlengths of patch cords and cables

#### SC/APC connectivity

10278809

XPLORER™ storage module

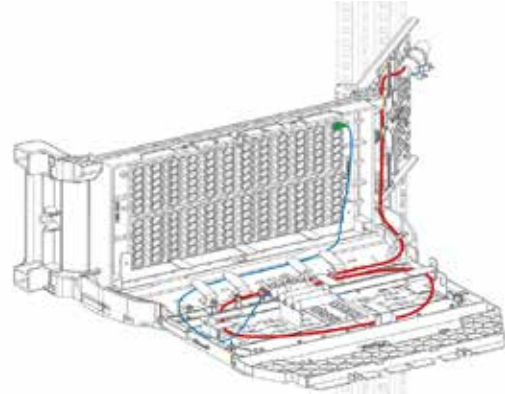
# Optical Modules

## XPLORER™ 4U

### Patching

#### General characteristics

- Fixed chassis and swivelling module for patching
- Manufactured with fibre reinforced composite
- Symmetrical design so that left or right configuration can be chosen during installation
- Sockets and plugs for front installation for 9,5mm squares of 19 inch cabinets
- Metal cage nuts for 8,3mm and 9,5mm squares for 19 inch cabinets
- Patch cords are guided per column from top to bottom and to the side with integrated patch cord manager
- Spool kit for patch cord management inside the rack
- Ports are identified by letters for the columns and numbers for the rows
- Up to 144 SC/APC with translucent dust caps or LC/APC adaptors with White dust caps
- Rear of patch panel can be opened and closed to have easy access during installation and maintenance
- Kit for fixing breakouts in the fixed chassis
- Kit for fixing breakouts in the swiveling module
- Overlengths of breakout organized in management rings



SC/APC connectivity	
<b>13200109</b>	XPLORER™ Patching Grade B 4U 144xSC/APC
LC/APC connectivity	
<b>13200110</b>	XPLORER™ Patching Grade B 4U 144xLC/APC

# Optical Modules

## XPLORER™ 4U

### Splicing Patching

#### General characteristics

- Fixed chassis and swivelling module for patching and splicing
- Manufactured with fibre reinforced composite
- Sockets and plugs for front installation for 9,5mm squares of 19 inch cabinets
- Metal cage nuts for 8,3mm and 9,5mm squares for 19 inch cabinets
- One comb for fixing of tubes or cables with a diameter of 5mm
- Patch cords are guided per column from top to bottom and to the side with integrated patch cord manager
- Spool kit for patch cord management inside the rack
- Ports are identified by letters for the columns and numbers for the rows
- Up to 144 SC/APC with translucent dust caps or LC/APC adaptors with White dust caps
- Up to 144 SC/APC or LC/APC splice ready Grade B pigtails installed
- Fibre sequence of pigtails according to TIA-598-C (Blue, Orange,..)
- Pigtails installed for a left axis or right axis pivoting module
- 3 large splice trays installed compatible with G652.D, G657.A1 and G657.A2 fibres
- 48 splices per splice tray
- Splice cassettes for heat shrink protectors
- Rear of patch panel can be opened and closed to have easy access to splice cassettes during installation and maintenance



SC/APC connectivity	
13200091	XPLORER™ Splicing and Patching Grade B 1U Left Axis 144xSC/APC
LC/APC connectivity	
13200092	XPLORER™ Splicing and Patching Grade B 1U Left Axis 144xLC/APC



# Optical Modules

## XPLORER™ 3U

### Splicing Patching

### Splitting

#### General characteristics

- Fixed chassis and swivelling module for splitting, patching and splicing
- Manufactured with fibre reinforced composite
- Sockets and plugs for front installation for 9,5mm squares of 19 inch cabinets
- Metal cage nuts for 8,3mm and 9,5mm squares for 19 inch cabinets
- One metallic comb for fixing of tubes or cables with a diameter of 5mm
- Patch cords are guided per column from top to bottom and to the side with integrated patch cord manager
- Spool kit for patch cord management inside the rack
- Ports are identified by letters for the columns and numbers for the rows
- Up to 128 SC/APC for subscribers with translucent dust caps
- Splitters pre-installed: 1:16, 1:32 or 1:64
- Splitter uplink terminated with connector: can be connected to adaptor on front patch panel or terminated with splicing in a splice cassette
- Pigtailed installed for a left axis or right axis pivoting module
- 1 splice trays installed compatible with G657.A2 fibres
- Splice cassette for heat shrink protectors
- Rear of patch panel can be opened and closed to have easy access during installation and maintenance



SC/APC connectivity	
<b>1320011</b>	XPLORER™ Splicing and patching Grade B 3U left axis 128xSC/APC 4x 1:32
<b>1320012</b>	XPLORER™ Splicing and Patching Grade B 3U left axis 128xSC/APC 8x 1:16
<b>TBD</b>	XPLORER™ Splicing and Patching Grade B 3U left axis 128xSC/APC 16x 1:8

# Metal optical modules – Indoor Application – TOCB

## Application

By grouping the two functions together, the combined splicing-patching module is used to connect maximum 24 fibres (1U subrack) or 48 fibres (2U subrack) while still retaining operational convenience (patch panel available for all types of existing connectors). The proximity of the two functions also results in a reduction of pigtail lengths. With a second module, it's possible to add a coiling function for the patchcords.

## Description

The combined function module includes a space reserved for splicing of the incoming tubed fibres, as well as a frontal space dedicated to patching. Splicing is performed with conventional cassettes. Panels can be pre-equipped with adaptors if required to support patching. Each shelf-unit can have up to 24 or 48 adaptors. The module is compatible with the different formats on the market, e.g. 19" or ETSI. Cables enter at the rear of the rack and are directly attached to the subrack or the frame. The design of this subrack makes it possible to use the various existing cable structures (indoor or outdoor cabling, slotted core or tube structure, monomode or multimode fibres, unitary or ribbon structure, etc...).

- The module is made up of the following
- A fixed part which is attached to the frame
- A plate mounted on slides
- A location for one to four splicing cassettes (12 splices each)
- A device for storing excess lengths of pigtails

This subrack also comes in a version that is equipped for the management of excess lengths of jumpers. In this case, it is combined with a jumper storage module which is fixed underneath the movable part of the rack.

Some of the references we provide can also be equipped with an additional anti-rodent kit



## Characteristics

<b>Construction characteristics</b>	
<b>Cabinet format</b>	19"/ETSI
<b>Colour</b>	RAL 9002
<b>Material</b>	Steel painted
<b>Dimensional characteristics</b>	
<b>Depth</b>	220mm
<b>Number of connectors</b>	24 to 48
<b>Number of splicing</b>	24 to 48
<b>Usage characteristics</b>	
<b>Function</b>	splicing and patching
<b>Packaging</b>	Box
<b>Minimum static operating bending radius</b>	30mm

# Metal optical modules – Indoor Application COSH 48

## Application

The COSH 48 modules allow to connect up to 48 fibres. On the terminal part of the FTTH network, the COSH 48 modules receive the fibres located further down the mutualisation point.

## Description

The COSH 48 2U module includes a space reserved for the splicing of incoming fibres. Splicing is performed in splicing trays. A front panel ensures the patching function with a capacity of 48 adaptors. This module is compatible with all types of frames (19" or ETSI standards) with a minimum depth of 300mm. It is available in elementary and subrack versions.

The accessories fitted with the module guarantee the conformity with the bending radius of the fibre (G652). It is prepared in order to minimise the installation time on site.

The module is composed of the following subparts:

- Fixed chassis or envelope attached to the rack (19" or ETSI),
- Swivelling chassis (left or right axis versions available) including a front patch panel with alphanumeric identifier for the adaptors,
- Pivoting support for the splice trays,
- Front output jumper management system and device for lateral management of optical jumper harnesses.

The management of cables or protection tubes is done at the rear of the module whilst the management of the jumpers is performed at the front and on the rotation axis side.



## Characteristics

Construction characteristics	
Cabinet format	19"/ETSI
Colour	RAL 9002
Material	Steel painted
Dimensional characteristics	
Height - Heightunit - Depth	100mm - 2U - 185mm
Cable diameter	8.5mm
Number of connectors	48
Number of splicing	48
Usage characteristics	
Function	splicing and patching
Packaging	Box
Operating temperature, range	- 25 - 70 °C
Minimum static operating bending radius	30mm

# Metal optical modules – Indoor Application – COSH 144

## Application

The COSH144 19" module with combined splicing and patching functions is used to connect up to 144 fibres. On the terminal part of the FTTH network, the COSH 144 modules receive the fibres located further down the mutualisation point.

## Description

The module includes a space reserved for splicing of the incoming fibres. Splicing is performed in splicing trays. A front panel ensures the patching function with a capacity of 144 SC or LC using simple or dual adaptors depending on the height of the module. The module is compatible with all types of frames (19" or ETSI standards) with a minimum depth of 300mm. The accessories fitted with the module guarantee the conformity with the bending radius of the fibre. It is prepared in order to minimise the installation time on site.

The module is composed of the following subparts:

- Fixed chassis attached to the rack (19" or ETSI),
- Swivelling chassis (left or right axis versions available) including a front patch panel with alphanumerical identification for the adaptors,
- Pivoting support for the splice trays,
- Front output jumper management system,
- Device for lateral management of optical jumper harnesses.

The management of cables or protection tubes is done at the rear of the module whilst the management of the jumpers is made at the front and on the rotation axis side.



## Characteristics

<b>Construction characteristics</b>	
Cabinet format	19"/ETSI
Colour	RAL 9002
Material	Steel painted
<b>Dimensional characteristics</b>	
Depth	215mm
Cable diameter	5mm
Number of connectors	144
Number of splicing	144
<b>Usage characteristics</b>	
Function	splicing and patching
Packaging	Box
Operating temperature, range	- 25 - 70 °C
RoHS compliant	Yes



## Accessories clamping device

- Fast mounting pin
- Metallic clip
- Comb 6/12/18 tubes
- Sticker location
- Strength member fixation device

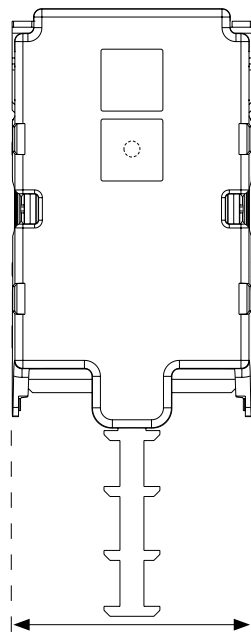
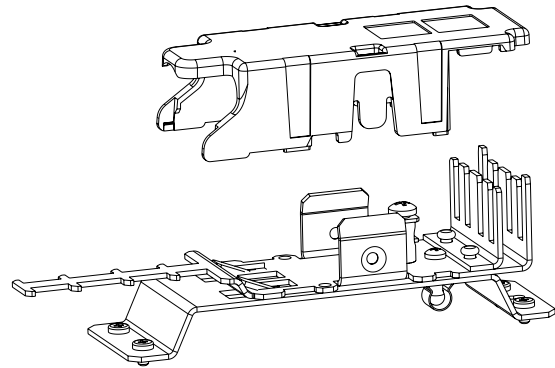
### Application

The clamping devices provide a mechanical hold for the cables and offer easy fixing of the tubes without tools, while ensuring that the fibres are routed and protected.

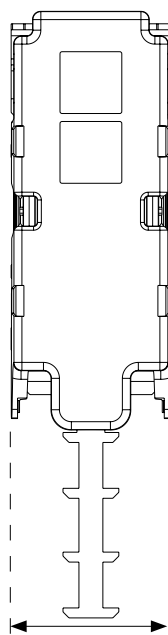
### Description

The devices are installed at the end of the cables. It is available in three different sizes 20/40/60mm width and is composed of the following elements:

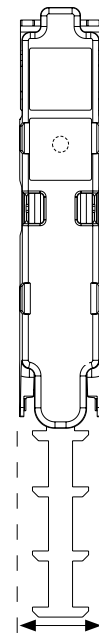
- Cover
- Base
- Omega fixation holder



60mm max.



40mm max.



20mm max.

### Characteristics

<b>Dimensions</b>	Length: 150mm Width: 20/40/60mm Height: 27,5mm
<b>Material</b>	Stainless steel and thermoplastic
<b>Number of tube in the comb</b>	6/12/18 tubes depending of the sizes
<b>Diameter of the tube</b>	Ø5mm

# Cabinets

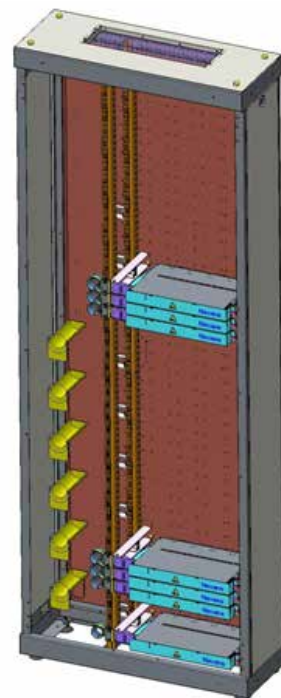
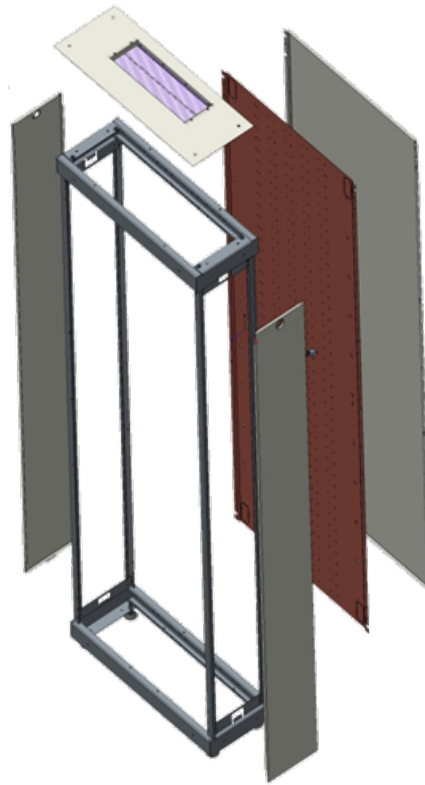
## OPTEASTAR 2+

### General characteristics

- Modular cabinet: 19" or ETSI compatible
- Standard width: 600mm or 900mm
- Height: 32U, 42U or 45U
- 300mm deep
- Patch cord management next to patch panels for the 900m width panel
- Full metal or transparent door
- Different locking options
- Suitable for row configurations and back to back installations
- Cabinet can be fixed to the wall, floor, back to back or side by side
- Fibre cable entry from top or bottom of cabinet

Composition is configuration dependent, but for a 900mm wide cabinet typically includes

- 2 up and down welded frames, size 900x300
- 4 profiles for corners
- Roof with brushes and full baseplate interchangeable
- Fixing plate for clamping or fanout systems
- Bottom plate allowing management of tubes and cables behind the optical modules with rings
- Coiling area for patch cords overlengths with drums
- 2 removable side panels
- Rear panel
- 2 asymmetrical doors
- 4 adjustable feet
- Grounding point
- Wall fixing kit



# Cabinets Polyester Indoor Application

Management of tubes or cables to modules is made on the bottom plate of the rack behind the modules.

## Fixing

Cabinet is fixed on the wall with or without ground support with fixing kits (provided).

## Description

### Composition

- Without plinth
- A 19" or ETSI rack on the right position
- A coiling area for patchcords overlength management on left position
- 1 or 2 fixing plates for clamping or fanout systems
- A bottom plate allowing management of tubes and cables behind the optical modules with rings (provided)
- A door (right 110° opening)
- A 3 points locking system with lock triangle 8mm
- 1 or 2 fixing kits for optical modules (50 cage nuts with screws and washers)

### Cabling

Fibre optic cables enter through the roof or the bottom (wall mounting). Cable clamping and fanout is also made in upper or lower part on each cabinet.



## Characteristics

<b>Construction characteristics</b>	
Colour	Light grey RAL 7035
Material	Polyester loaded with glass fibre
Cabinet format	19"
<b>Dimensional characteristics</b>	
Height	1500mm
Width	750mm
Depth	420mm
<b>Mechanical characteristics</b>	
IK Rating	8
<b>Usage characteristics</b>	
Packaging	Pallet
Watertightness	IP40
Operating temperature, range	-25 - 70 °C
Minimum static operating bending radius	30mm
Locking system	Triangle
U.V resistance	Yes
Chemical resistance	Good
Field of application	Indoor/Outdoor

# Cabinets - 19"

## wall cabinets - Indoor Application

### Description

The 19" wall-mounted cabinets COF19 can host all telecom equipment for 19" size (optical modules, active equipments, patchpanel with RJ45 jacks, ...) and thus answer to any type of network installation.

Cabinets are equipped with:

- Glass door opening to the left with key lock (right side mounting possible)
- Double-section or Removable side panels with key lock
- Front racks 19" with adjustable depth
- Fixing plate for clamping or fanout systems
- Wall-mounting
- Plate for incoming cables with brush mounted on the roof or base
- (if cabinet returned)
- Precuts on the opposite side
- Grounding barnuts with screws and washers)



### Characteristics

Construction characteristics	
Colour	Light grey RAL 7035
Material	Steel
Cabinet format	19"
Dimensional characteristics	
Height	6U to 18U
Width	600mm
Depth	350+150mm with double-section or 400mm with removable side panels
Usage characteristics	
Packaging	Box
Watertightness	IP20
Minimum static operating bending radius	30mm
Locking system	Key
Field of application	Indoor



# Cabinets

## POLYESTER

### General characteristics

- Street cabinets for FTTH networks
- Polyester reinforced fibre glass
- Resistant to corrosion and chemicals
- Light and easy to install
- Colour : Light Grey RAL 7035
- IP55/IK10 protection
- Operating temperature from -35 to +85°C
- Doors opening maximum 110°
- A 3 points door locking system with triangular lock 8mm
- Fixed on concrete slab with screws
- Compatible with 19 inch pivoting modules
- Cable entry from the bottom
- Fixing plate for cables and cable fan-out in the lower part of the cabinet
- Fixing of tubes on rear plate of cabinet
- Cabinet depth: 300 mm



- Single door cabinet
  - 1x 19 inch rack on the right
  - Width: 750mm
  - 1x8U, 1x13U, 1x19U, 1x24U
  - Height: between 750mm and 1500mm with 250mm plinth included
  - Coiling area on the left for patchcord overlengths



- Double door cabinet
  - 2x 19 inch racks, 2x 24U, left and right
  - Width: 1500mm
  - Height: 1500mm with 250mm plinth included
  - Coiling area in the middle for patch cord overlengths



SAP-code	Description
10223428	Street Cabinet Polyester 19" 8U 750x750x300
10223426	Street Cabinet Polyester 19" 13U 1000x750x300
10223427	Street Cabinet Polyester 19" 19U 1250x750x300
10238290	Street Cabinet Polyester 19" 24U 1500x750x300
10238289	Street Cabinet Polyester 19" 2x24U 1500x1500x300

# Cabinets

## Single Skin Metal

### General characteristics

- Metal street cabinets for FTTH networks
  - Available in steel or aluminium. Aluminium cabinets are lighter and offer better protection against corrosion
  - Colour : Light Grey RAL 7035
  - IP55/IK10 protection,
  - Operating temperature from -40 to +65°C
  - Doors opening maximum 120°
  - A 3 points door locking system with triangular lock 8mm
  - A removable roof from inside to access the lifting eyes
  - Side panels can be opened from inside
  - Fixed on concrete slab with screws or with fixing frame
  - Compatible with 19 inch pivoting modules
  - Cable entry from the bottom
  - Fixing plate for cables and cable fan-out in the lower part of the cabinet
  - Fixing of tubes on rear plate of cabinet
  - Cabinet depth: 350 mm
- Cabinet with one door
    - 1 rack in 19" format, capacity 23U
    - Width : 750mm
    - Height : 1350mm including 200mm skirting board
    - Left-hand coiling area for management of excess patchcords
  - Double-door cabinet
    - 2 racks in 19", 2x 28U, left and right
    - Width : 1500mm
    - Height : 1600mm with 200mm skirting included
    - Coiling area in the middle for management of patchcords overlengths
  - Other dimensions available on request
  - Optional anti-display boss available on aluminum version
  - Anti-graffiti paint optional



SAP-code	Description
10237793	Street Cabinet Single Skin Aluminium 19" 22U 1350x750x350
10238393	Street Cabinet Single Skin Aluminium 19" 2x28U 1600x1500x350
10238415	Street Cabinet Single Skin Steel 19" 22U 1350x750x350
10238414	Street Cabinet Single Skin Steel 19" 2x28U 1600x1500x350

# Cabinets

## PRI 600/800/1000

### Outdoor Application

#### Description

PRI600, 800, 1000 box are wall mounted cabinet with optical modules, is use to terminate network or equipment cables, locking key for door.

Cabinets are equipped with:

- Fixing by 4 parts at rear
- 1 x Kitting for midspan cable input ( plastique part) and
- 4 x cable gland metal
- Equipment for fibre termination cables
- Metal chassis according to IEC60068-2-11 (NF EN ISO 9227)
- Temperature: -25°C / +70°C 93% Humidity



#### Characteristics

Construction characteristics	
Colour	RAL 7032
Material	Steel
Dimensional characteristics	
PRI 600	19"-8U Height 600mm x Width 600mm x Depth 300mm
PRI 800	19"-ETSI/14U Height 800mm x Width 800mm x Depth 300mm
PRI 1000	19"-ETSI/20U Height 1000mm x Width 1000mm x Depth 300mm
Usage characteristics	
Packaging	Box
Watertightness	IP66
Minimum static operating bending radius	30mm
Locking system	Key
Field of application	Outdoor wall mounting cabinet

SAP-code	Description
10257416	PRI600 Empty
10281094	PRI600 with 2x48 FC/PC fibre precabled
10254532	PRI800 Empty
10280093	PRI800 with 1x176 FC/PC fibre precabled
10254527	PRI1000 Empty
10276847	PRI1000 with 2x176 FC/PC fibre precabled



# Outdoor solutions Aerial – Facade Underground



# Connection box OUTDROP 2+ Aerial Application

## Description

The OUTDROP box is designed for aerial deployment of subscriber cables. It is equipped with a removable cover to facilitate access to the fibres during installation and can also be secured by 1/4 turn button. The aerial box is intended for mounting on a pole or onto a facade. Its organizer tray, compatible with microbundles and loose cables, has anchoring areas for clamping the cables and a central drum for absorbing fibre overlengths.

## Fibre management

The fibres are managed by splicing cassettes. The cassettes are hinged allowing quick and easy access to the splices. The box is configurable accepting different versions of cassettes and an organizer with a maximum capacity of 72 splices. All cassettes have two slots for splitters. The SFM organizer and cassettes allows the management of bare fibre with distinction between connected fibres, in transit or on hold. In its patching version, it is limited to 24 splices and 16 SC adaptors

## Cabling configurations

The product is compatible for the use of a mid-span cable (butt or straight midspan) thanks to its two lateral ports (optional). Tight straight mid-span (or extraction) is also possible. The ports with rubber seals guarantee the protection rating for external use (IP55). They accept cable diameters up to 14mm and up to 12 drop cables from a maximum diameter of 6mm.



## Characteristics

Construction characteristics	
Colour	light grey RAL 7035
Material	Polycarbonate
Dimensional characteristics	
Height - Heightunit - Depth	78mm - 236mm - 247mm
Diameter branch cable	4 - 6mm
Diameter main cable	4 - 14mm
Number of cables	1
Number of branched cables	12
Mechanical characteristics	
IK Rating	9
Usage characteristics	
RoHS compliant	Yes
Watertightness	IP55
Operating temperature, range	-40 - 65 °C
Midspan	Yes
U.V resistance	Yes



# Connection box BRIGHTBOX™ 144 & 288 OF - Aerial & Underground Applications



## Versatility thanks to our innovative design for fibre management

Using the combs located each side, the loose tubes or microbundles can be routed directly in the organiser, but it is also possible to route each individual fibre to a splice cassette thanks to a dedicated path allowing single fibre management.

## Description

Designed to be versatile and user friendly for aerial and underground FTTx applications.

The main functions are:

- Available in two formats with 144 or 288 splices and in a patching version up to 32 SC connectors.
- Made of high quality materials to reach the IK09 shock resistance level and IP68 watertightness and dust protection.



## Smart NFC tag and INFRABIRD™ platform

The BRIGHTBOX™ also includes the latest technologies in terms of smart components... like a NFC tag in order to access the product information via smartphone, and enabling more planned features to be added in future.



## Secure thanks to the locking belt

The security of the network is one of our main concerns, and as an option, the BRIGHTBOX™ can be equipped with locking system. This controls the access to the closure using a digital solution called Nexans INFRABIRD™ to avoid any uncontrolled or accidental opening.

## Characteristics

Dimensional characteristics	
Dimensions	144 splices version - L 350 x D 230 x H 300 288 splices version - L 350 x D 200 x H 400
Diameter of main cables	6 - 20mm
Diameter of secondary cables	3 - 18mm
Number of splices	IP68 / IK09
Mechanical characteristics	
Protection IP / IK	9
Usage characteristics	
Fixing mode	Pole, wall and manhole with fixation plate
Cables entries	8 ports single or multicables 1 port for cable midspan Ø6 to Ø20mm
RoHS compliant	Yes
Watertightness	Mechanical and reversible (glands)
Operating temperature, range	-40 - 65 °C
Midspan	Yes
U.V resistance	Yes
Minimum static operating bending radius	30mm

# Mechanical splicing closure BLACKBOX Underground & outdoor applications

## Description

Innovative concept with 3 sealings  
Bringing innovative implementation  
Patented

Ultra compact and designed for multiple openings  
Underground or outdoor version

In the context of FFTH deployment, the BLACKBOX closure is used as an Optical Branch Point. Designed for Straight or Butt Mid-Span installation onto a distribution cable—either crossing or terminating, the closure ensures protection of optical cables splices in underground works.

Midspan techniques and extraction techniques are well known to bring progressive deployments of optical and FTTH networks. A main cable is laid down, underground, while offering a possible later fiber connection in manholes towards the access network.

Thanks to its 4 midspan ports, 2 windows of the same extraction cable can be done, allowing cutting and extracting at the same time in the same closure. These features bring installation time savings.

## Main functions

Protect the fibres Ensure the fibre radius Protect the fibres and the splices  
(Re)Protect the cables Re-protect the main cables Fix the main cables and distributed cables  
(Re)seal  
Frequent opening

## Design

The closure is equipped with a body and a cover closed by 4 draw latches. The main cable is prepared on a removable plate which is in turn fastened at the rear of the closure. Mechanical tightness is performed using a double rubber seal and various lengths of sealant applied on the main cable depending on their diameter. The branch cables come out of the closure through 4 mechanical tightening ports, each port having the capacity to host one or several cables (see table of sealing kits). The body is equipped with a valve allowing a pressurization after installation to check watertightness. The product is available in 3 versions depending of the type of fibre used (72OF for G657A2, 36OF for G657A1 and 24OF for G652D fibre).



Construction characteristics	
Colour	Black
Material	Thermoplastic
Dimensional characteristics	
Height - Width - Length	80mm - 195mm - 202mm
Number of cassettes	3
Splice number	36
Diameter main cable	4...15 mm
Diameter branch cable	4...6 mm
Mechanical characteristics	
IK Rating	9
Usage characteristics	
RoHS compliant	Yes
Watertightness	IP68
Operating temperature, range	-40 - 65 °C
Midspan	Yes
U.V resistance	Yes
Number of ports	8
Minimum static operating bending radius	15 mm
Packaging	Box
Installation type	Outdoor

# Connection box WTC 1.5 & 2 Aerial & Underground Applications

## Description

WTC closure range has been designed to be used in harsh environment. The product is intended to be mounted on a pole, in manhole or directly buried.

## Main functions

Fixing by 4 parts at rear

- Fully mechanical sealing system for reduced installation and re-entry time.
- The top shell, sealed with a gasket, can be easily installed and removed without special tools or torque control.
- Cable sealing devices are based on a mechanical compression system: this allows re-using all components for future upgrades or re-accessing to the closure. (No tape, glue, heat-shrink tubes or cable jacket preparation is needed).

## Grounding

Standard grounding assures electrical continuity between all cable ports (an external grounding plug is also available).

**Qualification according Telcordia GR771 norm**



**WTC 1.5**



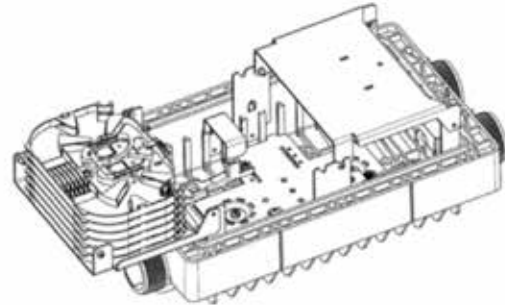
**WTC 2**

# WTC 1.5

## Diagram

### Cabling configuration

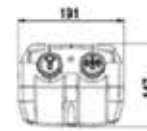
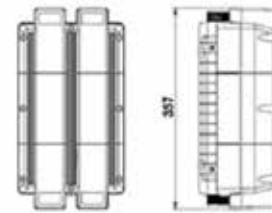
- 4 standard ports or 1 mid-span and 2 standard ports
- Re-enterable, fully mechanical watertight system
- IP68 and IK10 – can be pressurised
- Capacity: up to 144 splices
- Multi-cable sealing system
- Inline junction of cables and butt mid-span configurations



### Fibre management

Several fibre management solutions and configurations are available for loose tube, tight buffer or ribbon cable storage and management.

- Standard splice trays
- Splitter splice tray



### Cable clamping

3 points cable clamps for extremely high cable retention, or simplified 1 point clamping systems are available.

## Characteristics

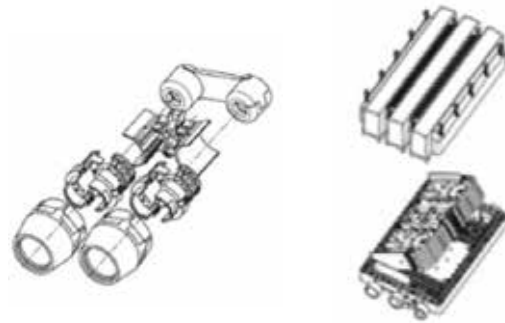
<b>Material</b>	Thermoplastic closure shell
<b>Maximum splice capacity</b>	Depending of the application and the type of splice tray Up to 72 heat-shrink splice protections, organized in 6 standard splice trays Up to 96 heat-shrink splice protections and 8 splitters 1x8 (8 splitters splice trays) Up to 144 heat-shrink splice protection, 12 splice trays All splice trays are compatible with G652D fibre (minimum bending radius of 30mm)
<b>Cable ports</b>	4 standard port or 2 standard port + 1 butt midspan port
<b>Degrees of protection</b>	IP68/IK10
<b>Sealing system</b>	Top shell: mechanical sealing (8 screws - no torque control) Cable ports: mechanical sealing (elastomer compression system)
<b>Operating temperature</b>	-30 / +70°C
<b>Splice supports</b>	Heat-shrink, ANT, focs, 3M and mass splice protections
<b>Dimensions</b>	L 357mm x W 191mm, H 147mm

## WTC 2

### Diagram

#### Cabling configuration

- 6 standard ports or 1 mid-span and 4 standard ports
- Re-enterable, fully mechanical watertight system
- IP68 and IK10. Can be pressurised
- Capacity: up 336 splices
- Multi-cable sealing system
- Inline junction of cables and butt mid-span configurations



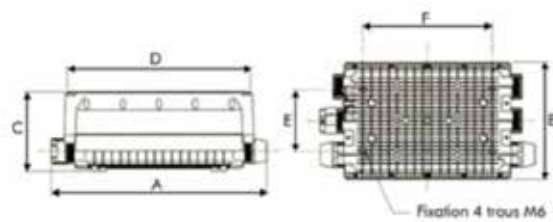
#### Fibre management

Several fibre management configurations are available for loose tube, tight buffer or ribbon cable:

- Standard splice trays

#### Cable clamping

3 points cable clamps for extremely high cable retention, or simplified 1 point clamping systems are available.



### Characteristics

Material	Reinforced thermoplastic closure
Maximum splice capacity	Up to 288 heat-shrink splice protections, organized in 6 splice trays (336 H/S splice trays using a special reversed tray organize) Up to 144 H/S splices organized in 12 splice trays (2 modules) 96 splices (info 2 trays) and up to 96 small form factors connectors
Cable ports	See the sealing product range datasheet for the number and diameter of cable
Cabling configurations	Straight splicing Rear-entrance midspan Straight midspan
Sealing system	Top shell: mechanical sealing (14 screws - no torque control) Cable ports: mechanical sealing (elastomer compression system)
Operating temperature	-30 / +70°C
Splice supports	Heat-shrink, ANT, ATI, focs, 3M and mass splice protections
Dimensions	L 500mm x W 262mm, H 179mm





**Indoor solutions**

# @XS-BOX L & XL Building entry point

## Applications

The @XS-BOX L and XL are designed for indoor (IP55 version) and outdoor (IP65 version) use.

Many standard elements allow them to be dedicated to uses such as:

- splicing at the base of a building or on a pole
- Mixing up to 96 SC for indoor (FTTH) or pile (FTTA) applications
- Cable storage with a dedicated version

## Functional characteristics

The cable entries and exits are the only metal parts, allowing them to be configured as desired. Secondary inputs are also available on the sides and top of the case. Micromodule, rigid tube or ribbon cables can be used in these boxes.

## For Splice versions

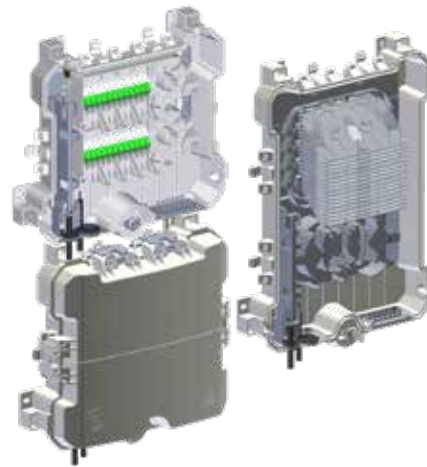
- Cassettes allowing up to 288 splices in 1 box
- Management of modules by cassette or SFM (modules stopped at organizer entry)

## For patching versions

- 48LC or 24 SC modules
- Splitters 1:2 / 1:8 / 1:16 (LC)
- 2 modules max for size L; 4 modules max for size XL
- Each module can be closed with a ¼ turn of a flat screw
- The module locks either:
  - With an 8mm triangle type lock
  - With a mechanical key
  - With an NFC connected lock

## Content

- A box (base + cover)
- 2 low metal cable entry/exit
- 2 seals for side inlets/outlets
- Installation options (cassette / storage / mixing modules)
- Screw kit and clamps
- Lock
- Element fixing plate
- Swivel basket for distribution cables
- Sold separately: pole installation kit



## Characteristics

<b>Material</b>	Thermoplastic (RAL 9010)
<b>Dimensions</b>	L: 385 x 422 x 119mm; XL: 558 x 422 x 119mm
<b>Fixation</b>	Surface mounting (gluing and screwing) Pole mounted
<b>IP</b>	55 (interior versions) 65 (outdoor versions – requires an additional seal and does not use high inlets)
<b>IK</b>	7
<b>Compatible fibre</b>	G652.D; G657.A x
<b>Operating temperature</b>	-40 / +70°C
<b>Number of connections</b>	L: 2 x 24 SC or 2 x 48 LC XL: 4 x 24 SC or 4 x 48 LC
<b>Number of splices</b>	Splicing versions : L: 144; XL: 288
<b>Cable entry</b>	Base: up to 20 mm – made to measure Lateral and high: up to 16 mm

# Basement : CROSPLUS 1

## Description

The CROS PLUS I connection boxes are a perfect solution for optical fibre connection and distribution to residential, private, collective or professional subscribers. They were developed for telecom carriers to ensure network consistency and individual line control.

CROS PLUS I is a secured optical connection box allowing capacities of 24 to 48 connectors; (up to 144 splices, or 144 uncut coiled fibre storage for the variant).

### The box is a metal two-compartment housing

- The left one houses the subscriber access connector zone,
- The right one houses cable entries, splicing trays and coiled fibres.

### Composition

The CROS PLUS I box can be configured in accordance with the included Reference System. It is delivered preequipped with :

- A patch panel,
- Splicing modules or 2-4 standard cassettes fitted with tube and pigtail affix accessories,
- A cable entry for 3 cables with 13 mm maximal diameter,
- Top and bottom jumper or drop cable guiding devices,
- A two-key security system
- One key for the carrier, one key for the subscriber



## Characteristics

Construction	
Colour	RAL 9002
Material	Glass fibre reinforced polyester
Cabinet format	19"
Dimensional	
Height - Width - Depth	420 - 360 - 150mm
Weight	10kg
Number of splices	144
Number of adaptors	24 ou 48
Tube length	3m
Pigtail length	2m
Diameter of the pigtails	900 µm to 1,1 mm
Diameter of the patchcord	de 1,6 mm to 3 mm
Mechanical	
IK Rating	8
Usage	
Watertightness	IP50 or IP54
Closing	2 keys (1 operator and 1 subscriber key)

## Basement : CROSPLUS 2

### Description

The CROS PLUS II connection boxes are a perfect solution for optical fibre connection and distribution to residential, private, collective or professional subscribers. They were developed for telecom carriers looking to ensure network consistency and individual line control.

CROS PLUS II is a secured optical connection box allowing capacities of 72 to 96 connectors and up to 288 splices, or 288 uncut coiled fibre storage. The box is a metal two-compartment housing.

#### Composition, it is delivered pre-equipped with :

- A patch panel,
- FiberArt™ or standard cassette splicing modules fitted with tube and pigtail affix accessories,
- One or several oval ports for mid span access and 2 to 6 auxiliary cable entries for a 19 mm maximum cable diameter,
- Top\* and bottom jumper or drop cable guiding devices,
- A two-key security system: one unique key for the carrier, one key for the subscriber.

The cabinet has a grounding point in its top and bottom part.

The affix devices are not included in the basic configuration and must be ordered separately.



### Characteristics

<b>Construction</b>	
<b>Colour</b>	RAL 9002
<b>Material</b>	Glass fibre reinforced polyester
<b>Cabinet format</b>	19"
<b>Dimensional</b>	
<b>Height - Width - Depth</b>	607- 481 - 150mm
<b>Number of splices</b>	288
<b>Number of adaptors</b>	72 or 96
<b>Tube length</b>	3m
<b>Pigtail length</b>	2m
<b>Diameter of the pigtails</b>	de 900 µm to 1,1 mm
<b>Diameter of the patchcord</b>	de 1,6 mm to 3 mm
<b>Mechanical</b>	
<b>IK Rating</b>	8
<b>Usage</b>	
<b>Watertightness</b>	IP50 or IP54
<b>Closing</b>	2 keys (1 operator and 1 subscriber key)

# Floor box : @XS-BOX M Splicing Version

## Description

The @XS-BOX M line is designed to manage the building distribution of a riser cable to subscribers as part of FTTH deployments.

### Main functions

- Clamping of riser cable Ømax 14mm to right or left\* with open cable protection and on-demand fibre
- extraction management
- Clamping of up to 24 drop cables Ømax 5mm, 12 at the top and 12 at the bottom
- Management and protection of fibres and splices in 2 architectures 1OF/Sub. or 2-41OF/Sub.
- Horizontal or vertical wall mounting by screws (provided) inside or outside the housing

Storage by plastic collars (provided) with possibility to fix carriers and / or aramids of the cable.

### Composition

The @XS-BOX M is built around a base and a cover, to which are added the cassettes answering to the selected wiring architecture. Optionally, it can incorporate 2 ¼ turn screws to secure the closure.

### Cabling

The @XS-BOX M is optimised for extraction installation, but it is also compatible with termination and midspan configurations. In the body, various zones of coiling make it possible to manage bundles and 900µm fibres connected or waiting to avoid any incident when connecting a new subscriber. The 2 configurations proposed allow a connection of the subscribers on demand in a common tray of capacity 12/24 splices compatible fibres G652D / G657A or in 1 to 4 double-sided trays of capacity 4 splices by face (1 subscriber by face therefore max 8 subscribers) compatible G657A only.



## Characteristics

Dimensional	
Height - Width - Depth	180mm - 125mm - 42mm
Mechanical	
IK Rating	8
Usage	
Fire resistant	UL 94 V0
Operating temperature, range	-10 - 60 °C



# Optical termination outlets OTO @XS QUAD, SLIM & FAST



Packaging OTO and 500M indoor/outdoor cable

## Description

Optical Terminal Outlets (OTOs) are used in the context of FTTH for SDU and MDU. Termination inside the home as the demarcation point between the operator and home cabling. Designed for ease of installation, reliable connection and attractive design.

- SLIM, QUAD, FAST design variants
- 1-4 fibres / Coax / RJ45
- Can be customised with laser printed logos
- Dust & splash proof

Available as outlet only or as a kit complete with cable. Can be installed without opening the termination box.



Packaging OTO & 30m indoor cable or Packaging OTO and 100-300m indoor/outdoor cable



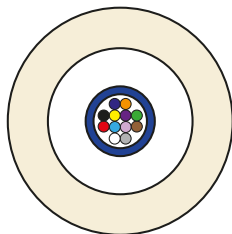
OTO @XS QUAD



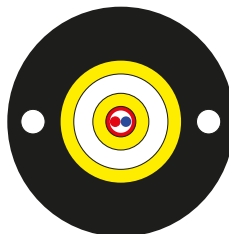
OTO @XS SLIM



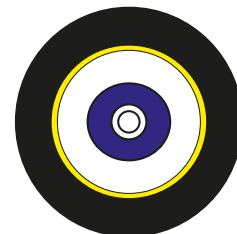
OTO @XS FAST



Single sheath indoor and outdoor



Double sheath indoor and outdoor aerial



Single sheath aerial

## OTO @XS-QUAD

### Description

The OTO can receive, either from one of the sides or from the rear, a pre-connected connection cable type L1081, L1082, L 1083, L1084, L1087 or L1088 pre-connected or connected by means of «field» mountable connectors.

Equipped with a splicing support and a coiling zone, this outlet allows fibre-to-fibre connection to a pre-installed pigtail.

Supplied with a multi-support plate, the outlet can be mounted on the wall, on a flush-mounted box or on DIN rail. The OTOs identification label is protected by a transparent front flap.

The optical cable is located at the bottom of the OTO with an internal or external SC flap adaptor that ensures protection against laser emission and dust.

### Components

The packaging bag contains:

- An outlet
- A multi-support plate to secure the outlet
- 1 to 4 pre-installed SC adaptors
- 1 to 4 pre-installed SC/APC colour pigtails



### Characteristics

<b>Construction</b>	
Colour	White RAL 9010
<b>Dimensional</b>	
Height - Width - Depth	80mm - 80mm - 25mm
Cable diameter, range	2 - 5mm
Number of splices	4
Maximum number of adaptors	4
Optical performance	Grade B1
<b>Mechanical</b>	
IK Rating	5
<b>Usage</b>	
Adaptor	SC/APC
Operating temperature, range	-5 - 45 °C
Watertightness	IP50
U.V resistance	Yes
Fire resistant	UL 94 V0
Minimum static operating bending radius	15mm
Identification flap, QR code and NFC	Inside

## OTO @XS-SLIM

### Description

The OTO can receive, either from one of the sides or from the rear, a pre-connected connection cable type L1081, L1082, L1087, L1088 pre-connected or connected by means of field mountable connectors.

Equipped with a splicing support and a coiling zone, this outlet allows fibre-to-fibre connection to a pre-installed pigtail.<

Supplied with a multi-support plate, the outlet can be mounted on the wall, on a flush-mounted box or on DIN rail. The OTO's identification label is protected by a transparent front flap.

The optical cable is located at the bottom of the OTO with an internal or external SC flap adaptor that ensures protection against laser emission and dust.

### Components

The packaging bag contains:

- An outlet
- A multi-support plate to secure the outlet
- A pre-installed SC adaptor
- A pre-installed coloured SC/APC pigtail



### Characteristics

<b>Construction</b>	
Colour	White RAL 9010
<b>Dimensional</b>	
Height - Width - Depth	80mm - 80mm - 25mm
Cable diameter, range	2 - 5mm
Number of splices	2
Maximum number of adaptors	1
Optical performance	Grade B1
<b>Mechanical</b>	
IK Rating	5
<b>Usage</b>	
Adaptor	SC/APC
Operating temperature, range	-5 - 45 °C
Watertightness	IP50
U.V resistance	Yes
Fire resistant	UL 94 V0
Minimum static operating bending radius	11mm
Identification flap, QR code and NFC	Inside

## OTO @XS-FAST

### Description

The OTO can be fitted with a pre-connected L1080, L1081, L1082, L1083, L1087 or L1088 connecting cable from either side or from the rear or with field connectors.

Equipped with a splicing support and a coiling zone, this outlet allows fibre-to-fibre connection to a pre-installed pigtail.

Supplied with a multi-support plate, the outlet can be mounted on the wall, on a flush-mounted box, on a DIN rail and on most of the electrical equipment mounting supports on the market.

The optical cable is located at the bottom of the OTO with an internal or external SC flap adaptor that

### Components

The packaging bag contains:

- An outlet
- A multi-support plate to secure the outlet
- A pre-installed SC adaptor
- A pre-installed coloured SC/APC pigtail



### Characteristics

<b>Construction</b>	
Colour	White RAL 9010
<b>Dimensional</b>	
Height - Width - Depth	80mm - 80mm -18mm
Cable diameter, range	2 - 7mm
Number of splices	2
Maximum number of adaptors	2
Optical performance	Grade B1
<b>Mechanical</b>	
IK Rating	5
<b>Usage</b>	
Adaptor	SC/APC
Operating temperature, range	-5 - 45 °C
Watertightness	IP50
U.V resistance	Yes
Fire resistant	UL 94 V0
Minimum static operating bending radius	15mm
Identification flap, QR code and NFC	Inside



**Fibre optic cable**



# Unitube cable up to 24OF – Indoor & Outdoor cable

**Aginode Design Ref : SP1715**

## Description

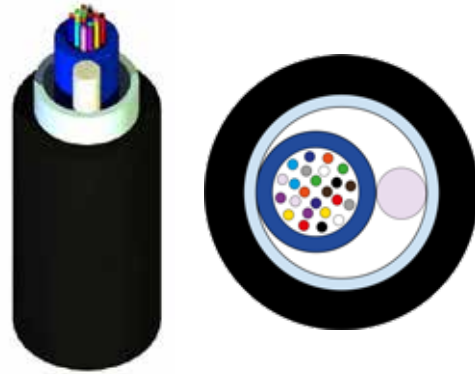
This cable contains up to 24 fibres and offers anti-rodent protection provided by glass yarns. It has a wide operation temperature range and can be installed in ducts by pulling or blowing. Its LSZH-FR outer sheath makes it suitable for Indoor installation.

## Applications

- Tube filled with jelly
- Anti-rodent protection provided by glass yarns
- Waterproof structure
- All dielectric design
- Installation by pulling or blowing
- Wide temperature range
- LSZH-FR sheath
- Flame non propagation (IEC 60332-1 & NFC 32070-C2)

## Construction

- Tube
- Optical fibres Ø 250 µm
- Jelly
- Reinforcing watertight glass yarns
- Ripcord
- FRP reinforcement
- LSZH-FR material outer sheath



## Characteristics

<b>Construction</b>	
Construction type	Unibundle
Fibre optic type	SM (G657.A2)
Outer sheath	LSZH-FR
Strength member	FRP
Armour	Watertight glass yarns
<b>Dimensional</b>	
Nominal outer diameter	6.9 mm
Approximate weight	56 kg/km
Max. number of optical fibres	24
<b>Mechanical</b>	
Maximum pulling force (IEC-60794-1-E1)	180 daN
Maximum operating pulling force	50 daN
Minimum bending radius without tension	110 mm
Minimum bending radius with tension	150 mm
Compression (IEC-60794-1-E3)	200 daN/dm
Impacts (IEC-60794-1-E4)	3 impacts of 3 N.m
<b>Usage</b>	
Storage temperature, range	-30 - 70 °C
Bending factor when laying	20(xD)
Operating temperature, range	-30 - 60 °C

# Drop - unibundle cable - Indoor & Outdoor cable

Aginode Design Ref : SP1766

## Description

- This unibundle cable is designed for indoor/outdoor installation.
- This cable has an outstanding fire behaviour.
- This cable can be operated under a large temperature range.

### Design:

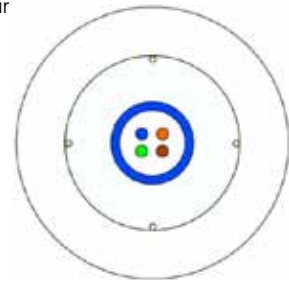
The LSZH cable has a central bundle with maximum 12 fibres inside. The design is reinforced by a layer of watertight glass yarns and a LSZH\* sheath.

Fibre type: the LSZH cable is available with singlemode and multimode fibres.

Technical performances: The unibundle cable performances are specified in the following tables.

Additional details: this cable is provided as a standard with a black sheath, other sheath colours are also available. Long exposure to UV with these others colours could generate colour fading.

\* LSZH: Low Smoke Zero Halogen.



## Characteristics

<b>Construction</b>	
Fibre optic type	SM (G657.A1)
Material used for longitudinal watertightness	Watertight glass yarns
Additional strength member	Glass yarn
Outer sheath	LSZH
Halogen free	IEC 60754-1
Metal free	Yes
Colour	White
<b>Dimensional</b>	
Nominal outer diameter	4,1 mm
Approximate weight	21 kg/km
Number of optical fibres	4
Number of optical fibres, range	1 -12
<b>Mechanical</b>	
Maximum installation tension	750 N
Maximum permanent tensile load	0.2 kN
Crush resistance (IEC 60794-1-E3)	200N/cm
Mechanical resistance to impacts	10 impacts of 3 N.m
<b>Usage</b>	
Flame retardant	IEC 60332-1
Fire retardant	IEC 60332-3
Smoke density	IEC 61034-2
U.V resistance	very good
Waterproof	longitudinal & radial
Installation type	indoor and outdoor
Installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 60 °C
Operating temperature, range	-30 - 40 °C
Minimum static operating bending radius	15mm
Laying operation bending radius	15mm

# Distribution unitube cable – Indoor & Outdoor cable

Aginode Design Ref : SP1891

## Description

- This unitube cable is designed for indoor/outdoor installation.
- This cable has a good fire behaviour.
- This cable can be operated under a large temperature range.

## Design

The UG LSZH SP1891 cable has a design with a central loose tube containing up to 24 fibres. This structure is surrounded by a layer of reinforcement yarns and two lateral strength members into the \*LSZH outer jacket.

## Fibre type:

The UG LSZH SP1891 cable is available with singlemode and multimode fibres.

## Additional details:

This cable is provided as a standard with a black sheath, other sheath colours are also available. Long exposure to UV with these other colours could generate colour fading.

\*LSZH: Low Smoke Zero Halogen.



## Characteristics

Construction	
Construction type	Unitube
Fibre optic type	SM (G657.A1)
Material used for longitudinal watertightness	Swellable yarn
Outer sheath	LSZH
Halogen free	IEC 60754-1
Metal free	-
Colour	Black
Dimensional	
Nominal outer diameter	6,0 mm
Approximate weight	45 kg/km
Mechanical	
Maximum installation tension	1100 N
Maximum permanent tensile load	- kN
Crush resistance (IEC 60794-1-E3)	200 N/cm
Mechanical resistance to impacts	3 impacts of 3 N.m
Usage	
Flame retardant	IEC 60332-1
Gases toxicity	IEC 60754-1
U.V resistance	very good
Water proof	Longitudinal & radial
Installation type	Indoor/Outdoor
Installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 60 °C
Operating temperature, range	-30 - 60°C
Minimum static operating bending radius	-mm
Laying operation bending radius	-mm

# DROP cable 2OF Aerial cable

## Construction

- Micromodule 900µm (dry)
- LSZH inner cord with 2.7mm diameter.
- Aramid yarns reinforcements for aerial applications
- PE UV resistant outersheath

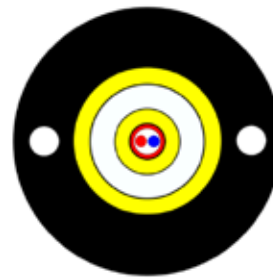
Aginode Design Ref : SP1937

## Description

This cable is designed for subscriber connections in terminal part. It's suitable for aerial and facade installation.

## Applications

- Dual sheath cable
- All dielectric design
- UV resistant PE outersheath
- LSZH inner sheath : Cca s1a d1 a1
- Waterproof structure



## Characteristics

Construction	
Construction type	Unibundle
Fibre optic type	SM (G657.A2)
Outer sheath	PE
Metal free	Yes
Armour	Aramid yarn
Colour	Black
Dimensional	
Nominal outer diameter	6.1 mm
Approximate weight	29 kg/km
Number of optical fibres	2
Number of tubes	1
Mechanical	
Maximum tensile load during service (TI)	26,0 daN
Crush resistance (IEC 60794IE3)	200 N/cm
Maximum admissible traction load (Tm)	80 daN
Usage	
Installation type	outdoor
Installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 70 °C
Bending factor when laying	20(xD)
Operating temperature, range	-40 - 70 °C

# DROP cable 10F Aerial cable

Aginode Design Ref : SP1953

## Description

This cable is designed for subscriber connections in terminal part. It's suitable for aerial installation.

## Applications

- Compact cable
- All dielectric design
- UV resistant LSZH outersheath
- Waterproof structure
- Compatible with fitting accessories

## Construction

- Maxistrip fibre 900µm (strippability 1m) with water swellable yarn
- Glass and aramid yarns reinforcements for aerial applications
- Ripcord
- LSZH UV resistant outersheath

**Euroclass**  
Dca s2 d1 a1



## Characteristics

<b>Construction</b>	
Construction type	Unibundle
Fibre optic type	SM (G657.A2)
Outer sheath	LSZH-FR
Metal free	Yes
Armour type	Glass yarns
Colour	Black
<b>Dimensional</b>	
Nominal outer diameter	4.5 mm
Approximate weight	20 kg/km
Number of optical fibres	1
Number of tubes	1
<b>Mechanical</b>	
Maximum tensile load during service (TI)	60,0 daN
Crush resistance (IEC 607941E3)	250 N/cm
Maximum admissible traction load (Tm)	100 daN
<b>Usage</b>	
Installation type	outdoor
Installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 70 °C
Bending factor when laying	20(xD)
Operating temperature, range	-40 - 70 °C



# B-LITE<sup>3</sup> microcable 6x12OF Underground cable

## Construction

- 6 Jelly filled microbundles containing coloured fibres
- Central FRP strength member
- Very Low friction outer sheath
- PA outer sheath

**Aginode Design Ref : SP1896**

## Description

This compact cable is used for Access, Distribution, City Network and FTTx applications. It is designed to be quickly installed by blowing in micro-ducts.

## Applications

- High blowing distance due to the excellent friction properties of the outer sheath
- Right balance between flexibility and rigidity
- Easy installation with mid span access possibility
- Easy micro bundle stripability
- Central strength member reinforcement
- All dielectric design
- Waterproof structure



## Characteristics

<b>Construction</b>	
Construction type	Multibundle
Fibre optic type	SM
Outer sheath	PA
Armour	Unarmoured
Strength member	FRP
Metal free	Yes
Colour	Black
<b>Dimensional</b>	
Nominal outer diameter	4,7 mm
Approximate weight	22 kg/km
Number of optical fibres	72
Number of tubes	6
<b>Mechanical</b>	
Maximum admissible traction load (T <sub>m</sub> )	36 daN
Maximum tensile load during service (T <sub>I</sub> )	10,0 daN
Crush resistance (IEC 60794-1-E3)	100 N/cm
<b>Usage</b>	
Installation type	Outdoor - Microduct blowable
Ambient installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 70 °C
Bending factor when laying	70(xD)
Operating temperature, range	-30 - 70 °C

# B-LITE<sup>3</sup> microcable 6x12OF Underground cable

## Construction

- Jelly filled microloose tubes containing coloured fibres
- Central FRP strength member
- Very Low friction outer sheath

Aginode Design Ref : SP2003

## Description

This compact cable is used for Access, Distribution, City Network and FTTx applications. It is designed to be quickly installed by blowing in micro-ducts.

## Applications

- High blowing distance due to the excellent friction properties of the outer sheath
- Right balance between flexibility and rigidity
- Easy installation with mid span access possibility
- Central strength member reinforcement
- All dielectric design
- Waterproof structure



## Characteristics

<b>Construction</b>	
Construction type	Multitube
Fibre optic type	SM
Outer sheath	HDPE
Strength member	FRP
Metal free	Yes
<b>Dimensional</b>	
Nominal outer diameter	5,3 mm
Approximate weight	23 kg/km
Number of optical fibres	72
Number of tubes	6
<b>Mechanical</b>	
Maximum admissible traction load (T <sub>m</sub> )	50 daN
Maximum tensile load during service (T <sub>I</sub> )	20,0 daN
Crush resistance (IEC 60794-1-E3)	100 N/cm
<b>Usage</b>	
Installation type	Outdoor - Microduct blowable
Ambient installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 70 °C
Bending factor when laying	20(xD)
Operating temperature, range	-30 - 60 °C

# B-LITE<sup>3</sup> microcable 8x12OF Underground cable

**Aginode Design Ref : SP2004**

## Description

This compact cable is used for Access, Distribution, City Network and FTTx applications. It is designed to be quickly installed by blowing in micro-ducts.

## Applications

- High blowing distance due to the excellent friction properties of the outer sheath
- Right balance between flexibility and rigidity
- Easy installation with mid span access possibility
- Central strength member reinforcement
- All dielectric design
- Waterproof structure

## Construction

- Jelly filled microloose tubes containing coloured fibres
- Central FRP strength member
- Very Low friction outer sheath



## Characteristics

<b>Construction</b>	
Construction type	Multitube
Fibre optic type	SM
Outer sheath	HDPE
Strength member	FRP
Metal free	Yes
<b>Dimensional</b>	
Nominal outer diameter	6,2 mm
Approximate weight	31 kg/km
Number of optical fibres	96
Number of tubes	8
<b>Mechanical</b>	
Maximum admissible traction load (T <sub>m</sub> )	60 daN
Maximum tensile load during service (T <sub>I</sub> )	20,0 daN
Crush resistance (IEC 60794-1-E3)	100 N/cm
<b>Usage</b>	
Installation type	Outdoor - Microduct blowable
Ambient installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 70 °C
Bending factor when laying	20(xD)
Operating temperature, range	-30 - 60 °C

# Microbundle RSM cable 4x12OF Underground cable

## Construction

- Jelly filled microbundles containing coloured fibres
- Radial FRP strength members
- Glass yarns reinforcement
- Water swellable tape
- HDPE outer sheath

Aginode Design Ref : SP1868

## Description

This ruggedized cable is used for Access, Distribution, City Network and FTTx applications. It is designed to be quickly installed by pulling, blowing and on aerial.

## Applications

- Ruggedized cable design
- Easy installation with mid span access possibility
- Easy micro bundle stripability
- Glass yarns and radial strength members reinforcement
- All dielectric design
- Waterproof structure



## Characteristics

Construction	
Construction type	Multibundle
Fibre optic type	SM
Outer sheath	HDPE
Armour	Glass yarns
Strength member	Embedded FRP
Metal free	Yes
Colour	Black
Dimensional	
Nominal outer diameter	8,6 mm
Approximate weight	60 kg/km
Number of optical fibres	48
Number of tubes	4
Mechanical	
Maximum admissible traction load (Tm)	188 daN
Crush resistance (IEC 60794-1-E3)	250 N/cm
Usage	
Ambient installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 70 °C
Bending factor when laying	20(xD)
Operating temperature, range	-30 - 60 °C

# Microbundle RSM cable 6x12OF Underground cable

Aginode Design Ref : SP1845

## Description

This ruggedized cable is used for Access, Distribution, City Network and FTTx applications. It is designed to be quickly installed by pulling, blowing and on aerial.

## Applications

- Ruggedized cable design
- Easy installation with mid span access possibility
- Easy micro bundle stripability
- Glass yarns and radial strength members reinforcement
- All dielectric design
- Waterproof structure

## Construction

- Jelly filled microbundles containing coloured fibres
- Radial FRP strength members
- Glass yarns reinforcement
- Water swellable tape
- HDPE outer sheath



## Characteristics

Construction	
Fibre optic type	SM (G657.A2)
Outer sheath	HDPE
Armour type	Glasse yarns
Construction type	Multibundle
Strength member	Embedded FRP
Metal free	Yes
Sheath colour	Black
Dimensional	
Nominal outer diameter	10,1 mm
Approximate weight	74 kg/km
Number of optical fibres	72
Number of tubes	6
Mechanical	
Maximum admissible traction load (Tm)	200 daN
Crush resistance (IEC 60794-1-E3)	250 N/cm
Usage	
Installation type	Outdoor - Duct
Ambient installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 70 °C
Bending factor when installed	20(xD)
Operating temperature, range	-30 - 70 °C



# Microbundle RSM cable 12x12OF Underground cable

Aginode Design Ref : SP1840

## Description

This ruggedized cable is used for Access, Distribution, City Network and FTTx applications. It is designed to be quickly installed by pulling, blowing and on aerial.

## Applications

- Ruggedized cable design
- Easy installation with mid span access possibility
- Easy micro bundle stripability
- Glass yarns and radial strength members reinforcement
- All dielectric design
- Waterproof structure

## Construction

- Jelly filled microbundles containing coloured fibres
- Radial FRP strength members
- Glass yarns reinforcement
- Water swellable tape
- HDPE outer sheath



## Characteristics

Construction	
Fibre optic type	SM
Outer sheath	HDPE
Armour type	Glass Yarns
Construction type	Multibundle
Strength member	Embedded FRP
Metal free	Yes
Sheath colour	Black
Dimensional	
Nominal outer diameter	11,0 mm
Approximate weight	105 kg/km
Number of optical fibres	144
Number of tubes	12
Dimensional	
Maximum admissible traction load (Tm)	240 daN
Crush resistance (IEC 60794-1-E3)	250 N/cm
Usage	
Installation type	Outdoor - Duct
Ambient installation temperature, range	0 - 40 °C
Storage temperature, range	-40 - 70 °C
Bending factor when installed	20(xD)
Operating temperature, range	-30 - 70 °C

# Unitube metallic armoured cable 1x24OF - Underground cable

**Aginode Design Ref : SP1830**

## Description

This unitube cable is used in the Access, Distribution, City Network and FTTx applications; it is designed to be easily installed in outdoor installations.

## Applications

- Direct buried or in duct installation
- Robust design
- Waterproof structure
- Excellent rodent protection

## Fibre type

The cable is available with different fibre types.

## Construction

- Operating temperature, range
- Storage temperature, range
- Bending factor when laying



## Characteristics

<b>Construction</b>	
Structure	Unitube
Fibre optic type	SM
Outer sheath	HDPE
Armour	Corrugated steel
Dielectric	No
Colour	Black
<b>Dimensional</b>	
Nominal outer diameter	8,5mm
Approximate weight	85 kg/km
Number of optical fibres	24
Number of tubes	1
<b>Mechanical</b>	
Maximum admissible traction load (Tm)	150 daN
<b>Mechanical</b>	
Installation type	Outdoor -duct
Operating temperature, range	0 - 40 °C
Operating temperature, range	-40 - 70 °C
Storage temperature, range	-40 - 70 °C
Bending factor when laying	20(xD)

# Multitube cable MC up to 72OF Underground cable

**Aginode Design Ref : SP1505**

## Description

This cables cable is recommended for direct buried installation. Its metallic armour provides a high resistance to compression and an excellent rodent protection. It contains up to 6 tubes with up to 12 fibres per tube.

## Applications

- Central FRP strength element (Fibre Reinforced Plastic)
- Tube filled with jelly
- Metallic armouing
- Anti-rodent protection provided by corrugated steel

- Waterproof structure
- Superior Crush resistance
- Reinforced outer sheath with UV resistance

## Construction

- Central strength member
- Tubes
- Optical fibres Ø 250 µm
- Jelly
- Binding element
- Corrugated steel armour
- HDPE outer sheath
- Ripcords



## Characteristics

<b>Construction</b>	
Fibre optic type	Ø 250 µm
Outer sheath	HDPE
Armour	Corrugated steel
Strength member	Yes
Metal free	Non
<b>Dimensional</b>	
Nominal outer diameter	11,5mm
Approximate weight	142 kg/km
Number of optical fibres	12 fibres per tube
Number of tubes	6
<b>Mechanical</b>	
Maximum pulling force (IEC-60794-1-E1)	240 daN
Maximum operating pulling force	125 daN
Minimum bending radius without tension	175mm
Minimum bending radius with tension	230mm
Compression (IEC-60794-1-E3)	300 daN/dm
Impacts (IEC-60794-1-E4)	10 impacts of 3 N.m
<b>Usage</b>	
Operating Temperature range (IEC-60794-1-F1)	-30 - 70 °C
Storage Temperature range	-40 - 70 °C

# Unitube dielectric armoured cable 1x12OF - Underground cable

**Aginode Design Ref : SP681**

## Description

This unitube cable is used in the Access, Distribution, City Network and FTTx applications; it is designed to be easily installed in outdoor installations.

## Applications

- Easy installation due to the friction properties of the outer sheath
- Robust design
- Waterproof structure

## Fibre type:

The cable is available with different fibre types.

## Construction

- Jelly filled tube
- Reinforcement elements
- Low friction outer sheath



## Characteristics

<b>Construction</b>	
Construction type	Unitube
Fibre optic type	SM
Outer sheath	HDPE
Armour	FRP
Dielectric	Yes
Colour	Black
<b>Dimensional</b>	
Nominal outer diameter	8,1mm
Approximate weight	62 kg/km
Number of optical fibres	12
Number of tubes	1
<b>Mechanical</b>	
Maximum admissible traction load (Tm)	320 daN
<b>Usage</b>	
Installation type	Outdoor - duct
Installation temperature, range	0 - 40 °C
Operating temperature, range	-40 - 70 °C
Storage temperature, range	-40 - 70 °C
Bending factor when laying	20(xD)

#smartconnection



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