

# optotec

## OPTO-CAB PFS4

### Street Cabinet Fiber Distribution Node



Compact street cabinets OPTO-CAB are a key element in the FTTH, GPON, P2P networks. They are ideal for a quick activation and final users re-configuration process.

PFS4 cabinet is a single/multioperator street cabinet based upon on-demand installation of 1:16 compact HLGX splitter modules.

Capex is reduced in first installation and grows with your network deployment! Splitter GPON functionality comes together with P2P splicing availability, high flexibility, easy installation and safety enclosure system in order to speed both reconfiguration and maintenance operations. Customized configurations with LC standard connectors and cassettes color available upon request.

#### TECHNICAL FEATURES

- Mechanical Impact resistance: IK 10 (IEC EN 62262)
- Water/Dust protection: IP 55 (IEC EN 60529)
- Plug and play splitter solutions for easy and fast installation.
- Extra-length area for managing and crossconnection of the splitters ports.
- Stainless steel AISI304 enclosure
- Embossed polyester powder coating (UV resistant).
- Safety handle and knob to secure the movements of the plate during maintenance.
- Mechanical lock system (two points) with rotation handle. Different cylinders available (EK333 EN 1303 standard).
- Possibility to install an extension element to increase the capacity.
- RFID tag, barcode labels, colored labels to allow easy identification and traceability of trays, PLC splitters modules and leads.

#### APPLICATIONS

- Single operator large fiber GPON splitter distribution node
- Single operator large fiber GPON splitter distribution node

#### INSTALLATIONS

- Outdoor even close to wall
- Indoor to serve large buildings

# COMPONENTS AND CONFIGURATIONS

## DIMENSIONS

WIDTH 650mm  
 HEIGHT 110mm  
 DEPTH 250mm

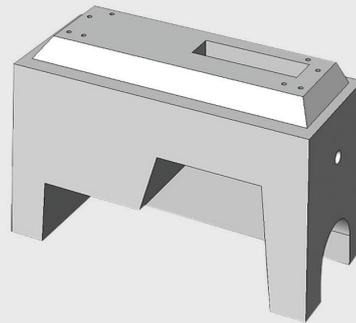
BASE HEIGHT 250mm



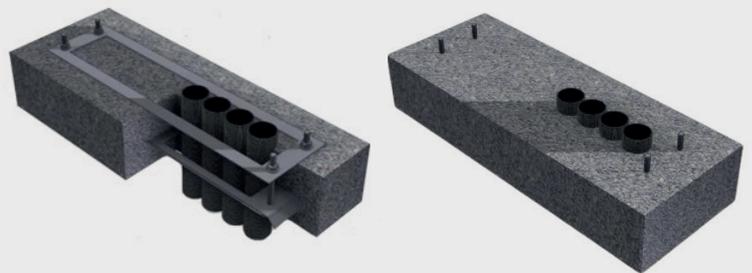
## FIXING METHODS

Concrete Base  
 UNI EN 206 - UNI 11104

No. 8 threaded bushing M12 with cap



Field-made concrete on a fixation bracket (supplied with the basic kit)



## PACKAGING

PRODUCT NAME	PACKAGING TYPE	DIMENSIONS (MM)			GROSS WEIGHT (KG.)
		WIDTH	DEPTH	HEIGHT	
OPTO-CAB PFS4	Carton Box Type: KMFMK 66266 BC	700	250	1400	36,2

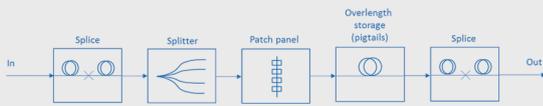
*Protection and separator of the cabinet and foundation template POLYSTYRENE*

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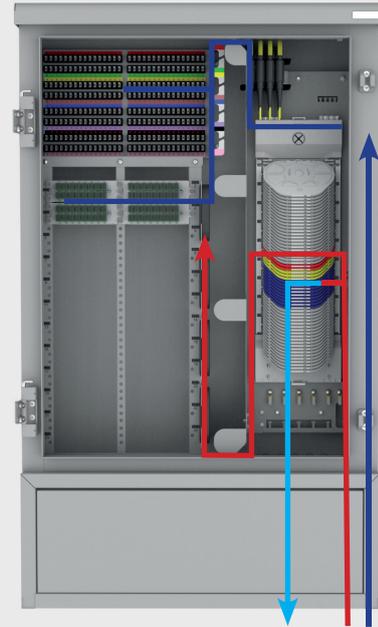
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## OPTICAL SCHEME

The connection to the fiber optic network occurs through the primary splitters entrance cables which must be spliced by using heat-shrinkable protectors type



- SUBSCRIBERS GPON CABLES
- FEEDER CABLES
- SUBSCRIBERS P2P CABLES



## FUNCTIONAL LAYOUT AREAS

GPON Termination Area  
Frame with 256 SC/APC Adapters

Splitter Area  
4 HLGX 1:16 splitters (expandable up to 24)

Subscribers Pigtails  
Managing Area

Splicing and parking area of the fibers  
N.22 splice modules for secondary network (256 fo)

N.2 splice modules for splitter inputs (24fo)

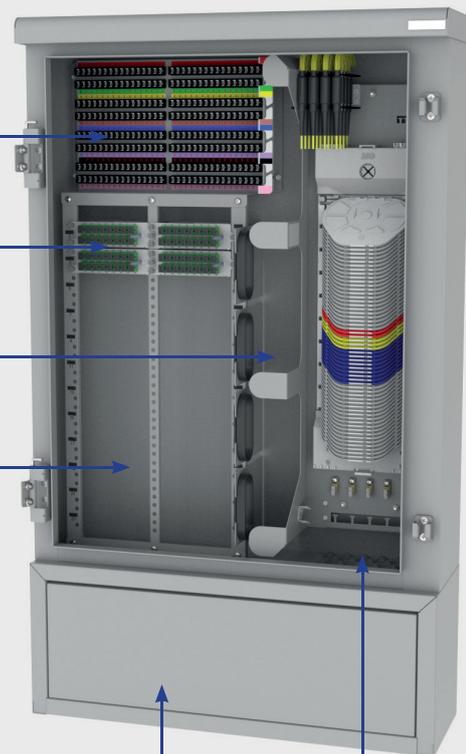
N.3 primary parking modules (72 fo)

N.9 PtP splice modules (96 fo)

N.20 SF modules for secondary parking (480 fo)

Compartment  
Cable management

Cable entry and termination area  
Primary and secondary cables



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## FUNCTIONAL LAYOUT AREAS

**1 - SPLITTER AREA:** Area dedicated to splitters management.

A maximum of 24 1:16 splitters can be housed, arranged on two vertical rows of 12 splitters each

**2 - SPLICING AND PARKING AREA:** Area dedicated to splice management, organized for the following applications:

- Patch of GPON fibers, that is the junctions between the fibers of network cables secondary output and the 16 PIOVRA patch from 16 SC / APC units (256 fibers).
- Patch of the input fibers to the splitters, that is the junctions between the cables primary input network and the input fibers of the splitters (24 fibers).
- Splicing of point-to-point connections, provided through the splicing of the fibers spare afferent from the primary network side and those from the secondary network side (72 fibers)
- Parking of spare fibers on the secondary network side (max. 72 fibers)
- Parking of spare fibers on the secondary network side (max. 480 fibers)

**3 - GPON TERMINATION AREA:** Parking area of the GPON fibers patched with the semi-patchcords of the breakouts coming from the splice area. The parking lot houses all 256 GPON patches.

**4 - GPON PATCHCORDS MANAGEMENT AREA:** Area for handling the GPON connection termination half-brackets, during the activation / permutation and customer termination phases, including the recovery of extra lengths.

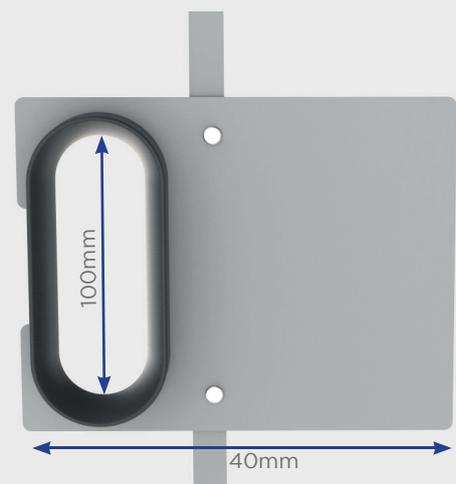
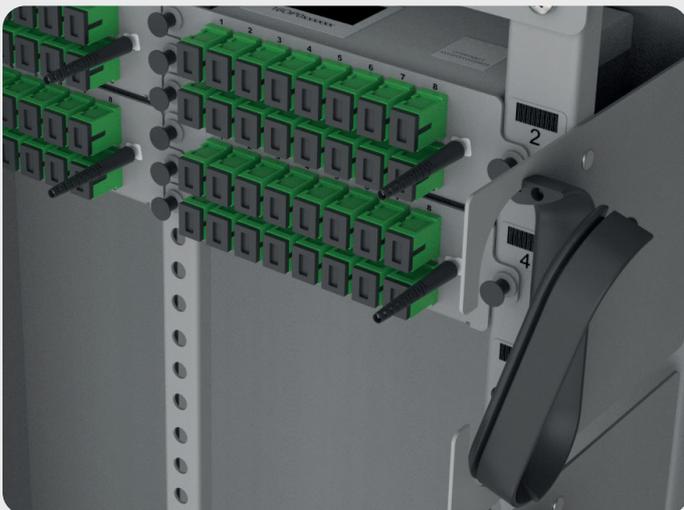
**5 - CABLE ENTRY AREA:** Primary / secondary network cable management area (sealing and mechanical fastening of sheaths and any pulling elements) and related tubes relating to the GPON management area or to the Point-to-Point management area.

### 1 - SPLITTER AREA



The splitter installation area is made up of a metal structure where the single module can be installed toolless.

- Capacity: 24 modules arranged in 2 rows of 12.
- Holes for housing the splitter pressure pawls (3 per module).
- Positions numbered with an adhesive label with numbers and barcode, also visible when the modules are inserted
- Horizontal fiber guides: on the right side of the structure there are 4 fiber guides -1 every 6 modules - of large dimensions and can be opened for better operator comfort.



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## 2 - SPLICING AND PARKING AREA

Allows splicing between incoming primary network cables and splitter entry ports and neatly parking unused fibers. It is organized according to the following scheme:

[2x] 23..24 **GREY** trays SPLT-01 to SPLT-02  
Up to 12fo splices per tray connecting the input legs of the splitters to the feeder GPON fibers

[9x] 28..37 **RED** trays P2P-01 to P2P-09  
Up to 12fo splice per tray connecting Point-to-Point feeder fibers to the secondary network

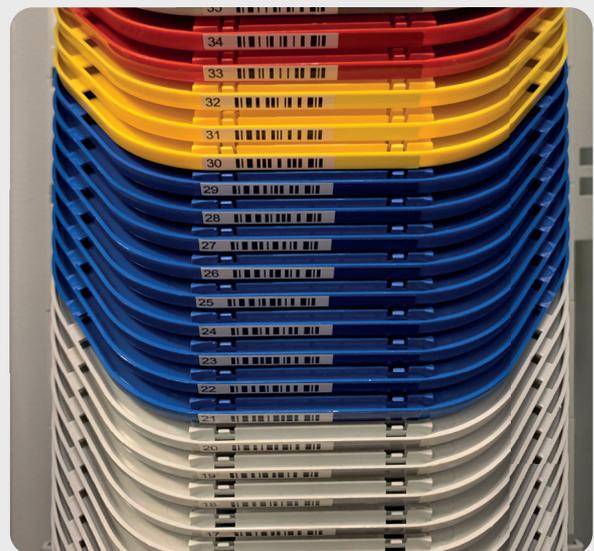
[3x] 25..27 **YELLOW** trays APARK-01 to APARK-03  
Parking trays up to 24fo each suitable for unused fibers of the feeder GPON cable

[20x] 38..58 **BLUE** trays GPARK-01 to GPARK-20  
Parking trays up to 48fo each suitable for unused fibers of the secondary network cables

[2x] 23..24 **GREY** trays SPLT-01 to SPLT-02  
Up to 12fo splices per tray connecting the input legs of the splitters to the feeder GPON fibers



- Splice modules house standard heat shrink protection fusion splice protectors (2.4 diam. 45 mm)
- Each module is numbered with a not removable PVC label indicating the number and relative barcode (code 128)



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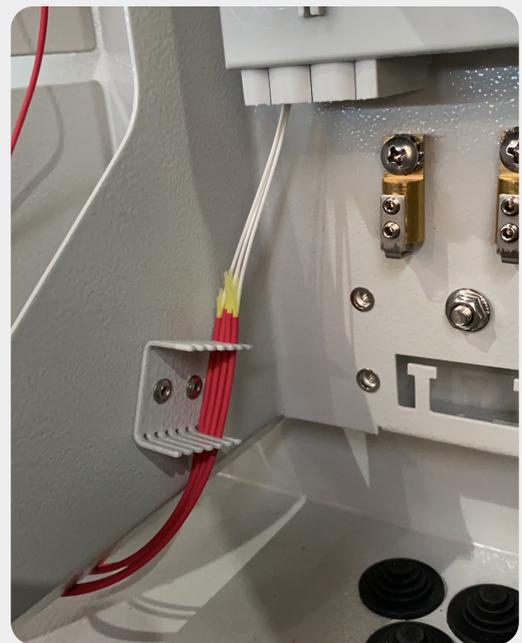


The connectorized outputs of the users on the parking panel and the fibers in the cassette for the junction with the distribution cables can be traced through a label affixed inside the door. On the label it is possible to write the references of the cable pertaining to each individual user.

CONNETTORE	UTENTE	SCHEDA															
1			49			97			145			193			241		
2			50			98			146			194			242		
3			51			99			147			195			243		
4			52			100			148			196			244		
5			53			101			149			197			245		
6		56	54			102			150			198			246		
7			55		52	103		48	151		44	199			247		36
8			56			104			152			200			248		
9			57			105			153			201			249		
10			58			106			154			202			250		
11			59			107			155			203			251		
12			60			108			156			204			252		
13			61			109			157			205			253		
14			62			110			158			206			254		
15			63			111			159			207			255		35
16			64			112			160			208			256		
17			65			113			161			209					
18			66			114			162			210					
19		55	67		51	115		47	163		43	211					
20			68			116			164			212					
21			69			117			165			213					
22			70			118			166			214					
23			71			119			167			215					
24			72			120			168			216					
25			73			121			169			217					
26			74			122			170			218					
27			75			123			171			219					
28			76			124			172			220					
29			77			125			173			221					
30			78			126			174			222					
31		54	79		50	127		46	175		42	223					38
32			80			128			176			224					
33			81			129			177			225					
34			82			130			178			226					
35			83			131			179			227					
36			84			132			180			228					
37			85			133			181			229					
38			86			134			182			230					
39			87			135			183			231					
40			88			136			184			232					
41			89			137			185			233					
42			90			138			186			234					37
43		53	91		49	139		45	187		41	235					
44			92			140			188			236					
45			93			141			189			237					
46			94			142			190			238					
47			95			143			191			239					
48			96			144			192			240					

- The fixing of the patchcords is located in correspondence with the exit point of the splice area; this fixing makes it impossible to move the fibers towards the splice board.
- The replacement of a semi patchcord: on the upper right side of the junction area there is an area that allows you to repair the semi patchcord in case of failure.

The patchcords management area also hosts the transit of the splitter input fibers towards the junction area. Following the indicated path, the sheath of the outlets is fixed on a bracket, after which the fiber proceeds unsheathed (250 μm) in the junction area.

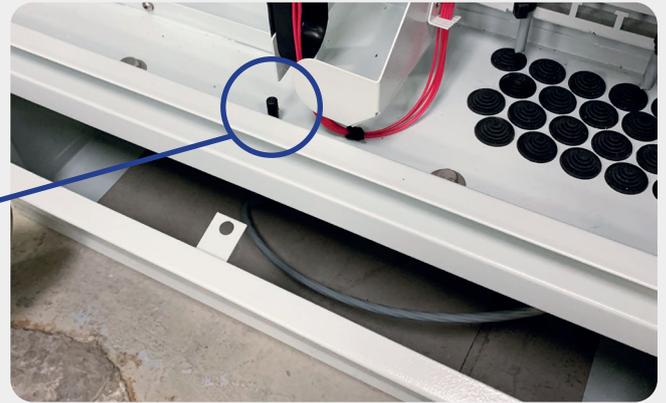


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## 5 - CABLE ENTRY AREA

- Base: 200 mm high, allows free access to the foundation fixing points and corrugated pipes. It is equipped with a tilting and removable door to facilitate operations. The closure is guaranteed by a retractable pin inside the cabinet.



- Cable inlets:
  - n ° 1 IP65 inlet that allows the management of the incoming continuous cable, for cables of  $\varnothing$  7.5-16 mm. There is a parking area for the tubes of the continuous cable.
  - n ° 20 circular IP65 inlets for the management of the output cables of  $\varnothing$  7.5-16 mm.



- Mechanical fixing of cables: a rack is prepared for fixing cables using cable ties and blocking the pull element.



## STANDARD MARKING

- Mechanical fixing of cables: a rack is prepared for fixing cables using cable ties and blocking the pull element.

Non-removable labels with the following indications:

- Customizable QR label with batch number, year, serial code indications (inside, patchcords guide, in the middle, PVC)
- QR code label with web link to installation instructions (inside, patchcords guide, top guide, PVC)
- RFID tag for reading the cabinet during operation



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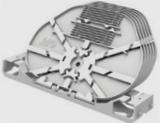
# GUIDE TO TRAY MODULES SELECTION

## SAMX - HD HIGH DENSITY

### APPLICATION

- Fiber management inside OPTOTEC products
- Hold and protect the splice

### FIBERTERM SPLICE

MODULE TYPE SAMX	TRAY PER PACK	SPLICES PER TRAY	TOTAL NUM. SPLICES PER MODULE
HD6-8H 	6	8H	48
HD6-12H 	6	12h	72

### FIBERTERM SPLICE-ARRANGED ON 3 LAYERS

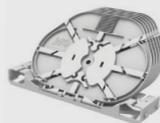
MODULE TYPE SAMX	TRAY PER PACK	SPLICES PER TRAY ARRANGED ON LAYERS	TOTAL NUM. SPLICES PER MODULE
HD3-24H 	3	≡ 3 LAYERS (8+8+8)  total. 24H	72

### TECHNICAL FEATURES

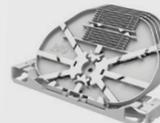
- Loop-Back ability: Yes
- Material: ABS-PC
- Flammability Rating: UL-94 V0
- Color\*: RAL 7035

*\*other colors available upon request*

### FIBERCLIP SPLICE

MODULE TYPE SAMX	TRAY PER PACK	SPLICES PER TRAY	TOTAL NUM. SPLICES PER MODULE
HD4-12C 	4	12C	48
HD6-12C 	6	12C	72

### FIBERTERM SPLICE-ARRANGED ON 2 LAYERS

MODULE TYPE SAMX	TRAY PER PACK	SPLICES PER TRAY ARRANGED ON LAYERS	TOTAL NUM. SPLICES PER MODULE
HD4-12H 	4	≡ 2 LAYERS (6+6)  total. 12H	48
HD4-24H 	4	≡ 2 LAYERS (12+12)  total. 24H	96

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# GUIDE TO SPLICE

## FIBERTERM SPLICE AND PLC SPLITTER

MODULE TYPE SAMX	TRAY PER PACK	SPLICES PER TRAY	TOTAL NUM. SPLICES PER MODULE	HELD SPLITTER SIZES	TOTAL NUM. SPLICES PER MODULE
 HD3-18H-1PLC	3	 3 LAYERS (6+6+6)  total 18H	3	4x7x50 mm	54
 HD3-18H-1PLC	1	 3 LAYERS (6+6+6)  total 18H	1	4x7x50 mm	18
 HD4-12H-2PLC	4	 2 LAYERS (6+6)  total 12H	8	4x7x50 mm and 4x4x40mm	48
 HD1-12C-2PLC	1	 1 LAYER (6+6)  total 12C	2	4x7x50 mm	12
 HD3-12C-2PLC	3	 1 LAYER (6+6)  total 12C	6	4x7x50 mm	36

## COMPATIBLE BARE FIBER SPLITTER SIZES

4x4x40 mm (type n:2, n:4, n:8)



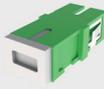
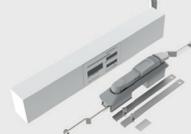
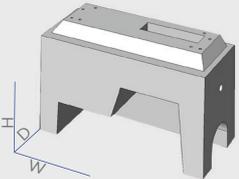
7x4x50 mm (type n:16 and n:32)



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## SPARE PARTS AND ACCESSORIES

KIT CODE AND IMAGE	KIT FEATURES
<p>OPT-PLC-SPLITTER 1:16-PFS4-HLGX</p> 	<p>1x16 SMF PLC Ruggedized Splitter HLGX module            HLGX Package 144x90x40mm            Input: 1.8mm cable &gt;250cm no connector RED (RAL 3013)            Output: SC/APC adapters            IL (1260-1650nm) : max 13.30dB (including connectors)            RL (1260-1650nm) : min 55dB            PDL (1260-1650nm) : max 0.4dB            ITU-T G.657A1 low bending fiber - MFD: 8.9 ± 9.5 μm, typical 9,2 μm</p>
<p>SC/APC GREEN ADAPTER</p> 	<p>SC/APC SM Simplex Green Adapter (max flange = 15.0mm)            Zirconia Sleeve - PBT Plastic parts            Color: RAL 6018 - Transparent dustcaps            Dustcap cover the whole connector footprint key sleeve included 100pcs per bag</p>
<p>BLACK PARKING ADAPTER</p> 	<p>SC dummy storage adapter - Black            No sleeve - Allows the holding of a SC connector including the dustcap</p>
<p>FRONT MAIN DOOR COMPLETE KIT</p> 	<p>Vandalism recovering kit including main front door            (dimensions W650xH803xD21 mm), swinging handle and locking mechanism</p>
<p>SWINGING HANDLE KIT</p> 	<p>Swinging handle</p>
<p>ROOF KIT</p> 	<p>Removable roof (dimensions W655xH41xD210 mm)</p>
<p>CABLE ENTRY DOOR KIT</p> 	<p>Vandalism recovering kit including secondary front door            (dimensions W590xH200xD20 mm)</p>
<p>ROD FIXATION BLOCK</p> 	<p>Block to fix the rods (1pc) with screws</p>
<p>MAIN DOOR CONCEALED HINGE</p> 	<p>AISI 304 Concealed Hinge (1pc)</p>
<p>FIXATION BRACKET KIT TO CONCRETE</p> 	<p>Dimensions: W633xH36xD243 mm            Color: Polyester painting RAL 7035            Material: Stainless steel AISI 304</p>
<p>PRECAST CONCRETE BASEMENT</p> 	<p>Dimensions: W850xH550xD370 mm            Weight: 233 kg            Material: Steel B450A/B450C</p>

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