PASSIVE OPTICAL NETWORK

Ordering Guide

prysmian

The planet's pathways

TRADITIONAL NETWORK VS GIGABIT PASSIVE OPTICAL NETWORK(GPON)

ETHERNET LAN

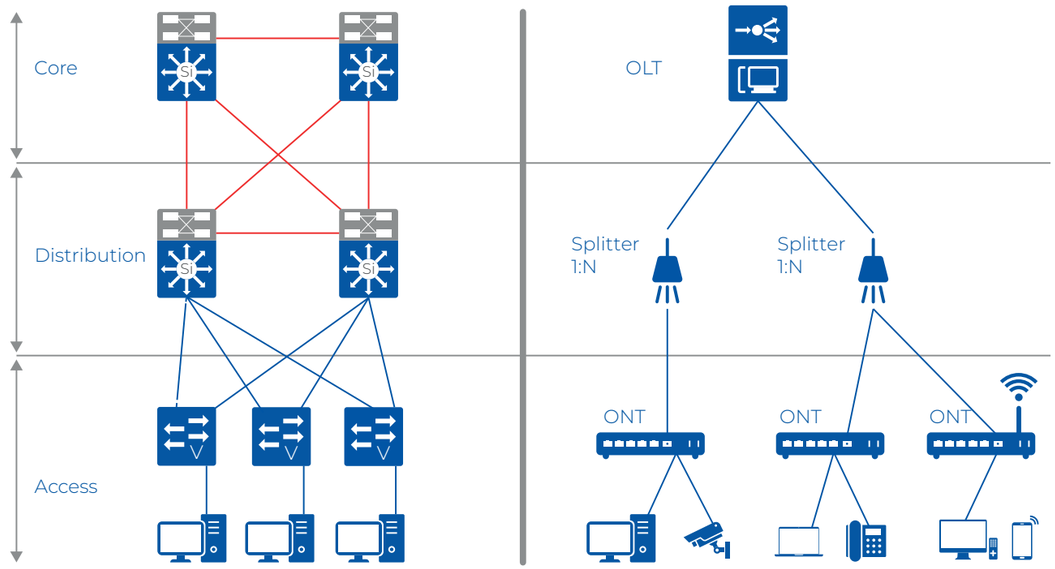
- Active Ethernet switches for LAN core, aggregation and access functions
- Cable infrastructure per service
- CAT-6/6a Horizontal Cable
- Coaxial
- Multi-mode/Singlemode Fiber backbone

GPON

- Passive Optical Network (PON)
- Optical Line Terminal (OLT)
- Passive optical distribution splitters support multi-level splitter
- Optical Network terminations (ONT)
- Single mode fiber converges all building ICT
- services over single infrastructure up to 20km all passive component
- Multi-mode/Singlemode Fiber backbone

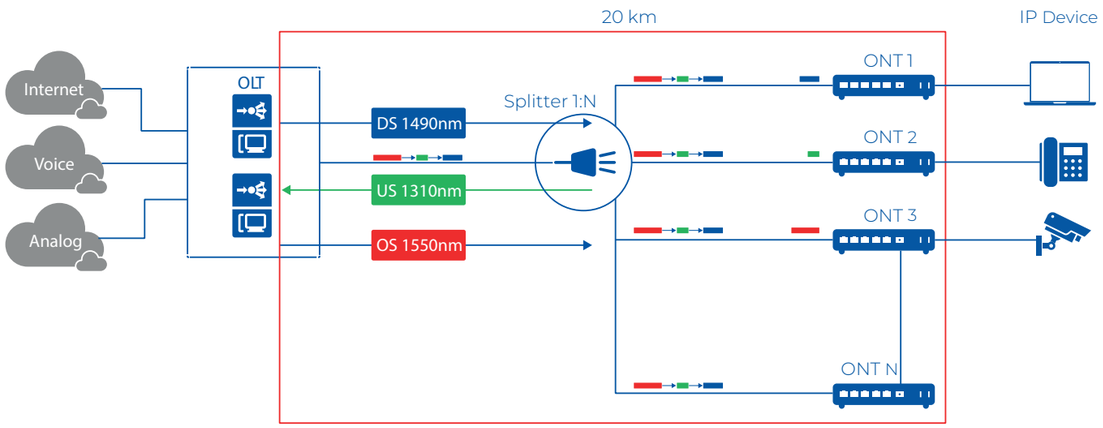
Ethernet Design

GPON Design

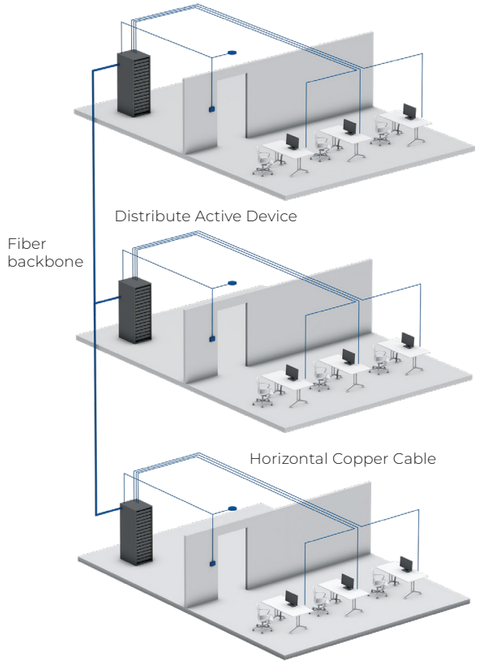


HOW DOES IT WORK?

- **Each GPON uses a single optical fiber carrying 2 wavelengths and spanning up to 20km**
- **1490 nm downstream (TDM) carrying Voice, Data and Switched Video traffic**
- **1310 nm upstream (TDMA) carrying Voice, Data and Video Signaling traffic**
- **GPON Standard Supports Overlay Wavelengths within the 1550nm range Currently used to sup-port RF-based video delivery. In the near future will be used to support DWDM services**
- **NG-PON support higher data rate up to 10Gbps**

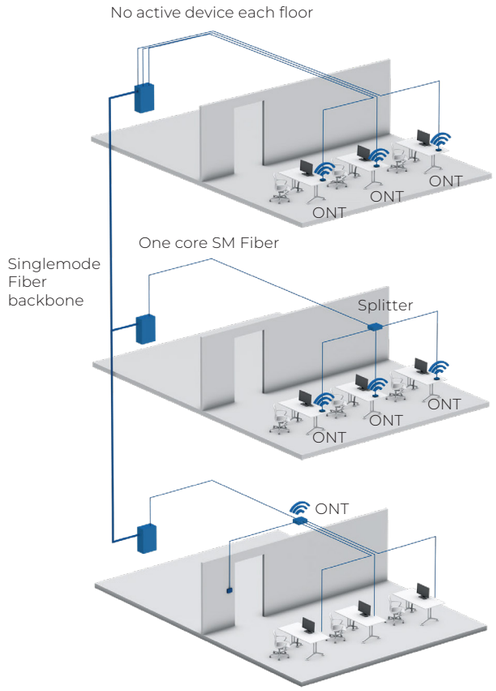


ETHERNET VS PON: WHAT ARE THE ADVANTAGES?



For 500 Users, Ethernet will need:

- Power
- HVAC
- Racking
- UPS
- (8) 24 port Workgroup switches per floor
- Home-run cabling to each user
- Enterprise Multi-service Router in Data Center



For 500 Users, PON will need:

- Enterprise Multi-service
- Router in Data Center

PASSIVE OPTICAL NETWORK

A passive optical network (PON) is a telecommunications technology commonly used to provide fiber to the end users within a campus requiring cable reach beyond 100m. A PON's distinguishing feature is that it implements a point-to-multipoint architecture, in which unpowered fiber optic splitters are used to enable a single optical fiber to serve multiple end-points. The end-points are often individual user requiring access to shared IT resources.

A PON consists of an optical line terminal (OLT) at the telecommunication room and several optical network terminals (ONTs), near end users.

Passive Optical LAN Provides Unique TCO Advantages over Copper Ethernet but How Can We Relate to Client Project?

- Lower electronics cost: up to 70%
- Lower power consumption: up to 80%
- Lower space consumption: up to 90% (floor, rack, pathway, closet space)
- Lower cable cost: up to 60% (fiber vs. copper)
- Lower cabling installation cost: up to 60%
- Lower Annual Technical Support Costs: up to 75%
- Same 24x7x365 Based Support
- Lower Annual Operations and Maintenance (O&M) Costs: up to 30%
- Reduced IT Staff for Management and Help Desk
- Lower Annual Training costs: up to 30%

Note: These cost advantages are noncumulative

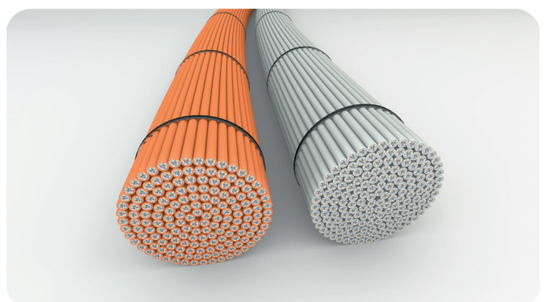
1. Simplified cabling for office buildings to support data, voice and video
2. Fiber to the desktop – supports current and future high bandwidth applications
3. Partnership with active device and same proven technology used to deliver active equipment to the solution
4. Replaces traditional Copper LANs in office buildings with Singlemode Fiber

PON Cables

144 single mode fibers (Data, Voice and Video)

Conventional Cables

144 multimode fibers 144 copper cables



IDEAL LOCATIONS FOR PON APPLICATION

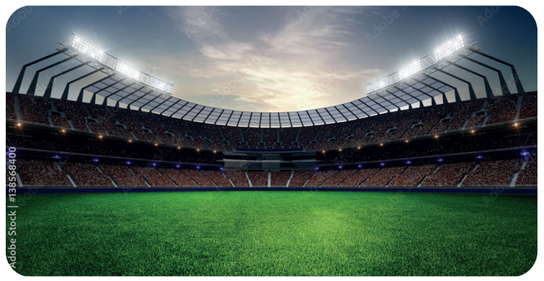
Passive Optical Networks (PONs) are best suited for environments that requires scalable bandwidth , significant reduction in telecommunication room spaces and ultra low operational power consumption

Hospitals

- Support increasing numbers of wired and wireless medical devices, instruments and sensors
- Patient monitoring and security
- Tablets and smartphones for staff
- Hospital datacenter
- Communication and entertainment for patients and visitors
- 99.999% availability with end-to-end solution

Stadiums / Large Venues

- Deliver rich media experiences to fans/customers
- Multiple wireless services (WIFI, DAS)
- Grow capacity without rewiring
- Analyze location & behavior data: patterns of movement and service consumption
- Easily configurable infrastructure to match the event, people density and demand for bandwidth



Buildings

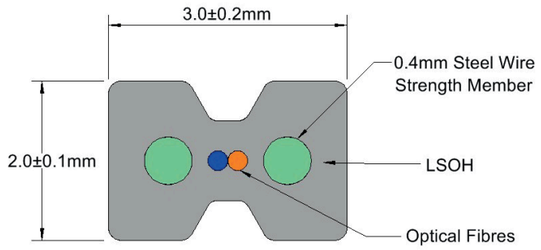
- Simplified core/distribution architecture with reduced cabling
- Lower cost, power consumption, space requirements
- Keep up with growth in bandwidth requirements from wireless connectivity
- Operate multiple services on top of the same infra structure: Ethernet, WIFI, DAS, BMS, security, etc.

University & Campus & Hotel and Resort

- Pervasive connectivity across a large campus (indoor & outdoor)
- Service multiple buildings from a single head-end without additional distribution switches, power & cooling
- Connectivity over large distances
- Flexible bandwidth sharing and scalability options

PON ORDERING GUIDE, FIBER CABLE

Prysmian 1F,2F,4F BMD Series Drop Cable, LSZH Sheath



- Strength member: Two 0.4mm steel wire
- Fibre: Bare fibres
- Outer Sheath: LSZH; colour is black

Technical Data

No. of Fibres		1,2,4			
Fiber type		G.652D			
Fibre colours		1 - blue	2 - orange	3 - green	4 - brown
Strength member	mm	2 x 0.4 steel wire			
Cable size	mm	2.0(±0.1) × 3.0(±0.1)			
Cable Weight	kg / km	10			
Max installation tension	N	100			
Min. bending radius	mm	15mm(static)		30mm (Dynamic)	
Temperature range	°C	Installation -5 -> +70	Transport. & Storage -20 -> +70		Operation -20 -> +70

Main Characteristics

Test	Standard	Value	Sanction*
Maximum Tension at installation (short term)	IEC 60794-1-2-E1	100 N	Δl/l fibre ≤ 0.6%, Δα ≤ 0.3 dB
Crush	IEC 60794-1-2-E3	400 N / 100mm	Δα ≤ 0.3 dB , cable integrity
Temperature range	IEC 60794-1-2-F1	-20 -> +70°C	Δα ≤ 0.4 dB /km

Sheath Marking

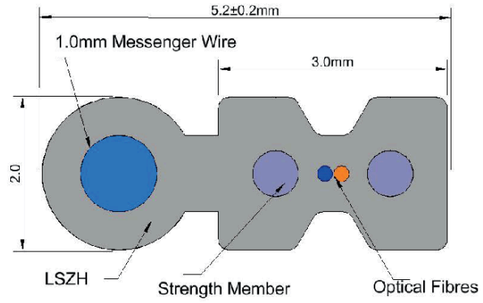
The outer sheath shall be printed with ink jet at 1 meter intervals as follows:

PRYSMIAN FIBRE OPTIC CABLE DROP LSZH <Product Code> <BATCHCODE> <FIBRE QTY x FIBRE TYPE> <FC> <xxxx>M

<Product Code> : BMD<***><MY>
<***> : fibre core qty i.e. 2 to 4 fibre
<MY> : transmission mode i.e. OM1–M1, OM2–M2, OM3-M3, OM4-M4, G.652D-SM, G657A1-A1, G657A2-A2
<FIBRE TYPE> : OM1 / OM2 / OM3 / OM4 / G.652D / G.656 / G.657A / G657B
<BATCHCODE> : Factory defined tracking code MM/YYYY or WW/YYYY
<FC> : Defined factory code
<XXXX> : Increasing length marking by 1metre

PON ORDERING GUIDE, FIBER CABLE

1~4F Flat Fig8 Drop Cable FRP strength Member



- Strength member: Two 0.6mm FRP
- Fibre: up to 4 fibers
- Outer Sheath: LSZH; colour is black
- Messenger Wire: 1.0 mm steel wire

TechnicalData

No. of Fibres		1,2,4			
Strength member	mm	2x0.6 FRP + 1.0mm messenger			
Fibre colours		1 - blue	2 - orange	3 - green	4 - brown
Cable size	mm	2.0(±0.2) × 5.2(±0.2)			
Cable Weight	kg / km	21			
Max installation tension	N	600			
Min. bending radius	mm	15mm(static)		30mm (Dynamic)	
Temperature range	°C	Installation -10 -> +60	Transport. & Storage -40 -> +70		Operation -20 -> +70

Main Characteristics

Test	Standard	Value	Sanction*
Maximum Tension at installation (short term)	IEC 60794-1-2-E1	600 N	Δα ≤ 0.1 dB
Crush	IEC 60794-1-2-E3	1000 N / 100mm	Δα ≤ 0.1 dB , cable integrity
Temperature range	IEC 60794-1-2-F1	-20 -> +70°C	Δα ≤ 0.1 dB /km

Sheath Marking

The outer sheath shall be printed with ink jet at 1 meter intervals as follows:

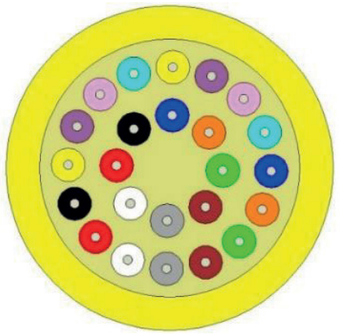
PRYSMIAN <year of manufacture> <number and type of fibre> DROP CABLE <length marking in meter>

Logistic

Packing: Wooden drums with protection.
Delivery Lengths: Standard delivery length is 1 or 2 km with a tolerance of ± 1%

PON ORDERING GUIDE, FIBER CABLE

Prysmian 2-24F Indoor Tight Buffer Cable, LSZH



Tight buffer: Each fiber is coated to 0.9mm with LSZH
Strength Member: Aramid yarn.
Outer Sheath: LSZH color is yellow, compliant to IEC60332-3-24, IEC60332-1, IEC60754-1/2, IEC61034-2
Suitable for indoor installation requiring flame retardant, low smoke and halogen free environment

Technical Data

No. of Fibres		2,4,6	8	12	24
Design		1×2,4,6 TB	1×8 TB	1×12 TB	1×24 TB
Tight buffer	mm	0.9 ± 0.05	0.9 ± 0.05	0.9 ± 0.05	0.9 ± 0.05
Outer sheath nominal thickness	mm	0.7	0.75	0.75	0.9
Cable nominal diameter	mm	4.8	5.4	6.2	8.8
Cable nominal weight	kg / km	20	26	33	60
Min. bending radius	mm	Without Tension 10 × Cable-Ø		Under Maximum Tension 20 × Cable-Ø	
Temperature range	°C	Installation -10 -> +60	Transport & Storage -40 -> +70		Operation -20 -> +70

Main Characteristics

Test	Standard	Value	Sanction*
Short term tension	IEC 60794-1-2-E1	660N (2~12F) 1200N (24F)	Fibre strain ≤ 0.6%, Δα reversible
Max operation tension	IEC 60794-1-2-E1	198N (2F-12F) 340N (24F)	Fibre strain ≤ 0.2%, Δα ≤ 0.4 dB(MM), ≤0.30(SM)
Crush (short term)	IEC 60794-1-2-E3	1000 N / 100mm	Δα ≤ 0.4 dB(MM), ≤0.30(SM), no damage
Temperature range	IEC 60794-1-2-F1	-20 -> +70°C	Δα ≤ 0.6 dB /km(MM), ≤ 0.40dB/ km(SM)

Sheath Marking

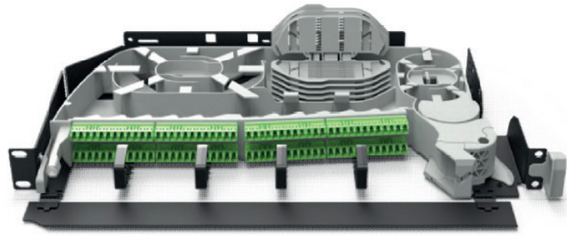
The outer sheath shall be printed with ink jet at 1 meter intervals as follows:

PRYSMIAN UC FIBRE OPTIC CABLE LSZH INDOOR TIGHT BUFFER <UC Part Number> <BATCHCODE> <FIBRE CORE QTY x FIBRE TYPE> <FC> <xxxx> M

<Product Code> : BMD<***><MY>
<***> : fibre core qty i.e. 2 to 4 fibre
<MY> : transmission mode i.e. OM1–M1, OM2–M2, OM3-M3, OM4-M4, G.652D-SM, G657A1-A1, G657A2-A2
<FIBRE TYPE> : OM1 / OM2 / OM3 / OM4 / G.652D / G.656 / G.657A / G657B
<BATCHCODE> : Factory defined tracking code MM/YYYY or WW/YYYY
<FC> : Defined factory code
<XXXX> : Increasing length marking by 1metre

PON ORDERING GUIDE, BUILDING DISTRIBUTION

19 Inch Rack Mount Distribution Panel



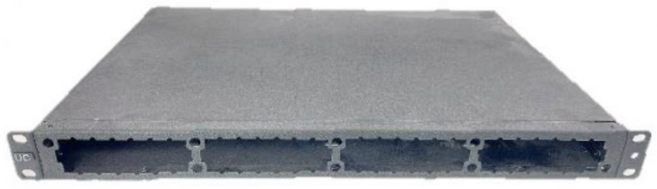
Features and Benefits

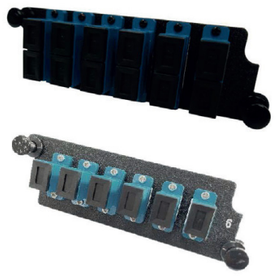
- Modular system for installation into 19 Inch
- Available in 1U, 2U and 3U options are supplied front mounted as standard
- Fibers are actively managed to minimum bend diameters throughout the Splicing and Patching, Patching only or Splicing only Modules.
- Splicing and bare fiber excess storage is performed inside a tray protected by a cover to prevent any accidental damage when open & closing the shelves.
- Modules pivot outwards for easy access.
- Cables are completely protected from entry to exit of the panel.
- Optical devices (i.e. Splitters & WDM's) can be mounted within the modules

UC Part Number	Description
S4-H-010	1RU 12 Core Fiber, SC/UPC Simplex SM Splice and Patch
S4-H-011	1RU 24 Core Fiber, SC/UPC Simplex SM Splice and Patch
S4-H-015	1RU 48 Core Fiber, SC/UPC Quad SM Splice and Patch
S4-H-016	1RU 12 Core Fiber, SC/APC Simplex SM Splice and Patch
S4-H-017	1RU 24 Core Fiber, SC/APC Simplex SM Splice and Patch
S4-H-021	1RU 48 Core Fiber, SC/APC Quad SM Splice and Patch
S4-X-427	1RU 1:8 Splitter Shelf, SC/UPC Simplex
S4-X-433	1RU 1:16 Splitter Shelf, SC/UPC Simplex
S4-X-437	1RU 1:32 Splitter Shelf, SC/UPC Quad
S4-X-451	1RU 1:8 Splitter Shelf, SC/APC Simplex
S4-X-457	1RU 1:16 Splitter Shelf, SC/APC Simplex
S4-X-461	1RU 1:32 Splitter Shelf, SC/APC Quad

PON ORDERING GUIDE, BUILDING DISTRIBUTION

19 Inch Rack Mount Distribution Panel





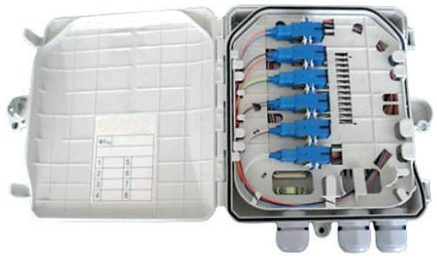
Features and Benefits

- 1U Patch Panel 9510, Fixed type, Empty
- Light weight Sleek design & feel, Easy fixtures
- Water paint
- Abrasion resistance Highly durable
- Easy fix-up to 4 adaptor SC, SC/APC up to 48F per 1RU
- Support 2X 24F Splice tray

UC Part Number	Description
PP9510	UC9500 1U Fiber Distribution Modular Panel, 4 Slot, Empty, Flat
PPA9511-6SM	UC9500 1 Slot 6-Port SC/UPC Duplex Front adaptor panel
PPA9511-6SMA	UC9500 1 Slot 6-Port SC/APC Duplex Front adaptor panel
PPA9514-6SM	UC9500 1 Slot 6-Port SC/UPC Simplex Front adaptor panel
PPA9514-6SMA	UC9500 1 Slot 6-Port SC/APC Simplex Front adaptor panel
PPST9521-24	UC 9500 Splice tray, 24F
PPST9521-C	UC 9500 Splice tray cover

PON ORDERING GUIDE, FLOOR DISTRIBUTION

Wall Mount Fiber Distribution Box 12 Fibers



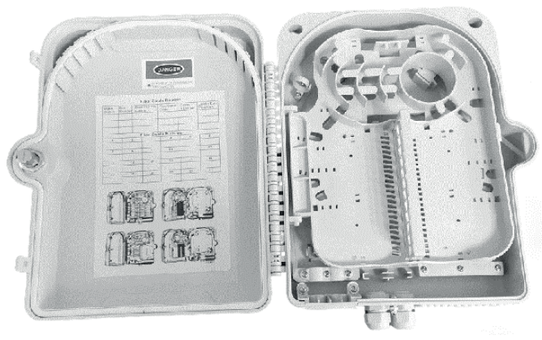
Features and Benefits

- Wall-mounted design
- Light plastic and rubber seal design, premium appearance
- Available in SC/UPC and SC/APC
- Lead in common optical cable and leading out drop cables
- One piece of mini-module splitter can be installed as optional
- Maximum 12F splice
- IP54 Support Indoor and Outdoor installation
- Perfect fiber route design to ensure optimal bend radius of fibers, minimizing transmission loss in the box
- Dimensions: 222mm (L) × 220mm (W) × 50mm (H)
- Grey Color

UC Part Number	Description
OFDBWP00091SC1-12	Fiber Distribution Box, Wall Mounted, 12F, with 12F Splice tray, 12xSplice protector, 12xSC/UPC adaptor and 12xSinglemode G.657A1 SC/UPC Pigtail
OFDBWP00091SA1-12	Fiber Distribution Box, Wall Mounted, 12F, with 12F Splice tray, 12xSplice protector 12xSC/APC adaptor and 12xSinglemode G.657A1 SC/APC Pigtail
OFDBWP1B191SA1-12	Fiber Distribution Box, Wall Mounted, 12F, with 1X1:4 Mini-Splitter module, 12F Splice tray, 12xSplice protector, 12xSC/APC adaptor and 12xSinglemode G.657A1 SC/APC Pigtail
OFDBWP2B191SA1-12	Fiber Distribution Box, Wall Mounted, 12F, with 1X2:4 Mini-Splitter module, 12F Splice tray, 12xSplice protector, 12xSC/APC adaptor and 12xSinglemode G.657A1 SC/APC Pigtail
OFDBWP1C191SA1-12	Fiber Distribution Box, Wall Mounted, 12F, with 1X1:8 Mini-Splitter module, 12F Splice tray, 12xSplice protector, 12xSC/APC adaptor and 12xSinglemode G.657A1 SC/APC Pigtail
OFDBWP2C191SA1-12	Fiber Distribution Box, Wall Mounted, 12F, with 1X2:8 Mini-Splitter module, 12F Splice tray, 12xSplice protector, 12xSC/APC adaptor and 12xSinglemode G.657A1 SC/APC Pigtail

PON ORDERING GUIDE, FLOOR DISTRIBUTION

Wall Mount Fiber Distribution Box 24 Fibers



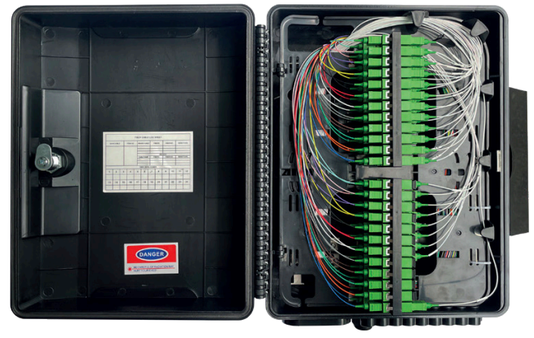
Features and Benefits

- Wall-mounted design
- Light plastic and rubber seal design, premium appearance
- Available in SC/UPC and SC/APC
- Lead in common optical cable and leading out drop cables
- One piece of mini-module splitter up to 1X2:16 can be installed as optional
- Maximum 24F splice
- IP65 Support Indoor and Outdoor installation
- Perfect fiber route design to ensure optimal bend radius of fibers, minimizing transmission loss in the box
- Dimensions: 330mm (L) × 275mm (W) × 101mm (H)
- Grey Color

UC Part Number	Description
OFDBWP00091SC1-24	Fiber Distribution Box, Wall Mounted, 24F, with 24F Splice tray, 24xSplice protector, 24xSC/UPC adaptor and 24xSinglemode G.657A1 SC/UPC Pigtail
OFDBWP00091SA1-24	Fiber Distribution Box, Wall Mounted, 24F, with 24F Splice tray, 24xSplice protector, 24xSC/UPC adaptor and 24xSinglemode G.657A1 SC/UPC Pigtail
OFDBWP1D191SA1-24	Fiber Distribution Box, Wall Mounted, 24F, with 1X1:16 Mini-Splitter module, 24F Splice tray, 24xSplice protector, 24xSC/APC adaptor and 24xSinglemode G.657A1 SC/APC Pigtail
OFDBWP2D191SA1-24	Fiber Distribution Box, Wall Mounted, 24F, with 1X2:16 Mini-Splitter module, 24F Splice tray, 24xSplice protector, 24xSC/APC adaptor and 24xSinglemode G.657A1 SC/APC Pigtail
OFDBWP1C291SA1-24	Fiber Distribution Box, Wall Mounted, 24F, with 2X1:8 Mini-Splitter module, 24F Splice tray, 24xSplice protector, 24xSC/APC adaptor and 24xSinglemode G.657A1 SC/APC Pigtail

PON ORDERING GUIDE, FLOOR DISTRIBUTION

Fiber Distribution Box 48 Fibers



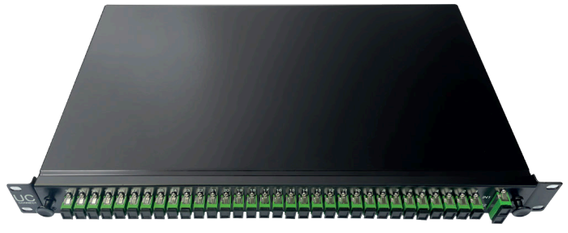
Features and Benefits

- Wall-mounted (optional: Pole-mounted upon request)
- Material: Plastic ABS
- Ingress Protection: Up to IP65
- Cable clamp for feeder cable and drop cable
- Ease of maintenance as there are dedicated route for feeder and drop cable, pigtail, and patch cord
- Suitable for indoor and outdoor applications
- Dimensions: 340mm (L) x 270mm (W) x 115mm (H)
- Black Color

UC Part Number	Description
OFDBWP00091SC1-48	Fiber Distribution Box, Wall Mounted, 48F, with 48F Splice tray, 48xSplice protector, 48xSC/UPC adaptor and 48xSinglemode G.657A1 SC/UPC Pigtail
OFDBWP00091SA1-48	Fiber Distribution Box, Wall Mounted, 48F, with 48F Splice tray, 48xSplice protector, 48xSC/APC adaptor and 48xSinglemode G.657A1 SC/APC Pigtail
OFDBWP1E191SA1-48	Fiber Distribution Box, Wall Mounted, 48F, with 1X1:32 Mini-Splitter module, 48F Splice tray, 48xSplice protector, 48xSC/APC adaptor and 48xSinglemode G.657A1 SC/APC Pigtail
OFDBWP2E191SA1-48	Fiber Distribution Box, Wall Mounted, 48F, with 1X2:32 Mini-Splitter module, 48F Splice tray, 48xSplice protector, 48xSC/APC adaptor and 48xSinglemode G.657A1 SC/APC Pigtail
OFDBWP1D291SA1-48	Fiber Distribution Box, Wall Mounted, 48F, with 2X1:16 Mini-Splitter module, 48F Splice tray, 48xSplice protector, 48xSC/APC adaptor and 48xSinglemode G.657A1 SC/APC Pigtail

PON ORDERING GUIDE, ACCESSORY

Planar Lightwave Circuit (PLC) Rack Mount Splitter



Features and Benefits

- Good uniformity and low insertion loss
- Low Polarization Dependent Loss
- Excellent Environmental Stability
- Excellent Mechanical
- Comply with Telcordia GR-1221-CORE and GR-1209-CORE, RoHS
- Wide operation wavelength from 1260nm to 1650nm
- Standard 19-inch rack mount 1RU, Sliding
- Black Color

UC Part Number	Description
PSP1D2SASA-32	PLC Splitter rack mount 1RU 2X1:16, SC/APC input, SC/APC output, 2x (1 input 16 output) port
PSP2D2SASA-32	PLC Splitter rack mount 1RU 2X2:16, SC/APC input, SC/APC output, 2x (2 input 16 output)port
PSP1E1SASA-32	PLC Splitter rack mount 1RU 1X1:32, SC/APC input, SC/APC output, 1x (1 input 32 output) port
PSP2E1SASA-32	PLC Splitter rack mount 1RU 1X2:32, SC/APC input, SC/APC output, 1x (2 input 32 output) port
PSP2E1LCLC-32	PLC Splitter rack mount 1RU 1X2:32, LC/UPC input, LC/UPC output, 1x (1 input 32 output) port

PON ORDERING GUIDE, ACCESSORY

FICS - Field Installable Connectors

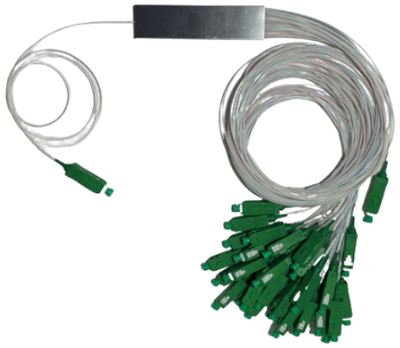
Features and Benefits

- Tight lock (internal tooth design to secure the cable)
- Adjustable slide to lock and unlock the fiber easily and conveniently
- Precision mechanical alignment & ceramic groove for pre-buried fiber ensures low loss and high
- ensuring low loss and high performance for an efficient connection
- Recommended reuse: up to 5 times
- Drop cable(2x3mm), 3.0mm,2.0mm,and 900um,250um
- Meets TIA/EIA 568C.3 performance requirements
- Meets TIA/EIA 604(FOCIS)connector interface requirements
- SC connectors: insertion loss max ≤0.5 dB, Average 0.25dB, Return Loss ≥ 35dB for Singlemode UPC, and ≥ 45dB for Singlemode APC

UC Part Number	Description
FICS-SC	Field Installation Connector SC/UPC Connector
FICS-SA	Field Installation Connector SC/APC Connector

PON ORDERING GUIDE, ACCESSORY

PLC Splitter



Mini-Splitter Module

Splitter Module

Planar Lightwave Circuit Splitter, PLC Splitter is a device used to divide one or two light beams into multiple light beams uniformly or combine multiple light beams to one or two light beams. It is a passive optical device with many input and output terminals, especially applicable to PON (EPON, GPON, BPON, FTTH, FTTx, LAN, CATV, etc) PLC splitters available in 1:N (N=2, 4, 8, 16, 32, 64) and 2:N (N=2, 4, 8, 16, 32, 64) splitting ratios

Features and Benefits

- Good uniformity and low insertion loss
- Low Polarization Dependent Loss
- Excellent Environmental Stability
- Excellent Mechanical
- Comply with Telcordia GR-1221-CORE and GR-1209-CORE, RoHS
- Wide operation wavelength from 1260nm to 1650nm

UC Part Number	Description
PSN1DSASA-1	PLC Mini-Splitter module, 1:16, SC/APC input, SC/APC output, 1m
PSN2DSASA-1	PLC Mini-Splitter module, 2:16, SC/APC input, SC/APC output, 1m
PSN1ESASA-1	PLC Mini-Splitter module, 1:32, SC/APC input, SC/APC output, 1m
PSN2ESASA-1	PLC Mini-Splitter module, 2:32, SC/APC input, SC/APC output, 1m
PSM1DSASA-1	PLC Splitter module, 1:16, SC/APC input, SC/APC output, 1m
PSM2DSASA-1	PLC Splitter module, 2:16, SC/APC input, SC/APC output, 1m
PSM1ESASA-1	PLC Splitter module, 1:32, SC/APC input, SC/APC output, 1m
PSM2ESASA-1	PLC Splitter module, 2:32, SC/APC input, SC/APC output, 1m

Specification

Parameters	Splitter Ratio 1:N Splitter					
	1:2	1:4	1:8	1:16	1:32	1:64
Insertion Loss (dB)	3.8	7.1	10.2	13.5	16.5	20.5
Loss Uniformity (dB)	0.4	0.6	0.8	1.2	1.5	2
Return Loss (dB)	55	55	55	55	55	55
Polarization Dependent Loss (dB)	0.2	0.2	0.2	0.25	0.3	0.35
Directivity (dB)	55	55	55	55	55	55
Wavelength Dependent Loss (dB)	0.3	0.3	0.3	0.5	0.5	0.5
Temperature Stability (-40°C to +85°C)	0.4	0.4	0.4	0.5	0.5	0.5
Mini-module Dimension (mm) (LxWxH)	50x7x4	50x7x4	60x7x4	60x12x4	80x20x6	100x40x6
Module Dimension (mm) (LxWxH)	100x80x10	100x80x10	100x80x10	120x80x18	120x80x18	120x80x18
Weight (g) Mini-module / Splitter module		30/140	46/160	83/200	154/265	

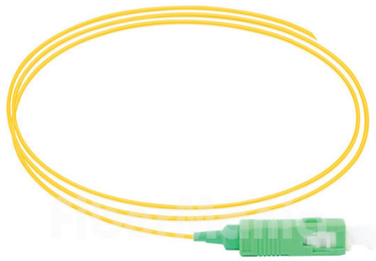
Parameters	Splitter Ratio 1:N Splitter					
	2:2	2:4	2:8	2:16	2:32	2:64
Insertion Loss (dB)	4.0	7.6	11.0	14.4	17.5	21.0
Loss Uniformity (dB)	0.6	1.0	1.2	1.5	1.8	2.2
Return Loss (dB)	55	55	55	55	55	55
Polarization Dependent Loss (dB)	0.2	0.2	0.3	0.3	0.4	0.4
Directivity (dB)	55	55	55	55	55	55
Wavelength Dependent Loss (dB)	0.3	0.4	0.5	0.5	0.5	0.5
Temperature Stability (-40°C to +85°C)	0.4	0.4	0.4	0.5	0.5	0.5
Mini-module Dimension (mm) (LxWxH)	60x7x4	60x7x4	60x7x4	60x12x4	80x20x6	100x40x6
Module Dimension (mm) (LxWxH)	100x80x10	100x80x10	100x80x10	120x80x18	120x80x18	120x80x18
Weight (g) Mini-module / Splitter module		30/140	46/160	83/200	154/265	

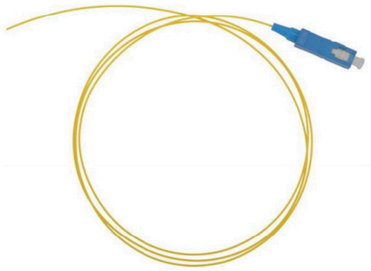
Ordering Information

Splitter Type	Splitter Ratio	Input Connector	Output Connector	Pigtail Length (m)
PSx	XX	XX	XX	X
PS = Planar Splitter Denote x: N = Mini-Module M = Module	1A = 1:2 1B = 1:4 1C = 1:8 1D = 1:16 1E = 1:32 1F = 1:64 2A = 2:2 2B = 2:4 2C = 2:8 2D = 2:16 2E = 2:32 2F = 2:64	SC = SC/UPC SA = SC/APC LC = LC/UPC LA = LC/APC	SC = SC/UPC SA = SC/APC LC = LC/UPC LA = LC/APC	1 = 1m 2 = 2m

PON ORDERING GUIDE, ACCESSORY

Fiber Pigtail





Features and Benefits

- Full traceability supplied with each assembly
- Ultra polish (UPC) and Angle polish (APC) is available
- Standard length is 1m or 2m
- Standard cable diameter is 900 microns with easy strip buffering

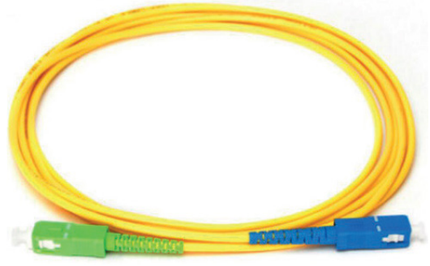
Specification

Parameters	
Insertion Loss (dB)	Typical ≤ 0.2 dB Maximum ≤ 0.3 dB
Return Loss (dB)	≥ 50 dB (UPC) ≥ 65 dB (APC)
Repeatability	≤ 0.1
Durability	≤ 0.2 dB typical change per 500 matings
Interchangeability	≤ 0.2 dB
Operating Temperature	-40 to +85 °C

UC Part Number	Description
PT09SC-1	SC/UPC Pigtail, Singlemode, 900um, LSZH, 1m
PT09SA-1	SC/APC Pigtail, Singlemode, 900um, LSZH, 1m

PON ORDERING GUIDE, ACCESSORY

Fiber Patch Cord



Features and Benefits

- Fully traceability supplied with each assembly
- Ultra polish (UPC) and Angle polish (APC) is available
- Can be supplied with LC, SC, FC Or ST
- Simplex or Duplex
- Length available from 1 to 99m
- Cable diameters 2.0mm

Specification

Parameters	
Insertion Loss (dB)	Typical ≤ 0.2 dB Maximum ≤ 0.3 dB
Return Loss (dB)	≥ 50 dB (UPC) ≥ 65 dB (APC)
Repeatability	≤ 0.1
Durability	≤ 0.2 dB typical change per 500 matings
Interchangeability	≤ 0.2 dB
Tensile strength	> 70 N
Operating Temperature	-40 to +85 °C

UC Part Number	Description
PCSL00901-1	SC/UPC to SC/UPC Pigtail, Singlemode Simplex Patch Cord, LSZH, 1m
PCDL00901-1	SC/UPC to SC/UPC Pigtail, Singlemode Duplex Patch Cord, LSZH, 1m
PCSL00911-1	SC/APC to SC/APC Pigtail, Singlemode Simplex Patch Cord, LSZH, 1m
PCDL00911-1	SC/APC to SC/APC Pigtail, Singlemode Duplex Patch Cord, LSZH, 1m
PCSL00914-1	SC/UPC to SC/APC Pigtail, Singlemode Simplex Patch Cord, LSZH, 1m
PCDL00914-1	SC/UPC to SC/APC Pigtail, Singlemode Duplex Patch Cord, LSZH, 1m

PON ORDERING GUIDE, ACCESSORY

User Outlet

Features and Benefits

- Compact and attractive design for internal use
- Ability to allow cables to enter from rear, bottom or top of the unit
- All fibers are positively managed to maintain a 20mm minimum bend radius
- Can be supplied with pre-installed G657A fiber pigtails
- Removable cover for easy access
- Unit manufactured from ABS material
- 4XSC Simplex or 2XLC Duplex

Specification

Parameters	
Number of input cable positions	4
Max input cable diameter (mm)	5mm
Maximum Capacity	4 Fibers
Maximum no of customer feeds	4 Patch cords
Required space envelope (mm)	(L) 80 x (W) 80 x (D) 28
Operating temperature	-40°C to + 70°C

UC Part Number	Description
DTB-2LCA-E	Box with 1 port 2F x LC/APC without fiber pigtail pre-loaded (Shutter adaptor)
DTB-4LCA-E	Box with 2 port 4F x LC/APC without fiber pigtail pre-loaded (Shutter adaptor)
DTB-2LCA-2P-SM	Box with 1 port 2F x LC/APC with colored fiber pigtail pre-loaded, SM G.657A1
DTB-4LCA-4P-SM	Box with 2 port 4F x LC/APC with colored fiber pigtail pre-loaded, SM G.657A1
DTB-1SCA-1P-SM	Box with 1 port 1F x SC/APC with colored fiber pigtail pre-loaded, SM G.657A1
DTB-2SCA-2P-SM	Box with 2 port 2F x SC/APC with colored fiber pigtail pre-loaded, SM G.657A1
DTB-4SCA-4P-SM	Box with 4 port 4F x SC/APC with colored fiber pigtail pre-loaded, SM G.657A1
DTB-2SC-2P-SM	Box with 2 port 2F x SC/UPC with colored fiber pigtail pre-loaded, SM G.657A1
DTB-4SC-4P-SM	Box with 4 port 4F x SC/UPC with colored fiber pigtail pre-loaded, SM G.657A1

PON ORDERING GUIDE, ACCESSORY

User Outlet

Features and Benefits

- Accommodation of 2 adapters
- Easy installation
- Suitable for SC Simplex and LC Duplex adapters
- Easy slide-in cover mounting
- Hinged and detachable splice cassette

Specification

Parameters	
Number of input cable positions	1
Max input cable diameter (mm)	5mm
Maximum Capacity	2 Fibers
Maximum no of customer feeds	2 Patch cords
Required space envelope (mm)	(L) 105.7 x (W) 19.7 x (D) 24.2
Operating temperature	-20°C to + 70°C

UC Part Number	Description
FTTXO-W1-1SC	Box with 1 port 1F x SC/UPC Adaptor with pigtail pre-loaded, SM G.657A1
FTTXO-W1-2SC	Box with 2 port 2F x SC/UPC Adaptor with pigtail pre-loaded, SM G.657A1
FTTXO-W1-1SA	Box with 1 port 1F x SC/APC Adaptor with pigtail pre-loaded, SM G.657A1
FTTXO-W1-2SA	Box with 2 port 2F x SC/APC Adaptor with pigtail pre-loaded, SM G.657A1

PON ORDERING GUIDE, ACCESSORY

User Outlet

Features and Benefits

- Accommodation of 1 SC Simplex or 1 LC Duplex adapters
- Easy installation
- Suitable for SC Simplex adapter or LC Duplex adapter
- Easy slide-in cover mounting
- Hinged and detachable splice cassette

Specification

Parameters	
Number of input cable positions	1
Max input cable diameter (mm)	5mm
Maximum Capacity	2 Fibers
Maximum no of customer feeds	2 Patch cords
Required space envelope (mm)	(L) 148 x (W) 90 x (D) 16
Operating temperature	-20°C to + 70°C

UC Part Number	Description
FTTXO-W2-1SC	Box with 1 port 1F x SC/UPC Adaptor with pigtail pre-loaded, SM G.657A1
FTTXO-W2-1SA	Box with 1 port 1F x SC/APC Adaptor with pigtail pre-loaded, SM G.657A1
FTTXO-W2-1LC	Box with 1 port 2F x LC/UPC Adaptor with pigtail pre-loaded, SM G.657A1
FTTXO-W2-1LA	Box with 1 port 2F x LC/APC Adaptor with pigtail pre-loaded, SM G.657A1

PON ORDERING GUIDE, ACCESSORY

Fiber Termination Box User Outlet W3 Series

Application

This box is designed for the termination of installation drop cable to the pigtail or pre-terminated drop cable pigtail in different length to the customer device. It's capable for 4 cores fiber. Wall mounted installation method are available, the box is capable for 900um tight buffer (Easy-Strip) suitable for drop cable OD between 2.0mm~5.0mm.

Features and Benefits

- Accommodation of 4 SC Simplex or 2 LC Duplex adapters
- Easy installation
- Suitable for SC/UPC, SC/APC Simplex adapters and LC/UPC, LC/APC Duplex Adaptor
- Including SC or LC Pigtail Singlemode G.657A1
- Easy slick-in cover mounting
- Hinged and detachable splice cassette

Technical Data

- Material : ABS+PC
- Number of input cable positions : 4
- Max input cable diameter : 5mm
- Maximum Capacity : 4 Fibers
- Maximum no of customer feeds : 4 Patch cords
- Required space envelope (mm) : (L) 100 x (W) 80 x (D) 32
- Operating temperature : -20°C to + 70°C
- Color : White

Order information

The PN of the fiber distribution box is configured based on the table below:

UC Part Number	SAP1C	Description	Weight (g)	Packaging
FTTXO-W3-2SC-SM	TBC	Fiber optic indoor termination box W3, 2F, SC/UPC adaptor and SC/UPC pigtail SM G.657A1	45	1pc / pack
FTTXO-W3-2SA-SM	TBC	Fiber optic indoor termination box W3, 2F, SC/APC adaptor and SC/APC pigtail SM G.657A1	45	1pc / pack
FTTXO-W3-4SC-SM	TBC	Fiber optic indoor termination box W3, 4F, SC/UPC adaptor and SC/UPC pigtail SM G.657A1	45	1pc / pack
FTTXO-W3-4SA-SM	TBC	Fiber optic indoor termination box W3, 4F, SC/APC adaptor and SC/APC pigtail SM G.657A1	45	1pc / pack

Draka Passive Optical Network (PON) 25 Years Product Warranty

Prysmian's Digital Solutions ASEAN is pleased to offer Draka Passive Optical Network 25 Years Product Warranty to its esteem Certified PON Installers.

Getting the Passive Optical Network Certified Installer status

Any installer seeking to install the Draka Passive Optical Network System being offered and wishes to apply for the Draka Passive Optical Network Product Warranty shall first complete a curriculum of Certified System Installer training and Passive Optical Network Certified Installer training.

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