LightWave™

Leads Communication

LIGHT TO INNOVATION

Lenora

Fiber Optic Connectivity Catalogue

2021 - 2022

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About us

Lenora Innovation Ltd. is a European telecommunication company dedicated to providing leading-edge, high-performance telecommunication products and services to business and enterprise customers.
Lenora specializes in manufacturing and marketing of Fiber FTTx, Air blown Total solution, Structure Cabling Systems & related connectivity products that are highly durable and offer superior performance, Lenora has evolved into a world-class provider of a complete line of products to a broad customer base.
By expanding our capabilities and product offerings, we have strategically positioned Lenora to support our customers' needs for increasingly sophisticated communications infrastructure and end-to-end cabling and connectivity solutions, by helping to implement the project from the very first step of network designing to the installation phase, providing all the necessary technical training, service and maintenance.
Lenora Structure Cabling Systems Total Solution using our products range will guarantee the best performance even in the most severe solutions, and it will significantly reduce CaPEX and OpEX in comparison with copper and fiber optic deployment techniques.
Lenora's success in the battlefield provided a foundation for the creation of a broad copper and fiber optic cable range, built on the evolution of new technologies, as well as opportunities to expand our product offerings beyond network solutions.
When you partner with Lenora, We bring you the most advanced products and solutions available. We own the knowledge and experience; we guarantee the results.

Innovation

Lenora brings efficient and innovative solutions customized to specific needs of its customers. It has developed and certified several products as the first in the world, thus contributing to the expansion of affordable and advanced solutions.

Quality control

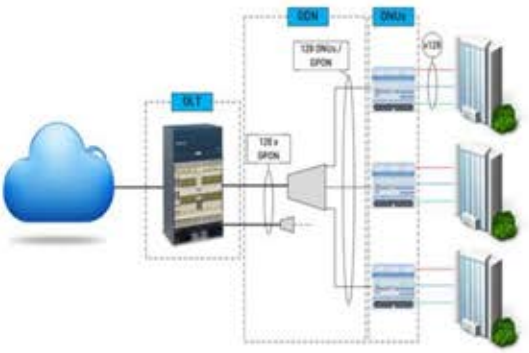
The quality of products is tested at every stage of the production cycle and is ensured by strict monitoring, Lenora Quality is designed to support a company culture based on continuous improvement, challenging objectives, effective control and corrective action.

Our Business

Lenora Leads Communication

Fiber Optic Connectivity Design & Engineering

The optical network construction based on fiber optic connectivity system is a proved, flexible and cost-effective solution, but some of the design concept is relatively new compared to the conventional connectivity solutions. With our accumulated knowledge from manufacturing, design and installation for more than 10 years, Lenora provides consulting services including network design by experienced engineers.



Connectivity Deployment & Installation

The fiber optic connectivity works for deploying fiber optic networks and fiber cable generally require elaborated job scheduling and experience in order to guarantee a long-term stable operation and to avoid unexpected cost expenses. For several years, Lenora has successfully carried out fiber optic projects ranging from inbuilding, FTTH, intra-city to long distance in many countries. With this knowledge of skilled engineers and quality products of Lightwave, Lenora provides fiber optic total solution to our customers.

Specialized Training

Lenora experts are trained in the fiber optic system and various connectivity techniques. We have, the facility available to other customers and partners who require training on fiber optic and connectivity solution. We have the ability to support network design, deliver knowledge about this advanced technology, providing Fiber Network Management System as well as presenting consulting services. We have, also provide a fully integrated demonstration of fiber optic total solution where our clients can learn directly.

Optical Distribution Frame, also known as Fiber Patch Panel, are installed in ODF, which offer flexible cabling access, expandable frame design and comprehensive cable management. 12 cores, 24 cores, 48 cores, 72 cores ,96 cores, 120 cores and 144 cores are available with different types of fiber optic connectors. ODF are high density fiber optic management frames that serve as a central cross-connect in the Main Distribution Area of the data center.

Rack Mount Optical Distribution Frame

Introduction

Rack Mount Optical Distribution Frame "ODF" also named Fiber Patch Panel is a frame used to provide cable interconnections between communication facilities, which can integrate fiber splicing, fiber termination, fiber optic adapters & connectors and cable connections together in a single unit. It can also work as a protective device to protect fiber optic connections from damage.

Application

Rack mount ODF is usually modularity in design with network structure. It can be installed on the rack with more flexibility according to the fiber optic cable counts and specifications. This kind of optical distribution system is more convenient and can provide more possibilities to the future variations. the ODF is not limited to the structure, many factors like applications should be considered, such Fiber Counts with the number of fiber connections in places like data center increase, the need for high density ODF become the trend. And it is very common to find ODF with 24 ports and 48 ports, due to the variety of optical distribution frames installation requirements, it is required a fiber optic connectors such SC, ST, LC, FC and more, also it is available in sliding or swing shapes.

- Ideal for FTTH/FTTX network
- Optical communication networks
- PON passive networks
- LAN networks
- Distribution networks

Operation Features

Optical Distribution Frame is an indoor ODF in the FTTX network to connect the cable interconnections between communication facilities through fiber port. This fiber ODF is made of high-quality powder coated cold rolled steel and designed for use in residential and business applications for the termination of the fiber optic cables. The ODF is the most popular and comprehensive fiber optic distribution frame which can reduce the cost and increase the reliability and flexibility of fiber optic network during both deployment and maintenance

- Available in Fixed, Sliding or Swing rack mount
- Rack mount 19" 1U for 24 ports and 2U for 48 ports
- Made of powder coated cold rolled steel material
- Integrated with splice cassette and cable management rods
- Compact structure and perfect fiber management
- Suitable for the fusion splice or mechanical splice
- Fiber connector types FC, SC, ST and LC etc.
- High reliability and reasonable inner space design
- Customer connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Mode: Singlemode or Multimode
- Connector type: SC, FC, ST, LC etc.
- Polish Interface Type: PC, UPC, APC Adapter
- Capacity: 24 or 48 ports, simplex or duplex adaptors
- Splice trays: 2x12 cores or 2x24 cores Splice trays
- Capacity of Adapter: 24 ports 1U and 48 ports 2U
- Installation Models: Fixed, Sliding or Swing 19" rack mount
  Size (L×W×H): 482x240x45mm (1U) and 482x300x90mm (2U)
- Entry ports: 3×φ25mm from back
- Material: High-quality powder cold rolled steel material
- Operation Temperature: -20 to +60°C
- Color: RAL 9004 (black) or RAL7035 (grey)

Rack Mount Modular Optical Distribution Frame

Introduction

Optical Distribution Frame "Rack Mount Modular ODF" also named Fiber Patch Panel is a high-density Multi-Fiber Modular frame used to provide cable interconnections between communication facilities, which can integrate fiber splicing, fiber termination, fiber optic adapters & connectors and cable connections together in a single unit. It can also work as a protective device to protect fiber optic connections from damage. The basic functions of ODFs provided by today's vendors are almost the same. However, they come into different shapes and specifications such as sliding rack mount, modular rack mount and high-density rack mount. It is used as a termination point for the feeder cable to connect with drop cable in FTTx network system.

Application

Rack mount modular ODF is usually modularity in design with in network infrastructure. It can be installed on the rack with more flexibility according to the fiber optic cable counts and specifications. This kind of optical distribution system is more convenient and can provide more possibilities to the future variations. the ODF is not limited to the structure, many factors like applications should be considered, such Fiber Counts with the number of fiber connections in places like data center increase, the need for high density ODF become the trend. And it is very common to find ODF with 12 ports and up to 144 ports, due to the variety of optical distribution frames installation requirements, it is required a fiber optic connectors such SC, LC, FC and more.

- Ideal for FTTH/FTTX network
- Optical communication networks
- PON passive networks
- LAN networks
- Distribution networks

Operation Features

Optical Distribution Frame is an indoor ODF in the FTTX network to connect the cable interconnections between communication facilities through fiber port. This fiber ODF is made of high-quality powder coated cold rolled steel and designed for use in residential and business applications for the termination of the fiber optic cables. The ODF is the most popular and comprehensive fiber optic distribution frame which can reduce the cost and increase the reliability and flexibility of fiber optic network during both deployment and maintenance

- Available in Fixed or Sliding rack mount
- Rack mount 19" from 1U up to 8U depending on number of ports
- Made of powder coated cold rolled steel material
- Integrated with splice cassette and cable management rods
- Compact structure and perfect fiber management
- Suitable for the fusion splice or mechanical splice
- Fiber connector types SC, LC, FC and ST etc.
- High reliability and reasonable inner space design
- Customer connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Mode: Singlemode or Multimode
- Connector type: SC, FC, ST, LC etc.
- Polish Interface Type: PC, UPC, APC Adapter
- Chasses Capacity: from 1 slot cards (1U) to 12 slot cards (8U)
- Adapter card: from 1 card, up to 12 cards Card
- Card Capacity: 12 SC simplex adaptor or 12 LC duplex adaptors
- Splice trays: 1x12 cores and up to 12x12 cores
- Capacity of Adapter: From 12 ports and up to 144 ports
- Installation Models: Fixed or Sliding 19" rack mount
- Size (L×W×H): 482x332x45mm (1U) and up to 482x332x324mm (8U)
- Material: High-quality powder cold rolled steel material
- Operation Temperature: -20 to +60°C
- Color: RAL 9004 (black) or RAL7035 (grey)

Rack Mount High-Density Optical Distribution Frame

Introduction

Optical Distribution Frame "High-Density ODF" also named Fiber High-Density Patch Panel is a high-density Modular frame used to provide cable interconnections between communication facilities, which can integrate fiber splicing, fiber termination, fiber optic adapters & connectors and cable connections together in a single unit. It can also work as a protective device to protect fiber optic connections from damage. The basic functions of ODFs provided by today's vendors are almost the same. However, they come into different shapes and specifications such as sliding rack mount, modular rack mount and high-density rack mount. It is used as a termination point for the feeder cable to connect with drop cable in FTTx network system.




Application

Rack mount High-Density ODF is usually modularity in design with in network infrastructure. It can be installed on the rack with more flexibility according to the fiber optic cable counts and specifications. This kind of optical distribution system is more convenient and can provide more possibilities to the future variations. the ODF is not limited to the structure, many factors like applications should be considered, such Fiber Counts with the number of fiber connections in places like data center increase, the need for high density ODF become the trend. And it is very common to find ODF with 4U 144 ports, due to the variety of optical distribution frames installation requirements, it is required a fiber optic connectors such SC, LC, FC, ST and more.

- Ideal for FTTH/FTTX network
- Optical communication networks
- PON passive networks
- LAN networks
- Distribution networks

Operation Features

Optical Distribution Frame is an indoor or outdoor ODF in the FTTX network to connect the cable interconnections between communication facilities through fiber port. This fiber ODF is made of high-quality powder coated cold rolled steel and designed for use in residential and business applications for the termination of the fiber optic cables. The ODF is the most popular and comprehensive fiber optic distribution frame which can reduce the cost and increase the reliability and flexibility of fiber optic network during both deployment and maintenance.

- Available in Fixed or Sliding rack mount
- Rack mount 19" 4U for 144 ports
- Made of powder coated cold rolled steel material
- Integrated with splice cassette and cable management rods
- Compact structure and perfect fiber management
- Suitable for the fusion splice or mechanical splice
- Fiber connector types SC, LC, FC and ST etc.
- High reliability and reasonable inner space design
- Customer connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Mode: Singlemode or Multimode
- Connector type: SC, FC, ST, LC etc.
- Polish Interface Type: PC, UPC, APC Adapter
- Chasses Capacity: 12 slot cards (4U)
- Adapter card: 12x12 SC ports or 12x24 LC ports
- Card Capacity: 12 SC simplex adaptor or 12 LC duplex adaptors
- Splice trays: 1x12 cores and up to 12x12 cores
- Capacity of Adapter: From 12 ports and up to 144 ports
- Installation Models: Fixed Modular Chasses 19" rack mount
- Size (L×W×H): 485x340x176mm (4U)
- Material: High-quality powder cold rolled steel material
- Operation Temperature: -20 to +60°C
- Color: RAL 9004 (black) or RAL7035 (grey)

Rack Mount MPO/MTP Optical Distribution Frame

Introduction

Optical Distribution Frame "ODF MPO/MTP" also named Fiber Patch Panel MPO/MTP is a high-density Multi-Fiber Push-On frame used to provide cable interconnections between communication facilities, which can integrate fiber splicing, fiber termination, fiber optic adapters & connectors and cable connections together in a single unit. It can also work as a protective device to protect fiber optic connections from damage.

Application

Rack mount ODF MPO/MTP is usually modularity in design with in network infrastructure. It can be installed on the rack with more flexibility according to the fiber optic cable counts and specifications. This kind of optical distribution system is more convenient and can provide more possibilities to the future variations. the ODF is not limited to the structure, many factors like applications should be considered, such Fiber Counts with the number of fiber connections in places like data center increase, the need for high density ODF become the trend. And it is very common to find ODF with 24 ports, 48 ports or even 144 ports, due to the variety of optical distribution frames installation requirements, it is required a fiber optic connectors such SC, LC, FC, MPO and more.

- Ideal for FTTH/FTTX network
- Optical communication networks
- PON passive networks
- LAN networks
- Distribution networks

Operation Features

Optical Distribution Frame is an indoor or outdoor ODF in the FTTX network to connect the cable interconnections between communication facilities through fiber port. This fiber ODF is made of high-quality powder coated cold rolled steel and designed for use in residential and business applications for the termination of the fiber optic cables. The ODF is the most popular and comprehensive fiber optic distribution frame which can reduce the cost and increase the reliability and flexibility of fiber optic network during both deployment and maintenance.

- Available in Fixed or Sliding rack mount
- Rack mount 19" 1U for 96 ports and 2U for 192 ports
- Made of powder coated cold rolled steel material
- Integrated with splice cassette and cable management rods
- Compact structure and perfect fiber management
- Suitable for the fusion splice
- Fiber connector types SC, LC, FC and MPO etc.
- High reliability and reasonable inner space design
- Customer connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Mode: Singlemode or Multimode
- Connector type: SC, FC, LC, MPO etc.
- Polish Interface Type: PC, UPC, APC
- Adapter plates: 4 plates (1U) and 8 plates (2U)
- Plates Capacity: 24 LC ports or 12 SC ports adaptors
- Splice trays: 4x24 cores or 8x24 cores Splice trays
- Capacity of Adapter: Up to 96 ports 1U and 192 ports 2U
- Installation Models: Fixed 9" rack mount
- Size (L×W×H): 482x315x45mm (1U) and 482x315x90mm (2U)
- Entry ports: 4×φ25mm from back
- Material: High-quality powder cold rolled steel material
- Operation Temperature: -20 to +60°C
- Color: RAL 9004 (black) or RAL7035 (grey)

Fiber Optical Splitters

Introduction

Fiber Optic Splitter "PLC Splitter" is a passive optical splitter based on optical semiconductor technology. A typical PLC splitter consists of a PLC chip along with input and output arrays, the number of which depends on the split ratio, splitters are used to evenly divide one or two optical signals into multiple optical signals with a various of 1xN and 2xN, such as 1×2 to 64 or 2×2 to 64 split ratios, PLC Splitter is terminated with SC, SC/APC, LC and LC/APC adapter as the input and output connecting. All PLC Splitters provide excellent optical performance, splitter is most commonly used in the PON and FTTx Networks.

Application

Fiber Optic Splitter "PLC Splitter" is a device that is PLC type devices have high performance in terms of low insertion loss, low PDL high return loss and excellent uniformity over a wide wavelength range from 1260nm to 1650nm, a certain extent, fiber optic connection affect the reliability and performance of optical transmission systems.

- Ideal for FTTH/FTTX network
- Optical communication networks
- PON passive networks
- Good uniformity and low insertion loss
- High Polarization Extinction Ratio & Excellent Uniformity

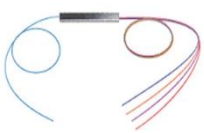
Operation Features

Rack Mounted Splitter is a perfect solution for commonly used in the PON networks. It is widely used where needed for a quick connection, providing a quick assembly and stable performance with the following features

- Compact design available in different shapes according of uses
- Low insertion loss and low PDL
- High reliability
- Wide wavelength range 1260nm-1650nm
- Large operating temperature range







Mechanical Performance Test compliance:

- Adapter types: SC, SC/APC, LC and LC/APC other connectors are available
- Material: High-quality powder coated cold rolled steel or APS material or APS
- Fiber type: SM
- Insert loss Max: <16.9 dB for 1x32 splitter
- PDL Max: <0.3 dB
- Directivity: 55 dB
- Return Loss Min: 50 (55) dB
- Operation Temperature: -40 to +60°C
- Storage Temperature: -40 to +70°C
- Color: RAL 9004 (black) or RAL7035 (grey)

1xN PLC Splitter Specifications							
Port Configuration		**1x2**	**1x4**	**1x8**	**1x16**	**1x32**	**1x64**
Operating Wavelength (nm)		1260～1650					
Insertion Loss (dB)	Typical	3.7	6.8	10.0	13.0	16.0	19.5
	Max	4.0	7.2	10.5	13.5	16.9	21.0
Loss Uniformity(dB)	Max	0.4	0.6	0.8	1.2	1.5	2.5
Return Loss (dB) (S/P Grade)	Min	50/55	50/55	50/55	50/55	50/55	50/55
Polarization Dependent Loss(dB)	Max	0.2	0.2	0.3	0.3	0.3	0.4
Directivity (dB)	Min	55	55	55	55	55	55
Wavelength Dependent Loss(dB)	Max	0.3	0.3	0.3	0.5	0.5	0.8
Temperature Stability (-40～85 ℃) (dB)	Max	0.5	0.5	0.5	0.8	0.8	1.0
Note: All the data above does not include connectors, Add an additional 0.2dB loss per connector.							

2xN PLC Splitter Specifications							
Port Configuration		**2x2**	**2x4**	**2x8**	**2x16**	**2x32**	**2x64**
Operating Wavelength (nm)		1260-1650					
Insertion Loss (dB)	Typical	3.8	7.4	10.8	14.2	17.0	21.0
	Max	4.2	7.8	11.2	14.6	17.5	21.5
Loss Uniformity(dB)	Max	1.0	1.4	1.5	2.0	2.5	2.5
Return Loss (dB) (S/P Grade)	Min	50/55	50/55	50/55	50/55	50/55	50/55
Polarization Dependent Loss(dB)	Max	0.2	0.2	0.4	0.4	0.4	0.5
Directivity (dB)	Min	55	55	55	55	55	55
Wavelength Dependent Loss(dB)	Max	0.8	0.8	0.8	0.8	0.8	1.0
Temperature Stability (-40～85 ℃) (dB)	Max	0.5	0.5	0.5	0.8	0.8	1.0
Note: All the data above does not include connectors, Add an additional 0.2dB loss per connector.							

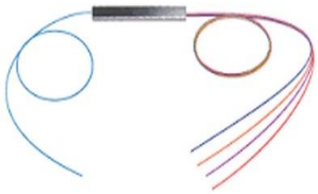
Types Of Splitters

Rack Mount PLC Splitters

LGX Boxed PLC Splitters

Fan Out PLC Splitters

Modular PLC Splitters



Bare Fiber PLC Splitters

Optical fiber splice closure belongs to the accommodation of the optical fiber fusion splice section system. It is widely applied to the connection of the fiber. Play the roles in sealing, protection, installation of fiber connector head and storage. According to the structure character, the fiber optic splice closure can be classified to the Horizontal and Dome type. We provide various good quality aerial, duct and underground fiber closure, including vertical and horizontal types.

In-line Horizontal Type Optical Splice Closure

Introduction

In-line Splice Closure also named Fiber optic joint closure, it is used to distribute, splice, and store the outdoor optical cables which enter and exit from the ends of the optical fiber cable joint closure. Horizontal Fiber optic splice closure is an essential passive component for fiber optic cable management in the fiber-optic network of backbone and access network. The fiber splice closures and the splice trays inside provide strong protection for the spliced fiber joint and fiber cables. Fiber Optic Splice Closure can be installed in aerial, pole mounting, wall mounting, direct buried, and duct mounting, which is used for direct connection during the optical fiber transmission process. With good sealing performance, the simple installation and wide application range are the best choices for optical fiber connection.

Application

In-line Closure Horizontal fiber optic splice closure are used to distribute, splice, and store the outdoor optical cables which enter and exit from the ends of the closure. The high-quality inline splice closure provides space and protection for the fiber optic cable splicing and joint and capacity from 24~144 core. The horizontal splice closure is with a great sealing performance used in aerial, duct and direct buried application

- Ideal for FTTH/FTTX network
- Outdoor connections
- Distribution networks
- Communication, Cable network system
- Installation application direct buried, aerial, pole mounting and wall mounting
- Excellent Mechanical Sealed to protect fiber and splice ensuring durability

Operation Features

In-Line fiber Optic Splice Closure is a fiber management product typically provide for good splicing and protection with outdoor fiber optical cables. Inline fiber splice enclosure is used for aerial, underground, pipeline, hand-holes assembling. The Inline type closure is also called Horizontal closure. The input and output are on the both sides. Inline closure is more suitable for backbone application. All the splice closures we offered are with a great sealing performance with the following features:

- IP rating is IP68
- Capacity from 24~288 core
- Cable ports are 4 ports (2Inlets + 2Outlets)
- Used for direct buried, aerial, pole mounting and wall mounting applications
- High reliability
- Advanced internal structure design
- Using a special material that can be repeatedly opened, re-use
- Splice tray easy to installation
- Large operating temperature range

Mechanical Performance Test compliance:

- Box Material: Modified polymer plastic
- Seal Material: Silicone Rubber
- Cable ports: 4 ports (2Inlets + 2Outlets)
- Splice Trays: 12 or 24 Cores trays
- Capacity: 24~288 Cores
- Appearance size (mm): 478×260
- Weight (kg): 5.5～6.5
- Mechanical Seal: Excellent seal performance, reusable.
- Protection Grade: IP68
- Port seal: Heat shrink seal
- Installation Method: Wall-mounted, Pole mounting, Manhole, Aerial installation
- Work Temperature: -40 °C ~+60°C

Dome Type Optical Splice Closure

Introduction

Dome Splice Closure also named Vertical Fiber Optic Splice Closure, it is used to distribute, splice, and store the outdoor optical cables which enter and exit from the ends of the optical fiber cable joint closure. Vertical fiber optic splice closure is an essential passive component for fiber optic cable management in the fiber-optic network of backbone and access network. The fiber splice closures and the splice trays inside provide strong protection for the spliced fiber joint and fiber cables. Fiber optic splice closure can be installed in aerial, pole mounting, wall mounting, direct buried, and duct mounting, which is used for direct connection during the optical fiber transmission process. With good sealing performance, the simple installation and wide application range are the best choices for optical fiber connection.

Application

Dome Vertical fiber optic splice closure are used to distribute, splice, and store the outdoor optical cables which enter and exit from the ends of the closure. The high-quality dome splice closure provides space and protection for the fiber optic cable splicing and joint and capacity from 24~576 core. The vertical splice closure is with a great sealing performance used in aerial, duct and direct buried application

- Ideal for FTTH/FTTX network
- Outdoor connections
- Distribution networks
- Communication, Cable network system
- Installation application direct buried, aerial, pole mounting and wall mounting
- Excellent Mechanical Sealed to protect fiber and splice ensuring durability

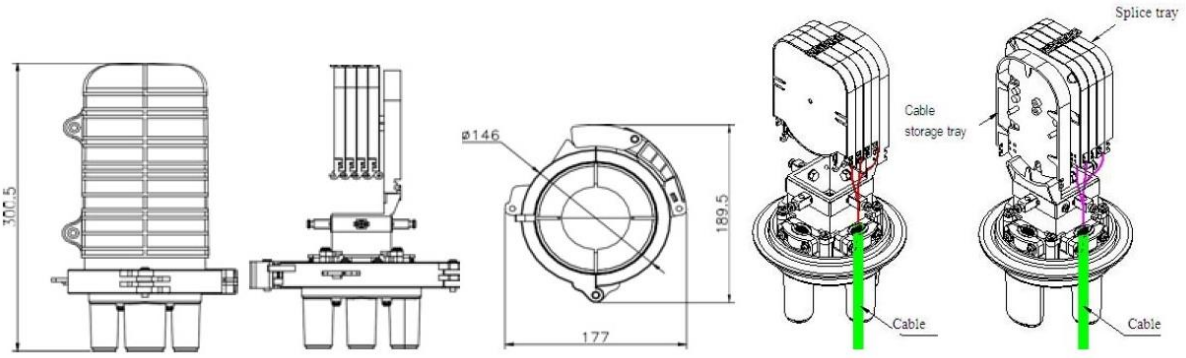
Operation Features

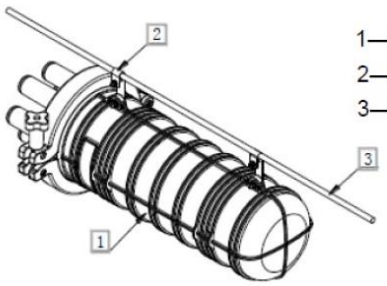
In-Line fiber Optic Splice Closure is a fiber management product typically provide for good splicing and protection with outdoor fiber optical cables. Inline fiber splice enclosure is used for aerial, underground, pipeline, hand-holes assembling. The Inline type closure is also called Horizontal closure. The input and output are on the both sides. Inline closure is more suitable for backbone application. All the splice closures we offered are with a great sealing performance with the following features:

- IP rating is IP68
- Capacity from 24~576 core
- Cable ports up to 7 ports (1 oval & 6 round)
- Used for direct buried, aerial, pole mounting and wall mounting applications
- High reliability
- Advanced internal structure design
- Using a special material that can be repeatedly opened, re-use
- Splice tray easy to installation

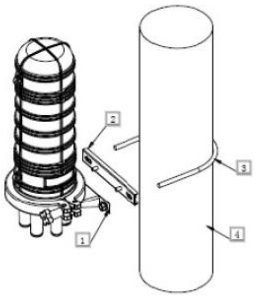
Mechanical Performance Test compliance:

- Box Material: Modified polymer plastic
- Seal Material: Silicone Rubber
- Cable ports up to 7 ports (1 oval & 6 round)
- Splice Trays: 12 or 24 Cores trays
- Capacity from 24~576 core
- Appearance size (mm): 478×260
- Weight (kg): 5.5～6.5
- Mechanical Seal: Excellent seal performance, reusable.
- Protection Grade: IP68
- Port seal: Heat shrink seal
- Installation Method: Wall-mounted, Pole mounting, Manhole, Aerial installation
- Work Temperature: -40 °C ~+60°C





1— Joint closure
2—Aerial mounting
3—steel wire



1—Fixing plate
2—Mounting plate
3—U-shaped bolt
4—Pole

Fiber Optical Patch Cords

Introduction

Fiber Patch Cords are used to connect one device to another for signal transmission. The fiber patch cord is a connector that is installed at both ends for the device, connectorized cable assemblies are cord-type fiber optical cables terminated with connectors at both ends. The type of cable fiber and connector and the length of the patch cords can be freely specified, according to the structure of the connector, it can be divided into FC, SC, ST, LC, MPO and the like, also available in simplex or duplex cables. The purpose of fiber optic patch cord is to connect one or more devices or equipment in a fiber optic network. There are two major application areas of fiber optic patch cables which are network station to outlet and fiber optic patch panels or optical cross connect distribution center

Application

Fiber Optic Patch Cord are necessary for almost all networks. Their ability to carry massive volumes of data at high speeds makes them ideal for the backbone of most networks. They connect everything from data centers to any device within the network. Fiber patch cables have become an essential component of enterprise data networks. due to the variety of fiber patch cables installation requirements, a fiber optic patch cord has fiber optic connectors such SC, ST, LC, FC, etc. and more at either end.

- Ideal for FTTH/FTTX network
- Optical communication networks
- LAN fiber networks
- WAN fiber networks

Operation Features

Fiber Optic Patch Cord Connectorized cable assemblies are cord-type fiber optical cables terminated with connectors at both ends. The type of cable fiber and connector and the length of the patch cords can be freely specified by the customer

- Fiber type is a Single mode fiber G652D, G657A1 and G657A2, Multimode fiber OM1, OM2, OM3 and OM4 are available
- Fiber Patch Cord length 1, 2, 3meter other length are available
- Available for simplex, duplex and multi-cores
- Low insertion loss and high return loss, high dense connection, easy for operation
- 100% factory transmission tested per ANSI/TIA-568-C.3
- IEC 874-1 Generic specification for fiber optic connectors and cables
- ANSI/TIA-568-C.3, ISO/IEC 11801 2nd Ed., CENELEC EN 50173
- Cable flame resistant rate IEC60332-3 standard
- High reliability
- Customer lengths and connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Mode: Single mode or Multi mode
- Fiber Cable: Simplex or Duplex
- Connector type: SC, FC, ST, LC, MTRJ, MPO etc.
- Cable Diameter: 2.0mm or 3.0mm
- Polish Interface Type: PC, UPC, APC
- Outer Jacket: PVC or LSZH or Armored etc.
- Jacket Color: SM "Yellow", OM2 "Orange", OM3 :Aqua", OM4 "Pink"
- Operation Temperature: -20 to +70°C

Fiber Patch Cord	Single Mode	Multi-Mode
Insertion loss	0.3 dB (Max)	
Return loss	≤-50 dB (UPC) ≤-60 dB (APC)	≥20 dB
Operating Temperature	- 40 to +80 ◦C	
Length	1mt, 3mt, 5mt	
Color	Yellow	Orange
Polishing Type	PC, UPC or APC	PC or UPC
Connectors Type	SC, FC, ST, LC, MU, MTRJ, E2000, MPO etc.	
Cable Diameter	3.0mm or 2.4mm or 2.0mm etc.	
Cable Material	PVC or LSZH jacket	
End face Radius	10mm<R<25mm (PC) 5mm<R<12mm (APC)	

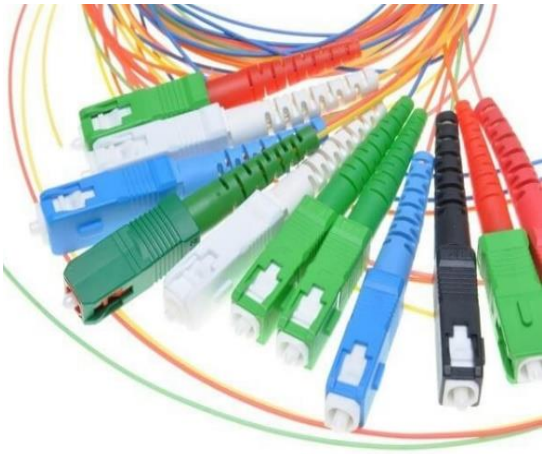
Types Of Fiber Patch cords

			
SC Patch cord	FC Patch cord	LC Patch cord	ST Patch cord
			
MU Patch cord	MTRJ Patch cord	E2000 Patch cord	MPO Patch cord
			
SC-SC SM Breakout Distribution Cable	SC/APC-SC/UPC SM Breakout Cable	LC-LC OM3 Breakout Distribution Cable	

All types of connectors and cables are available with customized configuration

Fiber Optical Pigtails

Introduction



Fiber Optic Pigtail refers to a half-jumper-like connector used to connect fiber and fiber couplers. It includes a jumper connector and a length of fiber. FTTH cable pigtails which are made from standard FTTH drop cables. Fiber Optic Pigtails are made from single cables and pre-terminated at one end with fiber optic connectors. Fiber optic connectors on the end of fiber pigtails cables can be of various types, including FC, SC, ST, LC, DIN and MPO etc., also it is available in singlemode and multimode cables. The purpose of fiber optic pigtails is to connect fiber optic core to one or more devices or equipment in a fiber optic network. There are two major application areas of fiber optic Pigtail cables which are network station to outlet and fiber optic patch panels or optical cross connect distribution center

Application

Fiber Optic Pigtails are necessary for almost all networks. Their ability to carry massive volumes of data at high speeds makes them ideal for the backbone of most networks. They connect everything from data centers to any device within the network. Fiber Pigtails have become an essential component of enterprise data networks. due to the variety of fiber pigtails installation requirements, a fiber optic pigtail has fiber optic connectors such SC, ST, LC, FC and more at one end.

- Ideal for FTTH/FTTX network
- Optical communication networks
- LAN fiber networks
- WAN fiber networks

Operation Features

Fiber Optic Pigtails connectorized cable assemblies are cord-type fiber optical cables terminated with connectors at one end. The type of cable fiber and connector and the length of the pigtails can be freely specified by the customer

- Fiber type is a Single mode fiber G652D, G657A1 and G657A2, Multimode fiber OM1, OM2, OM3 and OM4 are available
- Fiber Optic Pigtail length 1, 1.5, 2meter other length are available
- Available for simplex and multi-cores
- Low insertion loss and high return loss, high dense connection, easy for operation
- 100% factory transmission tested per ANSI/TIA-568-C.3
- IEC 874-1 Generic specification for fiber optic connectors and cables
- ANSI/TIA-568-C.3, ISO/IEC 11801 2nd Ed., CENELEC EN 50173
- Cable flame resistant rate IEC60332-3 standard
- High reliability
- Customer lengths and connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Mode: Single mode or Multi mode
- Fiber Cable: Simplex or Duplex
- Connector type: SC, FC, ST, LC, MTRJ, MPO etc.
- Cable Diameter: 2.0mm or 3.0mm
- Polish Interface Type: PC, UPC, APC
- Outer Jacket: PVC or LSZH or Armored etc.
- Jacket Color: SM "Yellow", OM2 "Orange", OM3 :Aqua", OM4 "Pink"
- Operation Temperature: -20 to +70°C
- Storage Temperature: -40 to +70°C

Fiber Optic Pigtails	Single Mode	Multi-Mode
Insertion loss	0.3 dB (Max)	
Return loss	≤-50 dB (UPC) ≤-60 dB (APC)	≥20 dB
Operating Temperature	- 40 to +80 ◦C	
Cable Length	1mt, 1.5mt, 2mt, 3mt etc.	
Color	Yellow	Orange
Polishing Type	PC, UPC or APC	PC or UPC
Connectors Type	SC, FC, ST, LC, MU, MTRJ, E2000, MPO etc.	
Cable Diameter	0.9mm or 2.4mm or 3.0mm etc.	
Cable Material	PVC or LSZH jacket	
End face Radius	10mm<R<25mm (PC) 5mm<R<12mm (APC)	

Types Of Fiber Optic Pigtails

		
SC/UPC SM Pigtail	SC/APC SM Pigtail	SC/PC MM Pigtail
		
LC/UPC SM Pigtail	LC/APC SM Pigtail	LC/PC MM Pigtail
		
FC/UPC SM Pigtail	FC/APC SM Pigtail	FC/PC MM Pigtail
All types of connectors and cables are available with customized configuration		

Types Of Multi-cores Fiber Optic Pigtails

		
12 Colors SC/UPC SM Multi-pigtails	12 Colors SC/APC SM Multi-pigtails	12 Colors SC/PC MM Multi-pigtails
		
12 Colors LC/UPC SM Multi-pigtails	12 Colors LC/APC SM Multi-pigtails	12 Colors LC/PC MM Multi-pigtails
		
12 Colors FC/UPC SM Multi-pigtails	12 Colors FC/APC SM Multi-pigtails	12 Colors FC/PC MM Multi-pigtails
All types of connectors and cables are available with customized configuration		

Fiber Optical Adaptors

Introduction

Fiber Optic Adaptors, also named as fiber adapter or fiber coupler, is a special connector designed to mate or connect two ends of a fiber optic cable with high precision. Fiber adapters are widely used in optical distribution frame (ODF), optical fiber communications equipment, measuring appliance and so on. According to the types of fiber optic connectors that fiber adapters are connected, there are common adapters such SC, FC, ST, LC and MTP/MPO adapter etc., also available in singlemode or multimode.

Application

Fiber Optic Adaptors are used in fiber optic connection, the typical use is to provide a cable-to-cable fiber connection. people sometimes also name them to be mating sleeves and hybrid adapters, mating sleeves means this fiber optic adapter is used to connect the same type fiber optic connectors, while hybrid adapters are the fiber optic adapter types used to connect different kinds of fiber optic connectors.

- FTTH Termination box
- In-House termination box
- Optical Distribution Frame (ODF)
- LAN fiber networks

Operation Features

Fiber Optic Adaptors is a perfect solution for provide a cable-to-cable fiber connection. It is widely used where needed for a quick connection, providing a quick assembly and stable performance with the following features

- SC, FC, ST, LC and MTP/MPO adapters are available
- Simplex, duplex or quad type
- Available in Singlemode G652D, G657A1 and G657A2, Multimode fiber OM1, OM2, OM3 and OM4 are available
- High precise ceramic sleeve
- Low insertion loss
- Repeatability, interchangeability, stability
- Shutters open and close automatically
- With or without flange for optional
- Reliable durable and superior optical performance

Mechanical Performance Test compliance:

- Adapter types: SC, FC, ST and LC, etc. adapters are available
- Fiber type: SM G652D, 657A, 657B and MM OM1, OM2, OM3 and OM4
- Polishing Type: UPC or APC
- Insert loss: ≤0.2dB
- Return loss: UPC≥50dB, APC≥60dB
- Durability: ≤0.2dB after 1000times
- Operation Temperature: -40 to +80°C
- Storage Temperature: -40 to +70°C

Fiber Optic Adapters	Single Mode	Multi-Mode
Insertion loss	≤0.20dB	
Return loss	≤-50 dB (UPC) ≤-60 dB (APC)	≥20 dB
Operating Temperature	- 40 to +80 ◦C	
Polishing Type	PC, UPC or APC	PC or UPC
Connectors Type	SC, FC, ST, LC, MU, MTRJ, E2000, MPO etc.	

Types Of Fiber Optic Adaptors

				
SC-SX-SM	SC-SX-MM	SCA-SX-SM	SC-SX-OM3	SC-SX-OM4
				
SC-DX-SM	SC-DX-MM	SCA-DX-SM	SC-DX-OM3	SC-DX-OM4
				
LC-SX-SM	LC-SX-MM	LCA-SX-SM	LC-SX-OM3	LC-SX-OM4
				
LC-DX-SM	LC-DX-MM	LCA-DX-SM	LC-DX-OM3	LC-DX-OM4

Introduction

Fiber Fast Connector is a perfect solution for field working and FTTH connection. It is widely used where needed for a quick connection, providing a quick assembly and stable performance. Fast filed connectors normally are SC, LC and FC fast connectors, providing a quick assembly and stable performance. When engineers work in the field for installation, maintenance, repair of optical fiber, or FTTH indoor termination, they can use it easily because it has no epoxy and no polishing. Fast filed connectors are available in singlemode or multimode and it is cost-effective solution for FTTH projects.

Application

Fiber Fast Connector Assembly has different splicing technics such as splice on fast connectors, drop cable splice fast connectors and FTTH Field Assembly Fast Connector, which used for splicing point inside the connector end, equivalently eliminate the pigtails when splicing. The advantage is no need additional protection after splice, such as splice tray, splice closure, distribution box. In contract to the design of mechanical splice connector, it saves V-groove mechanical connector maintenance and operation cost.

- Ideal for FTTH/FTTX Termination
- Optical communication networks
- PON passive networks
- In-House termination
- Fast repair of optical fiber

Operation Features

Fiber Fast Connector for terminating fiber optic cables is a perfect solution for field working and FTTH connection. It is widely used where needed for a quick connection, providing a quick assembly and stable performance with the following features

- Fiber Fast Connector with no epoxy or polishing required
- No matching gel enables low reflection and high reliability Splicing point is inside of the connector
- No additional splicing work required
- Easily assembled with one-touch, push-pull system
- Used for φ3.0mm, φ2.0mm cable and 3x2mm drop cable etc.
- The fusion splice position can be protected by the heat shrinkable tube inside, not easy broken

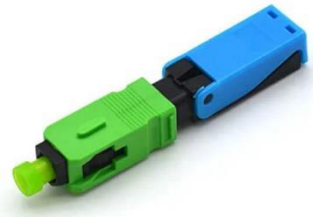
Mechanical Performance Test compliance:

- Adapter types: SC, SC/APC, LC and LC/APC other connectors are available
- Applicable for cable: 0.9mm, 2.0mm, 3.0mm indoor cable or Drop cable
- Fiber type: Singlemode G652D, 657A & 657B or Multimode
- Polishing Type: UPC or APC
- Insert loss: ≤ 0.3dB
- Return loss: UPC≥50dB, APC≥60dB
- Tensile strength: >60 N
- Operation Temperature: -40 to +60°C

Types Of Fiber Fast Connectors

FTTH Splice-on Fast Connector

FTTH Drop Cable Fast Connector



FTTH Field Assembly Fast Connector

Fiber Optic Faceplates

Introduction

Fiber Faceplate Box is an indoor wall Outlet/socket terminal is used in the end termination of residential buildings and villas applied in the FTTX network to connect the drop cable and optical devices through fiber port. This Fiber optic outlet can be installed on the wall mount with adapting variety of optical connection styles. The capacity of 1 core, 2 cores and supports splicing, Mechanical connection and FMC, wall mounted installation

Application

Fiber Faceplate Box is an indoor are necessary for almost all networks. Our high-quality fiber optic socket is suitable in home or office and it is able to provide end users with optical access or data access. due to the variety of fiber faceplate box installation requirements, a fiber optic connectors such SC, ST, LC, FC and more.

- FTTH Termination box
- In-House termination box
- Optical communication networks
- LAN fiber networks

Operation Features

Fiber Faceplate Box is an indoor terminal box applied in the FTTX network to connect the drop cable and optical devices through fiber port. This fiber wall outlet is made of PC/ABS plastic and designed for use in residential and business applications for the termination of up to 2 fibers. It can hold max two simplex adapters. It is available for the distribution and terminal connection for various kinds of optical fiber system, especially suitable for FTTx network terminal distribution

- Support termination, splicing and storage for fiber optic cable systems
- Compact structure and perfect fiber management
- Fiber mode is a singlemode or multimode fiber are available
- Available for 1 or 2 ports
- Fiber connector types FC, SC, ST and LC etc.
- Low insertion loss and high return loss
- 100% factory transmission tested per ANSI/TIA-568-C.3
- IEC 874-1 Generic specification for fiber optic connectors and cables
- ANSI/TIA-568-C.3, ISO/IEC 11801 2nd Ed., CENELEC EN 50173
- High reliability and reasonable inner space design
- Customer connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Mode: Singlemode or Multimode
- Connector type: SC, FC, ST, LC etc.
- Polish Interface Type: PC, UPC, APC
- Size (H×W×D): 86×86×24mm other are available
- Splice Capacity: 1, 2 Cores (SC) or 2, 4 Cores (LC)
- Material: PC/ ABS plastic material
- Installation Models: Wall or flash Mounted
- Operation Temperature: -20 to +70°C
- Storage Temperature: -40 to +85°C

Fiber Optic Faceplates	Single Mode	Multi-Mode
Insertion loss	≤0.20dB	
Return loss	≤-50 dB (UPC) ≤-60 dB (APC)	≥20 dB
Operating Temperature	- 40 to +80 ◦C	
Polishing Type	PC, UPC or APC	PC or UPC
Connectors Type	SC, FC, ST, LC, MU, MTRJ, E2000 etc.	

Fiber Optic Termination Box

Introduction

Fiber Termination Box offers a variety of terminal boxes with price and quality from 2 ports to up to 48 ports. The terminal box is used to separate and store the optical fibers in the fiber cable. By using one of the panels, the fiber can be spliced onto a single fiber on other cables, allowing the cables to be crossed and connected in a variety of ways. In addition, the panel creates a safe environment in which exposed fibers can be used.

Application

Fiber Terminal Box is an indoor and outdoor are necessary for almost all networks. Our high-quality fiber optic socket is suitable in home or office and it is able to provide end users with optical access or data access. due to the variety of fiber faceplate box installation requirements, a fiber optic connectors such SC, ST, LC, FC and more.

- Ideal for FTTH/FTTX network
- Optical communication networks
- PON communication networks
- Video communication networks
- LAN fiber networks

Operation Features

Fiber Access Terminal Box is an indoor and outdoor terminal box applied in the FTTX network to connect the drop cable and optical devices through fiber port. This fiber wall terminal box is made of PC/ABS plastic or High-quality powder coated cold rolled steel material and designed for use in residential and business applications for the termination of up to 48 fibers. It can hold max 96 simplex adapters. It is available for the distribution and terminal connection for various kinds of optical fiber system, especially suitable for FTTx network terminal distribution.

- Integrated with splice cassette and cable management rods
- Compact structure and perfect fiber management
- Fiber mode is a singlemode or multimode fiber are available
- Available from 2 ports and up to 48 ports
- Suitable for the fusion splice or mechanical splice
- Fiber connector types FC, SC, ST and LC etc.
- Low insertion loss and high return loss, high dense connection, easy for operation
- 100% factory transmission tested per ANSI/TIA-568-C.3
- IEC 874-1 Generic specification for fiber optic connectors and cables
- ANSI/TIA-568-C.3, ISO/IEC 11801 2nd Ed., CENELEC EN 50173
- Water-proof design with IP-65 Protection level for outdoor version
- High reliability and reasonable inner space design
- Customer connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Mode: Singlemode or Multimode
- Connector type: SC, FC, ST, LC etc.
- Polish Interface Type: PC, UPC, APC
- Size (H×W×D): are available
- Splice Capacity: from 2 Cores to up to 48 Cores depending on the models
- Material: PC/ ABS plastic or High-quality powder coated cold rolled steel material
- Installation Models: Wall Mounted
- Operation Temperature: -20 to +70°C
- Storage Temperature: -40 to +85°C

Indoor FTB

Outdoor FTB

FTTH Distribution Box

Introduction

FTTH Distribution Box also named Home Network Box is designed for the FTTx project and provide mechanical protection for fiber management system that include the functions of patching, splicing, PDU and passive optic components integration indoor or outdoor environments. It is used as a termination point for the feeder cable to connect with drop cable in FTTx network system. It integrates fiber splicing, splitting, power, patch panel, storage and cable connection in one solid protection box.

Application

FTTH Distribution Box is an indoor or outdoor are necessary for almost all networks. Our high-quality FTTH distribution box is suitable in home or office and it is able to provide end users with optical access, power and data access. due to the variety of home distribution box installation requirements, a fiber optic connector such SC, ST, LC, FC and copper patch panels and more.

- Ideal for FTTH Termination box
- In-House termination box
- Optical communication networks
- PON communication networks
- Video communication networks
- LAN networks

Operation Features

FTTH Distribution Box is an indoor or outdoor terminal box applied in the FTTX network to connect the drop cable and optical devices through fiber port. This fiber wall terminal box is made of high-quality powder coated cold rolled steel and designed for use in residential and business applications for the termination of up to 24 UTP ethernet cable, PDU and fiber termination. It can hold max 4 simplex adapters. It is available for the distribution and terminal connection for various kinds of optical fiber system, especially suitable for FTTx network terminal distribution.

- Made of powder coated cold rolled steel
- Integrated with splice cassette and cable management rods
- Compact structure and perfect fiber management
- 19” UTP Patch Panel and PDU optional
- Available up to 24 ports
- Suitable for the fusion splice or mechanical splice
- Fiber connector types FC, SC and LC etc.
- High reliability and reasonable inner space design
- Customer connectors are available upon request

Mechanical Performance Test compliance:

- Fiber Solution: 4 port fiber termination box (option)
- Fiber Mode: Singlemode or Multimode
- Connector type: SC, FC, ST, LC etc.
- Polish Interface Type: PC, UPC, APC
- LAN Solution: 19" UTP Patch Panel (option)
- Power Solution: 19" PDU up to 8 outlets (option)
- Size (H×W×D): 550*540*120mm other dimensions are available
- Entry ports and cable diameter: 12×φ25mm from top and bottom other custom are available
- Material: High-quality powder coated cold rolled steel material
- Installation Models: Wall Mounted or Flush Mounted
- Operation Temperature: -20 to +60°C

FTTH Fiber Distribution Hub

Introduction

FTTH Fiber Distribution Hub also named Outdoor Optical Distribution Cabinet is mainly used for cross-connecting outdoor optical distribution cables from optical central node to optical distribution node. This cabinet offers ideal environment for fibers to be spliced, cable termination, fiber distribution, dispatch and well organized under outdoor environment. Outdoor optical distribution cabinet provides safe, reliable and flexible optical fiber/cable circuit management, suitable for various communication networks, especially for users' optical fiber access network engineering.

Application

Outdoor Optical Distribution Cabinet is an outdoor are necessary for almost all FTTH/FTTX networks. Our high-quality fiber optic distribution cabinet is suitable in central node or distribution node and it is able to provide end users with optical access or data access. due to the variety of outdoor optical distribution cables installation requirements, a fiber optic connectors such SC, LC, FC and more.

- Ideal for FTTH/FTTX network
- PON communication networks
- Video communication networks
- Optical communication networks
- WAN fiber networks

Operation Features

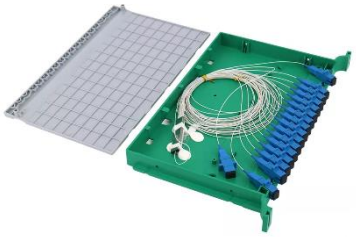
Outdoor Optical Distribution Cabinet is an outdoor terminal cabinet applied in the FTTX network to connect the feeder fiber cable and fiber drop cables through fiber ports. This Optical Distribution Cabinet is made of high-quality metal material single or double door and designed for use in residential and business applications for the termination of up to 576 fibers. It can hold up to 48 fiber splice trays with max 12 or 24 simplex adapters. It is available for the distribution and terminal connection for various kinds of optical fiber system, especially suitable for FTTx network terminal distribution.

- The protection grade reaches IP65
- Made of powder coated cold rolled steel or SMC Material (optional)
- Excellent anti-erosion, waterproof and dustproof performance
- Solid and fully-closed structure with the advantages of good performance of dust-proof, pleasing and neat appearance
- Integrated with splice cassette and cable management rods
- Compact structure and perfect fiber management
- Available for normal fiber cable and fan-out fiber cable
- Available in single or double door
- Available in 96, 144, 288, 384 and 576 ports
- Splitter option 1x16, 1x32

- Suitable for the fusion splice or mechanical splice
- Fiber splice trays with max 24 simplex adapters depending on cabinet size
- Fiber connector types FC, SC, and LC etc.
- Low insertion loss and high return loss, high dense connection, easy for operation
- High reliability and reasonable inner space design
- Customer connectors are available upon request

ODF Module

Splitter Module



Mechanical Performance Test compliance:

- Fiber Mode: Single mode
- Connector type: SC, FC, LC etc.
- Polish Interface Type: PC, UPC, APC
- Splice Tray Capacity: 12 or 24 Cores
- PLC Splitter type: 1x8 or 1x16 or 1x32 Modular splitter or micro splitter
- Cabinet Size (H×W×D): 780*450*275mm, 1000*550*305mm, 1460*750*340mm other are available
- No. Of Splice Tray slots: Up to 48 trays depending on cabinet size
- Entry ports and cable diameter: 6×φ30mm other are available
- Material: High-quality powder coated cold rolled steel or SMC Material (optional)
- Installation Models: Cabinet Base Mounted
- Operation Temperature: -20 to +60°C
- Storage Temperature: -40 to +70°C

LIGHT TO INNOVATION

Lenora

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