www.optogainusa.com

THE BEST SOLUTIONS FOR FTTH COMMUNICATION NETWORK

OPTOGAIN USA

THE BEST **SOLUTIONS** FOR **FTTH** COMMUNICATION NETWORK

WHO WE ARE

Optogain USA Inc is a manufacturer specializing in passive optical network components and solutions since its establishment in 2001. OPT has conducted from a corporate philosophy of contributing to the development of the global industry through technology and has been focusing on strengthening competitive position.

With this strategy, OPT enables to offer product differentiation for Passive Components, Distribution System, Passive and Active Devices out performing FTTH products and optical, Distribution products.

Optogain established our Corporate sales office in USA in 2001. We have satellite offices in NYC, NY, New Orleans LA, and Irvine CA.

Our factory is located in Seoul, Korea, with additional factories in Vietnam in 2005 for market preoccupation and strengthening competitiveness.

This regional advantage helps manufacturing cost effective and able to provide a meticulous workforce that meets our performance critical workmanship standards in the areas of quality, safety and reliability.

WHAT WE ARE STRONG AT

KNOWHOW

We have been closely involved in many projects from various telecommunication companies over the years. From our many years of experience of developing, designing and manufacturing optical passive components, we understand what our customers want. Also, these experiences have led us to develop new technologies allowing fast production, easy installation, robust quality.

Our R&D team has considerable expertise in optical technology, industrial design, structure design, functional design to fulfill the product projects from various customer.
Powerful R&D team is the strong support and assurance for good quality and competitive products.
"Innovative Design" and "Original Product" are the working motto of our R&D team.
We contribute significantly to the development of innovative products.
To summarize our standard: optimum functionality, Compact and convenient design and competitive price. In the stage of development, cost-effectiveness is always within our attention.

R&D

For more than a decade, we have been committed to providing first class quality products. Our commitment to the highest standards of quality has earned us valued and trusting partnerships with some of the world's leading companies. In today's highly demanding global environment, we understand that the highest quality must be guaranteed. OPT is ISO-14001/ TL 9001 certified company and products are manufactured and tested to meet the most stringent industry standards.

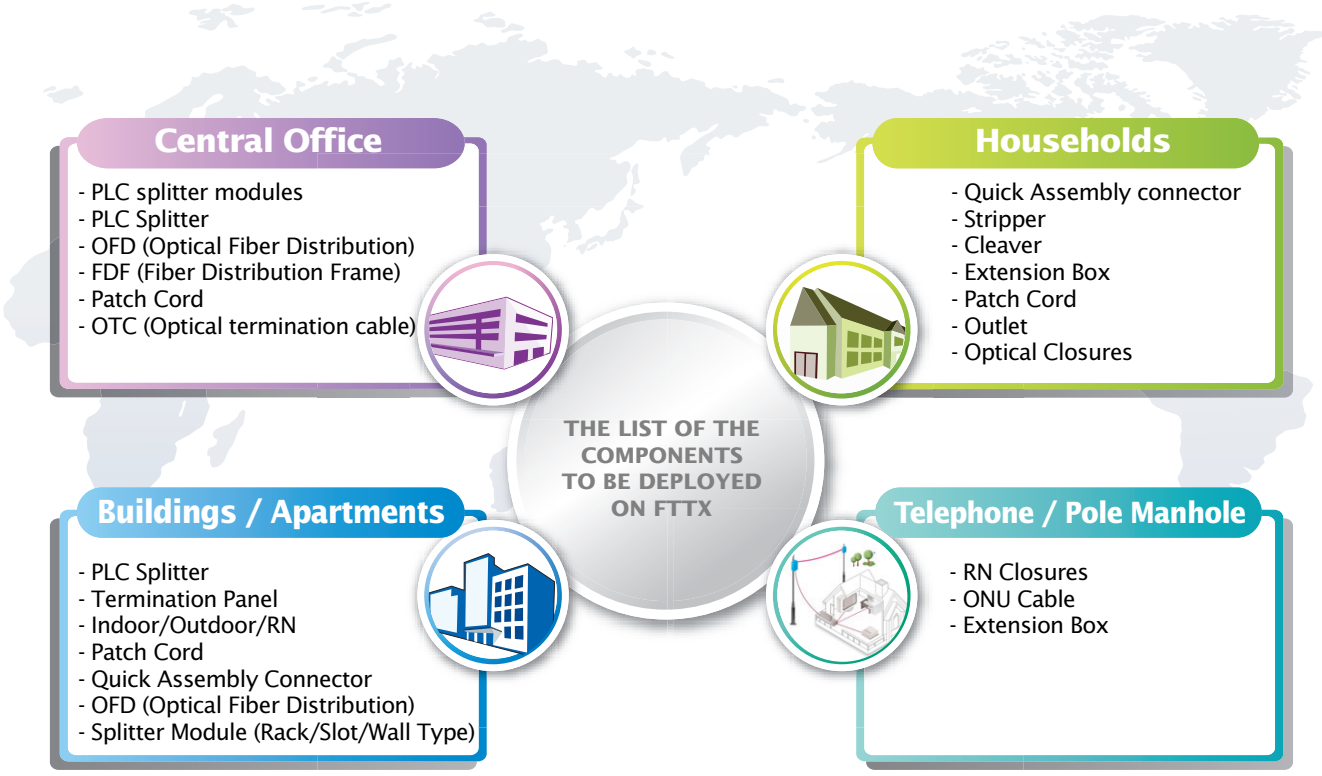
QUALITY

FAST DELIVERY

OPT has been making every effort to increase its efficiency and productivity. One of our efforts is an employee suggestion system. The ideas generated by workers can range from simple quality of work life improvements to larger streamlining issues that can save the company many thousands of dollars per year.

It enabled us to achieve cost savings and improve product quality, workplace efficiency, customer service and working condition. Over 19 years, we believe that there has been a lot of improvements and we have expand our knowledge on time-saving, cost-saving.

THE LIST OF THE COMPONENTS TO BE DEPLOYED ON FTTX



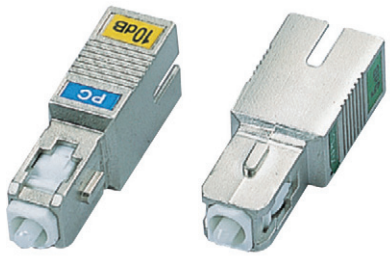
Passive optical networking (PON) is a well-proven technology enabling cost reduction and growing deployments. Many service providers have been using and are planning to use PON as their main broadband access technology. There are a number of reasons to consider deploying optical fiber rather than copper:

- The lifetime costs for optical fiber are less than for copper-based systems. Typical aging lifespan of fiber cables is over 50 years.
- It's transparent with regard to data formats and data rates; therefore, to increase bandwidth the optical fiber does not have to be replaced, just replace the terminal equipment. This is a very important issue from the point of view of life cycle costs as well as persistence of the technology.
- Only optical fiber can "truly"reach the 50-1000 Mbps and beyond to support a full-range of applications.
- optical fiber is less susceptible to electrical interference from power lines and spurious radio signals and immune from lightning-induced surges.
- Attenuation (or signal loss) for fiber is several orders of magnitude less than any other broadband technology, thereby significantly reducing the need for expensive signal regeneration equipment and/or amplifiers.
- optical fiber offers ;
  - Higher Bandwidth
  - Lower Latency (i.e., delay)
  - Lower Bit Error Rate

CONTENTS

Fiber Optic Fixed Attenuators

01 PLUG-IN ATTENUATOR



SC

SC

ST

Description

An optical attenuator is a device used to reduce the power level of an optical signal, either in free space or in an optical fiber.
The basic types of optical attenuators are fixed, step-wise variable, and continuously variable.

OPT attenuators utilize optimized doped fibers to reduce the power level of an optical signal. This method show higher performance than fiber splices or fiber offsets. OPT attenuators are capable of performing in the 1310, C and L Bands and also have capablility of withstanding over 1W of high power light exposure for extended periods of time. Low Polarization Dependent Loss (PDL) and a stable and independent wavelength distribution makes them ideal for DWDM.

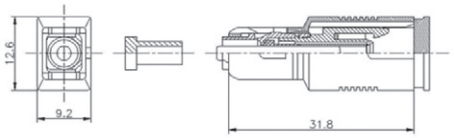
Features

- Optimized ion doped fiber technology
- Various fixed attenuation available
- Superior durability
- Low polarization dependence
- Superior spectral flatness and very low ripples
- Withstands high optical power up to 1W
- Telecordia(GR-910-CORE) Compliance

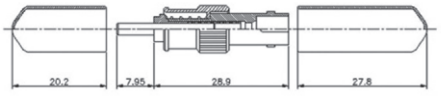
Applications

- Telecommunication Network
- CATV Network
- Data communication Network
- Instrumentation
- Local Area Network

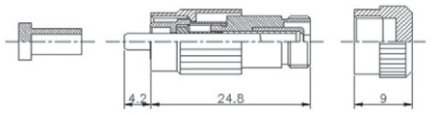
Appearance



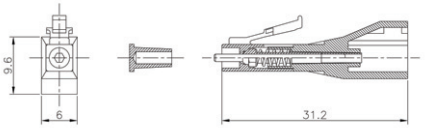
SC Type



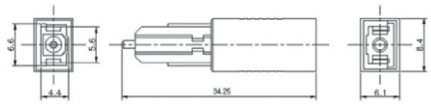
ST Type



FC Type



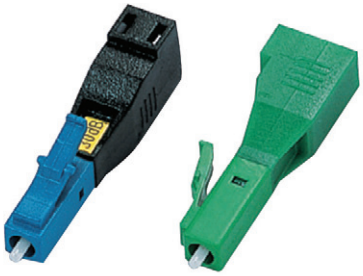
LC Type



MU Type

Fiber Optic Fixed Attenuators

FC



LC

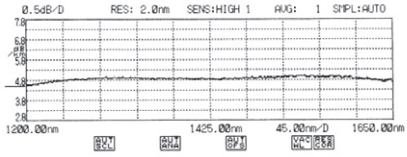
MU

Specifications

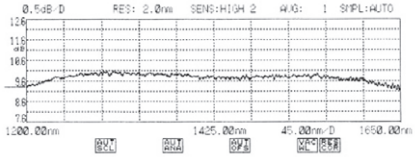
Characteristics		Single Mode (9/125μm)	Multi Mode (GI 50/125μm,62.5/125μm)
Attenuation Value		0dB to 20dB (1dB step), 25dB, 30dB	0dB to 25dB (1dB step)
Operating Wavelength		1260nm ~ 1620nm	850nm or 1300nm,1310nm
Return loss	SPC	≥40dB	–
	UPC	≥55dB	
	APC	≥65dB	
Attenuation Tolerance	1dB ~10dB	± 0.5dB	±0.5dB
	11dB ~15dB	± 1.0dB	
	16dB ~30dB	± 1.5dB	
Maximum Power Capability		1 W	
Operating Temperature		- 40℃ ~ +75℃	

Wavelength dependence

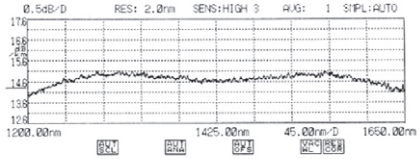
5dB



10dB



15dB



Ordering Information

OFATP ○○ – ○○ – ○○ – ○○ – ○○ – ○

① ② ③ ④ ⑤ ⑥

① Fiber Type	② Type	③ Connector type	④ Attenuation Value	⑤ Wavelength	⑥ Sleeve
SM : 9/125	SCD : Dicasting Housing	SP : SPC	01 : 1dB	85 : 850nm	C : ceramic
MM : 50/125	SCP : Plastic Housing	UP : UPC	02 : 2dB	30 : 1300nm	B : Bronze
HMM : 62.5/125	FC	AP : APC	.....	13 : 1310nm	
	ST		20 : 20dB	15 : 1550nm	
	LC		25 : 25dB	35 : 1310nm	
	MU		30 : 30dB	& 1550nm	

Fiber Optic Fixed Attenuators

02 IN-LINE ATTENUATOR

Features

- Optimized ion doped fiber technology
- Various Fixed attenuation available
- Superior durability
- Low polarization dependence
- Superior spectral flatness and very low ripples
- Withstands high optical power up to 1W
- Telecordia STD(GR-910-CORE) Compliance

Ordering Information

OFATI ○○ – ○○ – ○○ – ○○ – ○○ – ○○

① ② ③ ④ ⑤ ⑥

① Fiber Type	② Type	③ Connection End Shape	④ Total Length	⑤ Attenuation Value	⑥ Wavelength
SM : 9/125	SC	SP : SPC	05 : 0.5m	01 : 1dB	85 : 850nm
MM : 50/125	FC	UP : UPC	10 : 1 m	02 : 2dB	30 : 1300nm
HMM : 62.5/125	ST	AP : APC	.....	.....	13 : 1310nm
	LC		50 : 5 m	20 : 20dB	15 : 1550nm
	MU		.....	25 : 25dB	35 : 1310nm
			100 :10 m	30 : 30dB	& 1550nm

03 HYBRID ATTENUATOR

Features

- Optimized ion doped fiber technology
- Various Fixed attenuation available
- Superior durability
- Low polarization dependence
- Superior spectral flatness and very low ripples
- Withstands high optical power up to 1W
- Telecordia STD(GR-910-CORE) Compliance

Ordering Information

OFHATP ○○ – ○○ – ○○ – ○○ – ○○ – ○

① ② ③ ④ ⑤ ⑥

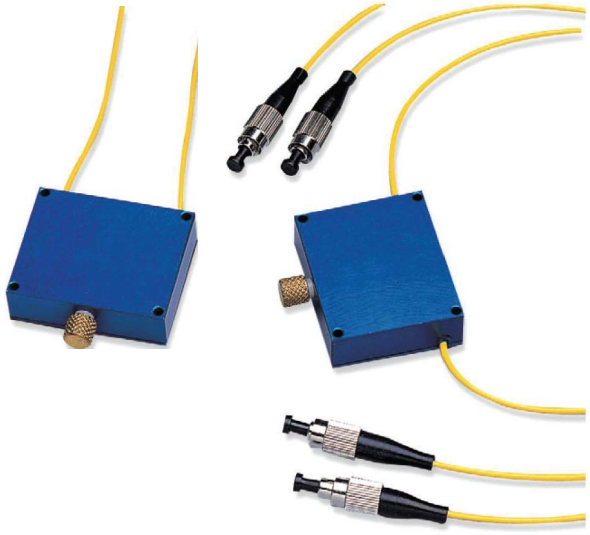
① Fiber Type	② Male	③ Female	④ Connection End Shape	⑤ Attenuation Value	⑥ Sleeve
SM : 9/125	SC	SC, FC, ST, LC	UP : UPC	01 : 1dB	C : Ceramic
MM : 50/125	FC	FC, ST	AP : APC	.....	B : Bronze
HMM : 62.5/125	ST	SC, FC, ST		30 : 30dB	

Fiber Optic Variable Attenuators

04 FIBER-BENDING ATTENUATOR (Manual)

Specifications

Charateristics	Values
Attenuation Variable Range	30dB (@ 1310nm,1550nm)
Return Loss	UPC : > 55dB , APC :>65dB
Resolution	0.5dB
Operation Temperature	-15℃ ~ 60℃
Storage Temperature	-40℃~ 70℃)



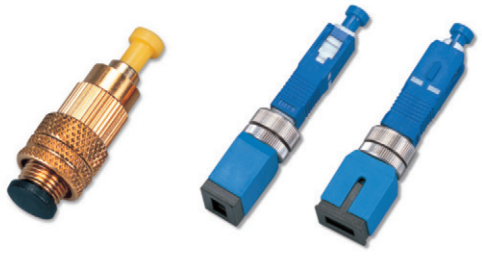
Ordering Information

VBA ○○ – ○○ ○○ – ○○

① ② ③ ④

① Cable Length	② Connector Type	③ Connection End Shape	④ Cord Dia.
001 : 1m	SC	SP : SPC	20 : 2.0mm
.....	FC	UP : UPC	24 : 2.4mm
010 : 10m	ST	AP : APC	30 : 3.0mm
.....	LC		
100 : 100m	MU		

05 AIR-GAP ATTENUATOR (Manual)



FC SC

Specifications

Charateristics		Values	
Connector Type		SC, FC	
Applicable optical connector (Female to Male)		UPC to UPC	APC to APC
Attenuation Variable Range		1~28dB	28dB
Attenuation Value	min.	>50dB	>60dB
Return Loss	max.	<13dB	<13dB
Resolution		0.5dB	
Operation Temperature		-15℃~ 60℃	
Storage Temperature		-40℃~ 70℃	

Features

- Wide Attenuation range
- Environmentally stable
- Precision ceramic ferrule with end-face geometry per IEC proposal
- Readily panel mountable
- Low back reflection

Ordering Information

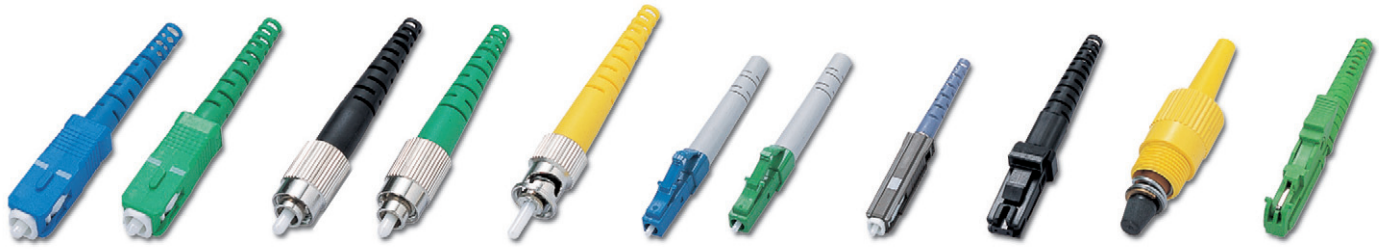
VAA ○○ – ○○○ ○○ – ○○ – ○○

① ② ③ ④ ⑤

① Fiber Type	② Type	③ Connector Type	④ Grade	⑤ Connection End Shape
SM : 9/125	PL : Plug	SC	N	UU : UPC to UPC
		FC	A	UA : UPC to APC
			S	AA : APC to APC

Fiber Connecting Products

06 CONNECTOR



SC FC ST LC MU MT-RJ BICONIC E-2000

Features

- Comply with : JIS C-5973, IEC, Telcordia
- High stable mating and de-mating characteristics
- Optimum optical performance through high quality ferrule
- Designed for variable cable dia.
- Available long flange for ferrule and Angled ferrule
- Widely used for LD/PD modules

12 Color SC Housing / Adapter

Specifications

Characteristics	Values
Structure	Satisfied Telcordia GR-326-CORE
Fiber Type	SM (9/125), MM (50/125,62.5/125)
Insertion Loss	≤0.2dB (against master connector)
Mating durability	≤0.2dB (500times)
Operating temperature stability	≤0.3dB (- 40℃ ~ + 75℃)

Ordering Information

OFC ○○ – ○○ – ○○○ – ○ – ○ – ○○ – X – XX – XXX

① ② ③ ④ ⑤ ⑥

① Type	② Ferrule type	③ Ferrule Inner Dia.(㎛)	④ Ferrule Cap color	⑤ Boot Color	⑥ Boot Dia(mm)	X Configuration	XX Housing color	XXX Width of key
SC	N : Without ferrule	250 : 125(SM)	B : Blue	B : Blue	09 : 0.9	P : One-Piece	B : Blue	N : 2.09mm ~
FC	P : PC ferrule	255 : 125.5(SM)	K : Black	K : Black	16 : 1.6	Pre-Assembled	G : Green	2.14mm
ST	PL : PC ferrule with	260 : 126(SM,MM)	G : Green	G : Green	20 : 2.0	K : Multi-Piece	GR : Gray	R : 1.97mm ~
LC	long flange	270 : 127(MM)	Y : Yellow	Y : Yellow	24 : 2.4	* Only SC type	* Only SC,LC Type	2.02mm
MU	S : Step APC ferule			R : Red	30 : 3.0			* Only FC type
MT-RJ	C : Cone APC ferrule			W : White				
Biconic	AL : Angled ferrule			O : option				
E-2000	with long flange							

Fiber Connecting Products

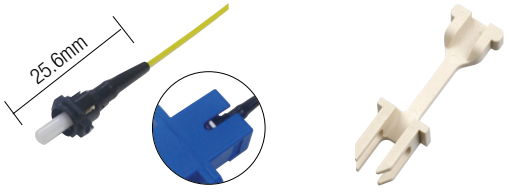
07 PATCH CORD

SC FC ST MT-RJ LC MU E-2000 BICONIC

Features

- Comply with : JIS C-5973, IEC, Bellcore
- High stable mating and de-mating characteristics
- Low insertion loss and high return loss
- Designed for variable cable
- Customized assembly
- Various connector and optical performance combinations

[Receptacle connector]



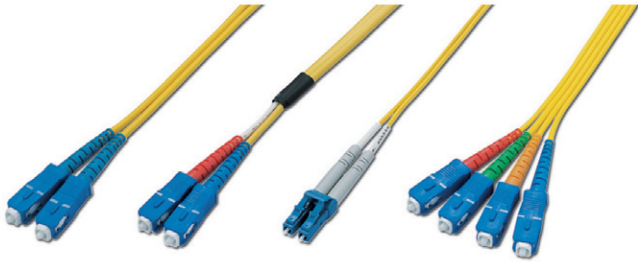
Receptacle type

Connecting tool

Specifications

Characteristics		Values
Structure		Satisfied Telcordia GR-326-CORE
Fiber Type		SM (9/125), MM (50/125,62.5/125)
Insertion Loss		≤ 0.2dB (against master connector)
Return Loss	SPC	≥ 40dB
	UPC	≥ 55dB
	APC	≥ 65dB
Mating durability		≤ 0.2dB (500times)
Operating temperature stability		≤ 0.3dB (-40℃ ~ +75℃)

[Duplex & 4core patch cords]



Ordering Information

OJC ○○ – ○○ – ○/○ – ○/○ – ○○ – ○ – ○○ – X – XX

① ② ③ ④ ⑤ ⑥ ⑦

① Fiber Type	② Length	③ ④ Connector Type / End Shape		⑤ Cord Dia(mm)	⑥ Boot Color	⑦ Cord	X-Housing color	XX-Width of key
SM : 9/125	1~99m	S : SC	S : SPC	09 : 0.9	B : Blue	SP : Simplex	B : Blue(PC)	W : 2.09mm ~
MM : 50/125		F : FC	U : UPC	16 : 1.6	K : Black	DR : Duplex	G : Green(APC)	2.14mm
HMM : 62.5/125		T : ST	A : APC	20 : 2.0	G : Green	Round	GR : Gray(MM)	N : 1.97mm ~
OM3 : 50/125		L : LC		24 : 2.4	Y : Yellow	DZ : Duplex	* Only SC,LC Type	2.02mm
		M : MU		30 : 3.0	R : Red	zipcord		* Only FC Type
		R : MT-RJ			W : White	Q : Quad		
		C : Receptacle type			O : option	zipcord		

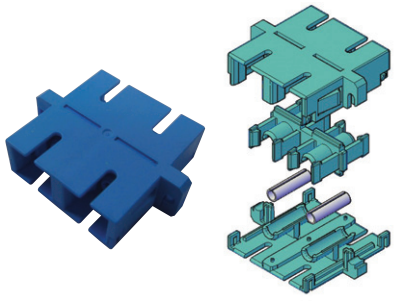
Fiber Connecting Products

08 ADAPTOR

Features

- Comply with : JIS, IEC, Bellcore
  Precision sleeve (Zirconia & Bronze)
  Various type available
  Integrated body structure

LC-SC-H



Assembly SC DP

Specifications

Characteristics	Values
Structure	Satisfied Telcordia GR-326-CORE
Insertion Loss	≤0.2dB (against master connector)
Mating durability	≤0.2dB (500times)
Operating temperature stability	≤0.3dB (- 40℃ ~ + 85 ℃)

Ordering Information

OFA ○○ – ○ – ○○○ – X

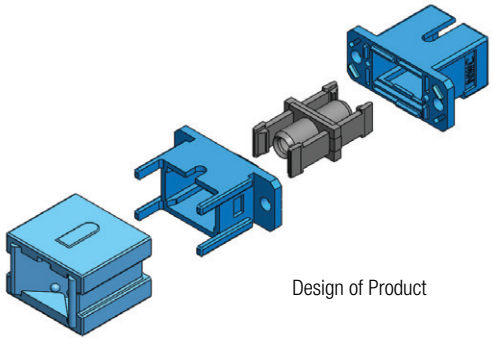
① ② ③

① Mating Connector		② Sleeve	③ Color	X-Slot width
S1 : SC Simplex	L1 : LC Simplex	Z : Zirconia	B : Blue	W : 2.15mm ~ 2.20mm
SV : SC Duplex vertica	L2 : LC Duplex horizental	B : Bronze	G : Green	N : 2.03mm ~ 2.08mm
SH : SC Duplex horizontal	M1 : MU Simplex		O : option	* Only FC type
S4 : SC Quadplex	M2 : MU Duplex horizontal			
FR : FC Simplex round	MR : MT-RJ			
FQ : FC Simplex square	SS : SC to ST			
FF : FC Simplex flange	FS : FC to SC			
ST : ST Simplex				

09 SC AUTO SHUTTER ADAPTOR

Features

- Designed by using the “Silicone Meterial”
- Opened and Shut by taking elasticity of the Silicone
- Removable shutter from the adaptor body
- The spring is not necessary as a component
- Prevent from the inflow of dust or dirt



Design of Product

Specifications

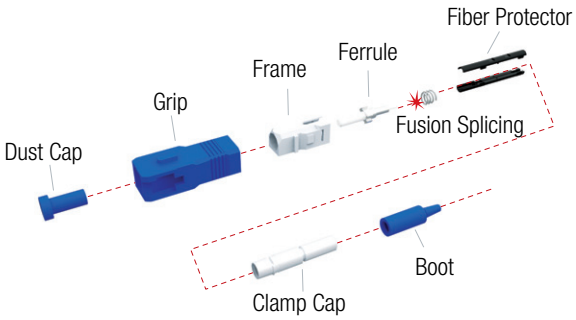
Characteristics	Values
Structure	Satisfied Telcordia GR-326-CORE
Insertion Loss	≤0.2dB (against master connector)
Mating durability	≤0.2dB (50 times)
Operating temperature stability	≤0.3dB(-40℃~+85℃)
Material	Housing: PBT(glass)/ cover: Silicon

Ordering Information

SHUTTER-SC-B (BLUE)
SHUTTER-SC-G (GREEN)

Fiber Connecting Products

10 Splice Assembly Connector



Description

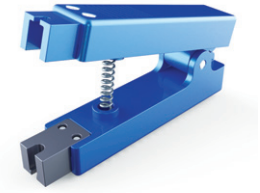
Fiber optic patch cords are the simplest elements in optical network but they have strong effect on the overall performance.
Despite of the strength, only manufacturers that have production facilities have been able to produce them.
However, what if there is a type of connector that almost assembled, pre-polished, no adhesive required and only thing you need to do is splicing?
There will be no need for manufacturers to have production facilities, special equipments, skilled workers…etc. This is the idea that led OPT to design and develop SAC
It is mixture of the quality of fusion splicing and the easy of field installable connector.

Features

- Easy Assembly
- High Optical Performance
- Low Price
- Lower manufacturing cost than that of conventional patch cord
- No adhesives, polishing are required
- Less effort to manage and plan for inventory and purchasing.
- No skilled workers required
- Permanent Termination
- Complete Connectorization in less than 3 Minutes

Recommended tools for assembly

- Furukawa Electric FITEL S178 with customized fiber holders.
- OPT high precision Cleaver OFC-C1
- Frame-Stopper connecting tool



Frame-Stopper connecting tool

Fiber holder

Specifications

Description	Value
Connector type	SC, LC, FC, ST
Applicable fibers	3mm, 2mm, 0.9mm
Polish type	APC, UPC
Joint loss	<0.4 dB
Return loss	>65 dB / APC
	>55 dB / UPC
Tensile strength	66.6N or more
Operating temperature	- 40℃ ~ + 75℃

Ordering Information

SAC ○○ – ○○ – ○○
① ② ③

① Type	② Fiber	③ Cable Type
SC	SM : 9/125㎛	25 : 250㎛
LC	MM : 50/125	09 : 0.9mm
FC	HMM : 62.5/125	24 : 2.4mm
ST		30 : 3.0mm

11 MCP (Mode Conditioning Patch Cord & Adaptor)

Features

- Comply with : JIS C-5973, IEC, Bellcore
- Various connector and optical performance combinations

Applications

Apply for connecting between exist multi-mode (50/125,62.5/125)
cable and Gigabit Ethernet 1000base Lx Router, Switch

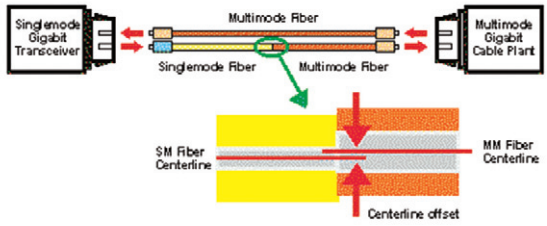
Specifications

Characteristics		Values
Operating wavelength		1310nm
Fiber Type		SM (9/125) and MM (50/125,62.5/125)
Insertion Loss		≤ 0.2dB (against master connector)
Return Loss (End of SM)	SPC	≥ 40dB
	UPC	≥ 55dB
	APC	≥ 65dB
Optical offset		IEE802.5
Mating durability		≤ 0.2dB (500times)
Operating temperature stability		≤ 0.3dB (-40℃ ~ +85℃)

Benefits

A mode conditioning patch cord is a duplex multimode cord that has a small length of single mode fiber at the start of the transmission leg. The basic principle behind the cord is that you launch your laser into the small section of single mode fiber.
The other end of the single mode fiber is coupled to multimode section of the cable with the core offset from the center of the multimode fiber. The laser light thus misses the “dip” and this new launch condition more closely mimics a standard LED launch.
The bonus is that you still retain the speed advantages of using a laser.

Structure



1Gigabit Ethernet	50/125㎛ 500/500MHz-km	62.5/125㎛ 200/500MHz-km	62.5/125㎛ 160/500MHz-km
850nm-1000SX	550m	275m	220m
1310nm-1000LX (MCP)*	550m	550m	550m

Ordering Information

MCP ○○ – ○○ – ○/○ – ○/○ – ○○ – ○ – ○ – X – XX

① ② ③ ④ ⑤ ⑥

① Fiber Type	② Length	③ Connector Type /End Shape		④ Cord Dia(mm)	⑤ Sleeve		⑥ Cord
SM : 9/125	1~20m	S : SC	S : SPC	09 : 0.9	B : Blue	R : Red	DZ : Duplex
MM : 50/125		F : FC	U : UPC	16 : 1.6	K : Black	W : White	zipcord
HMM : 62.5/125		T : ST	A : APC	20 : 2.0	G : Green	O : option	
		L : LC		24 : 2.4	Y : Yellow		
		M : MU		30 : 3.0			
		R :MT-RJ					

Fiber Connecting Products

12 QUICK ASSEMBLY CONNECTOR

SF-QAC | NS-QAC | S-QAC (FC) | NL-QAC | W-QAC | C-QAC

OPT Patented Quick Assembly Connector

can provide a quick and easy termination of fibers in the field. Both SC single mode and multi mode connector options are available for 900 micron and 3mm drop cable application allowing the installer to terminate and make connection in 3 minutes in the field.
This connector system doesn't need any requirement such as epoxy, adhesive and costly curing ovens. OPT Field installable SC connector features that installer can easily recognize the installation status by OPT termination tool.

Specifications

Parameter		Specification
Connector Type		SC Type
Insertion Loss		(Max 0.5dB)
Reflection		Typical < -40 dB
Tensile Strength	900㎛	5N
	3mm	30N
Connector Durability		< 0.2 dB (After 200 mating)
Operating Temperature		-40℃~ +75℃

Features

- Field installable, Cost effective, User friendly
- No epoxy and polishing required
- Quick and easy fiber termination in the field
- Visual indication of proper termination
- Reliable and superior optical performance

Ordering Information

XQAC ○ — ○○ — ○○ — ○○

① ② ③ ③

① Type	② Connector	③ Fiber	④ Cable Type
NS	SC	SM : 9/125㎛	25 : 250㎛
W		MM : 50/125	09 : 0.9mm
NL		HMM : 62.5/125	24 : 2.4mm
C			30 : 3.0mm
SF			08 : Figure 8
S	FC		

13 EXTENSION BOX

Cable Connection System using Quick Assembly Connectors

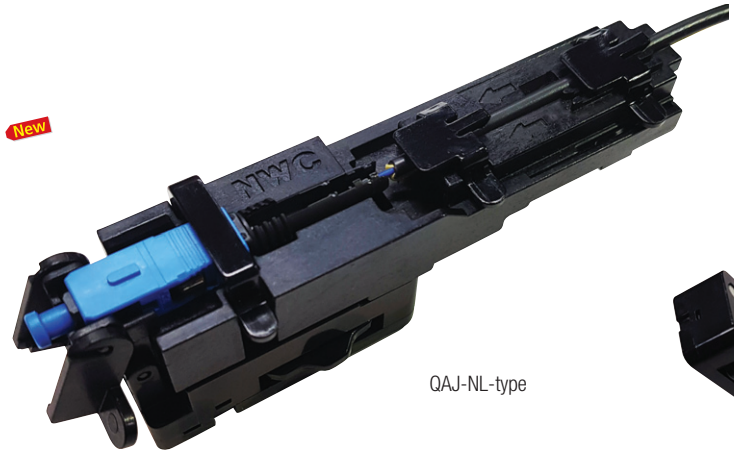
Specifications

Dimension	140L×24W×19H (mm)	
Material	PC (polycarbonate)	
	Test Condition	
Rain Test	IP54	
	Assembly Product	
Tention Test	Load	5kg
	Period	Two Weeks

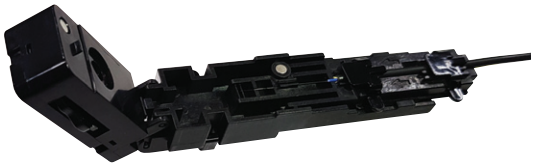
Features

- High performance water protection (bubble tight)
- High quality tensile strength
- Easy assembling & disassembling
- Perfect protection from foreign materials

14 QAC™ ASSEMBLY JIG FOR NL TYPE QAC.

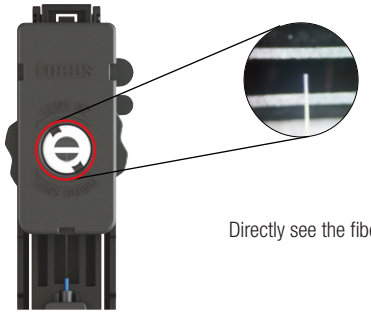


QAJ-NL-type

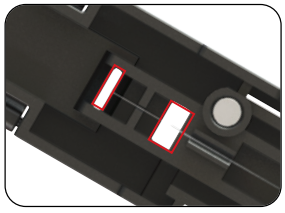


Features

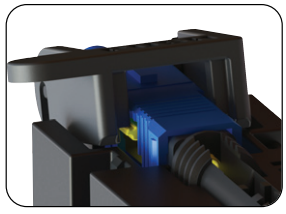
- Support the best performance for the use of OPT Quick connector (NL type only).
- Check the stripped length of fiber
- Inspect the fiber status by the magnifying lens
- Assemble the connector with cable easily and precisely



Directly see the fiber



Check the Length



Assemble NL connector

QAJ-NL-Wifi type

Specifications

Specifications (QAJ-NL type)	
Connector type	NL-QAC (SC/PC) , (SC/APC)
Magnification	x 90
material	PC, ABS
Application of cable length	10mm(Ø0.125) - 24mm(Ø0.250)
Application of outer cable type	Round(Ø3.0mm , Ø0.9mm) , Flat(3mm Ø2mm)
Dimensions	108L x 24W x 37H (mm)
Weight	25g

Ordering Information

QAJ-NL
QAJ-NL-Wifi

Fiber Connecting Products

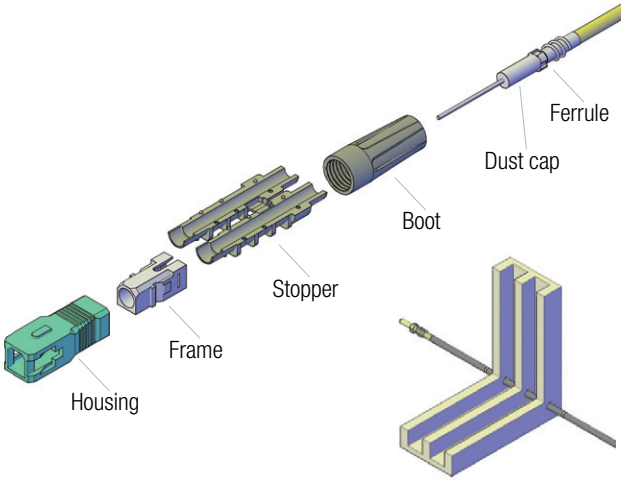
15 DROP ASSEMBLY CONNECTOR

APC

PC

Features

- Only 4.5mm hole required
- Quick and easy assembly in the field
- High stable mating and de-mating characteristics
- Designed for variable cable
- Comply with : JIS C-5973, IEC, Bellcore



Specifications

Characteristics		Values
Structure		Satisfied Telcordia GR-326-CORE
Fiber Type		SM (9/125), MM (50/125, 62.5/125)
Insertion Loss		≤ 0.2dB (against master connector)
	UPC	≥ 55dB
	APC	≥ 65dB
Mating durability		≤ 0.2dB (500times)
Operating temperature stability		≤ 0.3dB (- 40℃ ~ + 75℃)

Ordering Information

DAC ○○ – ○○ – ○○ – ○○ – ○○ – ○○ – X

① ② ③ ④ ⑤ ⑥

① Fiber Type	② Length	③ ④ Connector Type /End Shape		⑤ Cord Dia(mm)	⑥ Cord	X-Housing color
SM : 9/125	1~99m	S : SC	U : UPC	20 : 2.0	SP : Simplex	B : Blue(PC)
MM : 50/125			A : APC	30 : 3.0		G : Green(APC)
HMM : 62.5/125						GR : Gray(MM)
OM3 : 50/125						

Cable Preparation Tools

16 STRIPPER

Specifications

APPLICABLE FIBERS	
COATING MATERIAL	UV cured resin
Coating / Cladding diameter	Drop Cable: Ø3mm / Ø250um / 125um Flat Cable : Ø250um / Ø125um

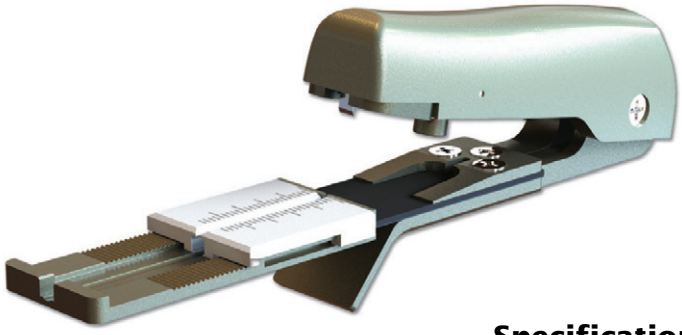
Specifications	
Stripping length (125um)	Type-1 : 18mm, Type-2 : 24mm
Dimensions	100L×30W×31H (mm)
Weight	70g

Ordering Information

NST ○○ – ○○
① ②

① TYPE	② STRIPPING LENGTH
D C : Drop Cable	18
F C : Flat Cable	24

17 CLEAVER



Specifications

Parameter	Specifications	
Cable Type	Single core for 250㎛/900㎛/3mm/Figure eight	
Cladding Diameter	125㎛	
Cleave Length	Single fiber: fixed length 10-18mm, 10-24mm adjustable/variable	
	Figure eight fiber: fixed 10mm	
Dimensions (L×W×H), mm	Cleaver	140×23.5×40
	Slide (10-18)	28×26 ×4.2
	Slide (10-24)	31.4×26×4.2

Ordering Information

CLV-A01

Cable Preparation Tools

18 OPTIC FIBER ANGLED CLEAVER

Product Profile

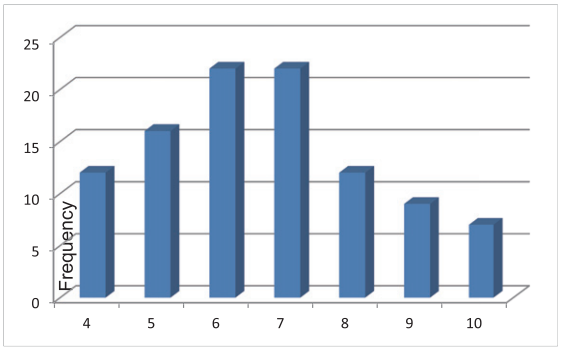
- Specially designed for minimizing return loss of APC QAC by cutting an angled optic fiber on lead cable.

Features

- Made of the diamond blade with high strength and stability
- Quick and easy to use in the field
- Light weight and portable
- Not required additional tool

Specifications

Cable types	Drop(3mm) , Flat(3mm × 2mm)
Cleaving angle	4° ~ 10°
Blade material	Diamond
Cleave Length	10mm(Ø0.125) - 18mm(Ø0.250)
	10mm(Ø0.125) - 24mm(Ø0.250)
Dimensions	155L × 66W × 29H (mm)
Weight	73g



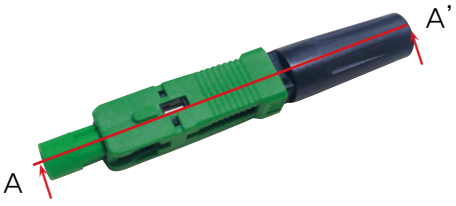
Ordering Information

OFC-C1

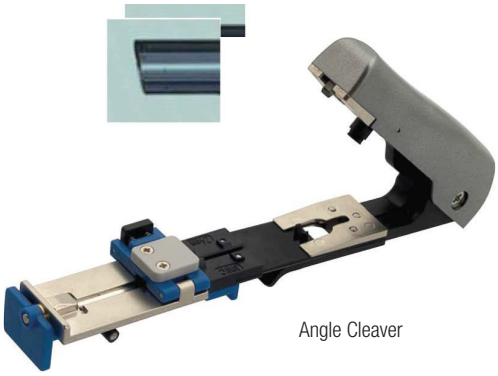
19 REAL APC

What is The Real APC Field installable Connector?
Cutting the surface with Angle of the Drop cable to minimize Return Loss of QAC.

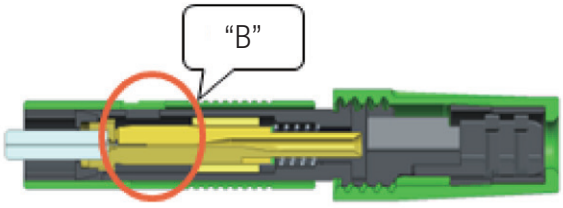
Temperature cycle -40˚C ~ 75˚C => **Return Loss < -60dB**



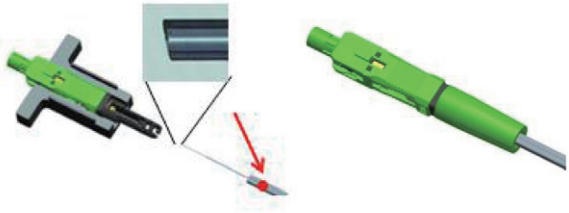
APC-Connector



Angle Cleaver

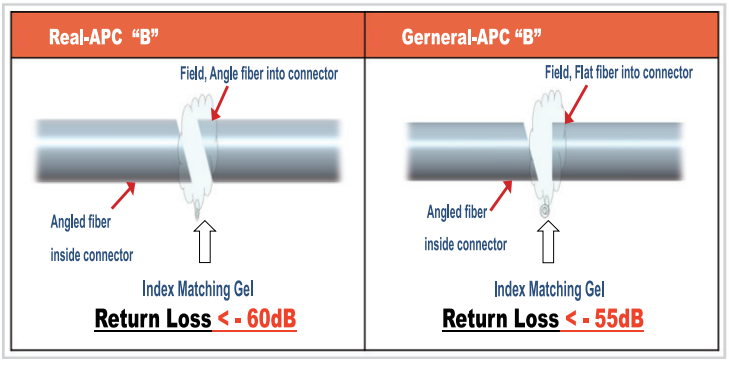


Section A - A'

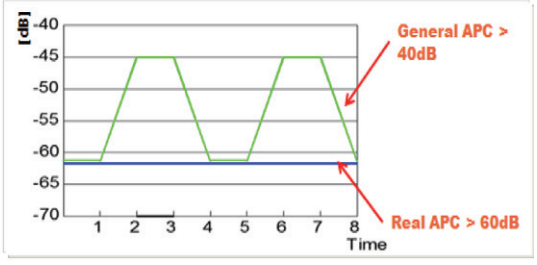


Assembly of the fiber optic cable.

Superiority of Real APC



Return loss graph



Thermal cycle profile -40°C ~ 75°C

20 PON ONT SIGNAL TESTER Series

PST™ (Pon Signal Tester)

PST-CW™ (Pon Signal Tester With CWDM)
PST-WP™ (Pon Signal Tester With Power meter)

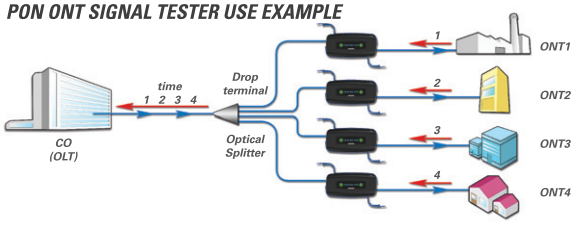
Features

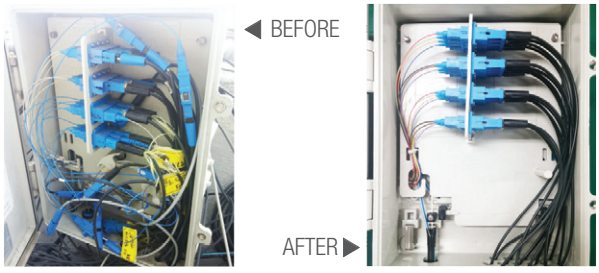
- Easy to check ONT in use at FTTH Drop Termonal Side.
- Check unused ports.
- Portability & Universal adapter applied.
- Dust protection with Silicone materials
- Support to recharge by USB port.

Specifications

	PST™	PST-WP™	PST-CW™
Adapter type	Universal Adapter		
Fiber type	Single-mode		
Calibrated Wavelength	1310nm (ONT) & 1490nm (OLT), Bi-directional		
PD Type	InGaAs Pin-PD		
Power meter	None	1310, 1490 & 1550nm	1310, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590 & 1610nm
Display	2color LED	LCD w/LED backlight 2color LED (OLT & ONT Indicator)	
Battery type	Li-ion rechargeable		
Charging	Micro-USB power cable		
Size & Weight	54.5 × 107 × 25 mm & 100g		

PON ONT SIGNAL TESTER USE EXAMPLE





Ordering Information

- PST
- PST-WP
- PST-CW

21 SIGNAL CONNECTION TESTER

OCT™ (ONT Connection Tester)

Product Profile

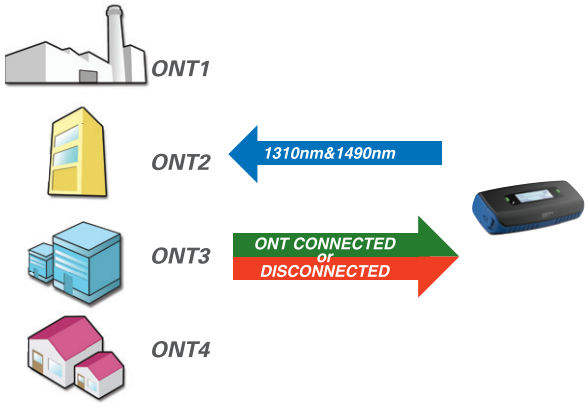
- Specially designed for distinguishing the signal connection status of ONT by own light Source of this device regardless of "On/Off" of the ONT power

Features

- Easy operation
- Dust protection with Silicone materials
- Portability
- Support to recharge by USB port.

Specifications

Adapter type	FC / PC
	(SC/PC Converting Code included)
Fiber type	Single-mode
Calibrated Wavelength	1310nm & 1490nm
PD Type	InGaAs Pin-PD
Display	LCD w/LED backlight 2color LED (ONT Indicator)
Battery type	Li-ion rechargeable
Charging	Micro-USB power cable
Size & Weight	54.5 × 107 × 25 mm & 100g

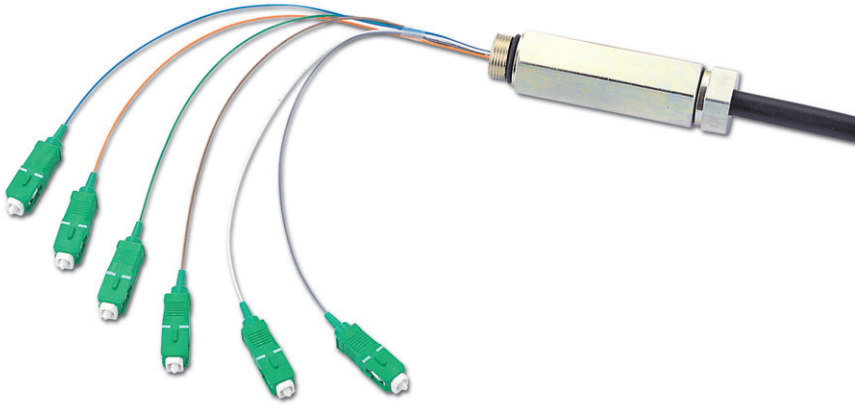


Ordering Information

OCT

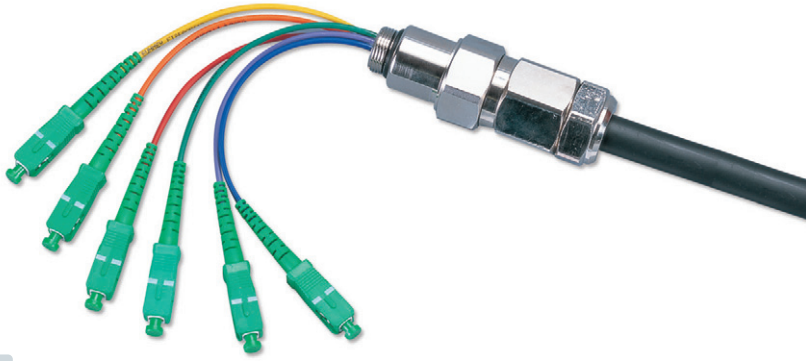
Fiber Optic Cable Assemblies

22 ONU CABLE (Optical Network Unit)



Features

- Customized configurations.
- Installed hard-line entry connector
- Hinder water-migration
- Individualized serial numbering
- Two to Eight fibers available
- Durable and easy to handle



Specifications

Characteristics	Condition	Values
Insertion Loss	≤0.3dB	
Return Loss	≥40dB(SPC), ≥55dB(UPC), ≥ 65dB(APC)	
Vibration	10~55Hz(2Hr)	< 0.3dB
Impact	1.5m drop, 8cycle	< 0.02dB
Straight Pull Test	4.5Kg load	< 0.2dB
Temperature cycling	- 40℃ ~ + 75℃	< 0.3dB

Ordering Information

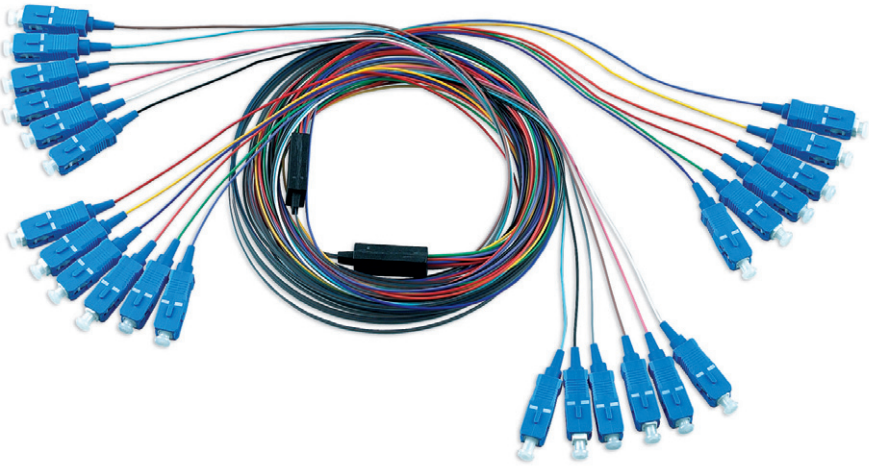
ONU-SM ○/○ — ○○ — ○○ — ○○

① ② ③ ④

① Connector Type /End Shape		② Pigtail Cord Length / Cord Dia	③ Cable Length	④ Fiber Count
S : SC	S : SPC	01 : 1m	01m ~ 99m	Ex)
F : FC	U : UPC	02 : 2m		004 : 4fibers
T : ST	A : APC			
L : LC				
M : MU				

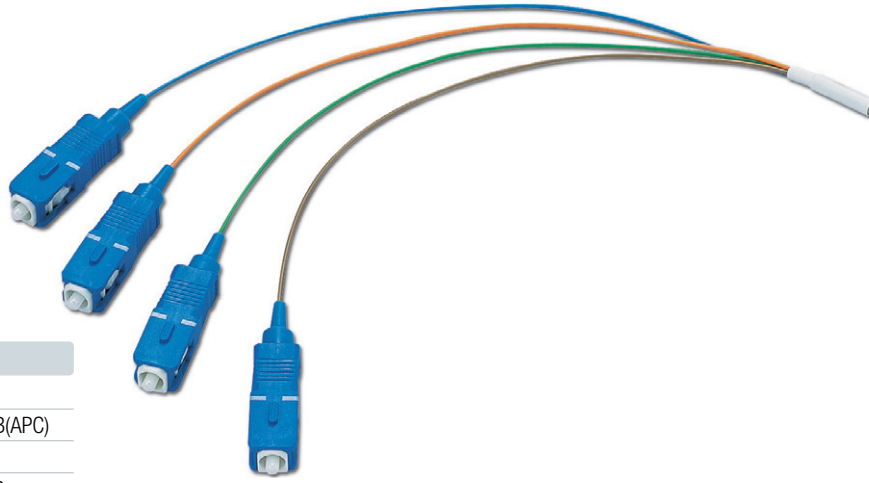
Fiber Optic Cable Assemblies

23 FAN-OUT PATCH CORD



Features
- Easy to connect & distribute.
- Compact and coordinated design.
- High Performance in IL & RL

Applications
- Fiber bock for DWDM
- Ribbon splitter(AWG)
- Telecommunication network with ribbon cable



Specifications

Characteristics	Condition	Values
Insertion Loss	≤0.3dB	
Return Loss	≥40dB(SPC), ≥55dB(UPC), ≥ 65dB(APC)	
Vibration	10~55Hz(2Hr)	< 0.3dB
Impact	1.5m drop, 8cycle	< 0.02dB
Thermal Age	85℃(336hr)	< 0.3dB
Temperature cycling	- 40℃ ~ + 75℃(336hr)	< 0.3dB

Ordering Information

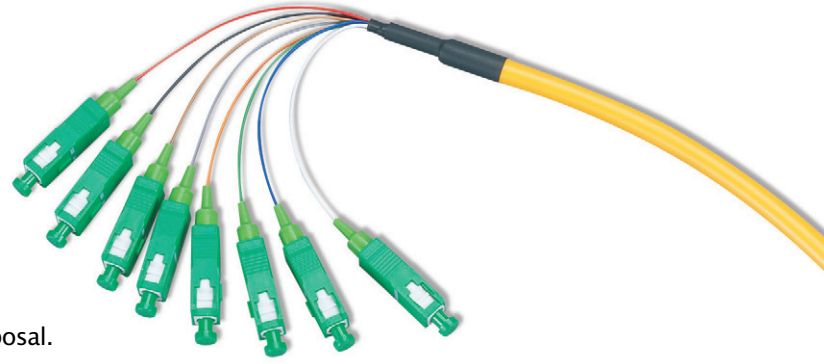
FOP ○○ – ○○ – ○○○ – ○/○ – ○○ – ○○

① ② ③ ④ ⑤ ⑥

① Fiber Type	② Ribbon Length(m)	③ Fiber count(fibers)	④ Connection End Shape		⑤ Pigtail cord Length(m)	⑥ Cord Dia.(mm)
SM : 9/125	01 : 1	4:4	S : SC	S : SPC	010 : 1	09 : 0.9
MM : 50/125	99 : 99	8:8	F : FC	U : UPC	015 : 1.5	20 : 2.0
HMM : 62.5/125		12:12	T : ST	A : APC	020 : 2	
			L : LC			
			M : MU			

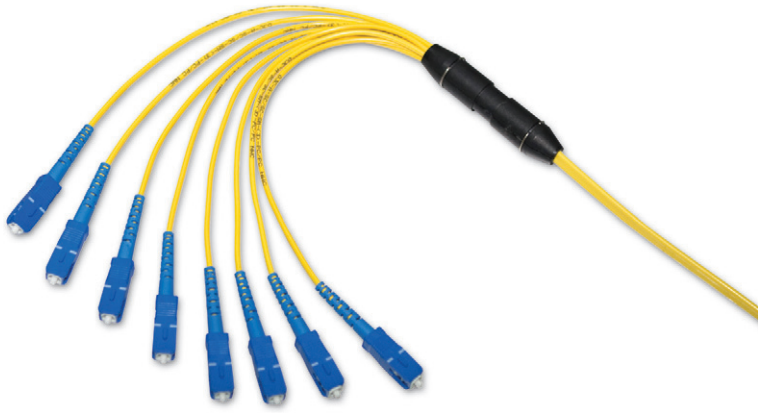
Fiber Optic Cable Assemblies

24 MULTI FIBER ASSEMBLED INDOOR CABLE



Features
- Optical performance 100% factory tested.
- Precision ceramic ferrule with end face geometry IEC proposal.
- Environmentally stable.

Applications
- Telecommunication Network
- CATV Network
- Data communication Network



Specifications

Characteristics	Condition	Values
Insertion Loss	≤0.3dB	
Return Loss	≥ 40dB(SPC), ≥ 55dB(UPC), ≥ 65dB(APC)	
Durability	500 matings	< 0.3dB
Temperature cycling	- 40℃ ~ + 75℃(336hr)	< 0.3dB

Ordering Information

MFAIC ○○ – ○○ – ○○○ – ○/○ – ○○ – ○○

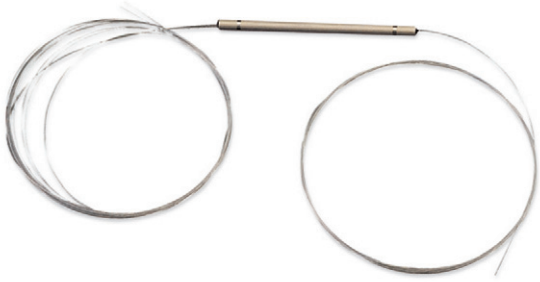
① ② ③ ④ ⑤ ⑥

① Fiber Type	② Fiber count(fibers)	③ Connector type		④ Cable Length(m)	⑤ Pigtail cord Length(m)	⑥ Cord Dia.(mm)
SM : 9/125	4	S : SC	S : SPC	01 : 1	010 : 1	09 : 0.9
MM : 50/125	6	F : FC	U : UPC	99 : 99	015 : 1.5	20 : 2.0
HMM : 62.5/125	8	T : ST	A : APC		020 : 2	24 : 2.4
RIBBON	12	L : LC				
	24	M : MU				

25 WDM (Wavelength Division Multiplexer)

Features
- Low excess loss and high performance
- High isolation
- Low polarization dependent loss
- Passed Telcordia GR-1221-CORE and 85C 85%RH test up to 1500hours

Applications
- Telecommunication Network
- Cable television networks
- Test equipment
- Fiber optic sensor



Specifications

Model	NWC01021		NWC01022		NWC01023				NWC01034
Configuration	1 × 2		1 × 2		1 × 2				1 × 3
Wavelength (nm)	980/1550		1480/1550		1310/1550				1310/1490/1550
Wavelength range	965~990/ 1527~1566		+/-5		+/-15				+/-5
Grade	P	S	P	S	Normal		HI-WDM		P
					P	S	P	S	
Ma. Insertion Loss (dB)	0.2	0.3	0.25	0.35	0.25	0.35	0.35	0.50	0.8
Min. Isolation (dB)	18	17	16	16	18	17	34	32	20
PDL(dB)	0.15	0.20	0.15	0.15	0.2		0.3		0.15
Return loss (dB)	≥55dB(UPC)								
Operating temperature	- 20℃ ~ + 75℃								

Ordering Information

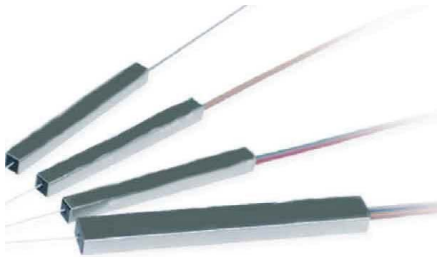
WDM □□□□ — □ — □□ — □□ — □ — □/□ — X (Grade : Premium, Standard)

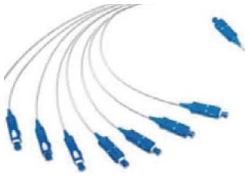
① ② ③ ④ ⑤ ⑥

① Configuration	② Wave length	③ Cable Dia.	④ Cord Length	⑤ Package	⑥ Connector Type / End Shape (A&B)	
0102 : 1×2	1 : 980/1550	25 : 250	1 ~ 99m	C : Cylinder	S : SC	S : SPC
0103 : 1×3	2 : 1310/1550	09 : 0.9mm		A : Aluminum case	F : FC	U : UPC
	3 : 1480/1550	20 : 2.0mm			N : None	A : APC
	4 : 1310/1490/1550	30 : 3.0mm				

Fiber Optic Passive Devices

26 PLC SPLITTER





1x8 PLC Splitter

1x16 PLC Splitter

Description

OPT PLC splitter is key component in FTTH and is responsible to distribute optical signals from input port to multiple outputs port. OPT PLC splitter performs superbly across temperature and wavelength providing low insertion loss, low PDL, excellent uniformity and low return loss in configuration of 1X2, 1X4, 1X 8, 1X16 and 1X32.

Features

- Low insertion loss, PDL, Return Loss
- 1X2, 1X4, 1X8, 1X16, 1X32 configurations available
- Stable optical performance
- Compact size
- Wideband operation1260nm~1650nm
- Customized Packaging available

Specifications

Model	Unit	1X2	1X4	1X8	1X16	1X32
Insertion Loss	dB	≤4.1	≤7.8	≤10.8	≤14.0	≤17.3
Uniformity of I.L	dB	≤0.6	≤0.6	≤0.8	≤1.0	≤1.3
PDL	dB	≤0.2	≤0.2	≤0.2	≤0.3	≤0.3
Return Loss	dB	≥55				
Directivity	dB	≥55				
Operating Wavelength	nm	1260 ~ 1650				
Operating Temperature	℃	-40 ~ +85				
Dimension (HXWXL)	mm	40X4X4			50X7X4	
Dimension Including Branch part (HXWXL)	mm	40X4X4	50X7X4		60X12X4	80X20X6

* Without connector
* Premium grade splitter available upon request
* Optogain reserves the right change any specification without prior notice.

Ordering Information

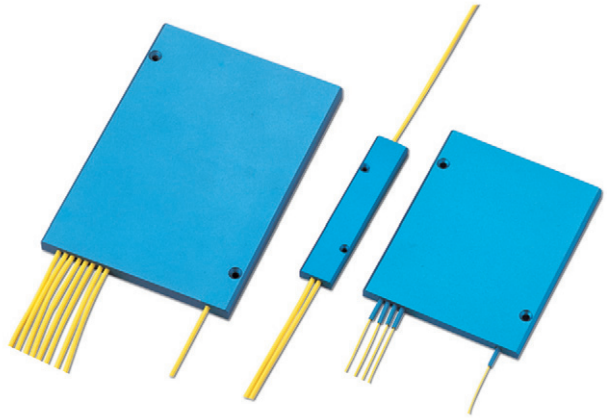
PS OOOO – O – OO – O/O – O – X

① ② ③ ④ ⑤

① Configuration	② Fiber Type	③ Pigtail Length (Input part)	④ Ribbon/Breakout Length (Output part)	⑤ Connector Type	
0102 : 1x2	1 : 250um	05 : 0.5meter	05/05 : 0.5meter/0.5meter	0 : None	5 : LC/UPC
0104 : 1x4	2 : 900mm	10 : 1meter	10/10 : 1meter/1meter	1 : SC/UPC	6 : LC/APC
0108 : 1x8	3 : Ribbon	20 : 2meter···	20/20 : 2meter/2meter	2 : SC/APC	7 : MU
0116 : 1x16				3 : FC/UPC	
0132 : 1x32				4 : FC/APC	

Fiber Optic Passive Devices

27 FBT COUPLER



Features
- Low excess loss and high performance
- PCB mountable
- Excellent uniformity
- Low polarization dependent loss
- Coupling ratio of 50:50 or customer ordered

Applications
- Telecommunication Network
- Cable television networks
- Test equipment
- Fiber optic sensor

Specifications

Standard Fiber Coupler 1x2

Wavelength (nm)	1310, 1550, 1310&1550							
Bandwidth (nm)	+/-20, +/-40							
Coupling ratio	50/50		40/60		20/80		10/90	
Grade	P	S	P	S	P	S	P	S
Max. Insertion loss (dB)	3.4	3.6	4.4/2.6	4.6/2.8	7.5/1.2	8.0/1.3	11.0/0.65	12.0/0.8
Max. Uniformity (dB)	0.5	0.7	/	/	/	/	/	/
Max. PDL (dB)	0.15	0.2	0.2	0.25	0.2	0.25	0.2	0.3
Return loss (dB)	≥ 50dB							
Operating temperature (℃)	- 20℃~ + 75℃							

Standard Fiber monolithic coupler 1xN

Wavelength (nm)	1310, 1550 or on request			
Bandwidth (nm)	+/-20			
Con	1/3		1X4	
Grade	P	S	P	S
Max. Insertion loss (dB)	5.4	5.7	7.0	7.4
Max. Uniformity (dB)	0.8	1.2	1.2	1.5
Max. PDL (dB)	0.2	0.3	0.2	0.3
Return loss (dB)	≥ 50dB			
Operating temperature (℃)	- 20℃~ + 75℃			

Ordering Information

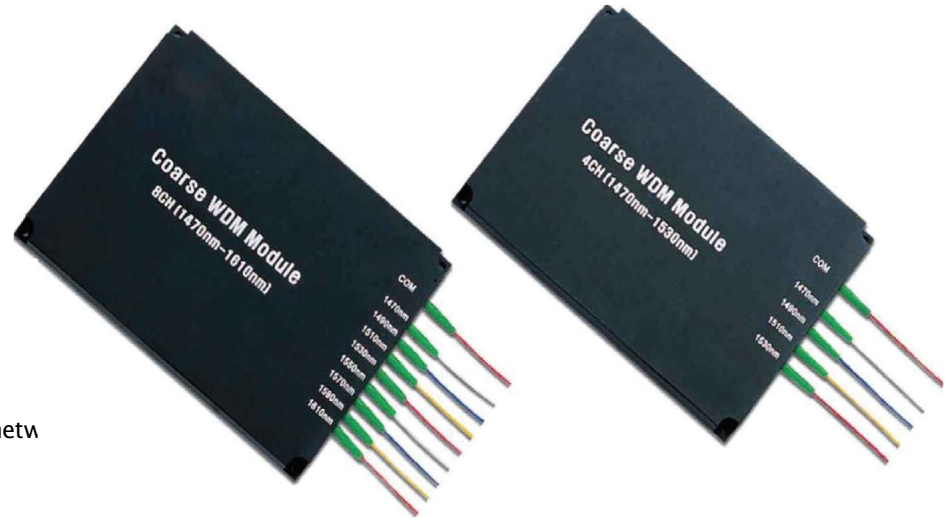
FC ○○ – ○○○○ – ○ – ○○ – ○○ – ○○ – ○ – ○/○ – ○ – ○

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Fiber Type	② Configuration	③ Wave Legnth	④ Coupling Ratio	⑤ Cord Dia(mm)	⑥ Cord Length	⑦ Package	⑧ Connector Type / End Shape			⑨ Grade	⑩ Bandwidth
SM : 9/125	0102 : 1x2	A : 1310nm	U : Uniform output	09 : 0.9	1~99mm	C : Cylinder	S : SC	F : FC	S : SPC	P : Premium	S: Standard
MM : 50/125	0104 : 1x4	B : 1550nm	S : Specified by	30 : 3.0		A : Aluminum	T : ST	L : LC	U : UPC	S : Standard	W: Wide
HMM : 62.5/125	0108 : 1x8	C : 1310nm & 1550nm	customer			case	M: MU	N: None	A : APC		
	……										

Fiber Optic Passive Devices

28 CWDM (Coarse Wavelength Division Multiplexer)



Features

- High isolation
- Low insertion loss
- Low polarization sensitivity
- Wide passband
- Excellent stability and reliability

Applications

- WDM systems for metro/access netw
- Telecommunications
- Optical add/Drop multiplexing
- Network monitoring

Specifications

Parameter		Unit	Performance Specifications		Remark
Center Wavelength		nm	1470, 1490, 1510, 1530	1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610	-
Insertion Loss	CWDM CH	dB	2.4 max	2.95 max	-
Isolation	Adjacent channel	dB	25.0 min	25.0 min	(Demux Drop Only)
	Non-adjacent channel	dB	50.0 min	50.0 min	(Demux Drop Only)
Return Loss		dB	45.0 min	45.0 min	-
Directivity		dB	60.0 min	60.0 min	-
PDL		dB	0.2 max	0.2 max	-
OperatingTemperature		℃	-5 ~ +65	-5 ~ +65	-
Storage Temperature		℃	-40 ~ +85	-40 ~ +85	-
Package Specifications					
Package size		mm	T.B.D		-
Fiber Length		m	T.B.D		-
Fiber Type			T.B.D		-
Connector Type			T.B.D		-

Ordering Information

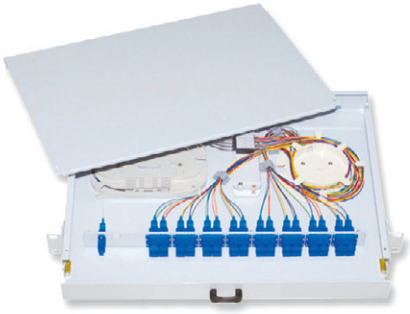
CWDM ○○ – ○○ – ○ – ○/○ – ○

① ② ③ ④ ⑤

① Channel	② Mux	③ Fiber type	④ Connector Type / End Shape		⑥ Cord Length
04	MU : MUX	1 : 250um	S : SC	S : SPC	1 ~ 99m
08	DE : DEMUX	2 : 900um	F : FC		
			L : LC	U : UPC	
			M: MU		
			N : None	A : APC	

Fiber Optic Passive Devices

29 PLC SPLITTER OFD & MODULE



Splitter OFD

Splitter Module(Slot type)

Splitter Module(Wall type)

Description

OPT PLC splitter OFD and Module can provide connections between the distribution cable and subscriber's cable with PLC splitter. The OFD can accommodate 1×8, 1×16, 1×32 PLC splitter in 1U rack mount module and the PLC splitter module is available in 1×4, 1×8. The moderate design provide simple installation, reasonable price, high quality and reliability. All PLC splitter OFD and Module are tested prior to shipment to meet optical performance.

Features

- 1×4 / 8 / 16 / 32 Configurations with SC / LC connectors (Other connector Options)
- Easy to install in existing infrastructure
- Wideband operation1260nm~1650nm
- 19" Rack mountable
- Low insertion loss

Specifications

Model	Unit	1X4	1X8	1X16	1X32
Maximum Insertion Loss	dB	7.5	11.0	14.5	17.4
Typical Insertion Loss	dB	7.3	10.8	14.2	17.0
Uniformity	dB	≤0.8	≤1.0	≤1.5	≤1.5
Operating Wavelength	nm	1260 ~ 1650nm			
Maximum	dB	0.1	0.2	0.3	0.3
Return Loss	dB	≥55			
Directivity	dB	≥55			
Operating Temperature	℃	-40 ~ +85			

Type	Splitter Shelf	Splitter Module (Slot)	Splitter Module (Wall)
Dimension(W×D×H)	480×310×44.4mm	520×310×222mm	110×200×36mm
Fiber Type	G652D		
Connector Type	SC Standard (Other connector Options)		

Ordering Information

RN ○○○○ – ○○○ – ○/○

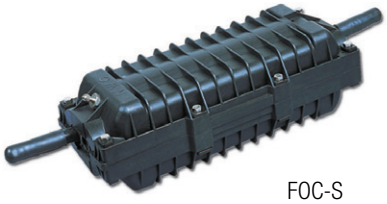
① ② ③

① Type	② Output Port		④ Connector Type / End Shape	
OFD	0104 : 1×4	0116 : 1×16	S : SC	L : LC
SLOT	0108 : 1×8	0132 : 1×32	F : FC	M: MU
WALL			T : ST	

Fiber Optic Splice Closures

30 IN-LINE CLOSURE


FOC-SS


FOC-S


FOC-M


FOC-C


FOC-A


FOC-L


FOC-R (Ribbon Cable)
Max.432 Core

Features

- Closure provides perfect solution for the protection of the junction point of optical fiber cable from environment.
- Silicone gasket is used to seal closure and provide a long term reliability.
- Closures have two or three cable entrance ports on each end.
- Closures can be installed at temperatures between -40~176℉ (-40℃ ~ 80℃)
- Closures are compact and lightweight.
- Its installation is very easy due to applied minimum bolts.

Structure, Dimension and Weight

Model	Ports	In-Let Cable Size (mm)	Dimensions (L×W×H), mm	Weight with box
FOC-SS	3-3 ports	Min.Ø8 ~ max.Ø19	355×195×128	3.9 kg
FOC-S	2-2 ports	Min.Ø8 ~ max.Ø29	454×187×130	5.0 kg
	2-3 ports	Min.Ø8 ~ max.Ø29		
	3-3 ports	Min.Ø8 ~ max.Ø24		
FOC-M	2-2 ports	Min.Ø8 ~ max.Ø29	454×187×166	5.7 kg
	2-3 ports	Min.Ø8 ~ max.Ø29		
	3-3 ports	Min.Ø8 ~ max.Ø24		
FOC-C	3-3 ports	Min.Ø3.5 ~ Max.Ø16	324×198×130	1.8 kg
FOC-A	4-4 ports	Ø3.5 Only	200×178×79	0.95 kg
FOC-L	3-3 ports	Min.Ø8.0 ~ Max.Ø24	510×240×141	6.0 kg
FOC-R	3-3 ports	Min.Ø8.0 ~ Max.Ø32	597×296×213	9.5 kg

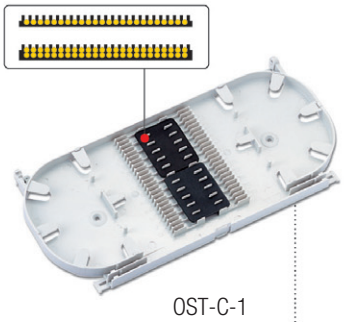
Capacity

Items	Max. Capacity			
	Single Core	2-Core Ribbon	4-Core Ribbon	8-Core Ribbon
FOC-SS	48 core	48 core	80 core	128 core
FOC-S	72 core	72 core	144 core	192 core
FOC-M	144 core	144 core	288 core	384 core
FOC-C	96 core	96 core		
FOC-A	32 core	32 core		
FOC-L	288 core	288 core		
FOC-R	288 core	288 core	288 core	576 core

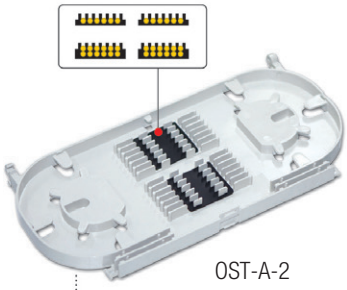
Applications

- Telecommunication Networks
- CATV Networks
- Local Area Networks
- Underground, Aerial, Buried
- Vault and Building environments

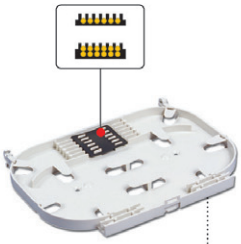
Fiber Optic Splice Closures



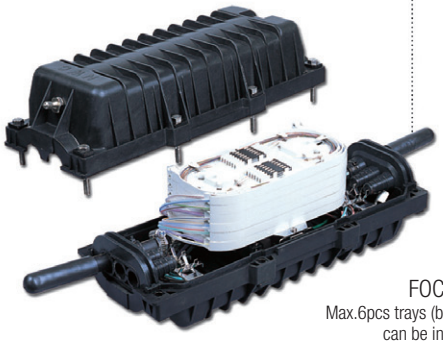
OST-C-1
*(24C/48C)



OST-A-2
*(12C/24C)

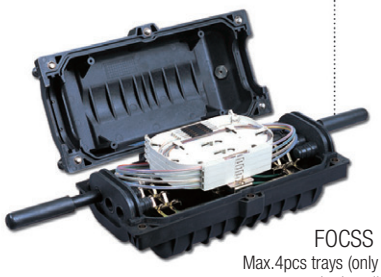


OST-B-1
*(6C/12C)



FOCM
Max.6pcs trays (both A-2 or C-1)
can be installed

FOCS
Max.3pcs trays (both A-2 or C-1)
can be installed



FOCSS
Max.4pcs trays (only OST-B-1)
can be installed

* (XX/XX) - 1 : Single layer
1 2 2 : Double layer

Ordering Information

FOC — ○ — ○ — ○ — ○ — ○

Option 1 - SB : Support Bracket for aerial & duct application
N : None

Tray type: A : 12/24 core for FOCS & FOCM only
B : 6 /12core for FOCSS type only
C : 24/48 core for FOCS & FOCM only
F: 12/48core for FOCS & FOCM
12U: 12/24 core for FOCC Type Only
8U: 8/16 core for FOCA Type Only
H48: 24/48 core for FOCL Type Only
R: 24/48 core for FOCR Type Only

Number of Optical Fibers : 12 : 12 fiber
Note : 1 upto 288 fibers available

The entrance port type- 1 : 2-2Ports 2: 2-3Ports 3 : 3-3Ports
Note : 2 Port - Max. Cable Dia : 29mm
3 Port - Max. Cable Dia : 24mm, others:19mm
3 Port - Max. Cable Dia : 19mm for only FOCSS use

In case of using A type tray except FOCSS
Model- M : Loose tube Cable (1~Max.144Core)
S : Loose tube Cable (1~Max.72Core)

In case of using C type tray except FOCSS
M : Loose tube Cable (1~Max.288 Core)
S : Loose tube Cable (1~Max.144 Core)

C: Loose tube Cable (1~Max. 96Core)
A: Loose tube Cable (1~Max. 32Core)
L: Loose tube Cable (1~Max. 288Core)
R: Loose tube Cable (1~Max. 576Core)

SS : Loose tube Cable (1~Max.48Core)

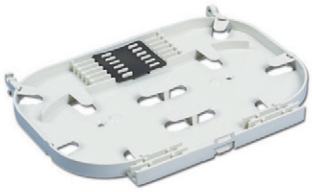
Optical Fiber Closure

EX) FOC-M-3-48-A-N : Optical fiber closure, Medium type, 3 : 3port,48 core, A type tray, None support bracket.

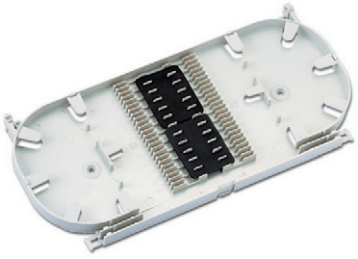
Fiber Optic Splice Closures

31 SPLICE TRAY

OST-A-2
Dimensions (mm) : 225 (L) ×108 (W) ×12 (H)



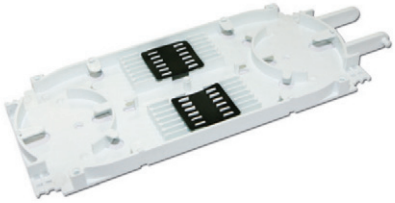
OST-B-1
Dimensions (mm) : 168 (L) ×119 (W) ×9 (H)



OST-C-1
Dimensions (mm) : 246 (L) ×112.5 (W) ×12 (H)

Features

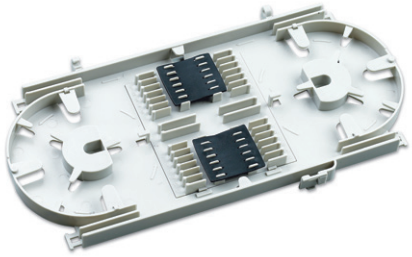
- Compact yet spacious
- Multi-entry points
- Loose tube, ribbon fiber and mechanical splice are applicable
- Easy to install the cable



OST-D-1
Dimension(mm):227(L) ×98.5(W) ×12(H)

Capacity

Items	Max. Capacity			
	Single Core	2-Core Ribbon	4-Core Ribbon	8-Core Ribbon
OST-A-2	24 core	24 core	48	96
OST-B-1	12 core	12 core	24	48
OST-C-1	48 core	48 core	96	192
OST-D-1	24 core	24 core	96	96
OST-F-1	24 core	24 core	48	96



OST-F-1
Dimension(mm):245(L) ×112(W) ×12(H)

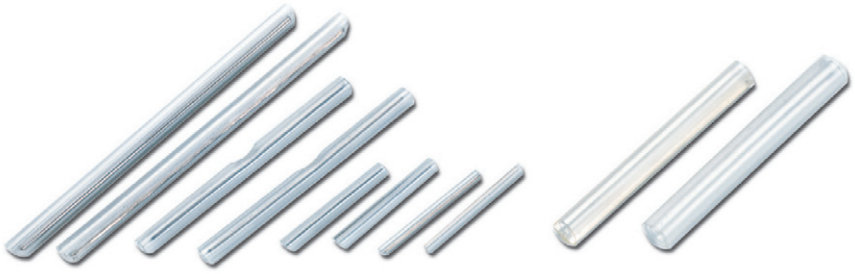
Ordering Information

OST ○ — ○
① ②

① Tray Type	② Holder
A : 24core	1 : Including Rubber holder
B : 12core	2 : Excluding Rubber holder
C : 48core	
D : 24core	

Fiber Optic Splice Closures

32 HEAT SHRINKABLE SLEEVE



Specifications

Shrinking Temperature (℃)	90 ~120
Radial Shrinking Rate(%)	>50
Axial Shrinking Rate(%)	<3
Low Temperature Property	No Crack at -55℃ lasting 4 hours
Operation Temperature (℃)	-40 ~ +65
Operation Humidity	≤90%
Spark-over-Strength (kV/mm)	≥20
Tensile Strength (Mpa)	20
Loss at -40℃	0.01dB
-40≤Loss at +60℃ , RH95%	0.01dB

Ordering Information

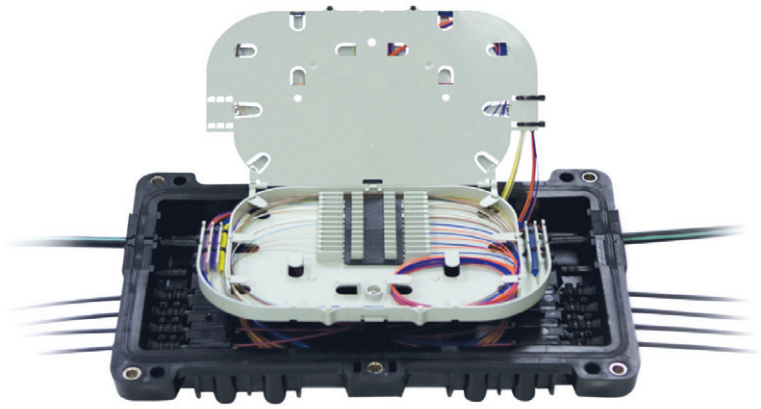
HST ○○ — ○○

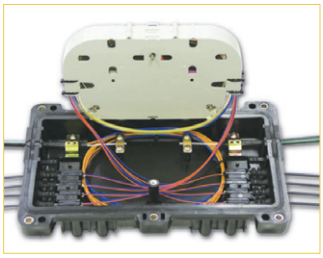
① ②

① Type	② Length(mm)
10 : Strength Member Dia 1.0mm	Ex) 60mm
15 : Strength Member Dia 1.5mm	40mm
R4 : 4-Ribbon Fiber	30mm
R8 : 8 or 12 Ribbon Fiber	15mm
M : Micro sleeve	

Fiber Optic Splice Closures

33 RN FIBER OPTIC CLOSURE FOR FTTH





Description

OPT RN Fiber Optic Closure is designed to be comprised of PLC splitters allowing optical power to be split into 16 channels.
The easy-to-sure gasket sealing system further simplifies the installation process and provides superior protection from the external environments. The unit can support up to 8 drop cables in FTTH applications and shall be served with all of the mechanical requirement such as waterproof, impact resistance and securing feeder and drop cables. Included two optical splice trays shall be used for PLC splitter installations and drop cable splicing.

Features

- Can accommodate up to 1×16 PLC splitter on one splice tray
- Up to 8 FTTH drop cables
- Special drop grommet for cable
- compact size, light-weight
- High impact resistant and UV resistant thermoplastic for long life
- Hinged tray structure
- Bending radius: 15mm for RN Tray(1×4,1×8,1×16 splitter available)
- Easy to assemble

Specifications

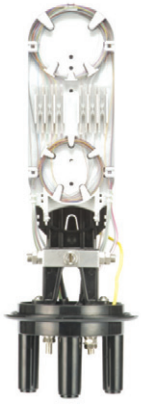
ITEM	VALUE
Dimensions(mm)	293L×183W×93H
Weight	1.6Kg
Cable input capacity & Cable size(mm)	Max 4 ports(2port for Ø3.5, 2port for Ø8)
Cable output capacity & Cable size(mm)	Max 8 ports(Ø3.5)
Max Splice capacity	32core
Operation Temperature	(-40℃~+85℃)

Capacity

1 Fiber Drop Cable	2Fiber Drop Cable	3Fiber Drop Cable	4Fiber Drop Cable
8 core	16core	24core	32core

Fiber Optic Splice Closures

34 DOME CLOSURE



FOC-GPJ-8022

FOC-GPJ-L

Features

- One-Touch Clamp for easy installation
- 100% Water proof by Heat shrinkable Tube
- Applied to Aerial, Duct, Pole and Direct buried

Structure, Dimension and Weight

Model	Max. Capacity	Tray No.	Ports	Size (mm)	Applied cable size
FOC-GPJ-8022-1	48C	Max 4pcs	4 (Main:1 / Sub:3)	435×Ø190	Sub inlets : Ø8 ~ Ø16 Main inlet: max. Ø25
FOC-GPJ-8022-2	72C	Max 3pcs	4 (Main:1 / Sub:3)	435×Ø190	Sub inlets : Ø8 ~ Ø16 Main inlet: max. Ø25
FOC-GPJ-1	120C	Max 10pcs	7 (Main:1 / Sub:6)	455×Ø220	Sub inlets : Ø8 ~ Ø20 Main inlet: max. Ø35
FOC-GPJ-2	240C	Max 10pcs	7 (Main:1 / Sub:6)	455×Ø220	Sub inlets : Ø8 ~ Ø20 Main inlet: max. Ø35
FOC-GPJ-8027-1	168C	Max 14pcs	7 (Main:1 / Sub:6)	550×Ø255	Sub inlets : Ø8 ~ Ø25 Main inlet: max. Ø40
FOC-GPJ-8027-3	576C	Max 8pcs	7 (Main:1 / Sub:6)	550×Ø255	Sub inlets : Ø8 ~ Ø25 Main inlet: max. Ø40
FOC-GPJ-8027-4	336C	Max 7pcs	7 (Main:1 / Sub:6)	550×Ø255	Sub inlets : Ø8 ~ Ø25 Main inlet: max. Ø40

Ordering Information

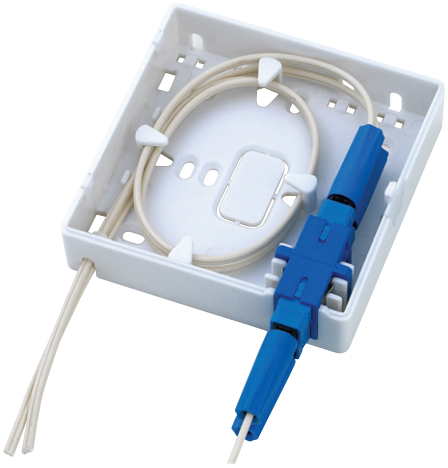
FOC-GPJ ○○ — ○○

① ②

① Type	② Fiber Count
8022 L 8027	1C~576C

Fiber Optic Distribution Systems

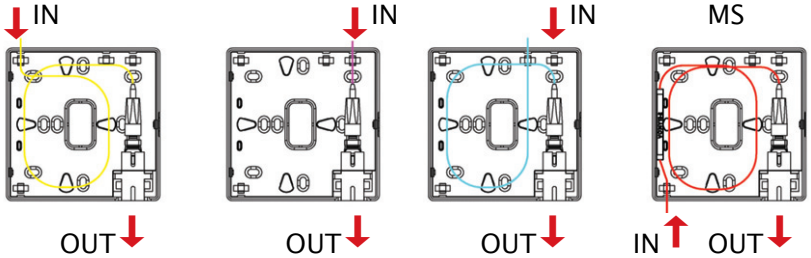
35 OUTLET



Features

- Suitable bending radius.
- Protect optical fiber.
- Compatible with SC adapter and connrctor.
- Snap on cover.
- Simple and easy to use.

Directions for cable input



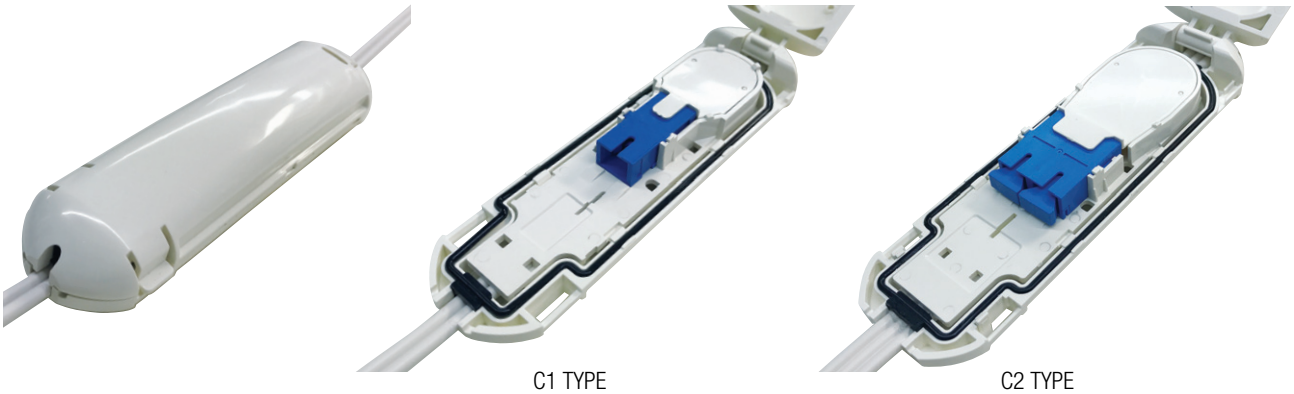
Specifications

Items	value
Connection Type	SC Connector, F/S, M/S
install location	Indoor
application	SC × 1 , SC × 2
Dimensions(mm)	86L × 86W×30H
Weight	80g

Ordering Information

OLT-A10

36 MULTI DWELLING UNIT TERMINATION BOX AND CABLE



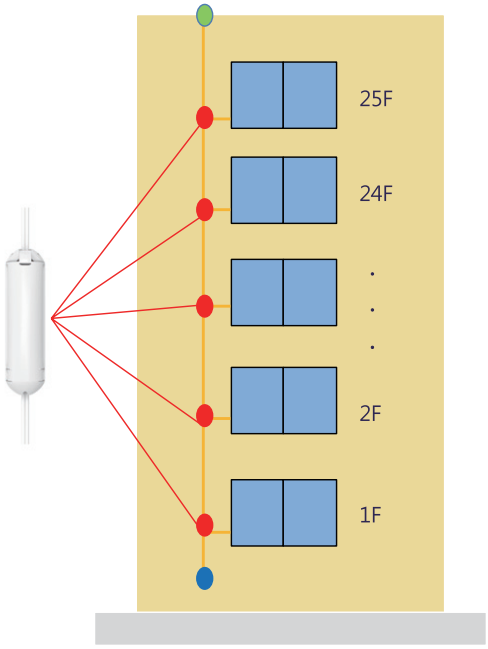
C1 TYPE C2 TYPE

Description

MDU-TB&C is Termination Box with pre-installed Cable according to the field requirement which allowing much easier operation.
MDU-TB&C is designed to fit vary circumstance, regardless building size and structure including Multi Dwelling Unit, Large building, Row houses and others.
The IP44 design and UV protection material offer utilizing on exterior installation of a building.

Features

- IP, UV protection
- High tensile force
- Easy to connect & installation
- Compact and streamlined shap



Specifications

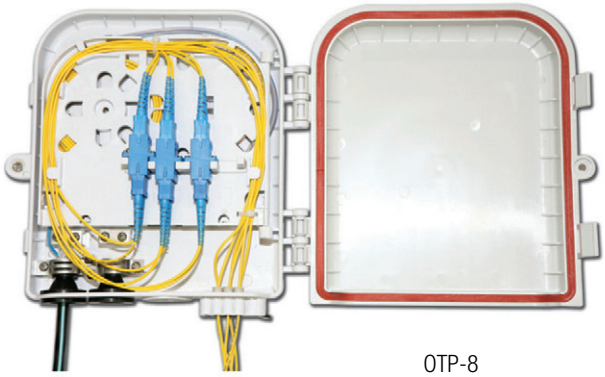
Characteristics	C1	C2
Dimensions(mm)	136L × 36W × 26H	152L × 45W × 27H
Marerial	PC(polycarbonate)	PC(polycarbonate)
Rain Test	IP 44	IP 44
Operation Temperature	- 40℃ ~ + 60℃	- 40℃ ~ + 60℃
Max. capacity	25Core	50Core
Cable material	LSZH	LSZH
Cable tensile	100kg	100kg

Ordering Information

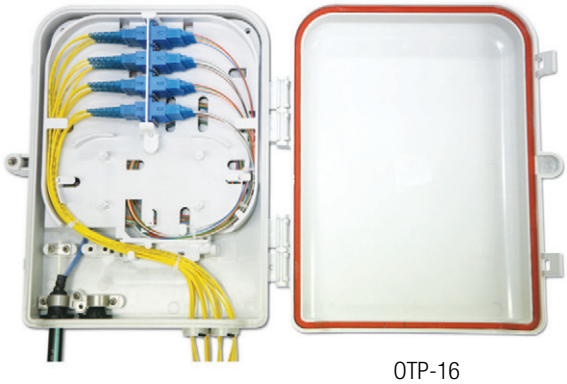
MDU-TBC C1
MDU-TBC C2

Made to order for the cable length and type

37 TERMINATION PANEL 1 (Outdoor Wall Mount)



OTP-8



OTP-16

Specifications

ITEM	OTP-8	OTP-16
Dimensions(mm)	181L × 207W × 45H	225L × 302W × 71H
Weight	0.9Kg	1.3Kg
Cable intput capacity	Max 2ports (Max. dia:12mm)	Max 2ports (Max. dia:12mm)
Cable output capacity	Max 8 Ports (Max. dia:3mm)	Max 16 Ports (Max. dia:3mm)
Max. capacity	8core	16core
Operation Temperature	-40℃~+85℃	-40℃ ~+85℃
Tensile Strength	≥450Kg/㎠	≥450Kg/㎠
Impact Strength	35Kg ㎝ /㎝ (nomar temp.),	35Kg ㎝ /㎝ (nomar temp.),
	10Kg ㎝ /㎝ (-30℃)	10Kg ㎝ /㎝ (-30℃)
Flexural Strength	≥450Kg/㎠	≥450Kg/㎠

Ordering Information

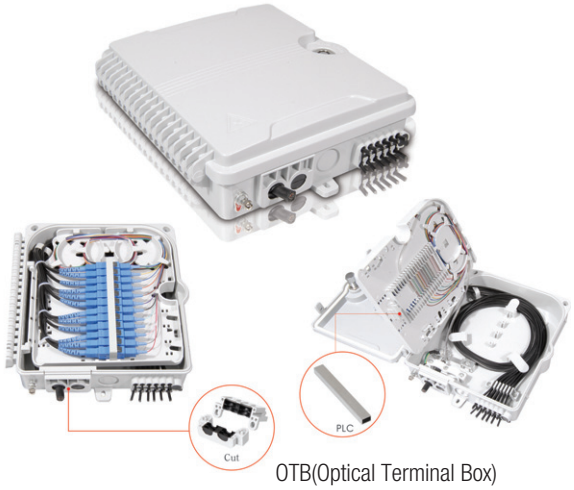
OTP ○○ — ○○

① ②

① Fiber count	② Adaptor type
1C ~ 16C	SC

38 TERMINATION PANEL 2 (Outdoor Wall Mount)

FAT(Fiber Access Terminal)



OTB(Optical Terminal Box)

Features
- Compact size
- Locking available on front panel.
- Bottom cable entry.
- Sealed for moisture and dust resistance.
- Accommodates standard NWC connector and adapter types.
- Compact interconnect and splice housing for up to 16 optical fibers.

Applications
- Telecommunication Network
- CATV Network
- Data communication Network
- Instrumentation
- Local Area Network

Dimension Specifications

Items	Dimensions (W×L×H)	Max. Capabilities	Remark
FAT	240×320×100 mm	16 Ports & Splice	Wall & Pole Type

Dimension Specifications

Items	Dimensions (W×L×H)	Max. Capabilities	Remark
OTB	200×225×65 mm	12 Ports & Splice	Wall & Pole Type

Ordering Information

FAT ○○ – ○○
① ②

① Fiber count	② Adaptor type
1 ~ 16C	SC

Ordering Information

OTB ○○ – ○○
① ②

① Fiber count	② Adaptor type
1 ~ 12C	SC

Fiber Optic Distribution Systems

39 PATCH PANEL SERIES (Rack Mount)

OFD-A-1

OFD-A-2

OFD-B-1

OFD-B-2

OFD-C-1

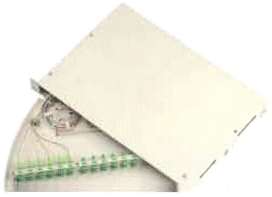
OFD-C-2

OFS-1

OFS-2

Specifications

Items	Model	Capacity	Dimensions(W×L×H)mm	Remarks
OFD-Rack	OFD-A-1	12C(24C)	483×310×44.4	With Storage Box
	OFD-A-2	12C(24C)	483×310×44.4	
	OFD-B-1	24C	480×310×132.5	
	OFD-B-2	48C	480×310×222	
	OFD-C-1	72C	480×310×178	Without Storage Box
	OFD-C-2	144C	480×310×222	
	OFS-1	72C	480×310×132.5	Storage Box
	OFS-2	144C	480×310×178	
	OFD-D	32C	480×310×44.4	With Storage Box



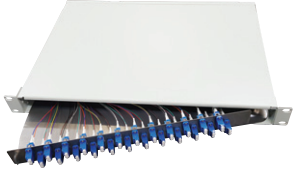
OFD-D

Ordering Information

OFD-○-○-X

① ②

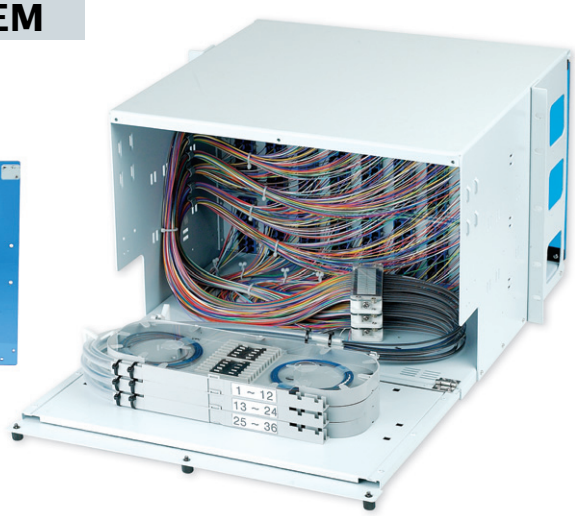
① Type 1	② Type 2	Adaptor type
A	1	S1 : SC Simplex
B	2	L1 : LC Simplex
C		SV : SC Duplex vertical
D		L2 : LC Duplex horizontal
		SH : SC Duplex
		FR : FC Simplex round
		MR : MT-RJ
		ST : ST Simplex



OFD-A-1-P

Fiber Optic Distribution Systems

40 RIBBON FIBER MANAGEMENT SYSTEM



Features

- Fiber termination/Connection ports option.
- Optical Splice Capability.
- Compact Design.
- Compatible with most Cable Management System.

Specifications

Items	Model	Dimensions(W×L×H)mm	Remarks
RFMS FDF-Rack (Drawer type)	FDF-D-144C	486×310×177	Sliding and access to back for easy installstion Applicable for Ribbon Fiber Cable
	FDF-D-288C	486×310×222	
	FDF-D-320C	486×310×222	
	FDF-D-432C	486×310×312	

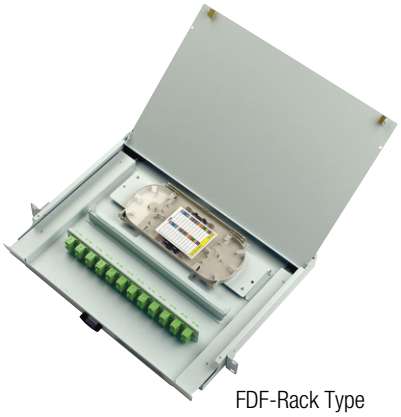
Ordering Information

RFMS ○ — ○○○

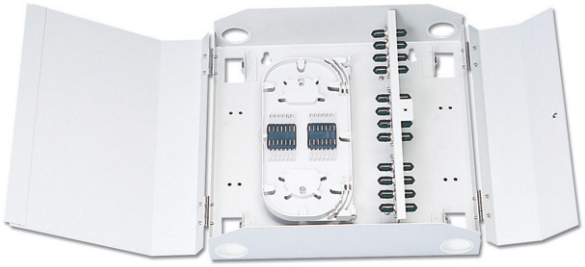
① ②

① Type	② Core count
D : Drawer type	144 ~ 432

41 PATCH PANEL (Rack / Wall Mount)



FDF-Rack Type



FDF-Wall-Type

Specifications

Items	Model	Dimensions(W×L×H)mm	Remarks
FDF-Rack / Wall	FDF-FR-12C	483×320×44.4	Rack mount
	FDF-FR-24C	483×320×44.4	
	FDF-FW-12C	315×310×82	Wall mount
	FDF-FW-24C	315×310×82	
	FDF-FW-48C	315×380×110	

Ordering Information

FDF ○○ — ○○

① ②

① Type	② Core count
FR : Fixed Rack FW : Fixed Wall	12 ~48

Fiber Optic Distribution Systems

42 RACK

Specifications

Items	Dimensions (W×L×H)mm	Unit (U)	Remarks
OPEN RACK	550×350×1400	28U	
	550×350×1800	37U	
	550×350×2200	46U	
CABINET RACK (MULTI RACK)	600×600×500	8U	Small Office Distributor
	600×600×750	14U	
	600×750×1000	18U	
	600×750×1200	22U	
	600×750×1800	36U	
	600×750×2200	45U	
IDC-SEVER RACK	600×750×2750	56U	
	600×900×1800	36U	
	600×900×2000	40U	
	600×900×2200	45U	
MINI RACK	590×500×700	14U	
	590×500×600	10U	
	590×500×500	8U	
	550×450×300	5U	

Features

- Provides greater flexibility for a variety of application.
- High density solution.
- Compact Design.
- Comatible with most Cable Management System.
- 19″or23″User define

Ordering Information

RACK ○○ – ○○ – ○○○ – ○○ – ○○

① ② ③ ④ ⑤

① Items	② Width	③ Depth	④ Height	⑤ Unit
OPEN	19″	350	500	5
CABINET	23″	600	750	8
IDC		750	1800	.....
MINI		others	others	56

Fiber Optic Distribution Systems

Standard Accessories

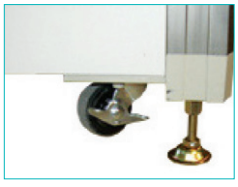
No	Item	Material	Q'ty (pcs)	Remark
1	Body Frame	Aluminum	4	
2	Top cover	Steel	1	
3	Top& Rear Frame	Aluminum		
4	Fan		2	
5	Mount bar	Aluminum	4	
6	Front door	5.0T Reinforced Glass	1	Key included
7	Rear door	Steel	1	Pushdown button
8	Power	15A,220v	1	10~14ways
9	Self	D400mm	1	
10	Caster		4	Lock/ Unlocking
11	Foot		4	
12	Rear Cable Bracket		2~3	
13	Cable duct		2~3	
14	Bolt		50~70	M5*L9
15	Key		2	

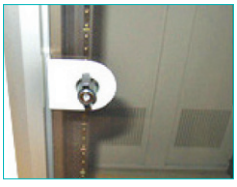
Detail Photos


Fan(2fan)


Power Strip(10Ways)

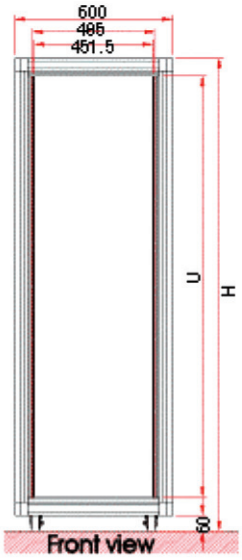

Side door (Slide latch type)

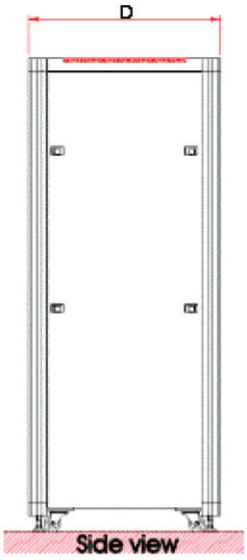

Caster, Foot


Locking with key


Logo plate

Configuration

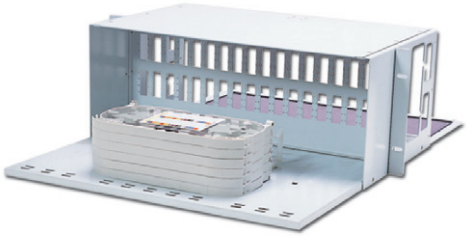




Fiber Optic Distribution Systems

43 FDF (Fiber Distribution Frame)

Distribution Shelf



Splice Shelf

Stored Splice Shelf

Storage Shelf

Specifications

Items	SIZE(W×L×H)mm	Rack Unit	Max. Capacity
FDF Frame	900×556×2,200	43U	1,440C
FDF Door	Side 2ea, Front, Back		
FDF Distribution Shelf 72Core	483×450×132	3U	72C
FDF Splice Shelf 72Core	483×450×132	3U	72C
FDF Storage Shelf 72Core	483×469×88	2U	72C
FDF Distribution Shelf 144Core	483×450×177	4U	144C
FDF Splice Shelf 144Core	483×450×177	4U	144C
FDF Storage Shelf 144Core	483×469×177	4U	144C

Ordering Information

FDF ○○ – ○○

① ②

① Model	② Fiber count
Frame	72C
Door	144C
Distribution Shelf	288C
Splice Shelf	360C
Storage Shelf	432C

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