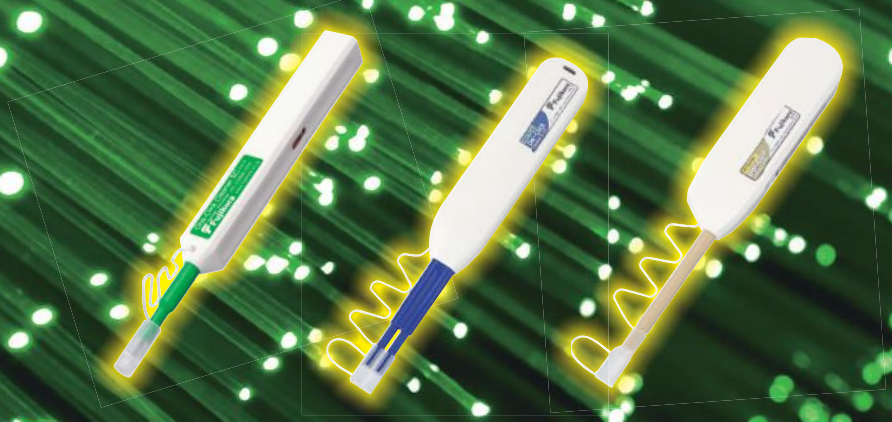
2015
vol.1

Future Access®

Optical Cable Network Product Catalog

Fujikura

Future Access®



One-Click Cleaner SC　　One-Click Cleaner D-LC　　One-Click Cleaner MT-RJ

One-Click™ Cleaner Series

One-Click™ Cleaner Series enable quick cleaning of various connectors even when mounted in adapters.

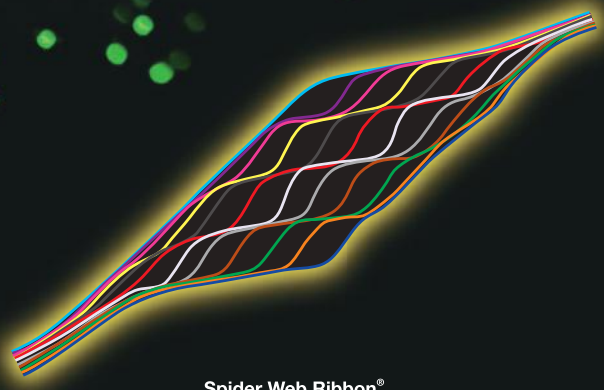
Effective for a variety of contaminants with over 500 cleanings per unit. Cut your connector cleaning time by more than 50% with the One-Click™ Cleaner Series.

Light is radiating Towards an enriching Future

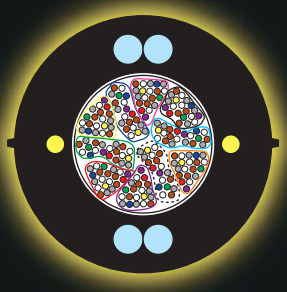
Wrapping Tube Cable with Spider Web Ribbon®

Fujikura's innovative optical fiber ribbon, Spier Web Ribbon® allows 12 fiber mass fusion splicing as well as drastically reduces cable outer diameter and weight. Applying SWR, totally unique features of optical cable called wrapping tube cable (WTC) are now released for 288 - 864 fibers inside. Additionally, WTC's jelly-free central fiber core construction drastically reduces cable deployment time by allowing easy access to fibers and eliminating jelly cleaning time.

Splitter module installation is available with option.



Spider Web Ribbon®

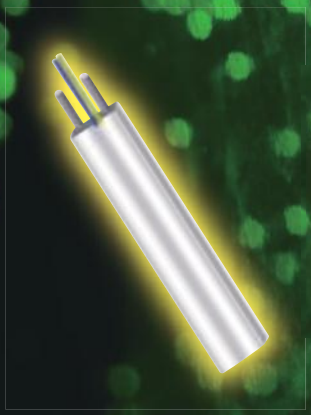


Wrapping Tube Cable

Future Access® is the trademark for FUJIKURA optical network products. (TradeMark No. 4838499)
Spider Web Ribbon® is the trademark for FUJIKURA optical network products. (TradeMark No. 1239652)
Future Access® TradeMark presents a collection of high-end products for future network via broadband access.

Fujikura prize ourselves as a total products supplier for end-to-end Optical Distribution Network.

For our valued customers who are keen on the installation of optical networks, this catalog will provide you with products that provide answers to your implementation needs.



Low Friction Optical Cable

Low Friction Optical Cable

Low friction cable with rigid property enables it to be easily pushed through the duct. It is very suitable for both vertical and horizontal installation in MDU's.

Field Installable Connector

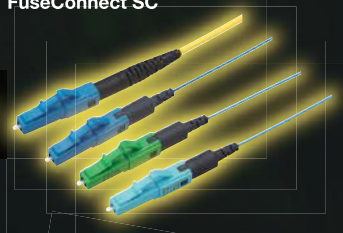
Fujikura field installable connector series require no polishing, adhesives, and crimping in the field.

Quick and reliable connection reduce on-site installation and maintenance cost.

FAST-SC (for fiber type)

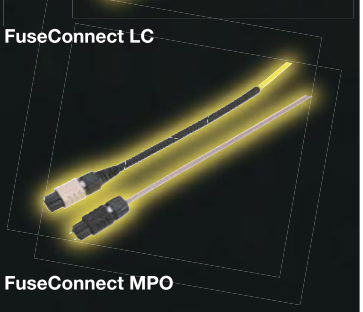
FuseConnect SC

FAST-SC (for cord type)



FuseConnect LC

FAST-SC (for cable type)



FuseConnect MPO

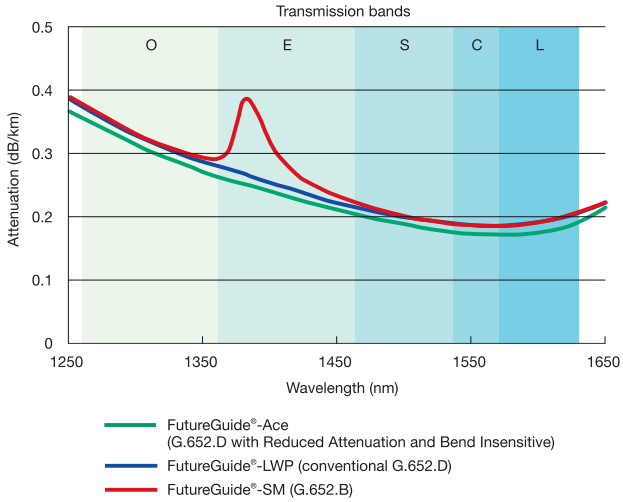
Content

FutureGuide® Optical Fibers

As the front runner in the history of optical fiber development, Fujikura has supplied optical fiber for more than three decades. FutureGuide® optical fibers fully comply with the latest ITU-T recommendations and integrated with the highest quality of the coating material, ensuring reliable performance even in harsh environments.

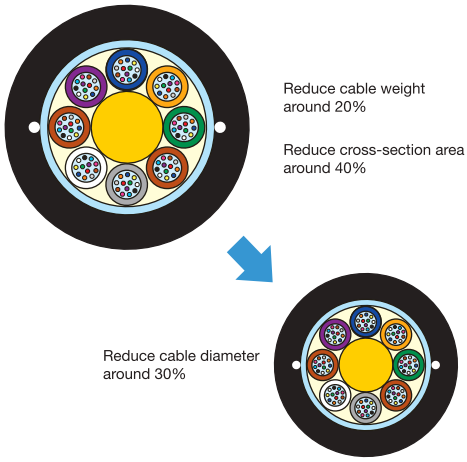
Advanced glass-manufacturing technology

Fujikura has responded to various trends in optical fiber networks for long time by developing preform-manufacturing and drawing technologies which realize leading-edge optical characteristics.
The advanced glass-manufacturing technology has resulted in a next-generation fiber named FutureGuide®-Ace. The fiber offers superior reduced attenuation characteristics with bend insensitiveness. The reduced attenuation provides longer transmission distance with less number of amplifiers, and the bend insensitiveness offers reliable performance in harsh installation conditions. Furthermore, the fiber has backward compatibility with all existing conventional networks based on G.652 fibers. FutureGuide®-Ace is suitable for long-haul, core and access networks using 40Gbps, 100Gbps and beyond.



Innovative fiber-coating technology

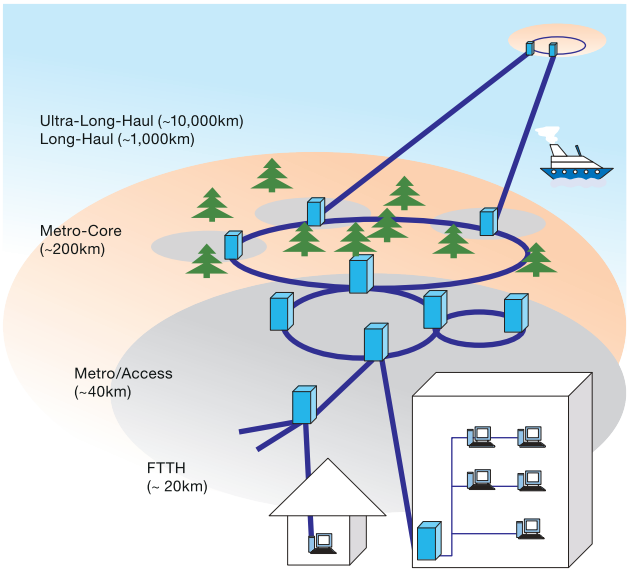
Not only optical characteristics, but also stability of those in actual networks is very important point for optical fibers. Fujikura's coating technology (dual layers of UV-cured acrylate) tolerably protects optical fiber glass from external forces, and offers stable performance in optical fiber networks.
The innovative coating technology of Fujikura also launches next-generation optical fibers: G.657.A1 and A2 fibers with 200µm coating diameter named FutureGuide®-SR15E-200 and FutureGuide®-BIS-B-200. The fibers have drastically reduced coating diameter down to 200µm which is realized by superior protection performance of new coating materials. The reduced fiber diameter allows reduction of optical cable size which supports the demands in optical fiber networks in urban areas: more effective utilization of available space by installing high density and high fiber-count cables underground.



FutureGuide® Optical Fibers

Optical Fiber Lineups

Fujikura has developed various products of optical fibers, depending on the transmission distance, transmission capacity and/or installation environment. All of these fibers meet the industry's latest international standards.

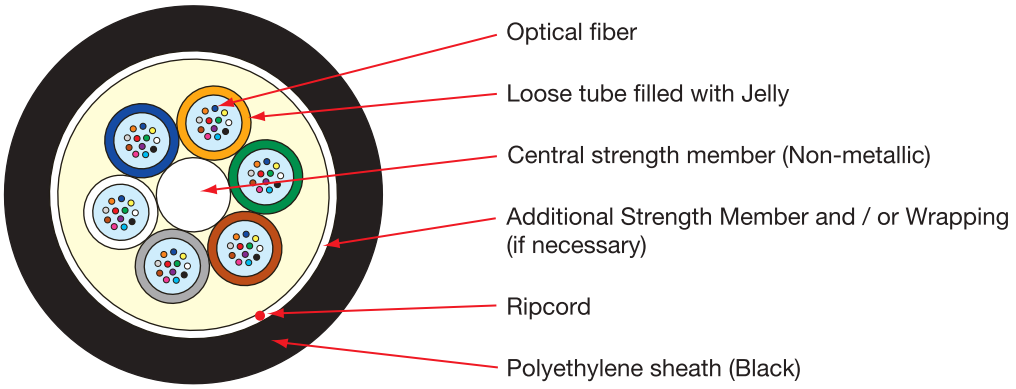


	Product	Description
Single-Mode	**FutureGuide®-Ace** (ITU-T G.652.D + Reduced Attenuation and Bend Insensitive)	G.652.D Fiber with further Reduced Attenuation and improved Bend Insensitiveness complying with ITU-T G.657.A1
		Long-Haul, Core and Access Networks for upto 100Gbps and beyond
	FutureGuide®-LWP-RA (ITU-T G.652.D + Reduced Attenuation)	G.652.D Fiber with further Reduced Attenuation within all Transmission Windows
		Long-Haul and High-Speed Transmission Network of 40Gbps, 100Gbps and beyond
	FutureGuide®-LWP (ITU-T G.652.D)	Low(Zero)-Water-Peak Single-Mode Fiber with High Reliability
		CWDM and DWDM Optical Transmission for Metropolitan Networks
	FutureGuide®-SM (ITU-T G.652.B)	Conventional Single-Mode Fiber
		Optical Transmission for Metropolitan Networks
	FutureGuide®-SR15E (ITU-T G.657.A1)	Bend Insensitive down to 15mm Radius Low(Zero)-Water-Peak Single-Mode Fiber with High Reliability
		Optical Cord and Cable for FTTH / LAN / Premises
	FutureGuide®-SR15E-200 (ITU-T G.657.A1 + 200μm Coating Diameter)	G.657.A1 Fiber with Drastically Reduced Coating Diameter down to 200μm
		High Fiber-Density Cable for FTTH / LAN / Premises
	FutureGuide®-BIS-B (ITU-T G.657.A2)	Bend Insensitive down to 7.5mm Radius Low(Zero)-Water-Peak Single-Mode Fiber with High Reliability
		Optical Cord and Cable for FTTH / LAN / Premises
	FutureGuide®-BIS-B-200 (ITU-T G.657.A2 + 200μm Coating Diameter)	G.657.A2 Fiber with Drastically Reduced Coating Diameter down to 200μm
		High Fiber-Density Cable for FTTH / LAN / Premises
	FutureGuide®-LA (ITU-T G.655.C and D)	Non-Zero Dispersion Shifted Fiber with Large-effective Area of 72μm^2
		Long-Distance DWDM Optical Transmission in the C- and L-Bands
	FutureGuide®-SS (ITU-T G.655.C and D)	Non-Zero Dispersion Shifted Fiber with Small-dispersion Slope of 0.05ps/nm^2·km at 1550nm
		Long-Distance DWDM Optical Transmission in the C- and L-Bands
	FutureGuide®-USS (ITU-T G.656)	Non-Zero Dispersion-Shifted Fiber for Wideband Transport with Ultra Small-dispersion Slope of 0.02ps/nm^2·km at 1550nm
		DWDM Transmission System effectively operating at S,C and L Bands
MultiMode	**FutureGuide®-MM50** (ISO/IEC11801 OM1 and OM2)	50μm Core Multimode Fiber with Graded-Index
		LAN / Data Center
	FutureGuide®-MM62.5 (ISO/IEC11801 OM1 and OM2)	62.5μm Core Multimode Fiber with Graded-Index
		LAN / Data Center
	FutureGuide®-MM10G/300 (ISO/IEC11801, OM3)	50μm Core Graded Index Multimode Fiber with 10Gbps support
		LAN / Data Center

Notes

Unarmored Loose Tube Optical Fiber Cable

Cable Construction



Features

- Dielectric construction
- Core interstices are filled with water blocking material
- Comply with IEC 60794-3-10 and IEC 60794-1-2

Applications

- Duct and lashed aerial
- Backbone and Access

Mechanical Characteristics

Product code	Fiber count	Nominal diameter (mm)	Weight (kg/km)	Permissible tensile strength (N)		Bending radius (mm)	
				Installation	Service	Installation	Service
L0-24 (F*)	24	8.6	60	900	270	200	100
L0-48 (F*)	48	8.6	60	900	270	200	100
L0-72 (F*)	72	8.6	60	900	270	200	100
L0-96 (F*)	96	9.9	80	1200	360	200	100
L0-144 (F*)	144	12.4	120	1800	540	230	115
L0-216 (F*)	216	13.0	130	900	270	260	130

* F denotes fiber type : FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E, FutureGuide®-LA = LA, FutureGuide®-SS = SS, FutureGuide®-MM50 = MM50, FutureGuid®-MM10G/300 = MM10G/300
Mechanical Characteristics can be customised.

Identification

Fiber & tube identification							
1	Blue	2	Orange	3	Green	4	Brown
5	Grey	6	White	7	Red	8	Black
9	Yellow	10	Violet	11	Pink	12	Turquoise

*Fiber and tube colors can be customized as per requirement.

Environmental Characteristics

Criteria	Temperature
Transportation & Storage	-30°C - +70°C
Installation	-10°C - +50°C
Operation	-30°C - +70°C
Water Penetration	No water at the unsealed end

*Environmental characteristics can be customized subject to limitations.

Fiber Characteristics

Characteristics	Unit	Fiber type	
		FutureGuide®-LWP (ITU-T G.652.D)	FutureGuide®-SR15E (ITU-T G.657.A1)
Geometrical Characteristics,			
Mode field diameter at 1310nm	μm	9.2 ± 0.4	8.6 ± 0.4
Cladding diameter	μm	125 ± 1	125 ± 0.7
Core concentricity error	μm	≤ 0.6	≤ 0.5
Cladding non-circularity	%	≤ 1.0	≤ 1.0
Primary coating diameter (including color layer)	μm	250 ± 15	250 ± 15
Coating-cladding concentricity error	μm	≤ 12.5	≤ 12.5
Fiber curl radius	m	≥ 4	≥ 4
Transmission Characteristics			
Attenuation at 1310nm	dB/km	≤ 0.36	≤ 0.36
Attenuation at 1383nm*	dB/km	≤ 0.35	≤ 0.35
Attenuation at 1550nm	dB/km	≤ 0.22	≤ 0.22
Macro bending loss** ϕ 60mm, 100 turns, 1625nm	dB	≤ 0.1	-
Macro bending loss** ϕ 30mm, 10 turns, 1550nm	dB	-	≤ 0.25
Macro bending loss** ϕ 30mm, 10 turns, 1625nm	dB	-	≤ 1.0
Macro bending loss** ϕ 20mm, 1 turns, 1550nm	dB	-	≤ 0.75
Macro bending loss** ϕ 20mm, 1 turns, 1625nm	dB	-	≤ 1.5
Cut-off wavelength (λ_{cc})	nm	1260	1260
Chromatic dispersion at 1310nm	ps/nm.km	≤ 3.5	≤ 3.5
Chromatic dispersion at 1550nm	ps/nm.km	≤ 18	≤ 18
Zero dispersion wavelength	nm	1300-1324	1300-1324
Zero dispersion slope	ps/nm^2.km	≤ 0.092	≤ 0.092
PMD (Link design value)	ps/√km	≤ 0.2	≤ 0.2
Mechanical Characteristics			
Proof stress level	%	1	1.5

*Attenuation increase due to hydrogen aging at this wavelength in bare optical fiber is tested in accordance with IEC60793-2-50 test procedure.
** This characteristics is mesured befor coloring process.

Packing

Cables are packed in standard durable and export quality wooden drums and suitable protection means are applied to prevent damage of cables during shipment and storage. Drums are non-returnable. Cable ends sealed by suitable method are fastened so as not to protrude beyond any portion of the drum and to prevent the cable from becoming loose during transportation.

Ordering Information

Product code	Fujikura product name
L0-24 (F*)	OGNMLWBE F × 24C
L0-48 (F*)	OGNMLWBE F × 48C
L0-72 (F*)	OGNMLWBE F × 72C
L0-96 (F*)	OGNMLWBE F × 96C
L0-144 (F*)	OGNMLWBE F × 144C
L0-216 (F*)	OGNMLWBE F × 216C

* F denotes fiber type : FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E, FutureGuide®-LA = LA, FutureGuide®-SS = SS, FutureGuide®-MM50 = MM50, FutureGuid®-MM10G/300 = MM10G/300

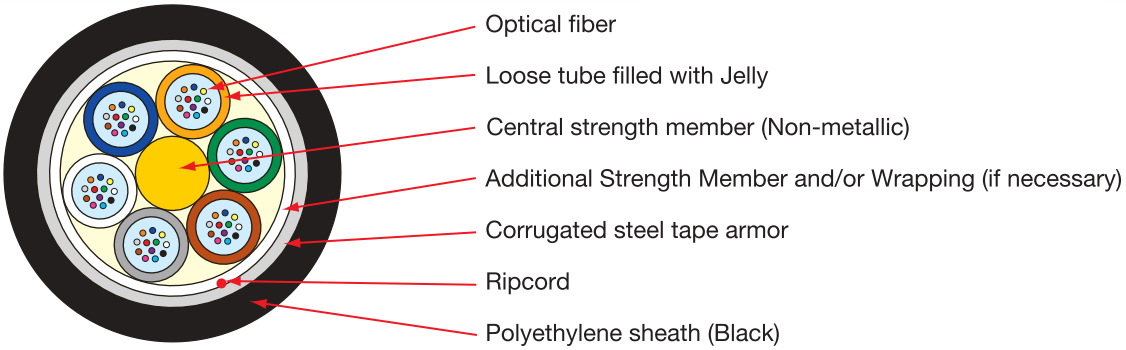
Option

1. Stranded core filled with jelly and steel central strength member are available.
2. Flame retardant sheath can be provided.

Notes

Armored Loose Tube Optical Fiber Cable

Cable Construction



Features

- Metallic armor to protect cable from rodent attack and mechanical damage
- Core interstices are filled with water blocking material
- Comply with IEC 60794-3-10 and IEC 60794-1-2

Applications

- Direct buried and Duct
- Backbone and Access

Mechanical Characteristics

Product code	Product description	Fiber count	Nominal diameter (mm)	Weight (kg/km)	Permissible tensile strength (N)		Bending radius (mm)	
					Installation	Service	Installation	Service
L1-24 (F*)	Steel tape armor, single sheath	24	11.5	120	1200	360	230	115
L1-48 (F*)		48	11.5	120	1200	360	230	115
L1-72 (F*)		72	11.5	120	1200	360	230	115
L1-96 (F*)		96	12.8	155	1600	480	260	130
L1-144 (F*)		144	15.3	205	2100	630	310	155
L1-216(F*)		216	15.3	205	1200	360	310	155
L2-24 (F*)	Steel tape armor, double sheath	24	12.8	160	1600	480	260	130
L2-48 (F*)		48	12.8	160	1600	480	260	130
L2-72 (F*)		72	12.8	160	1600	480	260	130
L2-96 (F*)		96	14.1	190	1900	570	290	145
L2-144 (F*)		144	16.6	250	2500	750	340	170
L2-216(F*)		216	16.6	250	1600	480	340	170
L3-24 (F*)	Steel wire armor, double sheath	24	14.9	310	5000	1500	300	150
L3-48 (F*)		48	14.9	310	5000	1500	300	150
L3-72 (F*)		72	14.9	310	5000	1500	300	150
L3-96 (F*)		96	16.2	360	6000	1800	330	165
L3-144 (F*)		144	19.0	475	7000	2100	380	190
L3-216(F*)		216	19.3	480	7000	2100	390	195

* F denotes fiber type : FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E, FutureGuide®-LA = LA, FutureGuide®-SS = SS, FutureGuide®-MM50 = MM50, FutureGuid®-MM10G/300 = MM10G/300
Mechanical Characteristics can be customised.

Identification

Fiber & tube identification							
1	Blue	2	Orange	3	Green	4	Brown
5	Grey	6	White	7	Red	8	Black
9	Yellow	10	Violet	11	Pink	12	Turquoise

*Fiber and tube colors can be customized as per requirement.

Environmental Characteristics

Criteria	Temperature
Transportation & Storage	-30°C - +70°C
Installation	-10°C - +50°C
Operation	-30°C - +70°C
Water Penetration	No water at the unsealed end

*Environmental characteristics can be customized subject to limitations.

Fiber Characteristics

Characteristics	Unit	Fiber type	
		FutureGuide®-LWP (ITU-T G.652.D)	FutureGuide®-SR15E (ITU-T G.657.A1)
Geometrical Characteristics			
Mode field diameter at 1310nm	μm	9.2 ± 0.4	8.6 ± 0.4
Cladding diameter	μm	125 ± 1	125 ± 0.7
Core concentricity error	μm	≤ 0.6	≤ 0.5
Cladding non-circularity	%	≤ 1.0	≤ 1.0
Primary coating diameter (including color layer)	μm	250 ± 15	250 ± 15
Coating-cladding concentricity error	μm	≤ 12.5	≤ 12.5
Fiber curl radius	m	≥ 4	≥ 4
Transmission Characteristics			
Attenuation at 1310nm	dB/km	≤ 0.36	≤ 0.36
Attenuation at 1383nm*	dB/km	≤ 0.35	≤ 0.35
Attenuation at 1550nm	dB/km	≤ 0.22	≤ 0.22
Macro bending loss** ϕ 60mm, 100 turns, 1625nm	dB	≤ 0.1	-
Macro bending loss** ϕ 30mm, 10 turns, 1550nm	dB	-	≤ 0.25
Macro bending loss** ϕ 30mm, 10 turns, 1625nm	dB	-	≤ 1.0
Macro bending loss** ϕ 20mm, 1 turns, 1550nm	dB	-	≤ 0.75
Macro bending loss** ϕ 20mm, 1 turns, 1625nm	dB	-	≤ 1.5
Cut-off wavelength (λ_{cc})	nm	1260	1260
Chromatic dispersion at 1310nm	ps/nm.km	≤ 3.5	≤ 3.5
Chromatic dispersion at 1550nm	ps/nm.km	≤ 18	≤ 18
Zero dispersion wavelength	nm	1300-1324	1300-1324
Zero dispersion slope	ps/nm2.km	≤ 0.092	≤ 0.092
PMD (Link design value)	ps/√km	≤ 0.2	≤ 0.2
Mechanical Characteristics			
Proof stress level	%	1	1.5

*Attenuation increase due to hydrogen aging at this wavelength in bare optical fiber is tested in accordance with IEC60793-2-50 test procedure.
** This characteristics is mesured befor coloring process.

Packing

Cables are packed in standard durable and export quality wooden drums and suitable protection means are applied to prevent damage of cables during shipment and storage. Drums are non-returnable. Cable ends sealed by suitable method are fastened so as not to protrude beyond any portion of the drum and to prevent the cable from becoming loose during transportation.

Ordering information

Product code	Fujikura product name
L1-24 (F*)	OGNMLWBCTE F × 24C
L1-48 (F*)	OGNMLWBCTE F × 48C
L1-72 (F*)	OGNMLWBCTE F × 72C
L1-96 (F*)	OGNMLWBCTE F × 96C
L1-144 (F*)	OGNMLWBCTE F × 144C
L1-216 (F*)	OGNMLWBCTE F × 216C
L2-24 (F*)	OGNMLWBE-CTZE F × 24C
L2-48 (F*)	OGNMLWBE-CTZE F × 48C
L2-72 (F*)	OGNMLWBE-CTZE F × 72C

Product code	Fujikura product name
L2-96 (F*)	OGNMLWBE-CTZE F × 96C
L2-144 (F*)	OGNMLWBE-CTZE F × 144C
L2-216 (F*)	OGNMLWBE-CTZE F × 216C
L3-24 (F*)	OGNMLWBE-WAZE F × 24C
L3-48 (F*)	OGNMLWBE-WAZE F × 48C
L3-72 (F*)	OGNMLWBE-WAZE F × 72C
L3-96 (F*)	OGNMLWBE-WAZE F × 96C
L3-144 (F*)	OGNMLWBE-WAZE F × 144C
L3-216 (F*)	OGNMLWBE-WAZE F × 216C

* F denotes fiber type : FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E, FutureGuide®-LA = LA, FutureGuide®-SS = SS, FutureGuide®-MM50 = MM50, FutureGuid®-MM10G/300 = MM10G/300

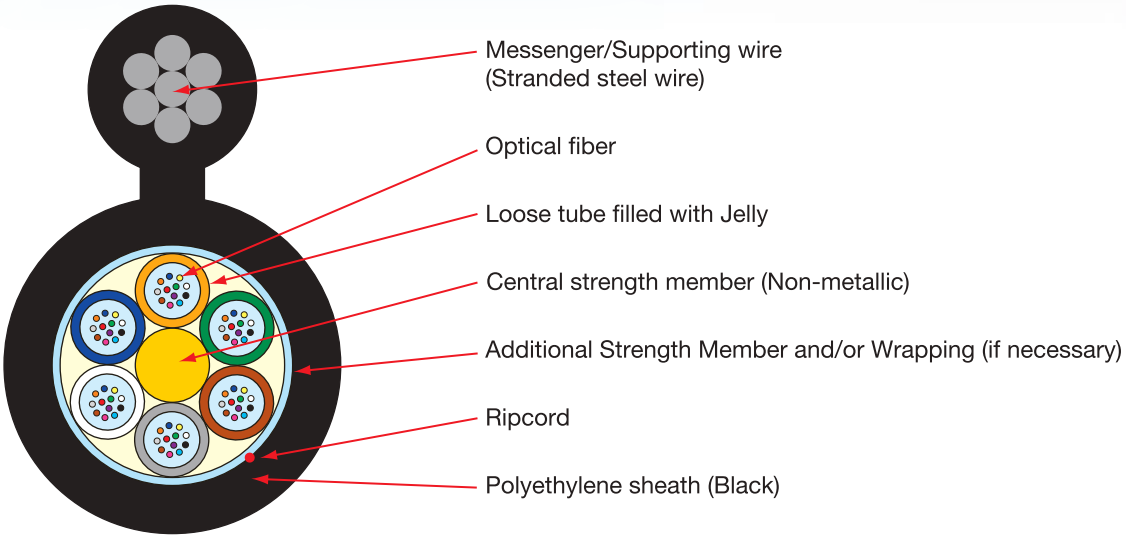
Option

1. Stranded core filled with jelly and steel central strength member are available.
2. Flame retardant sheath can be provided.

Notes

Aerial Self Supporting Loose Tube Optical Fiber Cable

Cable Construction



Features

- Self-supporting Aerial cable
- Stranded steel supporting wire protects the cable from harsh mechanical influences
- Comply with IEC 60794-3-20 and IEC 60794-1-2

Applications

- Aerial
- Access

Mechanical Characteristics

Product code	Fiber count	Nominal dimensions (mm)	Weight (kg/km)	Nominal messenger wire dimensions (mm)	Permissible tensile strength (N)	Bending radius (mm)	
						Installation	Service
L4-24 (F*)	24	9.5 × 16.5	130	7/1.0	4300	200	100
L4-48 (F*)	48	9.5 × 16.5	130	7/1.0	4300	200	100
L4-72 (F*)	72	9.5 × 16.5	130	7/1.0	4300	200	100
L4-96 (F*)	96	10.8 × 17.8	145	7/1.0	4300	220	110
L4-144 (F*)	144	12.5 × 19.5	170	7/1.0	4300	250	125
L4-216 (F*)	216	13.7 × 20.7	200	7/1.0	4300	280	140

* F denotes fiber type : FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E, FutureGuide®-LA = LA, FutureGuide®-SS = SS, FutureGuide®-MM50 = MM50, FutureGuid®-MM10G/300 = MM10G/300
Mechanical Characteristics can be customised.

Identification

Fiber & tube identification							
1	Blue	2	Orange	3	Green	4	Brown
5	Grey	6	White	7	Red	8	Black
9	Yellow	10	Violet	11	Pink	12	Turquoise

* Fiber and tube colors can be customized as per requirement.

Environmental Characteristics

Criteria	Temperature
Transportation & Storage	-30°C - +70°C
Installation	-10°C - +50°C
Operation	-30°C - +70°C
Water Penetration	No water at the unsealed end

* Environmental characteristics can be customized subject to limitations.

Fiber Characteristics

Characteristics	Unit	Fiber type	
		FutureGuide®-LWP (ITU-T G.652.D)	FutureGuide®-SR15E (ITU-T G.657.A1)
Geometrical Characteristics			
Mode field diameter at 1310nm	μm	9.2 ± 0.4	8.6 ± 0.4
Cladding diameter	μm	125 ± 1	125 ± 0.7
Core concentricity error	μm	≤ 0.6	≤ 0.5
Cladding non-circularity	%	≤ 1.0	≤ 1.0
Primary coating diameter (including color layer)	μm	250 ± 15	250 ± 15
Coating-cladding concentricity error	μm	≤ 12.5	≤ 12.5
Fiber curl radius	m	≥ 4	≥ 4
Transmission Characteristics			
Attenuation at 1310nm	dB/km	≤ 0.36	≤ 0.36
Attenuation at 1383nm*	dB/km	≤ 0.35	≤ 0.35
Attenuation at 1550nm	dB/km	≤ 0.22	≤ 0.22
Macro bending loss** ϕ 60mm, 100 turns, 1625nm	dB	≤ 0.1	-
Macro bending loss** ϕ 30mm, 10 turns, 1550nm	dB	-	≤ 0.25
Macro bending loss** ϕ 30mm, 10 turns, 1625nm	dB	-	≤ 1.0
Macro bending loss** ϕ 20mm, 1 turns, 1550nm	dB	-	≤ 0.75
Macro bending loss** ϕ 20mm, 1 turns, 1625nm	dB	-	≤ 1.5
Cut-off wavelength (λ_{cc})	nm	1260	1260
Chromatic dispersion at 1310nm	ps/nm.km	≤ 3.5	≤ 3.5
Chromatic dispersion at 1550nm	ps/nm.km	≤ 18	≤ 18
Zero dispersion wavelength	nm	1300-1324	1300-1324
Zero dispersion slope	ps/nm^2.km	≤ 0.092	≤ 0.092
Polarization Mode dispersion (Link design value)	ps/√km	≤ 0.2	≤ 0.2
Mechanical Characteristics			
Proof stress level	%	1	1.5

*Attenuation increase due to hydrogen aging at this wavelength in bare optical fiber is tested in accordance with IEC60793-2-50 test procedure.
** This characteristics is mesured befor coloring process.

Packing

Cables are packed in standard durable and export quality wooden drums and suitable protection means are applied to prevent damage of cables during shipment and storage. Drums are non-returnable. Cable ends sealed by suitable method are fastened so as not to protrude beyond any portion of the drum and to prevent the cable from becoming loose during transportation.

Ordering Information

Product code	Fujikura product name
L4-24 (F*)	OGNMLWBE-SSD F × 24C
L4-48 (F*)	OGNMLWBE-SSD F × 48C
L4-72 (F*)	OGNMLWBE-SSD F × 72C
L4-96 (F*)	OGNMLWBE-SSD F × 96C
L4-144 (F*)	OGNMLWBE-SSD F × 144C
L4-216 (F*)	OGNMLWBE-SSD F × 216C

* F denotes fiber type : FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E, FutureGuide®-LA = LA, FutureGuide®-SS = SS, FutureGuide®-MM50 = MM50, FutureGuid®-MM10G/300 = MM10G/300

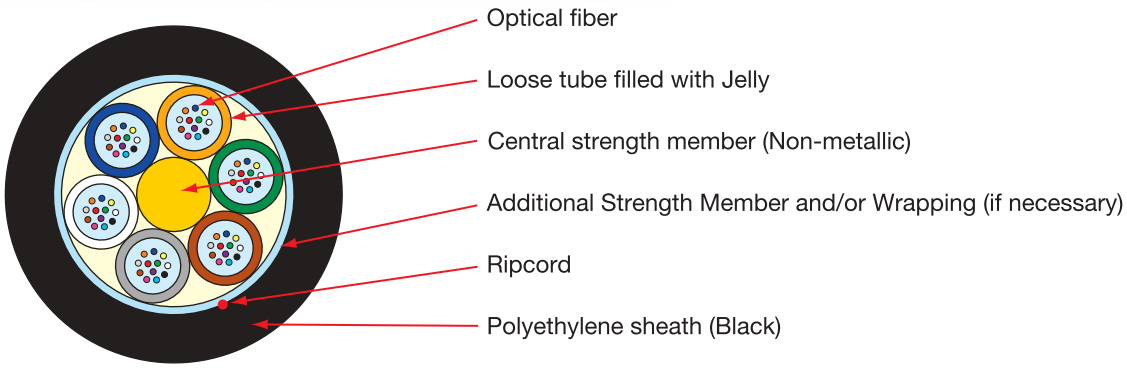
Option

1. Stranded core filled with jelly and steel central strength member are available.
2. Other messenger wire size also can be provided.

Notes

Microduct Optical Fiber Cable

Cable Construction



Features

- Suitable to be installed by air blown techonology method
- Microduct installation offers more benefits to customers such as initial investment
- Can be installed as and when required to meet growing customer demand
- High density fiber cable with reduced dimensions
- Extended installation lengths with less installation time
- Comply with IEC 60794-5

Applications

- Microduct
- Backbone and Access

Mechanical Characteristics

Product code	Fiber count	Nominal diameter (mm)	Weight (kg/km)	Permissible tensile strength (N)		Bending radius (mm)		Blown installation	
				Installation	Service	Installation	Service	Target distance (meters)	Target time (min.)
L5-72 (F*)	72	6.0	30	300	90	250	125	2600	71
L5-96 (F*)	96	6.5	40	350	105	250	125	2400	71

* F denotes fiber type : FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E

Identification

Fiber & tube identification							
1	Blue	2	Orange	3	Green	4	Brown
5	Grey	6	White	7	Red	8	Black
9	Yellow	10	Violet	11	Pink	12	Turquoise

*Fiber and tube colors can be customized as per requirement.

Environmental Characteristics

Criteria	Temperature
Transportation & Storage	-30°C - +70°C
Installation	-10°C - +50°C
Operation	-30°C - +70°C
Water Penetration	No water at the unsealed end

Fiber Characteristics

Characteristics	Unit	Fiber type	
		FutureGuide®-LWP (ITU-T G.652.D)	FutureGuide®-SR15E (ITU-T G.657.A1)
Geometrical Characteristics			
Mode field diameter at 1310nm	μm	9.2 ± 0.4	8.6 ± 0.4
Cladding diameter	μm	125 ± 1	125 ± 0.7
Core concentricity error	μm	≤ 0.6	≤ 0.5
Cladding non-circularity	%	≤ 1.0	≤ 1.0
Primary coating diameter (including color layer)	μm	250 ± 15	250 ± 15
Coating-cladding concentricity error	μm	≤ 12.5	≤ 12.5
Fiber curl radius	m	≥ 4	≥ 4
Transmission Characteristics			
Attenuation at 1310nm	dB/km	≤ 0.36	≤ 0.36
Attenuation at 1383nm*	dB/km	≤ 0.35	≤ 0.35
Attenuation at 1550nm	dB/km	≤ 0.22	≤ 0.22
Macro bending loss** ϕ 60mm, 100 turns, 1625nm	dB	≤ 0.1	-
Macro bending loss** ϕ 30mm, 10 turns, 1550nm	dB	-	≤ 0.25
Macro bending loss** ϕ 30mm, 10 turns, 1625nm	dB	-	≤ 1.0
Macro bending loss** ϕ 20mm, 1 turns, 1550nm	dB	-	≤ 0.75
Macro bending loss** ϕ 20mm, 1 turns, 1625nm	dB	-	≤ 1.5
Cut-off wavelength (λ_{cc})	nm	1260	1260
Chromatic dispersion at 1310nm	ps/nm.km	≤ 3.5	≤ 3.5
Chromatic dispersion at 1550nm	ps/nm.km	≤ 18	≤ 18
Zero dispersion wavelength	nm	1300-1324	1300-1324
Zero dispersion slope	ps/nm2.km	≤ 0.092	≤ 0.092
Polarization Mode dispersion (Link design value)	ps/√km	≤ 0.2	≤ 0.2
Mechanical Characteristics			
Proof stress level	%	1	1.5

*Attenuation increase due to hydrogen aging at this wavelength in bare optical fiber is tested in accordance with IEC60793-2-50 test procedure.
** This characteristics is mesured befor coloring process.

Packing

Cables are packed in standard durable and export quality wooden drums and suitable protection means are applied to prevent damage of cables during shipment and storage. Drums are non-returnable. Cable ends sealed by suitable method are fastened so as not to protrude beyond any portion of the drum and to prevent the cable from becoming loose during transportation.

Ordering Information

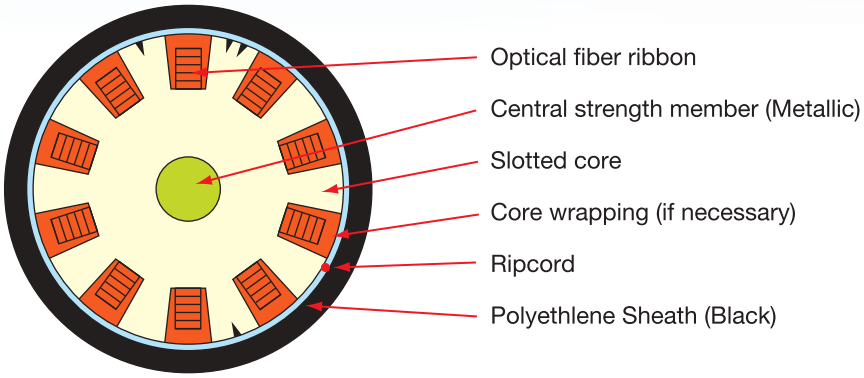
Product code	Fujikura product name
L5-72 (F*)	OGNMLWBE F × 72C
L5-96 (F*)	OGNMLWBE F × 96C

* F denotes fiber type : FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E

Notes

Ribbon Slotted Core Duct Optical Fiber Cable

Cable Construction



Features

- Ribbon matrix for effective fiber management
- High fiber count in small size (Maximum up to 1000 fibers)
- Saving in installation cost and time
- Comply with IEC 60794-3-10 and IEC 60794-1-2

Applications

- Duct
- Backbone and Access

Mechanical Characteristics

Product code	Fiber count	Fibers/Ribbon	Nominal diameter (mm)	Weight (kg/km)	Permissible tensile strength (N)	Bending radius (mm)	
					Installation	Installation	Service
R0-100 (F*)	100	4	11.5	110	1400	300	200
R0-200 (F*)	200	4	15.5	185	1800	310	200
R0-300 (F*)	300	4	19.5	280	2400	390	200
R0-400 (F*)	400	8	19.5	285	2400	600	400
R0-600 (F*)	600	8	23.0	405	4200	600	400
R0-1000 (F*)	1000	8	28.0	595	4200	600	400

F denotes fiber type: FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E
Other fiber counts available. SZ slotted core for mid-span access available.

Ribbon fiber Identification

Ribbon No.	Fiber No.							
	1	2	3	4	5	6	7	8
1	Blue	White	White	Pink	Yellow	White	White	Pink
2	Green	White	White	Pink	Red	White	White	Pink
3	Violet	White	White	Pink	Blue	White	White	White
4	Yellow	White	White	White	Green	White	White	White
5	Red	White	White	White	Violet	White	White	White
6	Blue	White	White	Aqua	Yellow	White	White	Aqua
7	Green	White	White	Aqua	Red	White	White	Aqua
8	Violet	White	White	Aqua	Blue	White	White	Brown
9	Yellow	White	White	Brown	Green	White	White	Brown
10	Red	White	White	Brown	Violet	White	White	Brown

*Example for 8F Ribbon. Fiber colors can be customized as per requirement.

Environmental Characteristics

Criteria	Temperature
Transportation & Storage	-30°C to +70°C
Installation	-10°C to +50°C
Operation	-30°C to +70°C
Water Penetration	No water at the unsealed end

Fiber Characteristics

Characteristics	Unit	Fiber type	
		FutureGuide®-LWP (ITU-T G.652.D)	FutureGuide®-SR15E (ITU-T G.657.A1)
Geometrical Characteristics			
Mode field diameter at 1310nm	μm	9.2 ± 0.4	8.6 ± 0.4
Cladding diameter	μm	125 ± 1	125 ± 0.7
Core concentricity error	μm	≤ 0.6	≤ 0.5
Cladding non-circularity	%	≤ 1.0	≤ 1.0
Primary coating diameter (including color layer)	μm	250 ± 15	250 ± 15
Coating-cladding concentricity error	μm	≤ 12.5	≤ 12.5
Fiber curl radius	m	≥ 4	≥ 4
Transmission Characteristics			
Attenuation at 1310nm	dB/km	≤ 0.40	≤ 0.40
Attenuation at 1383nm*	dB/km	≤ 0.35	≤ 0.35
Attenuation at 1550nm	dB/km	≤ 0.25	≤ 0.25
Macro bending loss** ϕ 60mm, 100 turns, 1625nm	dB	≤ 0.1	-
Macro bending loss** ϕ 30mm, 10 turns, 1550nm	dB	-	≤ 0.25
Macro bending loss** ϕ 30mm, 10 turns, 1625nm	dB	-	≤ 1.0
Macro bending loss** ϕ 20mm, 1 turns, 1550nm	dB	-	≤ 0.75
Macro bending loss** ϕ 20mm, 1 turns, 1625nm	dB	-	≤ 1.5
Cut-off wavelength (λ_{cc})	nm	1260	1260
Chromatic dispersion at 1310nm	ps/nm.km	≤ 3.5	≤ 3.5
Chromatic dispersion at 1550nm	ps/nm.km	≤ 18	≤ 18
Zero dispersion wavelength	nm	1300-1324	1300-1324
Zero dispersion slope	ps/nm^2.km	≤ 0.092	≤ 0.092
Polarization Mode dispersion (Link design value)	ps/√km	≤ 0.2	≤ 0.2
Mechanical Characteristics			
Proof stress level	%	1	1.5

*Attenuation increase due to hydrogen aging at this wavelength in bare optical fiber is tested in accordance with IEC60793-2-50 test procedure.
** This characteristics is mesured befor coloring process.

Packing

Cables are packed in standard durable and export quality wooden drums and suitable protection means are applied to prevent damage of cables during shipment and storage. Drums are non-returnable. Cable ends sealed by suitable method are fastened so as not to protrude beyond any portion of the drum and to prevent the cable from becoming loose during transportation.

Ordering Information

Product code	Fujikura product name
R0-100 (F*)	OG4UTSWBE F × 100C
R0-200 (F*)	OG4UTSWBE F × 200C
R0-300 (F*)	OG4UTSWBE F × 300C
R0-400 (F*)	OG8UTSWBE F × 400C
R0-600 (F*)	OG8UTSWBE F × 600C
R0-1000 (F*)	OG8UTSWBE F × 1000C

F denotes fiber type: FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E

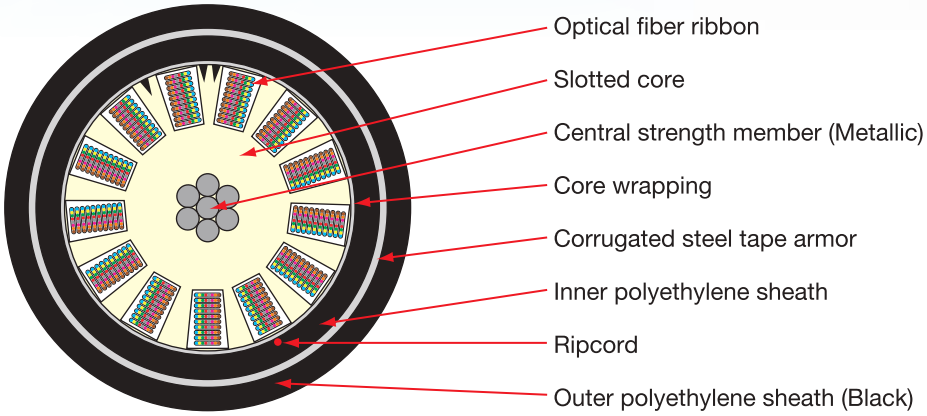
Option

1. Jelly filled tyep is available.
2. Flame retardant sheath can be provided.

Notes

Ribbon Slotted Core Armor Optical Fiber Cable

Cable Construction



Features

- Metallic armor to protect rodent attack
- Save installation time with mass fusion splicing of ribbons
- Comply with IEC 60794-3-10 and IEC 60794-1-2

Applications

- Direct buried and Duct
- Backbone and Access

Mechanical Characteristics

Product code	Fiber count	Fibers/Ribbon	Nominal diameter (mm)	Weight (kg/km)	Permissible tensile strength (N)	Bending radius (mm)	
					Installation	Installation	Service
R2-100 (F*)	100	4	15.5	220	1700	300	200
R2-200 (F*)	200	4	19.5	325	2200	390	200
R2-300 (F*)	300	4	24.0	465	2900	480	240
R2-400 (F*)	400	8	25.0	510	3000	600	400
R2-600 (F*)	600	8	28.0	655	3000	600	400
R2-1000 (F*)	1000	8	33.0	895	3000	600	400

*F denotes fiber type: FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E
Other fiber counts available. Single sheath armor cables and wire armor cables are available.

Ribbon fiber Identification

Ribbon No.	Fiber No.							
	1	2	3	4	5	6	7	8
1	Blue	White	White	Pink	Yellow	White	White	Pink
2	Green	White	White	Pink	Red	White	White	Pink
3	Violet	White	White	Pink	Blue	White	White	White
4	Yellow	White	White	White	Green	White	White	White
5	Red	White	White	White	Violet	White	White	White
6	Blue	White	White	Aqua	Yellow	White	White	Aqua
7	Green	White	White	Aqua	Red	White	White	Aqua
8	Violet	White	White	Aqua	Blue	White	White	Brown
9	Yellow	White	White	Brown	Green	White	White	Brown
10	Red	White	White	Brown	Violet	White	White	Brown

*example for 8F Ribbon. Fiber colors can be customized as per requirement.

Environmental Characteristics

Criteria	Temperature
Transportation & Storage	-30°C to +70°C
Installation	-10°C to +50°C
Operation	-30°C to +70°C
Water Penetration	No water at the unsealed end (only Inner Core)

Fiber Characteristics

Characteristics	Unit	Fiber type	
		FutureGuide®-LWP (ITU-T G.652.D)	FutureGuide®-SR15E (ITU-T G.657.A1)
Geometrical Characteristics			
Mode field diameter at 1310nm	μm	9.2 ± 0.4	8.6 ± 0.4
Cladding diameter	μm	125 ± 1	125 ± 0.7
Core concentricity error	μm	≤ 0.6	≤ 0.5
Cladding non-circularity	%	≤ 1.0	≤ 1.0
Primary coating diameter (including color layer)	μm	250 ± 15	250 ± 15
Coating-cladding concentricity error	μm	≤ 12.5	≤ 12.5
Fiber curl radius	m	≥ 4	≥ 4
Transmission Characteristics			
Attenuation at 1310nm	dB/km	≤ 0.40	≤ 0.40
Attenuation at 1383nm*	dB/km	≤ 0.35	≤ 0.35
Attenuation at 1550nm	dB/km	≤ 0.25	≤ 0.25
Macro bending loss** ϕ 60mm, 100 turns, 1625nm	dB	≤ 0.1	-
Macro bending loss** ϕ 30mm, 10 turns, 1550nm	dB	-	≤ 0.25
Macro bending loss** ϕ 30mm, 10 turns, 1625nm	dB	-	≤ 1.0
Macro bending loss** ϕ 20mm, 1 turns, 1550nm	dB	-	≤ 0.75
Macro bending loss** ϕ 20mm, 1 turns, 1625nm	dB	-	≤ 1.5
Cut-off wavelength (λ_{cc})	nm	1260	1260
Chromatic dispersion at 1310nm	ps/nm.km	≤ 3.5	≤ 3.5
Chromatic dispersion at 1550nm	ps/nm.km	≤ 18	≤ 18
Zero dispersion wavelength	nm	1300-1324	1300-1324
Zero dispersion slope	ps/nm^2.km	≤ 0.092	≤ 0.092
Polarization Mode dispersion (Link design value)	ps/√km	≤ 0.2	≤ 0.2
Mechanical Characteristics			
Proof stress level	%	1	1.5

*Attenuation increase due to hydrogen aging at this wavelength in bare optical fiber is tested in accordance with IEC60793-2-50 test procedure.
** This characteristics is mesured befor coloring process.

Packing

Cables are packed in standard durable and export quality wooden drums and suitable protection means are applied to prevent damage of cables during shipment and storage. Drums are non-returnable. Cable ends sealed by suitable method are fastened so as not to protrude beyond any portion of the drum and to prevent the cable from becoming loose during transportation.

Ordering Information

Product code	Fujikura product name
R2-100 (F*)	OG4UTSWBE-CTZE F × 100C
R2-200 (F*)	OG4UTSWBE-CTZE F × 200C
R2-300 (F*)	OG4UTSWBE-CTZE F × 300C
R2-400 (F*)	OG8UTSWBE-CTZE F × 400C
R2-600 (F*)	OG8UTSWBE-CTZE F × 600C
R2-1000 (F*)	OG8UTSWBE-CTZE F × 1000C

F denotes fiber type: FutureGuide®-LWP = LWP, FutureGuide®-SR15E = SR15E

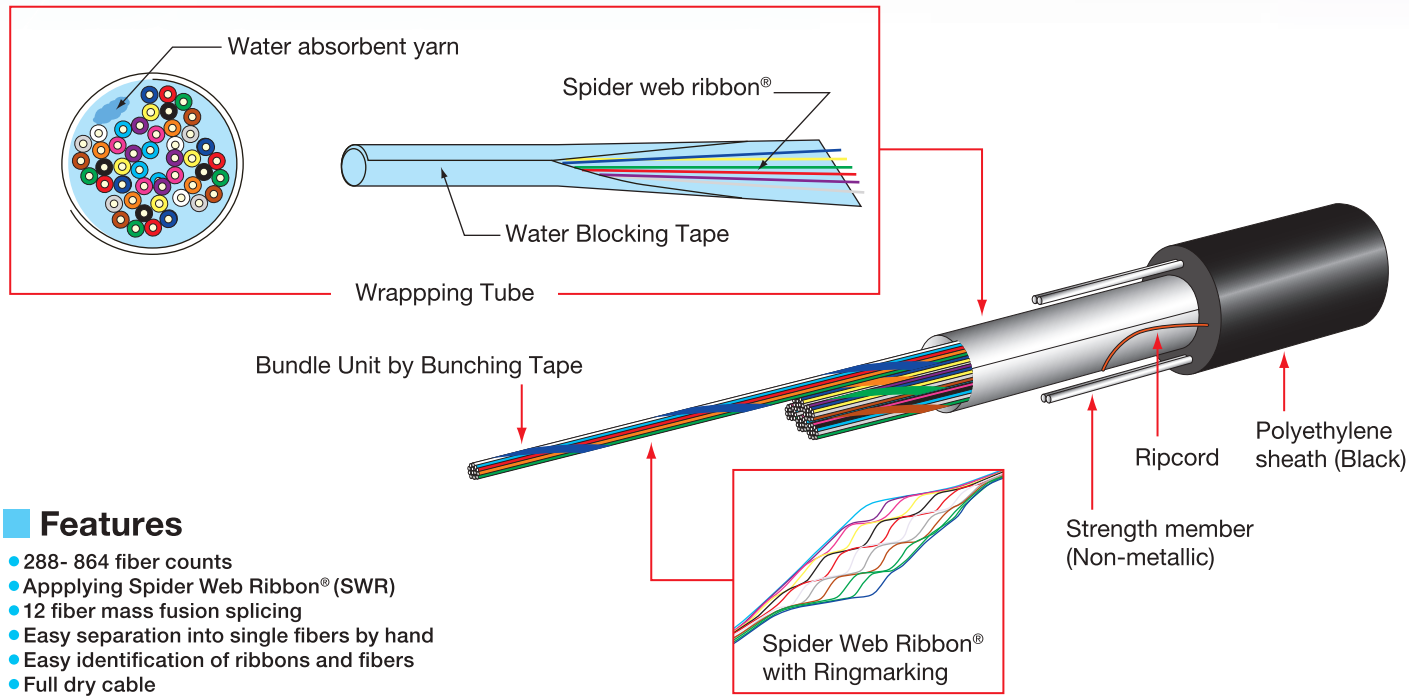
Option

1. Jelly filled type is available.
2. Flame retardant sheath can be provided.

Notes

Wrapping Tube Cable with Spider Web Ribbon®

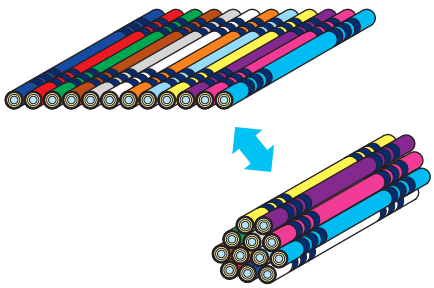
Cable construction



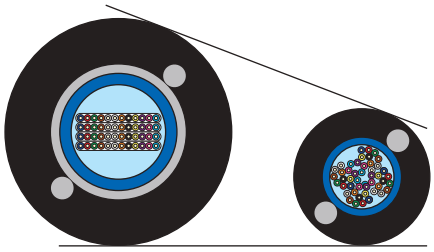
Features

- 288- 864 fiber counts
- Appplying Spider Web Ribbon® (SWR)
- 12 fiber mass fusion splicing
- Easy separation into single fibers by hand
- Easy identification of ribbons and fibers
- Full dry cable
- Easy and quick access to fibers
- Smallest cable diameter and lightest weight in the world
- Long cable length per drum

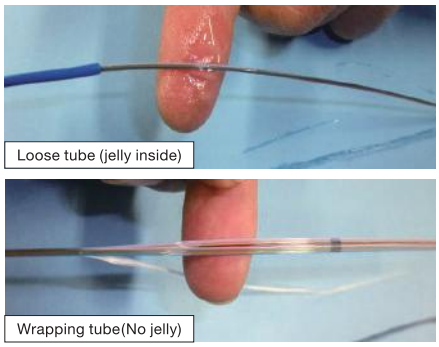
Spider Web Ribbon®



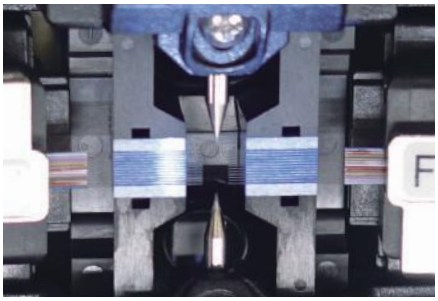
High Fiber Packing Density



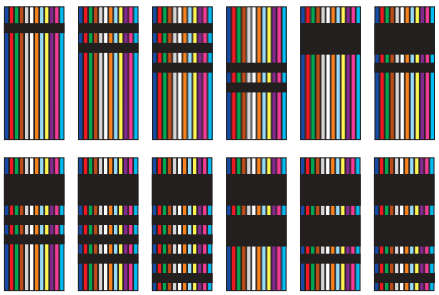
Full Dry Structure



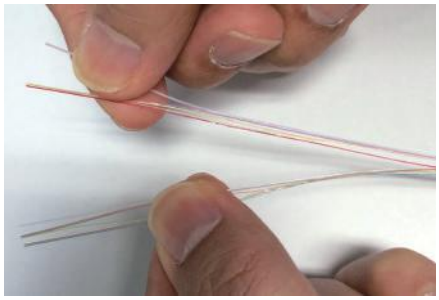
12F Mass fusion splice



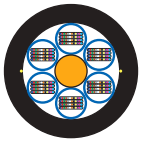
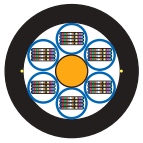
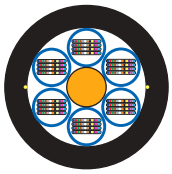
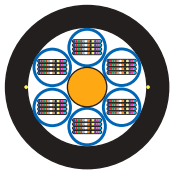
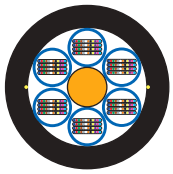
Stripe Ring Markings



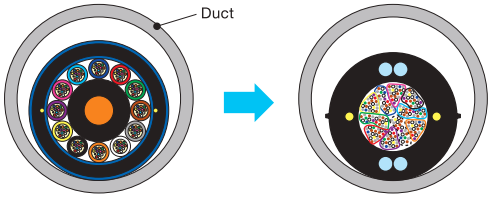
Easy Separation by hands



Comparison of cable diameter

	288F	432F	576F	720F	864F
Ribbon Loose Tube Cable	 22.0mm	 22.0mm	 27.0mm	 27.0mm	 27.0mm
Wrapping Tube Cable	 11.5mm	 13.0mm	 14.5mm	 15.7m	 16.9mm

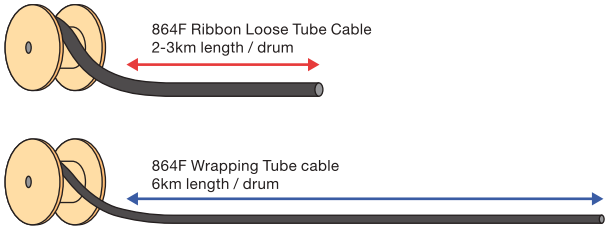
Examples for the advantage of small diameter cable



144F Single Fiber Loose Tube Cable 18.5mm

864F Wrapping Tube Cable 16.9mm

864F cable can be deployed into the same duct size of 144F single fiber loose tube cable



SWR/WTC's small diameter allows longer length of cable per drum than ribbon loose tube cable on the same drum size (Drum size on the above example; outer width: 1600mm, Flange Diameter; 2000mm)

Applications

- Duct and lashed aerial
- Suitable for Backbone and Feeder application

Mechanical Characteristics

Product code	Fiber count	Nominal diameter (mm)	Weight (kg/km)	Permissible tensile strength (N)		Bending radius (mm)		
				Installation	Service	Repeated bending	Cable bend	Bending under tension
WTC-288C	288	11.5	100	2700	810	115	230	250
WTC-432C	432	13.0	125	2700	810	130	260	300
WTC-576C	576	14.5	150	2700	810	145	290	300
WTC-720C	720	15.7	175	2700	810	157	312	300
WTC-864C	864	16.9	200	2700	810	169	338	300

* Small fiber count cable (<288C) is also available upon request.
* Corrugated steel armour jacket is also available upon request.
* Specification may change without prior notice.

Identification

Fiber & Bunching identification							
1	Blue	2	Orange	3	Green	4	Brown
5	Grey	6	White	7	Red	8	Black / Natural *
9	Yellow	10	Violet	11	Pink	12	Turquoise

* Black is used for #8 bunching and natural is used for #8 fiber of ribbon.

Environmental characteristics

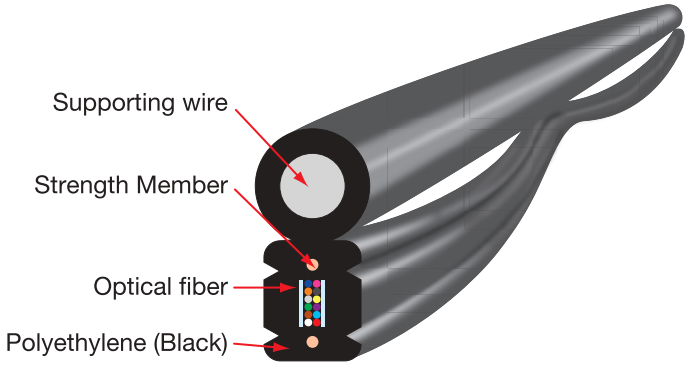
Condition	Temperature
Transportation & Storage	-30°C - +70°C
Installation	-30°C - +70°C
Operation	-30°C - +70°C

Notes

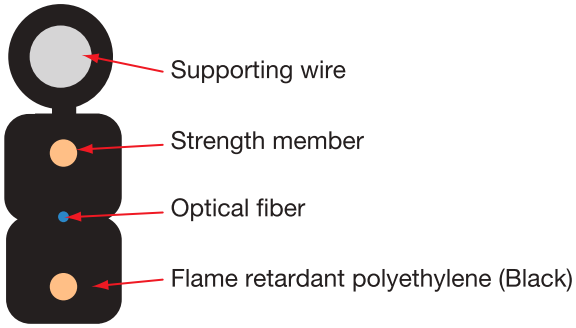
Aerial Distribution and Aerial Drop Optical Fiber Cables

Cable Construction

Aerial Distribution Cables



Aerial Drop Cables

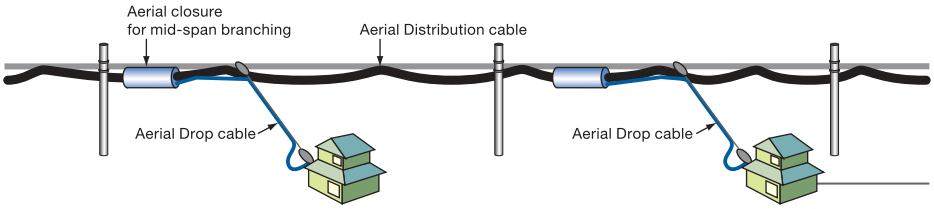


Features

- Suitable for outside environment
- Easy branching out at any desired location
- Helps to build fast and simple FTTH networks with reduced initial CAPEX.
- Install drop cables as and when required

Applications

- Aerial
- Distribution and FTTx



Mechanical Characteristics

Product code	Fiber count	Nominal dimension (mm)	Weight (kg/km)	Installation span meters	Permissible tensile strength (N)	Bending radius (mm)
					Installation	
Aerial Distribution cables*						
AD-NM-W-12 (F*)	12	4.0 x 10.5	70	50	3000	260
AD-NM-W-24 (F*)	24	4.0 x 10.5	70	50	3000	260
Aerial Drop cables						
ADO-NM-1 (F*)	1	2.0 x 5.3	20	30	600	15
ADO-NM-2 (F*)	2	2.0 x 5.3	20	30	600	15
ADO-NM-R-4 (F*)	4	2.0 x 6.0	20	30	600	15
ADO-NM-R-8 (F*)	8	2.0 x 6.0	20	30	600	60

*F denotes fiber type: FutureGuide®-SR15E = SR15E, FutureGuide®-BIS-B = BIS-B

Fiber Identification

Fiber identification							
1	Blue	2	Orange	3	Green	4	Brown
5	Grey	6	White	7	Red	8	Black
9	Yellow	10	Violet	11	Pink	12	Turquoise
13	Blue (ring)	14	Orange (ring)	15	Green (ring)	16	Brown (ring)
17	Grey (ring)	18	White (ring)	19	Red (ring)	20	Black (ring)
21	Yellow (ring)	22	Violet (ring)	23	Pink (ring)	24	Turquoise (ring)

Note: Fiber No.13~24 contains colored fiber with ring marking.

Environmental Characteristics

Criteria	Temperature
Transportation & Storage	-30°C - +70°C
Installation	-10°C - +50°C
Operation	-30°C - +70°C

Fiber Characteristics

Characteristics	Unit	Fiber type	
		FutureGuide®-SR15E	FutureGuide®-BIS-B
Geometrical Characteristics			
Mode field diameter at 1310nm	μm	8.6 ± 0.4	8.6 ± 0.4
Cladding diameter	μm	125 ± 0.7	125 ± 0.7
Core concentricity error	μm	≤ 0.5	≤ 0.5
Cladding non-circularity	%	≤ 1.0	≤ 1.0
Primary coating diameter (including color layer)	μm	250 ± 15	250 ± 15
Coating-cladding concentricity error	μm	≤ 12.5	≤ 12.5
Fiber curl radius	m	≥ 4	≥ 4
Transmission Characteristics			
Attenuation at 1310nm	dB/km	≤ 0.40	≤ 0.40
Attenuation at 1383nm*	dB/km	≤ 0.35	≤ 0.35
Attenuation at 1550nm	dB/km	≤ 0.30	≤ 0.30
Macro bending loss** ϕ 30mm, 10 turns, 1550nm	dB	≤ 0.25	≤ 0.03
Macro bending loss** ϕ 30mm, 10 turns, 1625nm	dB	≤ 1.0	≤ 0.10
Macro bending loss** ϕ 20mm, 1 turns, 1550nm	dB	≤ 0.75	≤ 0.10
Macro bending loss** ϕ 20mm, 1 turns, 1625nm	dB	≤ 1.50	≤ 0.20
Macro bending loss** ϕ 15mm, 1 turns, 1550nm	dB	-	≤ 0.50
Macro bending loss** ϕ 15mm, 1 turns, 1625nm	dB	-	≤ 1.0
Cut-off wavelength (λ_{cc})	nm	1260	1260
Chromatic dispersion at 1310nm	ps/nm.km	≤ 3.5	≤ 3.5
Chromatic dispersion at 1550nm	ps/nm.km	≤ 18	≤ 18
Zero dispersion wavelength	nm	1300-1324	1300-1324
Zero dispersion slope	ps/nm^2.km	≤ 0.092	≤ 0.092
Mechanical Characteristics			
Proof stress level	%	1.5	1.5

*Attenuation increase due to hydrogen agin at this wavelength in bare optical fiber is tested in accordance with IEC60793-2-50 test procedure.
** This characteristic is measured before coloring process.

Packing

Distribution cables are packed in wooden drums and drop cables are packed in styroform reels. Suitable protection means are applied to prevent damage of the cables during shipment and storage.

Ordering Information

Product code	Fujikura product name
AD-NM-W-12 (F*)	OGNM4WTGDE-SSW F × 12C
AD-NM-W-24 (F*)	OGNM4WTGDE-SSW F × 24C
ADO-NM-1C (F*)	FR-OGNMGDE-SSD F × 1C
ADO-NM-2C (F*)	FR-OGNMGDE-SSD F × 2C
ADO-NM-R-4C (F*)	FR-OGNM4UTGDE-SSD F × 4C
ADO-NM-R-8C (F*)	FR-OGNM4UTGDE-SSD F × 8C

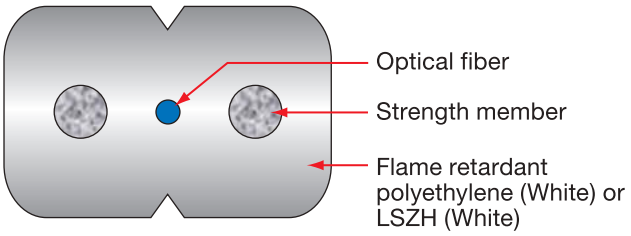
F denotes fiber type: FutureGuide®-SR15E = SR15E, FutureGuide®-BIS-B = BIS-B

Notes

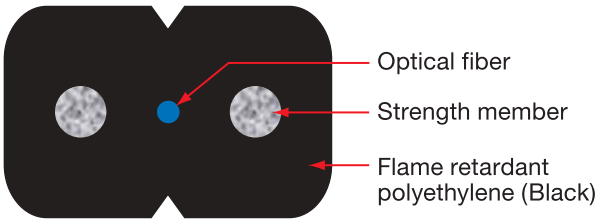
Low Friction Indoor Optical Fiber Cable

Cable Construction

Indoor type



Indoor/Outdoor type

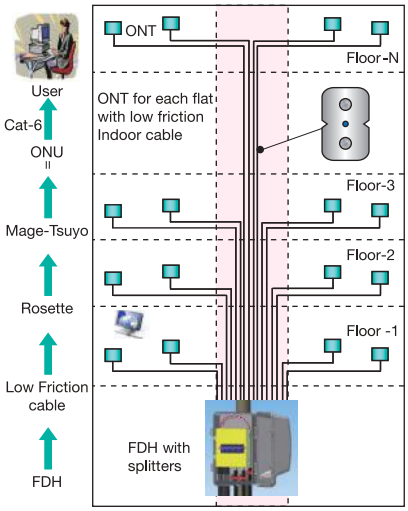


Features

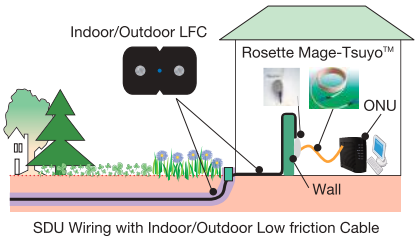
- Very low coefficient of friction that makes installation extremely easier
- Pushing installation method can be employed with metallic strength members.
- Helps to build fast and simple FTTH networks with reduced CAPEX.
- Indoor/Outdoor type is UV resistant and flame retardant as per IEC 60332-1

Applications

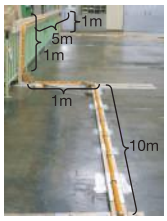
- Premise and Indoor
- FTTx



MDU Wiring with Indoor Low friction Cable



SDU Wiring with Indoor/Outdoor Low friction Cable



Test route:
20 meters duct

30 pieces of low friction indoor cables are installed by pushing in the 22mm ϕ duct where communication cable are laid.

Push Installation test

Mechanical Characteristics

Product code	Fiber count	Structure	Nominal dimension (mm)	Weight (kg/km)	Permissible tensile strength (N)	Bending radius (mm)
Indoor type						
IN-M-1 (F*)	1	Metallic	1.6 × 2.0	7	220	15
IN-M-2 (F*)	2	Metallic	1.6 × 2.3	7	220	15
IN-M-4 (F*)	4	Metallic	1.6 × 2.8	8	220	15
IN-M-8 (F*)	8	Metallic	2.0 × 3.4	10	220	70
IN-M-1-LSZH (F*)	1	Metallic	1.6 × 2.0	8	220	15
IN-M-2-LSZH (F*)	2	Metallic	1.6 × 2.4	8	220	15
IN-NM-1 (F*)	1	Non-metallic	1.6 × 2.0	4	80	15
IN-NM-2 (F*)	2	Non-metallic	1.6 × 2.3	5	80	15
IN-NM-4 (F*)	4	Non-metallic	1.6 × 2.8	5	80	15
IN-NM-8 (F*)	8	Non-metallic	2.0 × 3.4	7	80	70
IN-NM-1-LSZH (F*)	1	Non-metallic	1.8 × 2.6	8	150	30
Indoor/Outdoor type						
INO-M-1 (F*)	1	Metallic	1.6 × 2.0	7	220	15
INO-M-2 (F*)	2	Metallic	1.6 × 2.3	8	220	15
INO-M-4 (F*)	4	Metallic	1.6 × 2.8	9	220	15
INO-M-8 (F*)	8	Metallic	2.0 × 3.4	12	220	70
INO-NM-1 (F*)	1	Non-metallic	1.6 × 2.0	4	80	15
INO-NM-2 (F*)	2	Non-metallic	1.6 × 2.3	5	80	15
INO-NM-4 (F*)	4	Non-metallic	1.6 × 2.8	6	80	15
INO-NM-8 (F*)	8	Non-metallic	2.0 × 3.4	8	80	70

* F denotes fiber type : FutureGuide®-SR15E = SR15E, FutureGuide®-BIS-B = BIS-B.

Fiber Identification

Fiber count	Fiber color
1	Blue
2	Blue, Orange
4	Blue, Orange, Green, Brown
8	Blue, Orange, Green, Brown, Grey, white, Red, Black

* Fiber colors can be customized as per requirement.

Environmental Characteristics

Criteria	Indoor type	Indoor/Outdoor type
Transportation & Storage	-10°C - +40°C	-15°C - +70°C
Installation	-10°C - +40°C	-10°C - +50°C
Operation	-10°C - +40°C	-15°C - +70°C

Fiber Characteristics

Characteristics	Unit	Fiber type	
		FutureGuide®-SR15E (ITU-T G.657.A1)	FutureGuide®-BIS-B (ITU-T G.657.A2)
Geometrical Characteristics			
Mode field diameter at 1310nm	μm	8.6 ± 0.4	8.6 ± 0.4
Cladding diameter	μm	125 ± 0.7	125 ± 0.7
Core concentricity error	μm	≤ 0.5	≤ 0.5
Cladding non-circularity	%	≤ 1.0	≤ 1.0
Primary coating diameter (including color layer)	μm	250 ± 15	250 ± 15
Coating-cladding concentricity error	μm	≤ 12.5	≤ 12.5
Fiber curl radius	m	≥ 4	≥ 4
Transmission Characteristics			
Attenuation at 1310nm	dB/km	≤ 0.40	≤ 0.40
Attenuation at 1383nm	dB/km	≤ 0.35	≤ 0.35
Attenuation at 1550nm	dB/km	≤ 0.30	≤ 0.30
Macro bending loss** ϕ 30mm, 10 turns, 1550nm	dB	≤ 0.25	≤ 0.03
Macro bending loss** ϕ 30mm, 10 turns, 1625nm	dB	≤ 1.0	≤ 0.10
Macro bending loss** ϕ 20mm, 1 turns, 1550nm	dB	≤ 0.75	≤ 0.10
Macro bending loss** ϕ 20mm, 1 turns, 1625nm	dB	≤ 1.50	≤ 0.20
Macro bending loss** ϕ 15mm, 1 turns, 1550nm	dB	-	≤ 0.50
Macro bending loss** ϕ 15mm, 1 turns, 1625nm	dB	-	≤ 1.0
Cut-off wavelength (λ_{cc})	nm	1260	1260
Chromatic dispersion at 1310nm	ps/nm.km	≤ 3.5	≤ 3.5
Chromatic dispersion at 1550nm	ps/nm.km	≤ 18	≤ 18
Zero dispersion wavelength	nm	1300-1324	1300-1324
Zero dispersion slope	ps/nm^2.km	≤ 0.092	≤ 0.092
Mechanical Characteristics			
Proof stress level	%	1.5	

*Attenuation increase due to hydrogen aging at this wavelength in bare optical fiber is tested in accordance with IEC60793-2-50 test procedure.

Packing

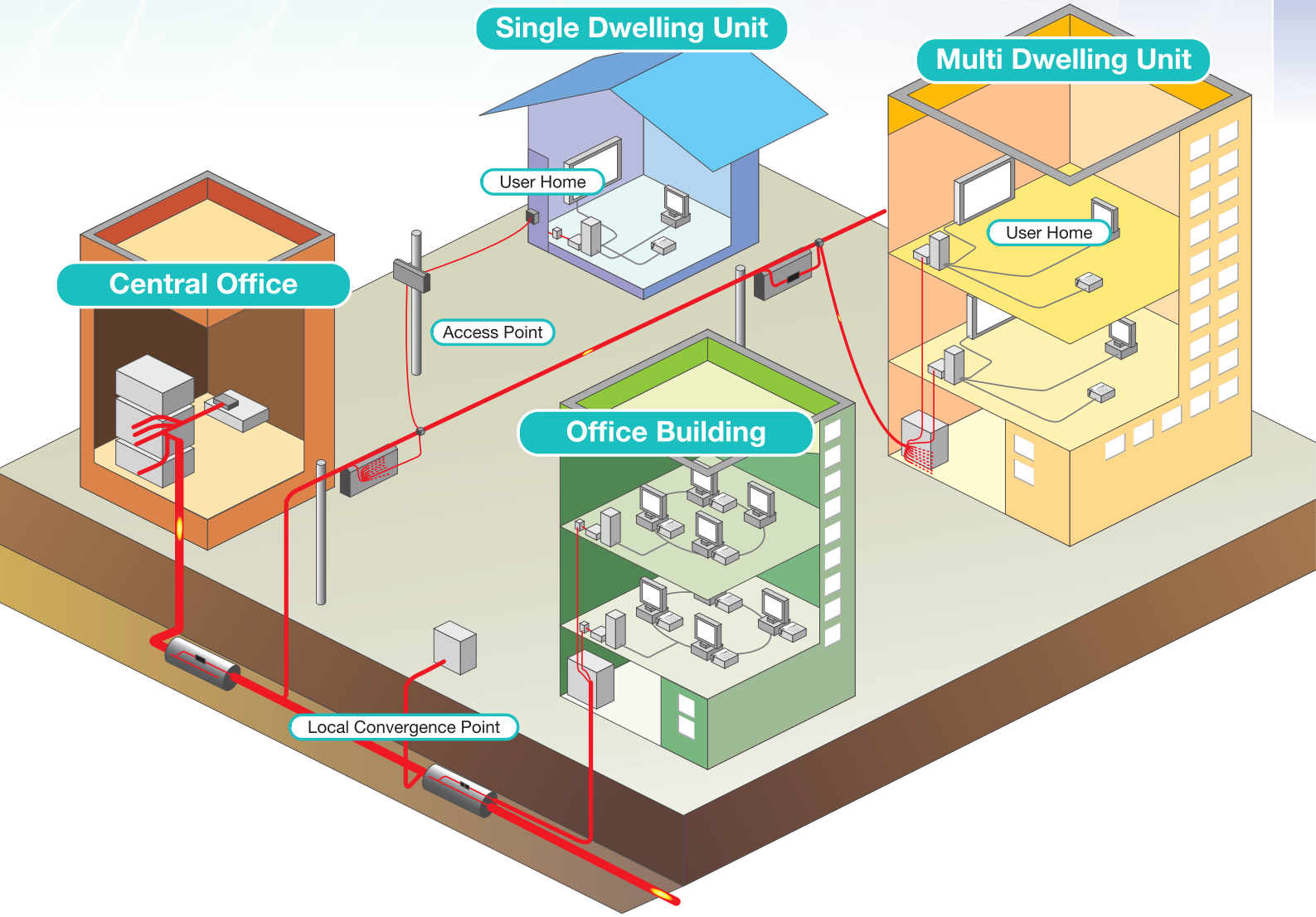
Cables are packed in suitable reels / boxes and suitable protection means are applied to prevent damage of cables during shipment and storage.

Ordering Information

Product code	Fujikura product name
Indoor type	
IN-M-1 (F*)	FR-OGINHE F × 1C
IN-M-2 (F*)	FR-OGINHE F × 2C
IN-M-4 (F*)	FR-OGINHE F × 4C
IN-M-8 (F*)	FR-OGINHE F × 8C
IN-M-1-LSZH (F*)	LSZH-OGINHE F × 1C
IN-M-2-LSZH (F*)	LSZH-OGINHE F × 2C
IN-NM-1 (F*)	FR-OGNMINHE F × 1C
IN-NM-2 (F*)	FR-OGNMINHE F × 2C
IN-NM-4 (F*)	FR-OGNMINHE F × 4C
IN-NM-8 (F*)	FR-OGNMINHE F × 8C
IN-NM-1-LSZH (F*)	LSZH-OGINHE F × 1C
Indoor/Outdoor type	
INO-M-1 (F*)	FR-OGINHE F × 1C
INO-M-2 (F*)	FR-OGINHE F × 2C
INO-M-4 (F*)	FR-OGINHE F × 4C
INO-M-8 (F*)	FR-OGINHE F × 8C
INO-NM-1 (F*)	FR-OGNMINHE F × 1C
INO-NM-2 (F*)	FR-OGNMINHE F × 2C
INO-NM-4 (F*)	FR-OGNMINHE F × 4C
INO-NM-8 (F*)	FR-OGNMINHE F × 8C

* F denotes fiber type : FutureGuide®-SR15E = SR15E, FutureGuide®-BIS-B = BIS-B.

Notes



Application Site	Product Names	Features
Central Office	FTM Series, optional racks	Ultra-high density, large capacity, start of feeder cables
Local Convergence Point	ODC-C, HRB Solution	Larger capacity, connect feeder cables with distribution cables
Network Access Point	FTB-601, ODP-BR, ODP-HRB	Middle capacity, connect distribution cables with drop cables
User House	FPB Series, FOPT Series	1~4F capacity, termination of drop cables

Optical Termination Rack

Variety Type of High-density Termination Racks

Super High Density type
4,000-port Termination Rack
MU connector, pre-connectorized cable (OSP cable)
(Fiber Monitoring system integrated)

Standard type
2,400-port Termination Rack
SC connector , Splice Tray

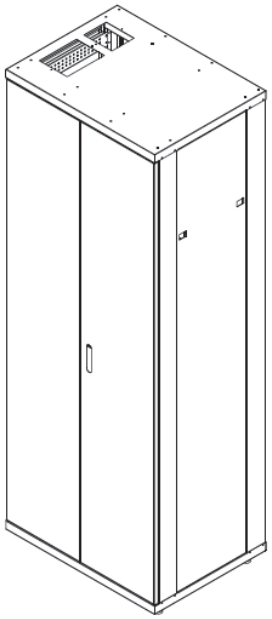
Only Front Access type
(Depth 300mm)
1,000-port Termination Rack
SC connector , Splice Tray

For all your connection needs
Full Customization for Full Flexibility

Notes

Central Office Application

FTM-1000C

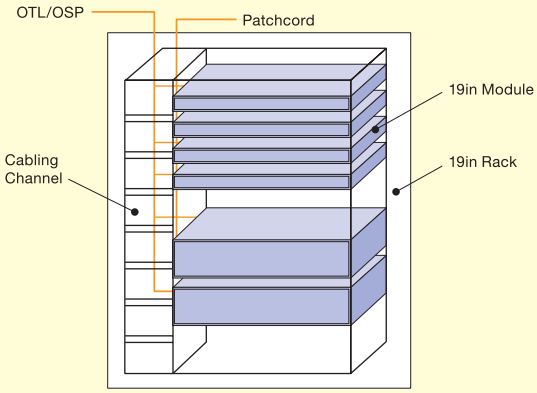


Features & Benefits

- Efficient termination, splicing of management of optical cables
- Up to 1000C cord organizing capacity and cascadable
- EIA 19-inch standard rack with additional vertical space
- Removal side and back plates, easy access and maintenance
- Front door, comprise 2 doors left and right, easy access
- Abundant and flexible option units configuration
- Compatible with industry standard devices

Applications

- Central office, data center indoor applications
- Indoor



Specifications

Item		FTM-6822	FTM-6817	FTM-6812
Unit Height		46U	35U	23U
FDU-144C Capacity (pcs)		7	5	3
Cable Input	Number Capacity	21	15	9
	Outer Diameter (mm)	7~23		
Cable Output	Number Capacity*	1008	720	432
	Outer Diameter (mm)	2mm cord		
Main Body		Steel with coated; Light gray		
Dimension (H × W × D mm)		H2200 × W800 × D600	H1700 × W800 × D600	H1200 × W800 × D600
Weight (Kg)		Approx. 120	Approx. 92	Approx. 60

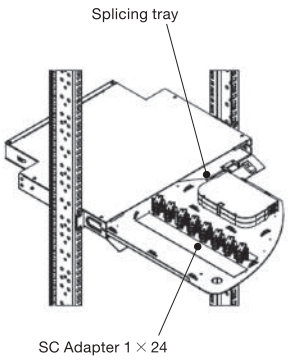
* Capacity is counted when FDU-144C termination units are used.

Ordering Information

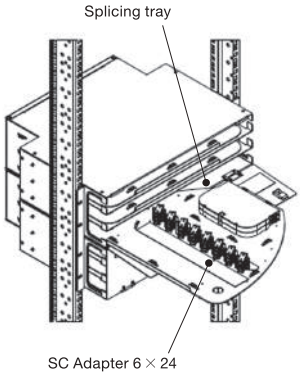
#	Model #	Description
1	FTM-6822	FTM Rack (2200mm height), cable clamps, cord guides, accessor y kit, assembly manual
2	FTM-6817	FTM Rack (1700mm height), cable clamps, cord guides, accessory kit, assembly manual
3	FTM-6812	FTM Rack (1200mm height), cable clamps, cord guides, accessory kit, assembly manual

* Please contact us for more information on different rack height and applicable options.

Termination Unit FDU Series



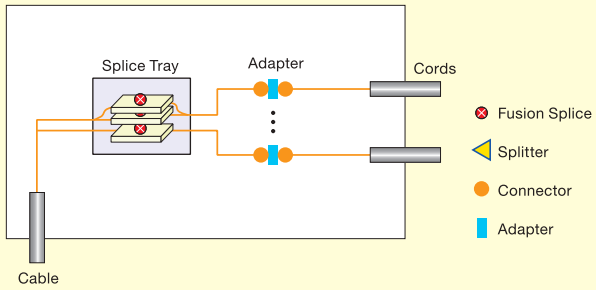
FDU-24C (SC)



FDU-144C (SC)

Features & Benefits

- Compatible with 19-inch standard rack
- Efficient termination and neat maintenance of fiber termination
- Easy maintenance



Applications

- Central office, data center applications
- Indoor fiber management

Specifications

Item		FDU-24C (SC)	FDU-48C (SC)	FDU-72C (SC)	FDU-96C (SC)	FDU-144C (SC)
Rack Unit Height		1U	2U	3U	4U	6U
Number of SC Adapter (pcs)		24	48	72	96	144
Number of Splice Tray (12 splices/tray) (pcs)		2	4	6	8	12
Operating Temperature		Up to 65°C (without condensation)				
Dimensions	H (mm)	43.6	88.1	132.6	176.9	265.9
	W × D (mm)	W482.6 × D360				
Weight (Kg)		4	5	7	10	14
Color		Light Gray				

* Please contact us for SC/APC type

Ordering Information

#	Model #	Description
1	FDU-24C (SC)	Termination unit, SC adapter 24pcs, SC pigtail 24pcs, fuse sleeve 24pcs, accessory kit, assembly manual
2	FDU-48C (SC)	Termination unit, SC adapter 48pcs, SC pigtail 48pcs, fuse sleeve 48pcs, accessory kit, assembly manual
3	FDU-72C (SC)	Termination unit, SC adapter 72pcs, SC pigtail 72pcs, fuse sleeve 72pcs, accessory kit, assembly manual
4	FDU-96C (SC)	Termination unit, SC adapter 96pcs, SC pigtail 96pcs, fuse sleeve 96pcs, accessory kit, assembly manual
5	FDU-144C (SC)	Termination unit, SC adapter 144pcs, SC pigtail 144pcs, fuse sleeve 144pcs, accessory kit, assembly manual

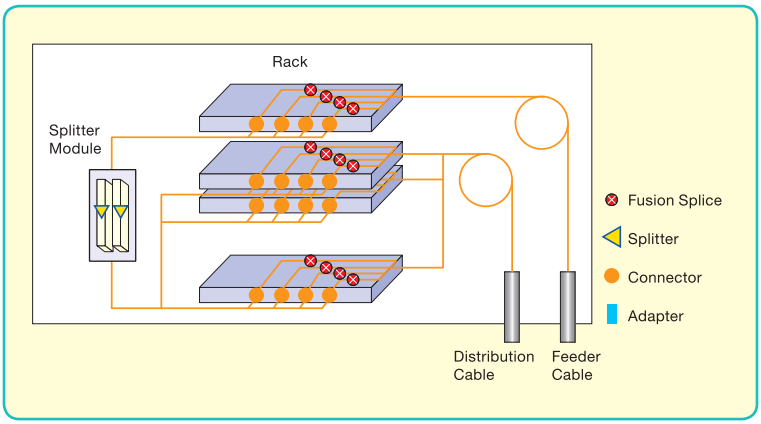
Notes

Local Convergence Point Application

ODC-C Series

Features & Benefits

- Expandable to larger capacity upon request
- Flexible capacity configuration
- Mount spaces for splitter module
- Parking lots for reserved connectors



Applications

- FTTH OSP network applications.

Specifications

Item		ODC-C-96RD	ODC-C-144RD	ODC-C-288RD	ODC-C-576RD
Cable Entry (Input / Output)	Capacity	11		12	24
	Outer Diameter (mm)	7-23			
Splitter Modules Capacity (1 × 4 or 1 × 8 splitter module)		18	18	36	72
Splitter Modules Capacity (1 × 16 or 1 × 32 splitter module)		9	9	18	36
Number of Parking Lot		36		66	132
Connector Type**		SC/APC (Green) or SC/UPC (Blue); Compliant with IEC61754-4			
Main Body*		Fiber reinforced plastic (FRP); Light gray; UL-94 V0 compliant			
Dimension (H × W × D mm)		H1035 × W556 × D310		H1450 × W756 × D360	H1457 × W753 × D542
Weight (Kg, included parts)		Approx. 43	Approx. 45	Approx. 95	Approx. 190
Degree of Protection		IP54; IEC 60529, IEC 61300-2-1, IEC60068-2-6, IEC 6130-3-3 compliant Temperature: up to 65°C; Humidity: up to 95% at 35°C without condensation			

* Please contact us for steel type
** Please contact us for SC/APC type

Ordering Information

#	Model #	Description
1	ODC-C-96RD	Cabinet 1pc, pedestal 1pc, splicing tray 8pcs, accessory kit 1set, SC pigtail 96pcs, fuse sleeve 96pcs, assembly manual
2	ODC-C-144RD	Cabinet 1pc, pedestal 1pc, splicing tray 12pcs, accessory kit 1set, SC pigtail 144pcs, fuse sleeve 144pcs, assembly manual
3	ODC-C-288RD	Cabinet 1pc, pedestal 1pc, splicing tray 24pcs, accessory kit 1set, SC pigtail 288pcs, fuse sleeve 288pcs, assembly manual
4	ODC-C-576RD	Cabinet 1pc, pedestal 1pc, splicing tray 48pcs, accessory kit 1set, SC pigtail 576pcs, fuse sleeve 576pcs, assembly manual

Option

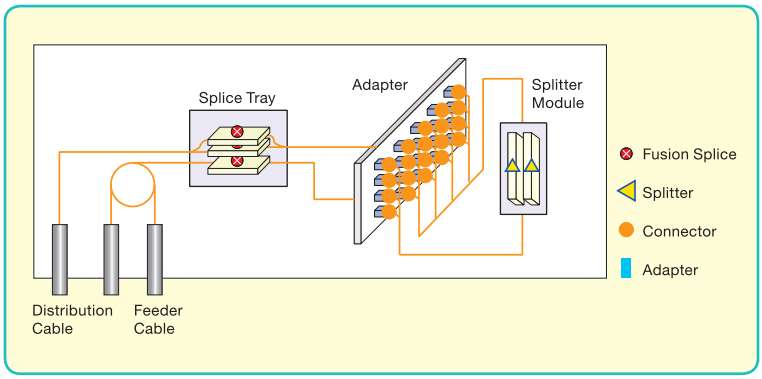
Item	Description
FSC121 type splitter	Splitter module

Local Convergence Point Application

ODC-C-48

Features & Benefits

- Maximum 48F access capacity
- Termination module structure
- Mount space for splitter module
- Flexible connector patch panel design



Applications

- FTTH network outdoor application
- Wall or pole mount installations

Specifications

Item		ODC-C-48 (N)
Cable Entry (Input / Output)	Capacity	4
	Outer Diameter (mm)	7-13
Number of Splice Trays		4
Splitter Modules Capacity	1 × 4 or 1 × 8	6
	1 × 16 or 1 × 32	3
Number of Parking Lot		8
Connector Type*		SC/APC (Green) or SC/UPC (Blue); Compliant with IEC61754-4
Main Body		Fiber reinforced plastic (FRP); Light gray; UL-94 V0 compliant
Dimension (H × W × D mm)		H450 × W520 × D170
Weight (Kg, included parts)		Approx. 20
Degree of Protection		IP54 compliant; IEC 60529, IEC 61300-2-1, IEC60068-2-6, IEC 61300-3-3 compliant; Temperature: up to 65°C; Humidity: up to 95% at 35°C without condensation

* Please contact us for SC/APC type

Ordering Information

#	Model #	Description
1	ODC-C-48(SC)	Cabinet 1pc, pole mount 1pc, accessory kit 1set, assembly manual

Option

Item	Description
Splitter	Splitter module
Pigtail	Pigtail cord
FAST Connector	Field installable connector

Notes

Local Convergence Point Application

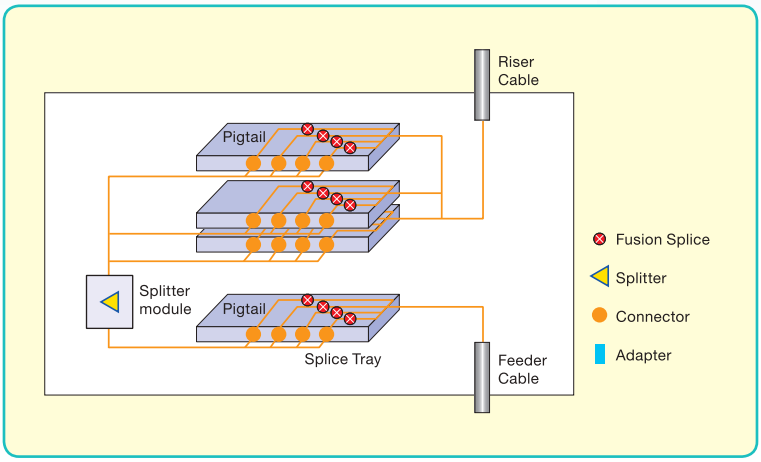
HRB (High-Rise Building) Solution

Features & Benefits

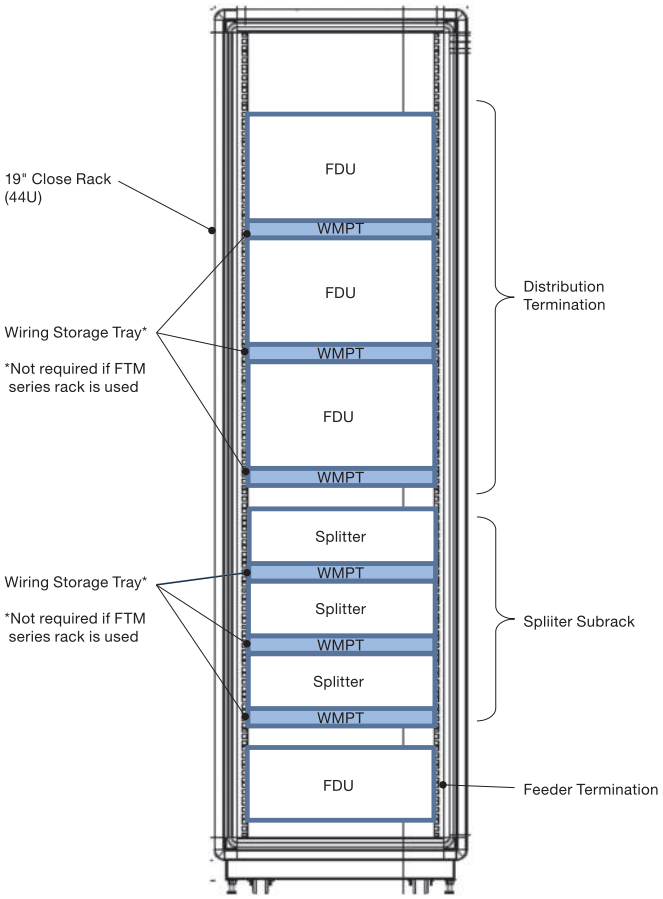
- Compatible with 19-inch standard rack
- Large-scaled subscribers access capacity
- Flexible configuration and addition of splice trays, splitter trays, and other subracks

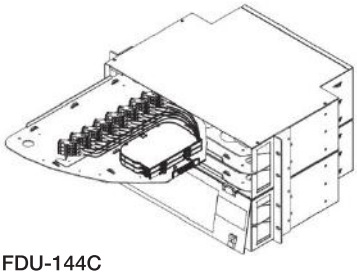
Applications

- FTTH high-rise building or apartment indoor applications



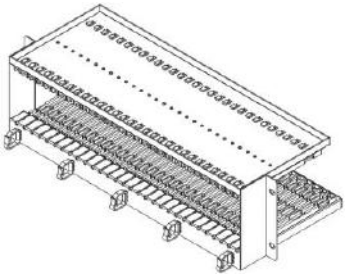
Configuration Example and Materials





FDU-144C

Wiring Storage Tray FTB-R-WMPT (1U)



Splitter Chassis/Subrack (3U)

Fiber Splice Box FTB-601

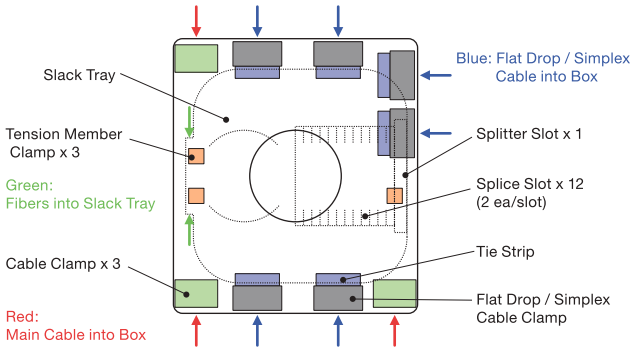
Features & Benefits

- Versatile splice box for FTTH MDU application
- Compact and suitable for limited riser space
- Various types of cable can be installed in various directions
- Splitter installable
- Mid-span access with through-fiber

Applications

- FTTH MDU applications
- Indoor, wall mount

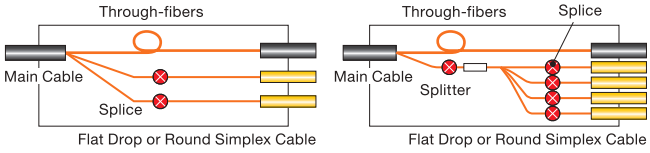
Structure



Specifications

Item	Value
Cable Input Capacity	Round cable (≤ 16 mm dia.): 1
	Flat drop cable (1.6 / 2 / 3.3 mm): 3
Cable Output Capacity	Round cable (≤ 16 mm dia.): 2
	Simplex cable (1.6 / 2 mm dia.): 12
	Flat drop cable (1.6 / 2 / 3.3 mm): 24
Splitter Capacity	1 × 4: 4 pcs 1 × 8: 2 pcs 1 × 16: 1 pc 1 × 32: 1 pc
Splice Capacity	Single fiber (0.25 mm dia.): 24F Single fiber (0.9 mm dia.): 8F 4F ribbon: 40F (40 ribbons)
Through-fiber Capacity (4F Ribbon)	One side branch: 160F (40 ribbons) Both side branch: 120F (30 ribbons)
Main Body	ABS plastic, Ivory
Dimension (H × W × D mm)	H180 × W160 × D38
Weight(Kg)	Approx. 0.3

Wiring Configuration



Ordering Information

#	Model #	Description
1	FTB-601-12C	Fiber splice box 1pc, wall mount kit 1set, 12 drop cables application, assembly manual
2	FTB-601-24Q	Fiber splice box 1pc, wall mount kit 1set, 24 drop cables application, assembly manual
3	FTB-601-12C (C)	Fiber splice box 1pc, wall mount kit 1set, 12 low friction application, assembly manual
4	FTB-601-24Q (C)	Fiber splice box 1pc, wall mount kit 1set, 24 low friction application, assembly manual

Option

Item	Description
Splitter	Splitter module
Mechanical splicer	Mechanical splicer
C-Sleeve	Sleeve for FRP strength member

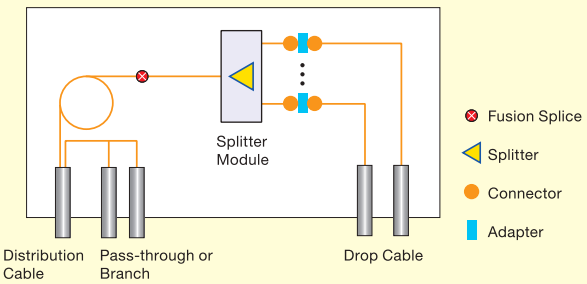
Notes

Access Network Point Application

ODP-BR Series

Features & Benefits

- Easy installation and maintenance
- Built-in fiber splice tray
- Can be used for branching
- Pole or wall mount installation



Applications

- FTTH MDU/SDU outdoor installation
- Wall or pole mount

Specifications

Item		ODP-BR-8C	ODP-BR-16C
Cable Input	Cable Type	OD 7-9 mm with Grommet	
	Capacity	3	3
Cable Output	Cable Type	Standard drop cable	
	Capacity	16	16
Splitter Capacity (1 × 4, 1 × 8)		2	
Number of SC Adapter		8	16
Connector Type		SC/APC (Green) or SC/UPC (Blue); IEC 61754-4 compliant	
Main Body		PC+ABS, Light gray	
Dimension (H × W × D mm)		H339 × W276 × D100	
Weight (Kg)		Approx. 2	
Degree of Protection		IP54 compliant; IEC 60529 compliant; Temperature: up to 65°C; humidity: up to 95% at 35°C without condensation	

** Please contact us for SC/APC type

Ordering Information

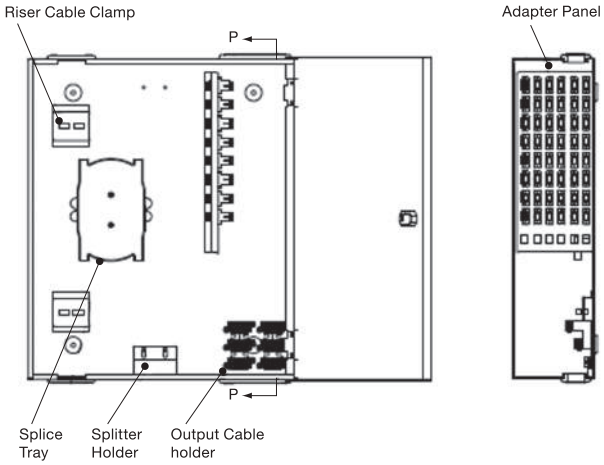
#	Model #	Description
1	ODP-BR-8C	Cabinet 1pc, 8-SC adapter plate 1pc, mounting kit 2 pcs, accessory kit 1set, assembly manual, fuse sleeve 1pc
2	ODP-BR-16C	Cabinet 1pc, 8-SC adapter plate 2pcs, mounting kit 2 pcs, accessory kit 1set, assembly manual, fuse sleeve 2pcs

Option

Item	Description
Splitter	PLC Type 1 × 8 Splitter
Pigtail	SC connector 0.9 mm pigtail

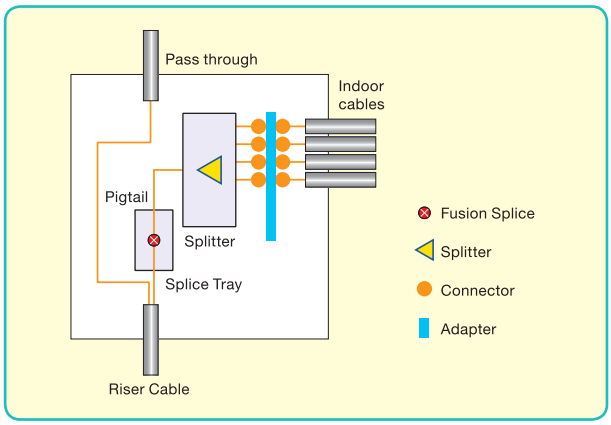
Access Network Point Application

ODP-HRB Series



Features & Benefits

- Security lock attached
- Plug-in operation in building
- Save install space in building



Applications

- FTTH indoor application
- Wall mount

Specifications

Item		ODP-HRB-32C	ODP-HRB-64C
Cable Input	Number Capacity	2	2
	Outer Diameter (mm)	7-22	
Cable Output	Number Capacity	Max. 32	Max. 64
	Outer Diameter (mm)	2 × 1.6 (Low friction indoor cable)	
Splitter Module Capacity	1 × 4	8	16
	1 × 8	4	8
Connector Type*		SC/APC (Green) or SC/UPC (Blue); Compliant with IEC61754-4	
Main Body		PC + ABS; Light gray; UL-94 V0 compliant	
Dimension (H × W × D mm)		H330 × W260 × D130	H412 × W312 × D140
Weight (Kg)		Approx. 2	Approx. 4
Degree of Protection		IEC 60529 reference	

* Please contact us for SC/APC type

Ordering Information

#	Model #	Description
1	ODP-HRB-32SC	Cabinet 1pc, accessory kit 1set, assembly manual
2	ODP-HRB-64SC	Cabinet 1pc, accessory kit 1set, assembly manual

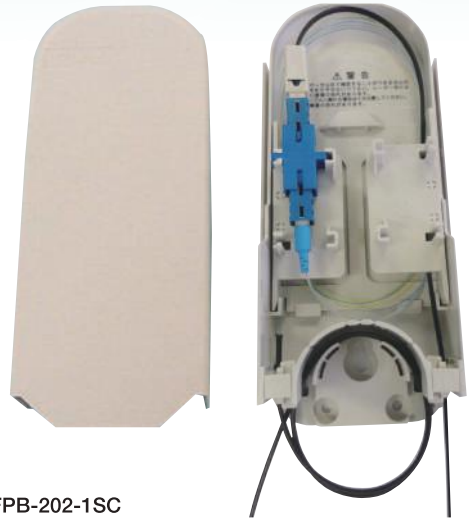
Option

Item	Description
FWGC-SR15 Splitter	Preconnectorized bare splitter
Pigtail	SC connector 0.9 mm pigtail

Notes

User Home Application

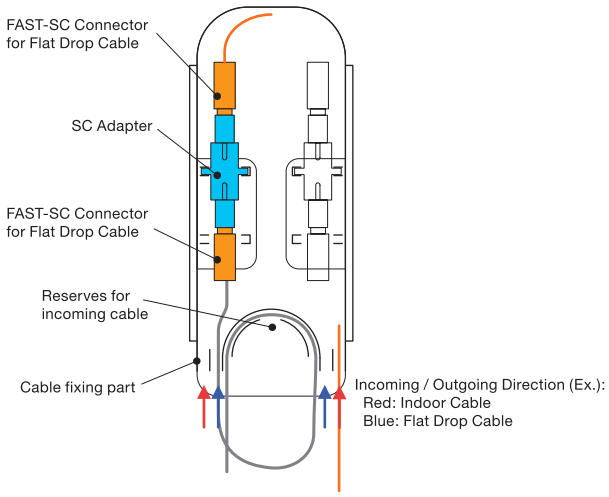
Demarcation Box FPB-202



FPB-202-1SC

Features & Benefits

- Joints flat drop cables and indoor cables through connectors as a demarcation box.
- Wall-mountable and suitable for indoor and outdoor use.



Applications

- FTTH MDU and SDU applications.

Specifications

Item		FPB-202-1SC	FPB-202-2SC
Cable Input/Outtput	Cable Type	Standard flat drop cable/low friction cable	
	Capacity	4	4
Number of Connection/SC Adapter		1	2
Connector Type*		SC/APC (Green) or SC/UPC (Blue); IEC 61754-4 compliant	
Main Body		PP, UL94V-0 Compliant, Gray	
Dimension (H × W ×D mm)		H183 × W77 × D37	
Weight (Kg)		Approx. 0.2	
Degree of Protection		IPX3 (IPX5 if silicon or other sealant is used at cable ports)	

* Please contact us for SC/APC type.

Ordering Information

#	Model #	Description
1	FPB-202-1SC	Optical outlet 1pc, SC adapter (UPC) 1pc, accessory kit 1 set, assembly manual
2	FPB-202-1SC (APC)	Optical outlet 1pc, SC adapter (APC) 1pc, accessory kit 1 set, assembly manual
3	FPB-202-2SC	Optical outlet 1pc, SC adapter (UPC) 2pc, accessory kit 1 set, assembly manual
3	FPB-202-2SC (APC)	Optical outlet 1pc, SC adapter (APC) 2pc, accessory kit 1 set, assembly manual

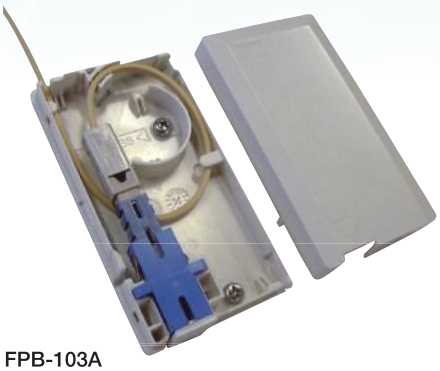
Option

Item	Description
Connector	Field installable connector

Notes

User Home Application

Optical Outlet FPB-103A, FPB-401 Series



FPB-103A

FPB-401-4C

FPB-401-1/2C

Features & Benefits

- Indoor wall mountable outlet with 1/2/4 SC port(s)
- Compact and light weight
- Cable entry from any of 4 directions is possible to enable flexible cabling

Applications

- FTTH MDU and SDU indoor installation
- Embedded wall application application

Specifications

Item		FPB-103A	FPB-401-1C	FPB-401-2C	FPB-401-4C
Cable Input	Cable Type	Standard flat drop cable/low friction cable			
	Capacity	1	1	1	1
Cable Output	Cable Type	Bend-insensitive patchcord			
	Capacity	1	1	2	4
Number of Connection/SC Adapter		1	1	2	4
Connection Type*		Connector	Connector or pigtail splicing*		
Main Body		PC+HIPS	ABS		
Color		Light Gray	White	White	Light gray
Dimensions (H × W × D mm)		H93 × W50 × D18	H86 × W86 × D27	H86 × W86 × D27	H150 × W110 × D33
Weight (Kg)		Approx. 0.1	Approx. 0.07	Approx. 0.07	Approx. 0.1

*Please contact us for SC/APC type.

Ordering Information

#	Model Number	Description
1	FPB-103A	Optical outlet 1pc, SC adapter 1pc, accessory kit 1 set, assembly manual
2	FPB-401-1C	Optical outlet 1pc, SC adapter 1pc, accessory kit 1 set, assembly manual
3	FPB-401-2C	Optical outlet 1pc, SC adapter 2pc, accessory kit 1 set, assembly manual
4	FPB-401-4C	Optical outlet 1pc, SC adapter 4pc, accessory kit 1 set, assembly manual

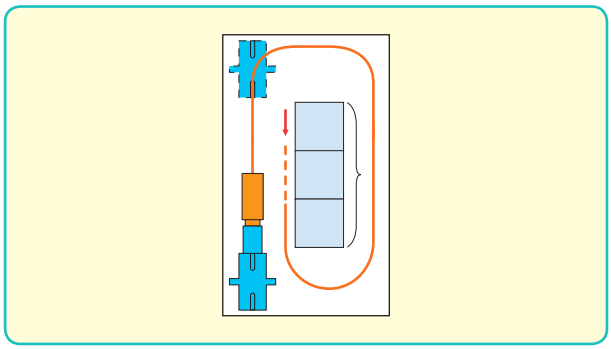
Option

Item	Description
Connector	Field installable connector
Patch cord	Bend-insensitive fiber patch cord

Hybrid Optical Outlet FOPT Series

Features & Benefits

- Electricity, LAN, and optical hybrid
- Laser-shield and dust-proof design
- Optional socket standard



Applications

- FTTH MDU and SDU indoor installation
- Embedded wall application application

Specifications

Item		FOPT-KOL1B-F	FOPT-KOL2B-F	FOPT-KOL3B-F
Cable Input	Cable Type	Drop cable		
	Capacity	1		
Cable Output	Cable Type	Bend-insensitive patchcord		
	Capacity	1		
Number of Optical Connection		1		
Connector Type		SC/UPC(Blue); IEC 61754-4 compliant		
Mask plate socket		1	2	3
Main Body		ABS and PC+ABS (Adapter base), UL94V-0 Compliant, Off-white		
Dimension (H × W × D mm)		H120 × W78 × D14	H120 × W126 × D14	H120 × W172 × D14
Weight (Kg)		Approx. 0.1		

* Please contact us for more information on configurations

Ordering Information

#	Model Number	Description
1	FOPT-KOL1B-F	Optical outlet 1pc, SC adapter 1pc, optional LAN port, assembly manual
2	FOPT-KOL2B-F	Optical outlet 1pc, SC adapter 1pc, optional LAN port and electric socket, assembly manual
3	FOPT-KOL3B-F	Optical outlet 1pc, SC adapter 1pc, optional LAN port and electric socket, assembly manual

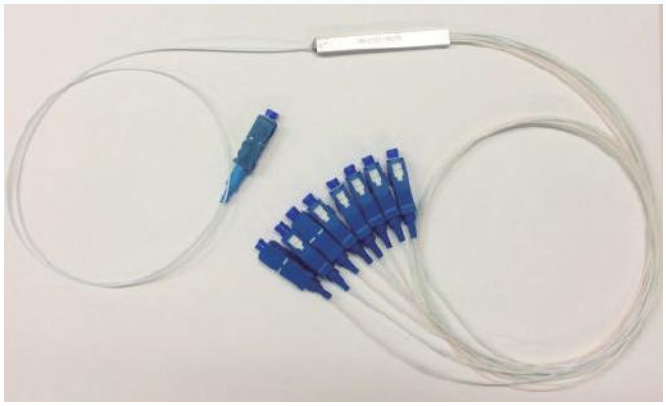
Option

Item	Description
Connector	Field installable connector
Patch cord	Bend-insensitive fiber patch cord
LAN port	Optional LAN port
Electric socket	Type A electric socket

Notes

Optical Splitter

FWGC-SR15 Series



Features & Benefits

- Compact size and applicable to small closure
- High optical performance
- High reliability

Applications

- Ubiquitous application for optical splitting

Specifications

Item	1 × N					2 × N				
	1 × 2	1 × 4	1 × 8	1 × 16	1 × 32	2 × 2	2 × 4	2 × 8	2 × 16	2 × 32
Fiber	SM 10/125 fiber									
Operating Wavelength (nm)	1260~1650									
Insertion Loss* (Without Connector, dB)	≤ 3.7	≤ 7.3	≤ 10.5	≤ 14.1	≤ 17.45	≤ 4.2	≤ 7.5	≤ 11.0	≤ 14.3	≤ 17.5
Insertion Loss* (With Connector, dB)	≤ 4.2	≤ 7.8	≤ 11.0	≤ 14.6	≤ 17.95	≤ 4.7	≤ 8.0	≤ 11.5	≤ 14.8	≤ 18.0
Uniformity (dB) *	≤ 0.9	≤ 2.0	≤ 1.0	≤ 1.5	≤ 2.0	≤ 1.2	≤ 1.5	≤ 1.6	≤ 2.0	≤ 2.5
PDL(dBp-p) **	≤ 0.2	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.4	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.4	≤ 0.4
Return Loss (dB)	≥ 50									
Directivity(dB) **	≥ 50									
Dimension (L × W × H mm) ***	L60 W7 H4			L60 W12 H4	L80 W20 H6	L60 W7 H4			L80 W12 H4	L100 W20 H6
Standard Cord Length (m)	1 (ϕ 0.9mm cordage)									

* same for UPC and APC polish, test wavelength 1310 &1550nm ** Without connectors; ***Without cord

Ordering Information

Product Code FSC- X PS- FWGC-SR15- Y -SC / Z -T

Quantity of Connectors:
3: 1 × 2 splitter **4**: 2 × 2 splitter
5: 1 × 4 splitter **6**: 2 × 4 splitter
9: 1 × 8 splitter **10**: 2 × 8 splitter
17: 1 × 16 splitter **18**: 2 × 16 splitter
33: 1 × 32 splitter **34**: 2 × 32 splitter

Type of Splitter:
1 × 2: 1 × 2 splitter **2 × 2**: 2 × 2 splitter
1 × 4: 1 × 4 splitter **2 × 4**: 2 × 4 splitter
1 × 8: 1 × 8 splitter **2 × 8**: 2 × 8 splitter
1 × 16: 1 × 16 splitter **2 × 16**: 2 × 16 splitter
1 × 32: 1 × 32 splitter **2 × 32**: 2 × 32 splitter

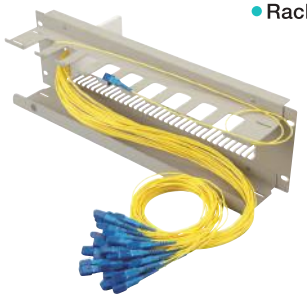
Type of Connector:
APC: Angled PC
UPC: UPC

Optical Splitter

FSC110/116 Series

FSC-116 series

FSC-110 series

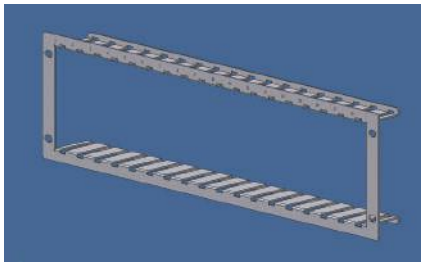


Features & Benefits

- Module design and easy installation
- Compact size and high density
- 19inch rack mountable

Applications

- FTTH optical splitting cabinets and closure
- Rack mount



Specifications

FSC110 splitter

Item	1 × N					2 × N		
	1 × 2	1 × 4	1 × 8	1 × 16	1 × 32	2 × 4	2 × 8	2 × 16
Fiber	SM 10/125 fiber							
Operating Wavelength (nm)	1290 - 1330, 1480 - 1500, 1530 - 1570							
Insertion Loss(dB) *	≤ 4.3	≤ 8.0	≤ 11.6	≤ 14.9	≤ 18.4	≤ 8.1	≤ 11.7	≤ 15.0
Uniformity (dB) *	≤ 0.9	≤ 2.0	≤ 1.0	≤ 1.5	≤ 2.0	≤ 2.0	≤ 1.2	≤ 1.5
Return Loss (dB)	≥ 50							
Dimension (L × W × H mm)	L22 W130 H117			L47 H130 W117	L97 H130 W117	L22 W130 H117		L47 H130 W117

FSC116 splitter

Item	1 × N						2 × N		
	1 × 2	1 × 4	1 × 8	1 × 16	1 × 32	1 × 64	2 × 4	2 × 8	2 × 16
Fiber	SM 10/125 fiber								
Operating Wavelength (nm)	1290 - 1330, 1480 - 1500, 1530 - 1570								
Insertion Loss(dB) *	≤ 4.3	≤ 8.0	≤ 11.6	≤ 14.9	≤ 18.4	≤ 22.1	≤ 8.1	≤ 11.7	≤ 15.0
Uniformity (dB) *	≤ 0.9	≤ 2.0	≤ 1.0	≤ 1.5	≤ 2.0	≤ 3.0	≤ 2.0	≤ 1.2	≤ 1.5
Return Loss (dB)	≥ 50								
Dimension (L × W × H mm)	L9.2 W65 H130					L13.2 W65 H130	L9.2 W65 H130		
Standard Cord Length (m)	1.5 (ϕ 2mm cordage)								

* same for UPC and APC polish, without connectors

Ordering Information

Product Code **FSC110- X -SC / Y**

FSC116- X -SC / Y

Type of Splitter:

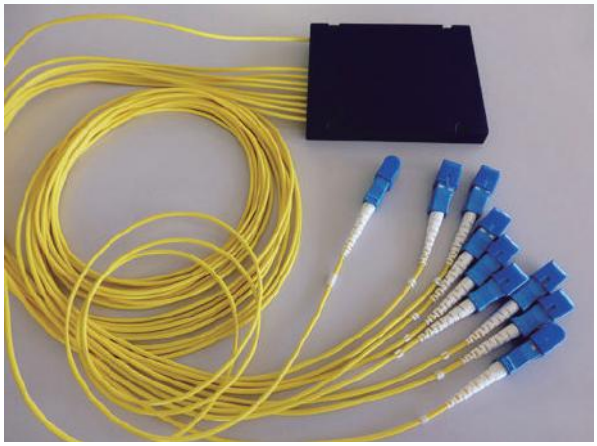
- **1 × 2**: 1 × 2 splitter
- **1 × 4**: 1 × 4 splitter
- **1 × 8**: 1 × 8 splitter
- **1 × 16**: 1 × 16 splitter
- **1 × 32**: 1 × 32 splitter
- **1 × 64**: 1 × 64 splitter
- **2 × 4**: 2 × 4 splitter
- **2 × 8**: 2 × 8 splitter
- **2 × 16**: 2 × 16 splitter

Connector Type:

- **APC**: Angled PC
- **UPC**: UPC

Optical Splitter

FSC121 Series



Features & Benefits

- High performance and reliability
- Module design and easy installation
- Compact size and high density
- Large operating temperature range

Applications

- FTTH optical splitting cabinets and closure
- Rack mount

Specifications

Item	1 × N					2 × N				
	1 × 2	1 × 4	1 × 8	1 × 16	1 × 32	2 × 2	2 × 4	2 × 8	2 × 16	2 × 32
Fiber	SM 10/125 fiber									
Operating Wavelength (nm)	1260~1650									
Insertion Loss* (Without Connector, dB)	≤ 3.7	≤ 7.3	≤ 10.5	≤ 14.1	≤ 17.45	≤ 4.2	≤ 7.5	≤ 11.0	≤ 14.3	≤ 17.5
Insertion Loss* (With Connector, dB)	≤ 4.2	≤ 7.8	≤ 11.0	≤ 14.6	≤ 17.95	≤ 4.7	≤ 8.0	≤ 11.5	≤ 14.8	≤ 18.0
Uniformity (dB) *	≤ 0.9	≤ 2.0	≤ 1.0	≤ 1.5	≤ 2.0	≤ 1.2	≤ 1.5	≤ 1.6	≤ 2.0	≤ 2.5
PDL (dBp-p) **	≤ 0.2	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.4	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.4	≤ 0.4
Return Loss (dB)	≥ 50									
Directivity (dB) **	≥ 50									
Dimension (L × W × H mm)***	L100 W80 H10			L120 W80 H18		L100 W80 H10			L120 W80 H18	
Standard Cord Length (m)	2 (φ 2mm cordage)									

* same for UPC and APC polish, test wavelength 1310 &1550nm ** Without connectors; ***Without cord

Ordering Information

Product Code **FSC121- X -SC / Y**

Type of Connector :
APC : Angled PC
UPC : UPC

Type of Splitter:

1 × 2:	1 × 2 splitter	**2 × 2:**	2 × 2 splitter
1 × 4:	1 × 4 splitter	**2 × 4:**	2 × 4 splitter
1 × 8:	1 × 8 splitter	**2 × 8:**	2 × 8 splitter
1 × 16:	1 × 16 splitter	**2 × 16:**	2 × 16 splitter
1 × 32:	1 × 32 splitter	**2 × 32:**	2 × 32 splitter

FSC123 Series

Features & Benefits

- High optical performance
- Module design and easy installation
- Large operating temperature range

Applications

- FTTH optical splitting cabinets and closure
- Rack mount

Specifications

Item	1 × 4	1 × 8	1 × 16	1 × 32
Fiber	SM 10/125 fiber			
Operating Wavelength (nm)	1260~1650*			
Insertion Loss * (Without Connector, dB)	≤ 7.3	≤ 10.5	≤ 14.1	≤ 17.45
Insertion Loss * (With Connector, dB)	≤ 7.8	≤ 11.0	≤ 14.6	≤ 17.95
Uniformity (dB) **	≤ 2.0	≤ 1.0	≤ 1.5	≤ 2.0
PDL (dBp-p) **	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.4
Return Loss (dB)	≥ 50			
Directivity (dB) **	≥ 50			
Dimension (L × W × H mm)	L118.5 W100 H25		L118.5 W100 H50	L118.5 W100 H102

* same for UPC and APC polish, test wavelength 1310 &1550nm ** Without connectors;

Ordering Information

Product Code **FSC123-1 × X -SC / Y**

Type of Splitter :
4 : 1 x 4 splitter
8 : 1 x 8 splitter
16 : 1 x 16 splitter
32 : 1 x 32 splitter

Type of Connector :
APC : Angled PC
UPC : UPC

FSC114 splitter module

FSC114-1x4-SC/UPC

FSC114-1x8-SC/UPC

FSC114-1x4-SC/APC

FSC114-1x8-SC/APC

Features & Benefits

- Rotatable structure and easy plug
- Design for FTTH MDU solution
- Directly mounted to wall or elevator shaft
- Accommodated into termination boxes

Applications

- FTTH MDU application
- Wall mount or termination box accommodation

Specifications

Mechanical Characteristics

Vibration IEC61300-2-1	A = ±5mm, f = 10Hz, 1,000,000 Cy, No splice case degradation, No damage
Cable Torsion IEC61300-2-5	400mm, Maximum rotation 90°/maximum 50 Nm, 5 Cy/cable, No splice case degradation
Temperature Cycling IEC61300-2-22	-40°C~+20°C~+65°C, 8h/Cy 100Cy, No splice case degradation, No damage

Item	1 × 4	1 × 8
Fiber	SM 10/125 fiber	
Operating Wavelength (nm)	1260~1650	
Insertion Loss* (Without Connector, dB)	≤ 8.0	≤ 11.6
Uniformity(dB) **	≤ 2.0	≤ 1.0
Return Loss (dB)	≥ 50	
Dimension (L × W × H mm)	L105 W28.4 H55	L105 W35.1 H57

* same for UPC and APC polish, test wavelength 1310 &1550nm ** Without connectors;

Ordering Information

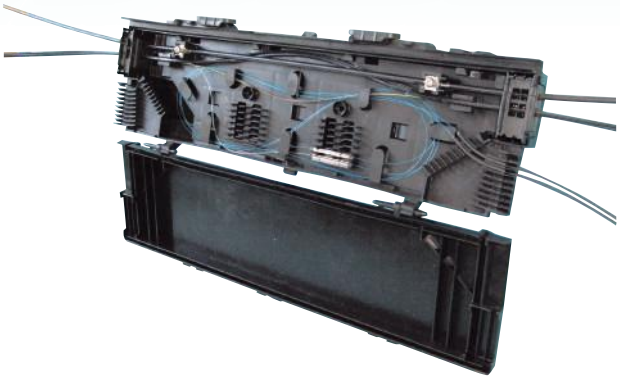
Product Code **FSC114-1 × X –SC/ Y**

Type of Splitter :
4 : 1 x 4 splitter
8 : 1 x 8 splitter

Type of Connector :
APC : Angled PC
UPC : UPC

Aerial Weathertight Fiber Optic Splice Closures

FSCO-AS



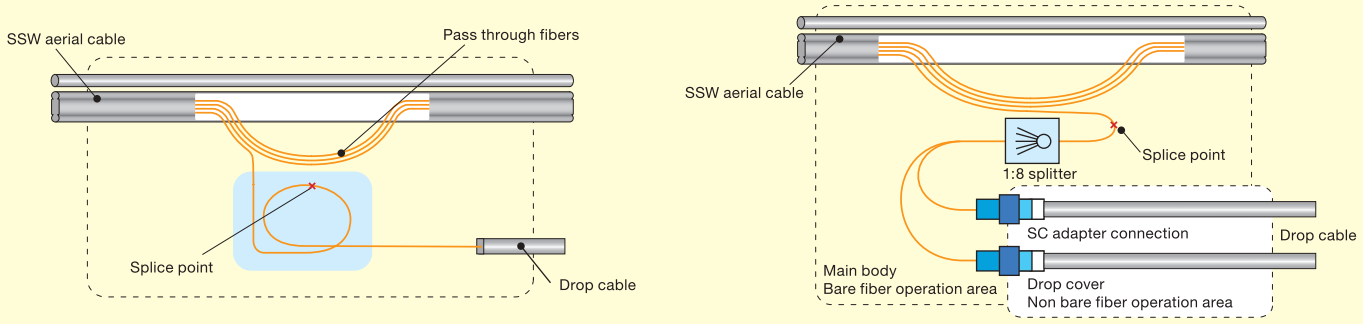
Features

FSCO-AS Aerial Weathertight Splice Closures are designed for aerial, strand-mount FTTH drop locations where drop cables are spliced to distribution cables.
These free breathing closures combine grommet cable sealing technology and splice tray, the splitter module is also available.
FSCO-AS Aerial Weathertight Splice Closures are suitable for special feature with SSW cable.

- Closure adopts hinge/buckle mechanism which makes dismantling/assembling easy
- Cable entry section can accommodate 1 main cable with up to 16c SSW cable.
- Can accommodate up to 8 drop cables.
- Convenient attachable splitter module with 1:8 splitter module & 1:4 splitter module for drop cable installation.
- Re-useable grommet sealing open and close easily for adding or removing drop cables providing efficient cable installation with no mess.

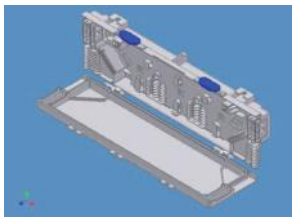
Applications

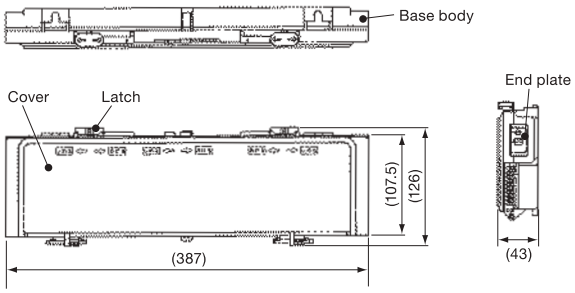
FSCO-AS Aerial Weathertight Splice Closures is suitable for up to 8 drop cable splicing, which can cover most of the applications in the premise wiring networks like Fiber To The Home (FTTH) .
Aerial application is possible with this closure. FSCO-AS has chemical and mechanical resistance for all the aerial application areas in the fiber networks.



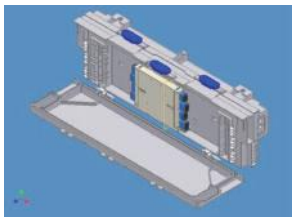
Structure

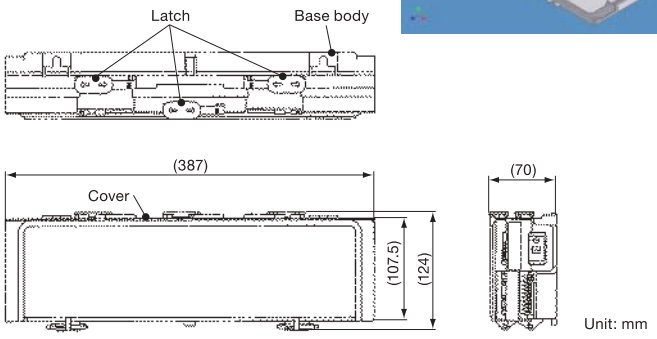
- Splice type





- Splitter module type





Specifications

Physical characteristics

Material	Molded plastic	
Dimension	L 387mm x W 70mmx H 124mm(Splitter module type)	
Weight (without kit)	0.8 kg	
Cable diameter	Main cable	SSW aerial optical cable: 1pc
	Drop cable	2 x 3 mm : up to 8pc
Cable ports	2 for main cable	
Maximum fiber storage capacity	Single-fiber	12 splices points
No. of optical adapter	Max.8xSC adapter	with 1x8 splitter module.

Note 1: Fiber protection sleeve is attached to the product.

Technical characteristics

ITU-T L.13 complied

Vibration IEC61300-2-1	A=±5mm, f=10Hz, 1,000,000 Cy, No splice case degradation. No damage.
Cable fixture(bend) IEC61300-2-37	Bending radious:15mm, ±90° bending, 3Cy/cable. No splice case degradation. No damage.
Cable retention IEC61300-2-4	Mina cable : 98N Drop cable : 49N. No splice case degradation.
Temperature cycling IEC61300-2-22	-20C-20C-60C, 8h/Cy 100Cy. No splice case degradation No damage.
Impact(free drop) IEC61300-2-12	0.75m @-15C & +45 C. No splice case degradation.
Degrees of protection (IP Code) IEC 60529	IPX4 Protected against Wind driven rain proof. (option :IP54 Wind driven rain proof & no effective by dust.)
Salt mist IEC61300-2-26	5% NaCl for 5days, without rust. No damage.
Re-entries IEC61300-2-33	At least 1 thermal cycle to repeat Open & Close the closure sleeve 10 times. No damage.

Ordering Information

Product Code

FSCO-AS — **Splice type**

FSCO-AS- X / Y

Connector type
Null : UPC adapter
A : APC adapter

Splitter type
Example:
4SP : 1 x 4 splitter module
8SP : 1 x 8 splitter module

Notes

Sealed Fiber optic splice Closure

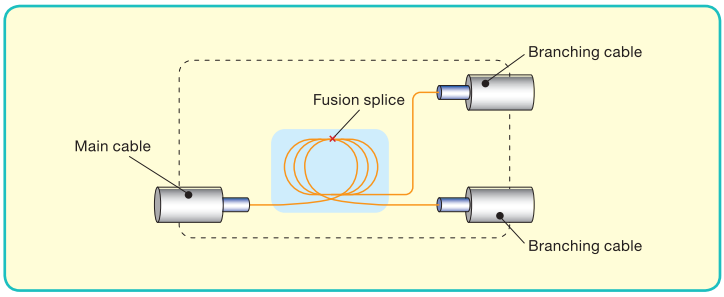
FSCO-CB / FSCO-CB3

Features

Cable entrance configuration is In-line, which is suitable for space constrained hand holes (also possible to be used in man-holes, telephone tunnels and aerial, etc)
Closure adopts band mechanism, which makes dismantling/assembling easy.
Cable entry section can accommodate maximum 6 cables (main cable 2pcs, branching cable 4pcs)
Supports loose tube cable and slotted core cable.

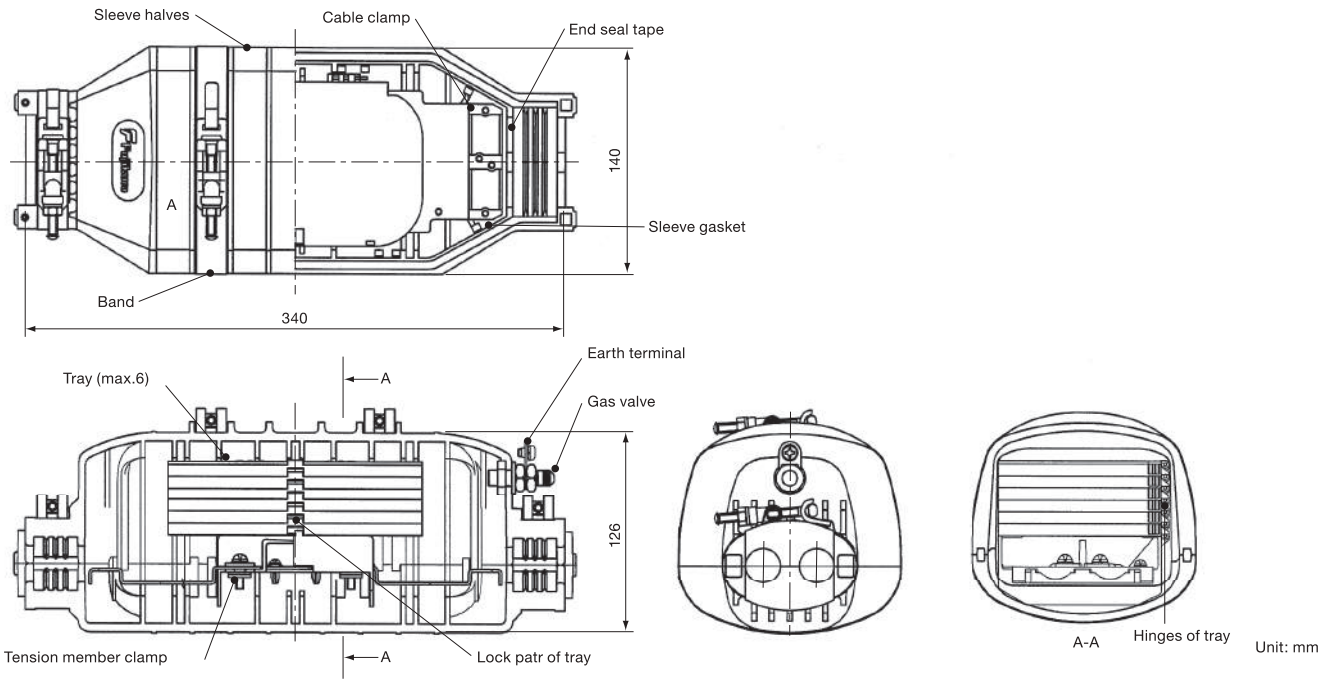
Applications

Closure is suitable for up to 96 single fiber splicing, which can cover most of the applications in the fiber distribution networks like Fiber To The Home / Fiber To The Curb (FTTH/FTTC). Underground, aerial, or pedestal applications are possible with this closure.



Structure

FSCO-CB Structure



Specifications

Physical characteristics

Item		FSCO-CB	FSCO-CB3
Material		● Molded plastic (Sleeve, Splice tray) ● Stainless steel (band), ● Anti-rusted steel (Connecting bar, Organizer) ● Synthetic rubber (Sleeve gasket, end seal tape)	
Dimension (mm)		W140 × H126 × L340	W158 × H145 × L405
Weight (kg)		Approx. 3	Approx. 3
Fiber storage tray		Maximum 6	Maximum 8
Cable capacity		2 for main cable 2 for branch cable	2 for main cable 4 for branch cable
Maximum Fiber Storage	Single fiber	72 fibers (12 fibers / tray)	96 fibers (12 fibers / tray)
	4-fiber ribbon	120 fibers (5 ribbons / tray)	160 fibers (5 ribbons / tray)
Cable diameter (mm)		8 - 21	

Note 1 : Fiber protection sleeve is attached to the product.

Technical characteristics

ITU-T L.13 complied

Vibration IEC61300-2-1	49kPa, A=±5mm, f=10Hz, 1,000,000 Cy, No damage, No leakage.
Cable fixture (bend) IEC61300-2-37	49kPa, ±90° bending radius 6D, 6Cy. No damage, No leakage.
Cable torsion IEC61300-2-5	49kPa, 400mm, ±90 degree, -15°C and 45°C, 5Cy. No damage, No leakage.
Cable axial tension IEC61300-2-4	49kPa, D/45 x 1000N (Max.1000N), 1hr No leakage
Temperature cycling IEC61300-2-22	-20°C ~ 60°C, 8h/Cy 100Cy. Then fill 49kPa air-pressure, No leakage.
Impact IEC61300-2-12	0.5kg, 0.3m @-10C. No damage, No splice case degradation.
Immersion IEC61300-2-23	Water depth 5m, 7days, No water intrusion.
Air tightness IEC61300-2-38	49kPa@Room temperature, 15min. No leakage.
Degrees of protection (IP code) IEC60529	IP67 : Water proof and No effective by duct
Compression IEC61300-2-10	1000N, 25cm2, 10min, -15°C and 45°C No leakage
Chemical Resistance IEC61300-2-34	pH2, pH12 for 5 days. No leakage, Visual appearance.
Rust resistance IEC61300-2-26	Salt spray 5% NaCl for 5days, No rust

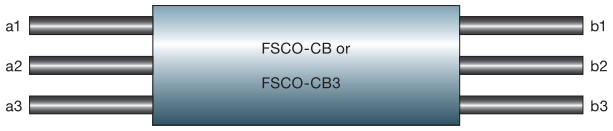
Ordering Information

Product Code **FSCO-CB / ** / X / Y / Z / <a1><a2><b1><b2>**

- Tray type BH or BL
- Presence of gas valve and earth terminal (Yes:2 No:1)
- Number of slack Tray (1~6)
- Cable size

Cable diameter D (mm)	The size of cable clamp and sealing washer
8 ≤ D ≤ 11	S
11 ≤ D ≤ 16	M
16 ≤ D ≤ 21	L
End packing	E

- Presence of optional parts (Yes:2 No:1)



FSCO-CB3 / ** / X / Y / Z / <a1><a2><a3><b1><b2><a3>

Option

C sleeve	Fro FRP tension member use. Please order when Non-metallic cable installation
Re-entry kit	End seal tape 4pcs, Sleeve gasket 2pcs
Cable kit	Size S, M, L for additional branching cable

Sealed Fiber Optic Splice Closure

FSCO-L5BR

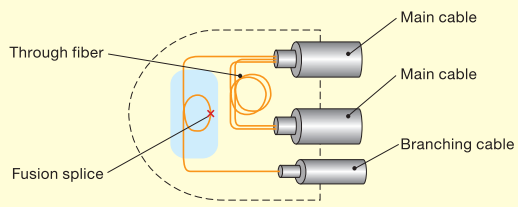
Features

Cable entry section is single-sided dome structure which is suitable for space constrained hand holes (also possible to be used in man-holes, telephone tunnels etc.).

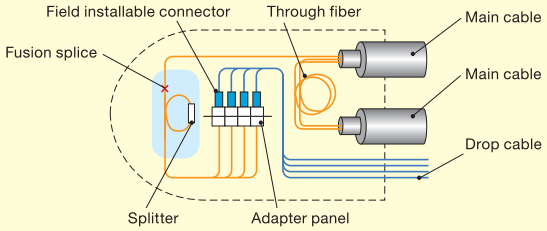
- Closure adopts hinge/buckle mechanism which makes dismantling/assembling easy.
- Cable entry section can accommodate maximum 6 cables (main cable 2pcs, branching cable 4pcs).
- Supports both loose tube cables and slotted core cables
- Optional splitter tray accommodates 2pcs 1 × 8 splitters and support maximum 16 drop cables
- Suitable for apply in limited space areas such as hand holes
- Fully mechanical design, fiber reinforced plastic
- Recommendation of life span for 15 to 20 years (depends on environment)
- Concept of separate cable entries system
- Laser caution signs provided on cover of the top tray
- 360-deg access permits complete access to all wirework and equipment

Applications

- Up to maximum 240 fibers (4-ribbon fiber) splicing FTTH distribution networks
- Applicable for both branch cables and drop cables
- Chemical and mechanical resistance for underground, aerial and pedestal installation



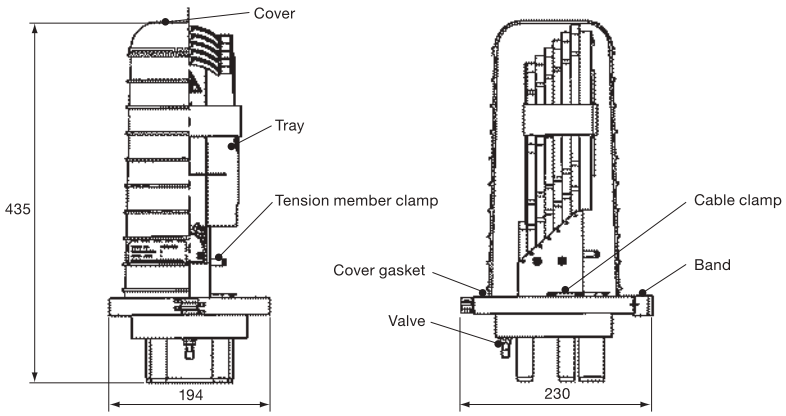
Fuse model cabling



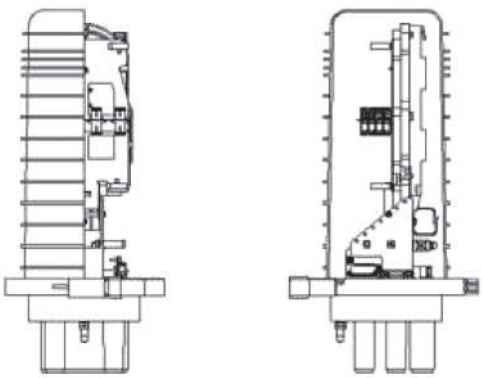
Connector model cabling

Structure

- Fuse model structure



- Connector model structure



Unit: mm

Specifications

Physical characteristics

Material	●Molded plastic (Cover, Splice tray, Tray base, End plate, Cable clamping) ●Stainless steel (Tension member clamp, Drop cable clamp, adapter tray), ●Synthetic rubber (Cover gasket, Valve gasket)	
Dimension	L435mm × D230mm	
Weight (without kit)	Approx. 3.7kg	
Cable diameter	Main cable:12-21 mm, Branch cable:8-17.5mm Drop cable :2 ×3mm(flat type) , 3mm dia.(round type)	
Cable capacity	Main cable : 2cables Branch cable :2cables - 4cables* (*cannot be accommodated when 3mm round type drop cables are installed) Drop/indoor cable :Max 16cables (*cannot be accommodated when 4 branch cables are installed)	
Cable ports	1 oval port for 2 main cables 4 round ports for branch cables or drop/indoor cables	
Splice tray capacity	Max. 6 trays	
SC adapter capacity	Max. 16 pcs	
Splitter capacity	1 ×4: 4pcs or 1 ×8: 2pcs or 1 ×16: 1pcs	
Maximum fiber storage capacity	Single fiber	144 fibers (24 fiber/tray)
	4-fiber ribbon	240 fibers (10 ribbon/tray)
Unreusable parts	Heat shrink tube, branching clip	

Note 1: Defaults to SC/UPC type adapter and splitter, please contact your local distributor for SC/APC type
Note 2: Fiber protection sleeves are attached to the product.
Note 3: Pole mount bracket is optionally available

Technical characteristics

ITU-T L.13 complied

Vibration IEC61300-2-1	49kPa, A=±5mm, f=10Hz, 1,000,000 Cy, No damage, No leakage.
Cable fixture (bend) IEC61300-2-37	49kPa, ±90° bending radius 6D, 6Cy. No damage, No leakage.
Cable torsion IEC61300-2-5	49kPa, 400mm, ±90 degree, -15°C and 45°C, 5Cy. No damage, No leakage.
Cable axial tension IEC61300-2-4	49kPa, D/45 x 1000N (Max.1000N), 1hr No leakage
Temperature cycling IEC61300-2-22	-20°C ~ 60°C, 8h/Cy 100Cy. Then fill 49kPa air-pressure, No leakage.
Impact IEC61300-2-12	0.5kg, 0.3m @-10C. No damage, No splice case degradation.
Immersion IEC61300-2-23	Water depth 5m, 7days, No water intrusion.
Air tightness IEC61300-2-38	49kPa@Room temperature, 15min. No leakage.
Degrees of protection (IP code) IEC60529	IP67 : Water proof and No effective by duct
Compression IEC61300-2-10	1000N, 25cm^2, 10min, -15°C and 45°C No leakage
Chemical Resistance IEC61300-2-34	pH2, pH12 for 5 days. No leakage, Visual appearance.
Rust resistance IEC61300-2-26	Salt spray 5% NaCl for 5days, No rust

Ordering Information

Product Code **FSCO-L5BR-X / Y**

Type of fiber capacity:
12, 24, 36, 48, 72, 96, 120, 144 fibers

Number of splice tray:
1, 2, 3, 4, 5, 6

FSCO-L5BR-16 / X / Y

Type of splitter module (FWGC-SR15 Series)
4SP : 1 × 4 splitter module
8SP : 1 × 8 splitter module
16SP : 1 × 16 splitter module
2(8SP) : 1 × 8 splitter module × 2 sets

Type of adapter
Null : UPC adapter
A : APC adapter

Number of SC adapters :
16 pcs

Notes

FSCO-BU Series

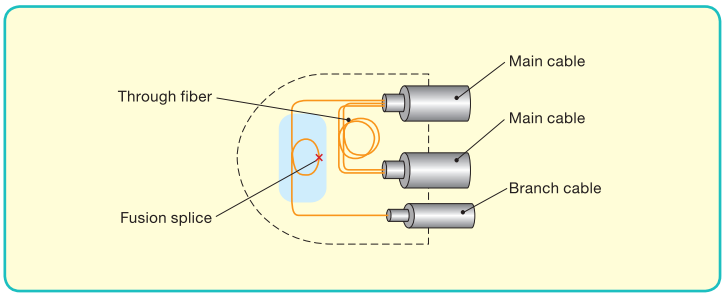
Features

Cable entry section is single-sided dome structure which is suitable for space constrained hand holes (also possible to be used in man-holes, telephone tunnels etc.).

- Closure adopts hinge/buckle mechanism which makes dismantling/assembling easy.
- Cable entry section can accommodate maximum 8 cables (main cable: 2, branching cable: 6).
- Supports loose tube cables, slotted core cables, and Spider Web Ribbon® (SWR) cables
- Suitable for apply in limited space areas such as hand holes
- Fully mechanical design, fiber reinforced plastic
- Concept of separate cable entries system
- 360-deg access permits complete access to all wirework and equipment

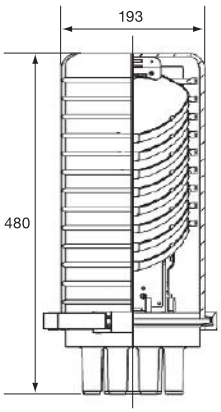
Applications

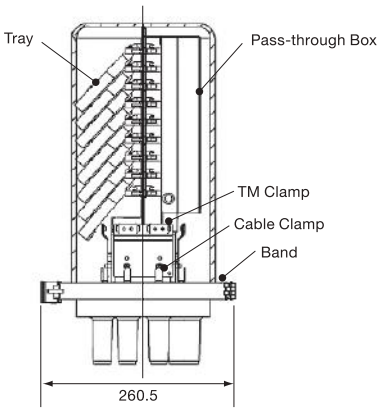
- Up to 864 fibers (12f-SWR) splicing FTTH distribution networks
- Chemical and mechanical resistance for underground, aerial and pedestal installation



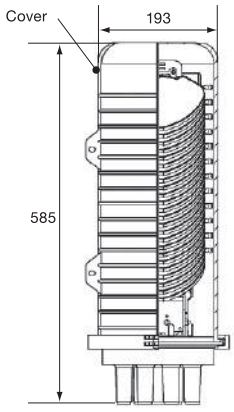
Structure

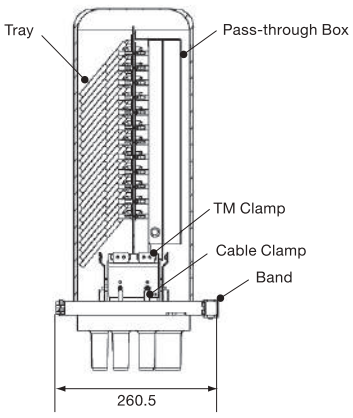
- Middle Type





- Large Type





Unit: mm

Specifications

Physical characteristics

Item		Middle Type	Large Type
Material		● Molded plastic (Cover, Splice tray, Tray base, End plate, Cable clamping) ● Stainless steel (Tension member clamp) ● Synthetic rubber (Cover gasket, Valve gasket)	
Dimension		H480mm × ϕ260mm	H585mm × ϕ260mm
Weight (without kit)		Approx. 6.5kg	Approx. 7.0kg
Cable diameter		Main cable: ϕ10-22 mm, Branch cable: ϕ10-17.5mm	
Cable capacity		Main cable : 2cables Branch cable :6 cables	
Cable ports		1 oval port for 2 main cables 6 round ports for branch cables	
Splice tray capacity	12f-SWR	8 trays (6 splices /tray)	12 trays (6 splices / tray)
	8f-SWR	8 trays (8 splices / tray)	12 trays (8 splices / tray)
	4f-SWR	8 trays (8 splices / tray)	12 trays (8 splices / tray)
	Single fiber	17 trays (12 splices /tray)	24 trays (12 splices / tray)
Splitter capacity *1	SWR	1 × 2: 4pcs, 1 × 4: 2pcs, 1 × 8: 2pcs	
	Single fiber	1 × 2: 2pcs, 1 × 4: 1pcs, 1 × 8: 1pcs	
Maximum fiber capacity	12f-SWR	48 × 12f-SWR / 576 fibers	72 × 12f-SWR / 864 fibers
	8f-SWR	64 × 8f-SWR / 512 fibers	96 × 8f-SWR / 768 fibers
	4f-SWR	64 × 4f-SWR / 256 fibers	96 × 4f-SWR / 384 fibers
	Single fiber	204 fibers	288 fibers
Unreusable parts		Heat shrink tube, branching clip	

*1 A tray for SWR fiber shall be able to accommodate an optical splitter
Note 1 : Fiber protection sleeve is attached to the product.

Technical characteristics

ITU-T L.13 complied

Vibration IEC61300-2-1	49kPa, A=±5mm, f=10Hz, 1,000,000 Cy, No damage, No leakage.
Cable fixture (bend) IEC61300-2-37	49kPa, ±90° bending radius 6D, 6Cy. No damage, No leakage.
Cable torsion IEC61300-2-5	49kPa, 400mm, ±90 degree, -15°C and 45°C, 5Cy. No damage, No leakage.
Cable axial tension IEC61300-2-4	49kPa, D/45 x 1000N (Max.1000N), 1hr No leakage
Temperature cycling IEC61300-2-22	-20°C ~ 60°C, 8h/Cy 100Cy. Then fill 49kPa air-pressure, No leakage.
Impact IEC61300-2-12	0.5kg, 0.3m @-10C. No damage, No splice case degradation.
Immersion IEC61300-2-23	Water depth 5m, 7days, No water intrusion.
Air tightness IEC61300-2-38	49kPa@Room temperature, 15min. No leakage.
Degrees of protection (IP code) IEC60529	IP67 : Water proof and No effective by duct
Compression IEC61300-2-10	1000N, 25cm^2, 10min, -15°C and 45°C No leakage
Chemical Resistance IEC61300-2-34	pH2, pH12 for 5 days. No leakage, Visual appearance.
Rust resistance IEC61300-2-26	Salt spray 5% NaCl for 5days, No rust

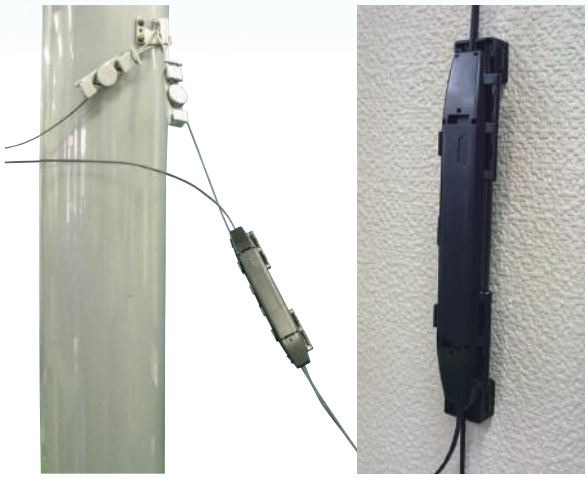
Ordering Information

Product Code **FSCO-BU M 8 - R 8**

- **Type of Closure: BU** (BU: Butt closure)
- **Size of Closure: M** (M: Middle type) (L: Large type)
- **Number of cable : 8 cables**
- **The number of tray: 8 trays** =Ribbon Fiber= (1~8 for Middle type) (1~12 for Large Type) =Single Fiber= (1~17 for Middle type) (1~24 for Large Type)
- **Type of fiber tray: R** (R: SWR fiber type) (S: Single fiber type)

Notes

FBCO-DRP



Features

- Provides for accommodating and protecting a connector, fusion splice, and mechanical splice jointed point in between drop/low friction cables.
- Provide easy of repair and maintenance for existing aerial drop cables.

Applications

- Can accommodate drop cable messenger wire. So that the closure itself can be hung in between a drop point and a premise.
- Can be mounted on a wall with using plastic wall cleats.

Configuration

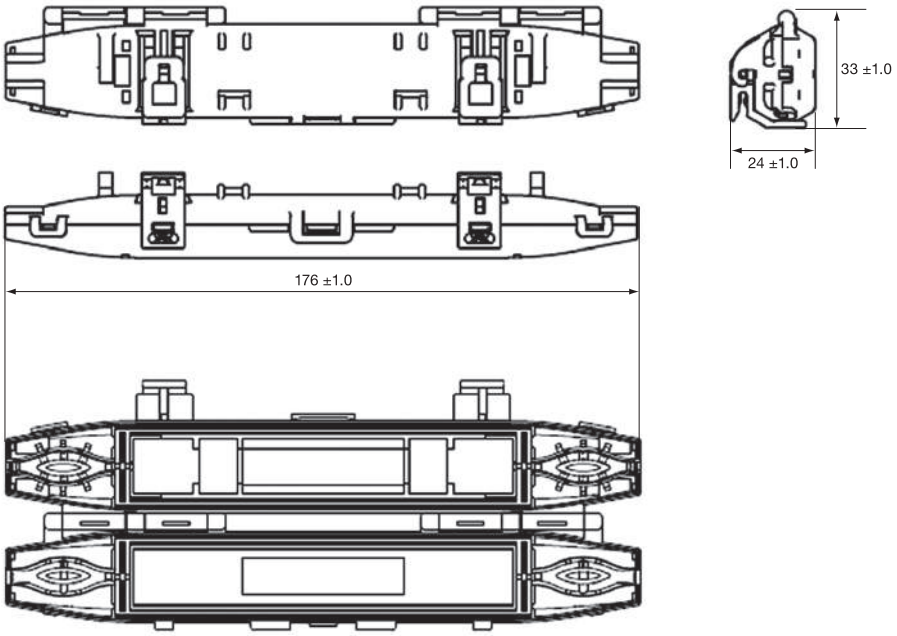
accommodates drop cable segment repair point

accommodates FAST Connectors jointed point

accommodates mechanical spliced point

Structure

- Outside Structure



- Inside Structure

Specifications

Physical characteristics

Installation	Aerial in line installation and wall mount * Possible Installation area depends on cable specifications.
Connection	Connector
Number of connection	1
Connector type	SC Connector
Applicable cable	Figure-8 Drop Cable (Approx. 2.0 × 5.3 mm)
	Low Friction Indoor/Outdoor Cable (Approx. 2.0 × 1.6 mm)
	Indoor Cable (Approx. 2.0 × 3.1 mm)

Note 1 : Fiber protection sleeve, adapter, FAST-SC connectors, or Cable Grip Splice is not attached to the product.

Technical characteristics

Temperature Cycling with Humidity	42 day cycling -40 °C ~ +75 °C with 95% RH
Degrees of protection (IP code) IEC60529	IPX4: Water splashing against the enclosure from any direction shall have no harmful effect
Flammability	UL94-V0
Heat temperature storage	240 hours at +70 °C

Notes

Simplex and zip-cord patchcord

Optical connectors

SC Connector

Simplex SC type

Duplex SC type

Item		Content	
Fiber Type		Single Mode	Multi Mode
		SM10/125	G50/125
		DSM8/125	G62.5/125
Insertion Loss (with master cord)	PC polish	Typical 0.2 dB	≤ 0.3dB
	Ultra PC polish (UPC)		-
	Angled PC polish (APC)		-
Return Loss	Ultra PC polish (UPC)	Typical 55 dB	-
	Angled PC polish (APC)	≥ 60 dB	-
Suitable Cord Type		ϕ 2 cord, ϕ 3 cord, ϕ 0.9 fiber	
Conformity Standard		IEC61754-4	

(※) Available for "premium grade" with excellent insertion loss and return loss.
(※) Please enquire on the return loss for multi-mode fiber if required.

LC Connector

Simplex LC type

Duplex LC type

Item		Content	
Fiber Type		Single Mode	Multi Mode
		SM10/125	G50/125
		DSM8/125	G62.5/125
Insertion Loss (with master cord)	PC polish	Typical 0.2 dB	≤ 0.3dB
	Ultra PC polish (UPC)		-
	Angled PC polish (APC)		-
Return Loss	Ultra PC polish (UPC)	Typical 55 dB	
	Angled PC polish (APC)	≥ 60 dB	
Suitable Cord Type		ϕ 2 cord, ϕ 0.9 fiber	
Conformity Standard		TIA/EIA-604-10, IEC61754-20	

(※) Available for "premium grade" with excellent insertion loss and return loss.
(※) Please enquire on the return loss for multi-mode fiber if required.

MU Connector

Simplex MU type

Duplex MU type

Item		Content	
Fiber Type		Single Mode	Multi Mode
		SM10/125	G50/125
		DSM8/125	G62.5/125
Insertion Loss (with master cord)	PC polish	Typical 0.2 dB	≤ 0.3dB
	Ultra PC polish (UPC)		-
Return Loss	Ultra PC polish (UPC)	Typical 55 dB	-
Suitable Cord Type		ϕ 2 cord, ϕ 0.9 fiber	
Conformity Standard		IEC61754-6	

(※) Available for "premium grade" with excellent insertion loss and return loss.
(※) Please enquire on the return loss for multi-mode fiber if required.

FC Connector

Cord type

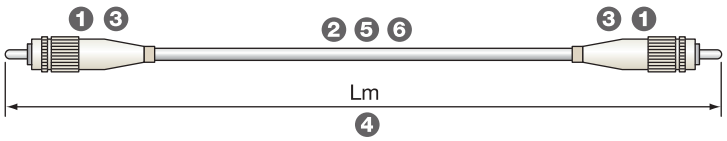
Tight-buffered fiber type

Item		Content	
Fiber Type		Single Mode	Multi Mode
		SM10/125	G50/125
		DSM8/125	G62.5/125
Connector Loss (with master cord)	PC polish	Typical 0.2 dB	≤ 0.3dB
	Ultra PC polish (UPC)		-
	Angled PC polish (APC)		-
Return Loss	Ultra PC polish (UPC)	Typical 55 dB	-
	Angled PC polish (APC)	≥ 60dB	-
Suitable Cord Type		ϕ 2 cord, ϕ 3 cord, ϕ 0.9 fiber	
Conformity Standard		JIS C5970(F01), IEC61754-13	

(※) Available for "premium grade" with excellent insertion loss and return loss.
(※) Please enquire on the return loss for multi-mode fiber if required.

Pigtails, Simplex and Duplex Cable Assemblies

- Compatible with SC, FC and other types of single fiber connectors.
- Available in various cord sizes Φ0.9 (TBF), 1.6, 2 and 3 mm.



Product Code Interpretation

F FC – 2PS – UPC – L M – SMC10/125 – S
1 2 3 4 5 6

1	2	3	4	5	6
Optical Connector Name	**Differentiate Between Single/Double Ended Termination and Fiber Type (SM or GI)**	**Polishing Method**	**Product Length**	**Fiber Type and Size**	**Cord Size**
■ Shows the connector type ■ Please indicate clearly if different connectors are required to be terminated at both ends (ex. FFC/FSC)	* Single-ended: 1 * Double-ended: 2 * GI:P * SM:PS	* Spherical: PC * Ultra PC:UPC * Angled PC:APC ■ Please indicate clearly if polishing is different at both ends (ex. APC /UPC)	* Unit in meter * Tolerance L ≤ 1m +10cm, -0 1m < L ≤ 10m +10%, -0 10m < L ≤ 50m +1m, -0 L > 50m +2%,-0	* GC50/125: MM50 (Orange) * GC62.5/125: MM62.5 (Orange) * SMC10/125: SM (Yellow) * SR15E -SMC10/125: SR15E (Yellow) * DSMC8/125: DSM (Orange)	* φ2 simplex: S * φ3 simplex: Leave blank. * φ2 zipcord: 2SR * φ3 zipcord: 2R * φ1.6 simplex: SS * φ1.6 zipcord: 2SSR

■ Please refer to the Application Table for the relevant fibers and cords for each type of connector.
■ Shape and color of connector boot may vary depending on the type of fiber/cord and polishing method.
■ Please enquire on flame retardant type of cords.

Application Table

Connector	Single Mode (SM/DSM)									Multi-Mode						
	Polishing Method			Suitable TBF/cord diameter				Suitable Cord		Polishing Method	Suitable TBF/cord diameter				Suitable Cord	
	PC	UPC	APC	Φ0.9	Φ1.6	Φ2	Φ3	Simplex	Duplex	PC	Φ0.9	Φ1.6	Φ2	Φ3	Simplex	Duplex
SC	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
FC	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MU	○	○		○	○	○		○	○	○	○	○	○		○	○
LC	○	○	○	○	○	○		○	○	○	○	○	○		○	○
DXSC	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DXMU	○	○		○	○	○		○	○	○	○	○	○		○	○
DXLC	○	○	○	○	○	○		○	○	○	○	○	○		○	○

- Patchcords compliant with ISO/IEC 11801 and TIA/EIA-568-C.3 available for customer premises and commercial building telecommunications cabling.
- Simplex and zipcord cables meet TIA/EIA 568-C.3, Telcordia GR-409-CORE and Directive 2002/95/EC (RoHS) and Plenum, Riser and OFNR-listed LSZH grade jackets available.
- LSZH meets the requirement of IEC 61034-1, 61034-2, 60332-1-1,60332-1-2, 60754-1 and 60754-2.
- OS1, OS2, bend-insensitive FutureGuide-SR15E (ITU-T G.657.A1), FutureGuide-BIS-B (ITU-T G.657.A2) and ITU-T G.657.B3 fiber for singlemode applications and OM1, OM2, OM3 and OM4 for multimode applications available as options.
- 3 or 4 mm dia. ultra-flexible cables (MageTsuyo) with FutureGuide-BIS-B (ITU-T G.657.A2) for FTTH cabling available as options.

Notes

Multiple fibers patchcord

MPO Patchcord

Features & Benefits

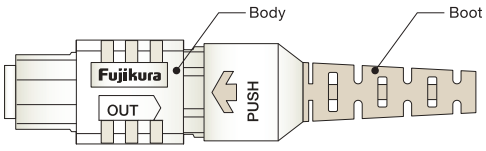
- Multiple fiber connection for high capacity system
- High density providing space and cost saving
- Easy installation, maintenance and expansion
- Reliable optical performance

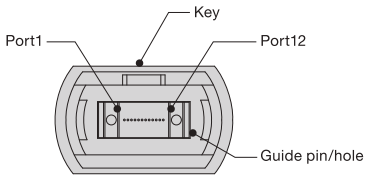
Applications

- Data center and central office cabling
- Equipment internal connection
- High capacity data exchange application

Specification

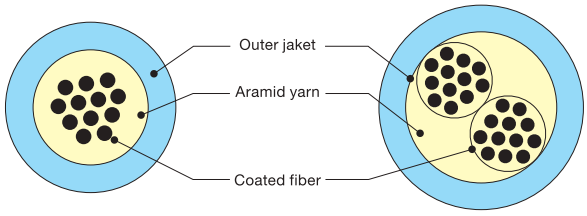
MPO connector





Item		Content			
Fiber type		SM(SM10/125)		MM(G50/125)	
Connector count		12F	24F	12F	24F
Polishing		Angled PC		Flat PC	
Insert loss	Standard type	≤1.0dB		≤0.5dB	
	Low-loss type	≤0.25dB	≤0.35dB	≤0.3dB	≤0.3dB
Return loss		≥55dB		-	
Suitable cord type		Ribbon fiber, round cord			
Conformity standard		IEC61754-7			

Cordage

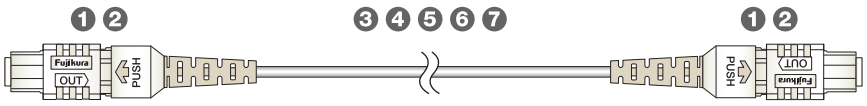


Item	Content	
Fiber type	SM(SM10/125), MM(G50/125)	
Cable count	12C	24C
Outer diameter(mm)	3.0	3.8
Bandwidth(MHz·Km, at 850nm)	SM:N/A, OM2: 500MHz·Km, OM3:1500MHz·Km, OM4:3500MHz·Km	
Max transmission length at 10GbE (m)	SM:N/A, OM2: 82m, OM3:300m, OM4:550m (850nm)	
Sheath color	OS2: yellow, OM2: orange, OM3/OM4: aqua or customized	
Sheath flame retardant grade	Plenum grade*	

* Contact us for PVC, Riser or LSZH grade

Multiple fibers patchcord

Ordering Information



Product Code

12MPOF / 12MPOF – 2PS – 5 M – PL – OM2C×12C – X

(1 2) (3) (4) (5) (6) (7)

1 2 Connector type	3 Fiber mode	4 Length	5 Flame grade	6 Fiber type	7 Polarity
12MPOF: 12F-MPO without pin 12MPOM: 12F-MPO with pin *SM: angled polishing; MM: PC polishing	1P: single-ended MM type 2P: double-ended MM type 1PS: single-ended SM type 2PS: double-ended SM type	Unit: meter Tolerance: L≤10m: +10%, -0 10m<L≤50m: +1m, -0 50m<L: +2%, -0	PL: Plenum grade * PVC, Riser ,LSZH also available	SMCx12C: 12F, SM OM2Cx12C:12F, 0M2 OM3Cx12C: 12F, OM3 OM4Cx12C: 12F, OM4 SMCx24C: 24F, SM OM2Cx24C:24F, 0M2 OM3Cx24C: 24F, OM3 OM4Cx24C: 24F, OM4 *3mm cord	X: Cross wiring ST: Straight wiring *refer to 'Polarity Table'

- Please refer to the 'Application Table' for the relevant fibers and cords for each type of connector.
- Shape and color of connector housing part may vary depending on the type of fiber/cord and polishing method
- Contact us for other type MPO, such as 24, 48F-MPO cords

Polarity Table

Straight wiring

MPO No.	Port No.											
MPO 1	1	2	3	4	5	6	7	8	9	10	11	12
MPO 2	1	2	3	4	5	6	7	8	9	10	11	12

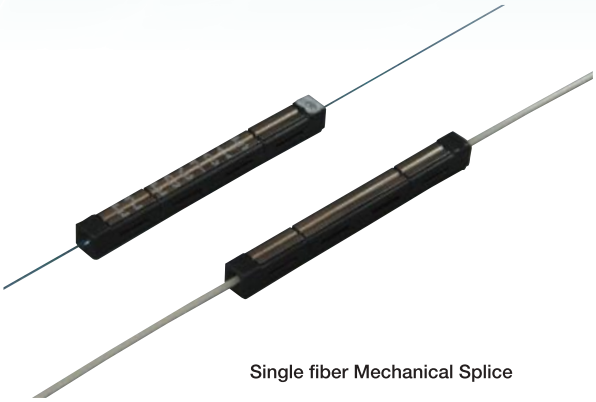
Cross wiring

MPO No.	Port No.											
MPO 1	1	2	3	4	5	6	7	8	9	10	11	12
MPO 2	12	11	10	9	8	7	6	5	4	3	2	1

Notes

Mechanical Splice

Mechanical Splice Unit



Single fiber Mechanical Splice

Features

Mechanical splice connection makes use of mechanical splice unit where 2 fibers are first inserted into the unit. The fibers are next aligned and then held in position by clamping parts.

- Fast and Easy splicing of 250 or 900um SM/MM fibers.
- Power source not required, all necessary tools are provided in the standard tool kit.
- Much faster compared to fusion splicing method

Structure

Mechanical splice connection is done by using the mechanical splice shown in Figure 1. Fibers are set to the V-groove of the mechanical splice. The fibers are hold in place by clamping with the clamping parts. Index matching gel is added to the center of the mechanical splice (at the supposed connection point of the two fibers) to ensure good insertion and return loss.
Figure 2 and Figure 3 show the inner structure of the mechanical splice. Both the 0.25mm section and 0.125mm (bare fiber) section of the fiber are being clamped and held in position.Therefore, to ensure good connection, both the fiber stripping length and the fiber cleaved length must be controlled within specifications.

Figure 1

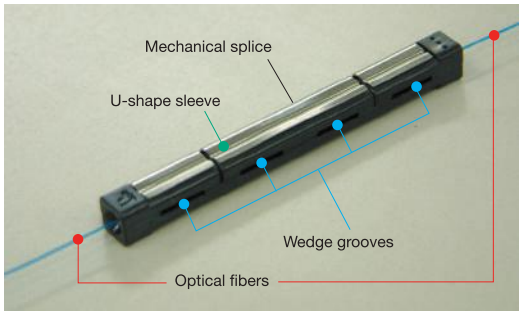


Figure 2-1

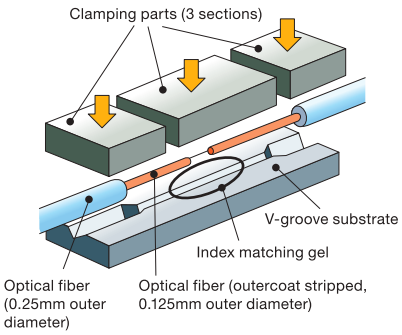


Figure 2-2

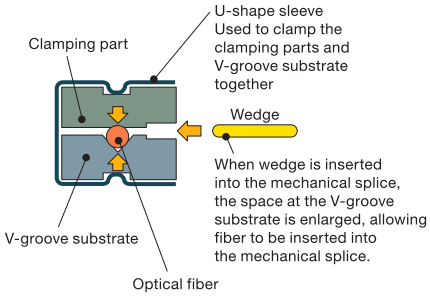
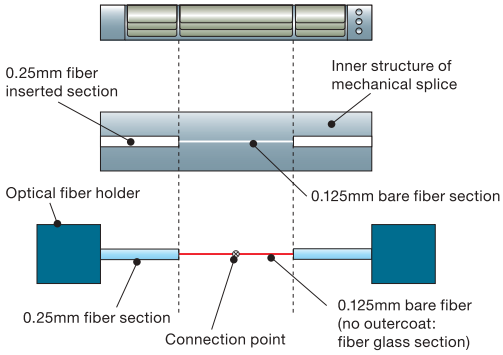


Figure 3



Specifications

Type	Mechanical Splice Unit	Remark
Product Code	FMSEZ-025/09	
Application	Dia.0.25mm single fiber or Dia.0.9mm single fiber	Cladding : 0.125mm Except Nylon coating fibers
Applicable fiber diameter range	Dia.0.235mm to 0.265mm , Dia. 0.85mm to 0.95mm	ITU-T compliance
Size	L40 x W4 x H4 (mm)	
Connection Loss	Average < 0.1dB	
Return Loss	≥ 40dB	
Fiber Adhesion Force	< 3N (Connection Loss change < 0.2dB)	
Required Tools	Single fiber MS/EZ Assembly tool	

Mechanical Splice

MS/EZ Assembly tool

Assembly Tool

Features

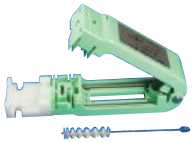
- MS/EZ assembly tool for ϕ0.25/0.9mm single optical fiber.
- MS/EZ assembly tool for FMSEZ-025/09.
- No electric power is required and assembly can be done quickly.
- Suitable for FTTH drop cable solution.
- MS/EZ assembly kit is also available.

Single Fiber MS/EZ Assembly tool

	Item	Model No.	Quantity	Remarks
①	MS/EZ Assembly Tool	FMSECO-TL2-EZ	1ea	
②	Mechanical Stripper 「F」	FMSECO-MSTR025	1ea	
③	Single Fiber Holder 「F」	FMSECO-FH05/025	10ea	
④	Spacer for Mechanical Splice Spacer 「F」	FMSECO-SP-C2	2ea	
⑤	Alcohol Bottle	FMSEZ-ALC	1ea	
	Wiper	-	1set	
	Instruction Manual	-	1set	
⑥	Carrying Case	-	1set	
⑦	Fiber Cleaver	CT-06	-	Option
⑧	Micro Stripper (ϕ0.9)	MS1-08S-40-FS	-	Option
⑨	Single Fiber Holder 「F」 (ϕ0.9) (Instruction Manual Included)	FMSECO-FH09	-	Option

Single fiber MS/EZ assembly tool (for ϕ250um fiber) is also available.
- FMSEC0EZ-KIT025C-10 (without Fiber Cleaver)
- FMSEC0EZ-KIT025C-11 (with Fiber Cleaver)

① 

② 

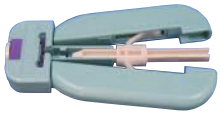
③ 

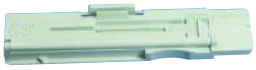
④ 

⑤ 

⑥ 

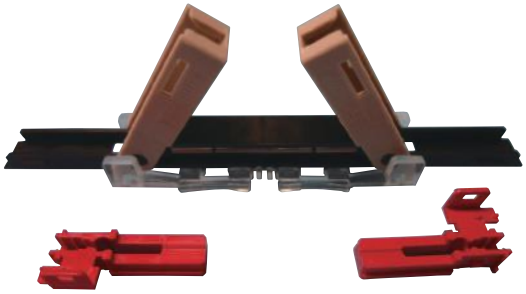
⑦ 

⑧ 

⑨ 

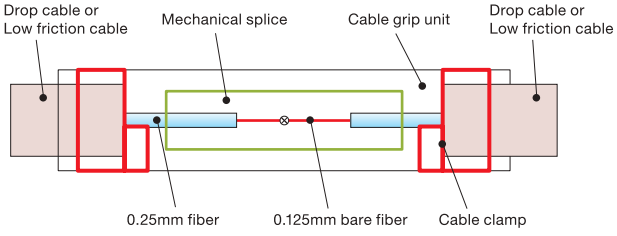
Mechanical Splice

Cable Grip Splice



Features

- Cable grip splice enables the connection between drop cables and low friction cables.
- No need to prepare special tool.



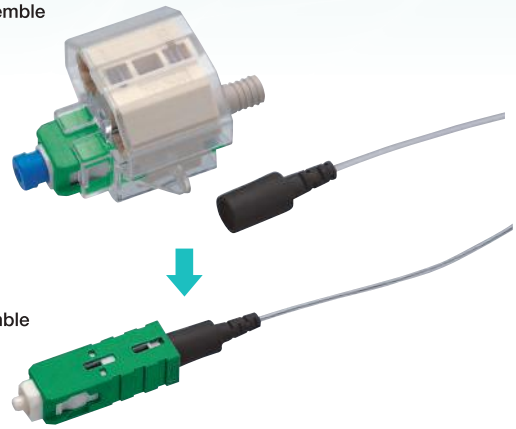
Specificaiton

Type	Mechanical Splice Unit for cables
Product Code	CABLE GRIP SPLICE
Applicable cable	Drop cable, Low friction cable
Size	L 97 x W 9.2 x H 7.4 (mm)
Connection Loss	Aveverage ≤ 0.1dB
Return Loss	≥ 40dB
Cable Adhesion Force	≤ 49N (Connection Loss change ≤ 0.2dB)

FAST-Connector

FAST-Connector (UNI) Series (for 250um, 900um fiber)

Before Assemble



After Assemble

Fujikura has greatly simplified process of joining two fibers, therefore providing significant support for our customers in the construction of FTTH network. Fujikura FAST connector is a series of field-installable connectors, which require no polishing. Unlike conventional field-installable connectors, FAST connector series do not employ assembling tool but incorporate its own pre-assembled wedge launcher. The pre-assembled wedge launcher is a disposal part after installing fiber. Fujikura FAST connector uses a mechanism of “Push-pull-wedge”, which has been introduced by Fujikura’s Mechanical Splices. As the “Push-pull-wedge” mechanism achieves clamping both bare fiber part and coating part, this clamping mechanism enhances strength against fiber twist.

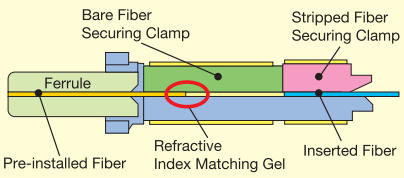
Features

FAST-SC-UNI, FAST-LC-UNI has own design to clamp 250um and 900um coated fibers. Both are fully compatible with the standard SC, LC connectors and demonstrate the performance combining SC, LC connectors and Mechanical Splices.

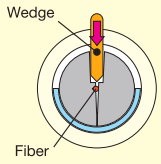
Specification

Item	Content
Applicable fiber diameter	240 ~ 265 um (for 250um fiber), 850 ~ 950 um (for 900um fiber)
Fiber Polishing Method	UPC Polish, APC Polish
Connection Loss (wrt master)	< 0.5dB (Singlemode)
	< 0.6dB (Singlemode APC Polish)
	< 0.4dB (Multimode)
Return Loss	> 45dB (SM fiber UPC polish)
	> 65dB (SM fiber APC polish / When use with Angled cleaver)
	> 50dB (SM fiber APC polish / When use with Flat cleaver)
Working temperature	-40°C ~ 75 °C (for 250um fiber)
	Base on fiber spec (for 900um fiber)

Interior Structure

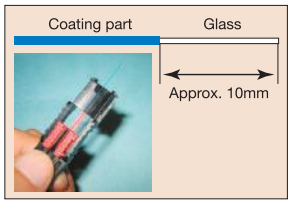


Cross-sectional View

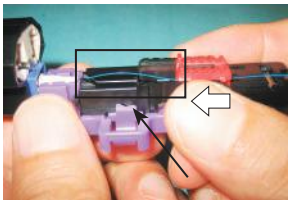


Polished Optical fiber is pre-affixed at the tip of the connector and stripped fiber is cleaved and aligned until it touches the built-in fiber, where connection is done via mechanical splice method

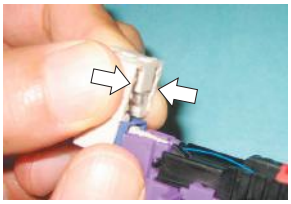
Assembly Flow



1. Prepare fiber



2. Insert fiber into connector body and confirm fiber bend



3. Remove connector unit from the wedge launcher

4. Insert the boots

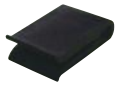
Package Information

- 250um Fiber holder : 1pc/10connectors
- 250um Fiber insert guide : 1pc/10connectors
- 900um Fiber Holder : Order separately
- 1pc of spacer/10connectors
- 1pc of marker/10 connectors (only for APC connector with angled fiber cleave)

250um fiber holder

250um fiber insert guide

900um fiber insert guide



Marker

Ordering Information

Type	Product Code		
	FAST-SC	FAST-LC	FAST-ST
Singlemode UPC Polish	FAST-SC-SM-UNI/00-BL/BK	FAST-LC-SM-UNI/00-BL/BK	FAST-ST-SM-UNI/00-BL/BK
Singlemode APC Polish	FAST-SC-APC-SM-UNI/00	FAST-LC-APC-SM-UNI/00	-
50/125 Multimode	FAST-SC-GI5-UNI/00-BK/BK	FAST-LC-GI5-UNI/00-BK/BK	FAST-ST-GI5-UNI/00-BK/BK
62.5/125 Multimode	FAST-SC-GI6-UNI/00-BG/BK	FAST-LC-GI6-UNI/00-BG/BK	FAST-ST-GI6-UNI/00-BG/BK
MM10G	FAST-SC-10G-UNI/00-AQ/BK	FAST-LC-10G-UNI/00-AQ/BK	FAST-ST-10G-UNI/00-AQ/BK

Interface-APC connector with flat fiber cleave available upon request.

FAST-Connector

FAST-Connector Cord series (for 2mm & 3mm)

Before Assemble

After Assemble

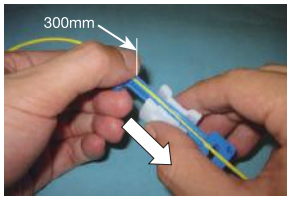
Features

FAST-SC-09/CO FAST-LC-09/CO have own design to clamp 2mm, and 3mm cord. Both are fully compatible with the standard SC, LC connectors. Therefore, FAST-SC, FAST-LC demonstrates the performance combining SC, LC connectors and Mechanical Splices.

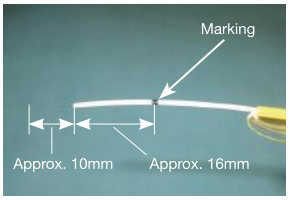
Specification

Item	Content
Applicable Cord Diamer	ϕ 2mm (for 2mm cord), ϕ 3mm (for 3mm cord)
Fiber Polishing Method	UPC Polish, APC Polish
Connection Loss (wrt master)	< 0.5dB (Singlemode)
	< 0.6dB (Singlemode APC Polish)
	< 0.4dB (Multimode)
Return Loss	> 45dB (SM fiber UPC polish)
	> 65dB (SM fiber APC polish / When use with Angled cleaver)
	> 50dB (SM fiber APC plish / When use with Flat cleaver)
Fiber Retention Force	Cord : <68.6N

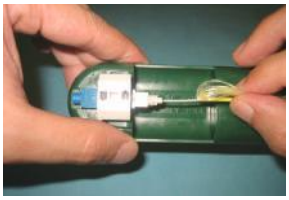
Assembly Flow



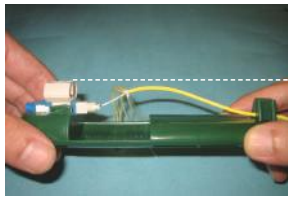
1. Secure cord using cable clamp



2. Remove outer jacket and strip

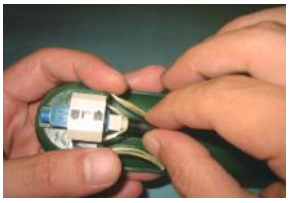


3. Set connector and cord onto assembly tool and insert fiber to connector



4. Make bend and disengage Wedge Unit

5. Fix aramid yarn



6. Tighten boot, remove connector from assembly tool and trim aramid yarn

Package Information

- Assembly Tool : 1pc/50connectors
- Φ2 Cable Clamp :1pc / 50 connectors
- Φ3 Cable Clamp : 1pc / 50 connectors
- 1pc of spacer/10 connectors
- 1pc of marker/10 connectors (only for APC connector with angled fiber cleave)

Assembly Tool

ϕ 2 Cable Clamp

ϕ 3 Cable Clamp

Marker

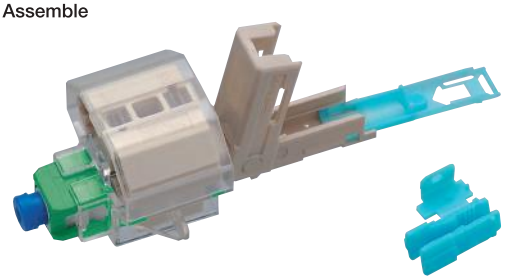
Ordering Information

Type	Product Code		
	FAST-SC	FAST-LC	FAST-ST
Singlemode UPC Polish	FAST-SC-SM-09/CO	FAST-LC-SM-09/CO	FAST-ST-SM-09/CO
Singlemode APC Polish	FAST-SC-APC-SM-09/CO	FAST-LC-APC-SM-09/CO	-
50/125 Multimode	FAST-SC-GI5-09/CO	FAST-LC-GI5-09/CO	FAST-ST-GI5-09/CO
62.5/125 Multimode	FAST-SC-GI6-09/CO	FAST-LC-GI6-09/CO	FAST-ST-GI6-09/CO
MM10G	FAST-SC-10G-09/CO	FAST-LC-10G-09/CO	FAST-ST-10G-09/CO

Interface-APC connector with flat fiber cleave available upon request.

FAST-Connector (for Drop/Indoor Cable/Low Friction Indoor Cable)

Before Assemble



After Assemble

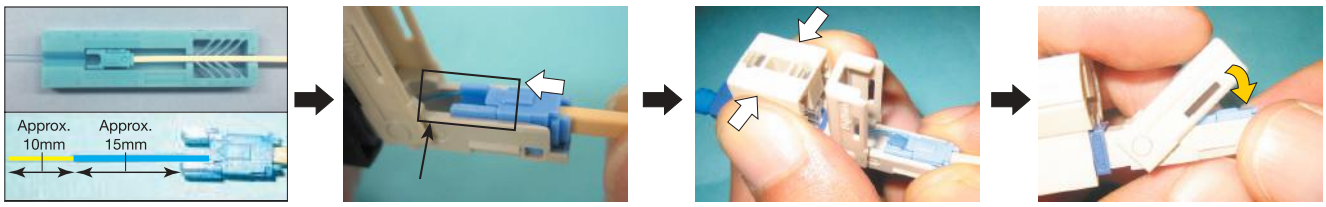
Features

FAST-SC(/LC)-GT type has own design to clamp drop cable or indoor cable and low friction indoor cable. FAST-SC(/LC) is fully compatible with the standard SC(/LC) connectors. Therefore, FAST-SC(/LC) demonstrates the performance combining both SC(/LC) connectors and Mechanical Splices.

Specification

Item	Content
Applicable Cable Diamer	3.1 ± 0.2mm x 2.0 ± 0.2mm (Drop/Indoor Cable)
	2.0 ± 0.1mm x 1.6 ± 0.1mm (Low Friction Indoor Cable)
Fiber Polishing Method	UPC Polish, APC Polish
Connection Loss wrt master)	< 0.5dB (Singlemode)
	< 0.6dB (Singlemode APC Polish)
	< 0.4dB (Multimode)
Return Loss	> 45dB (SM fiber UPC polish)
	> 65dB (SM fiber APC polish / When use with Angled cleaver)
	> 50dB (SM fiber APC plish / When use with Flat cleaver)
Fiber Retention Force	> 20N (<0.2dB with impressed pressure)

Assembly Flow



1. Secure cable using with matching cable clamp & holder
2. Insert fiber and confirm fiber bend
3. Disengage Wedged unit
4. Down the lever and fix cable

Package Information

- Cable clamp: 1pc blue clamp and 1pc Yellow clamp for 1pc connector
- Cable holder: 1pc/10pcs connectors
- 250um fiber stripper: 1pcs/10pcs connectors

Blue Clamp

Yellow Clamp

Cable Holder

250um Fiber Stripper

Ordering Information

Item	Product code
Drop/Indoor cable, UPC polish, SC	FAST-SC-SM-025/GT
Drop/Indoor cable, APC polish, flat pre-installed fiber*	FAST-SC-Interface-APC-SM-025/GT
Low friction indoor cable, UPC polish, SC	FAST-SC-SM-LF/GT
Low friction indoor cable, UPC polish, LC	FAST-LC-SM-LF/GT
Low friction indoor cable, APC polish, SC, flat pre-installed fiber*	FAST-SC-Interface-APC-SM-LF/GT
Low friction indoor cable, APC polish, LC, flat pre-installed fiber*	FAST-LC-Interface-APC-SM-LF/GT

*Contact us for angled pre-installed fiber

Mechanical Splice

FAST-Connector Assembly Tools

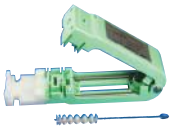
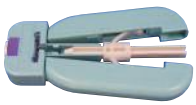
The FAST Connector Assembly Tool Kit provides all the necessary installation tools.

Features

- Industry standard fiber preparation tools
- Compact design, flexible but rugged case
- Complete instructions provided

No.	Name	Model	Purpose	KIT (A)	KIT (B)	KIT (C)	KIT (D)
1	Optical fiber holder 025	FMSECO-FH05/025	To assemble FAST-SC for 250um fiber	●	●	●	●
2	Cable Holder	-	To assemble FAST-SC(GT)	●	●	●	●
3	Mechanical Stripper 025	FMSECO-MSTR025	To strip 250um fiber	●	●	●	●
4	Micro Stripper 09	MS1-08S-40-FS	To strip 900um fiber			●	●
5	Alcohol Container	FMSEZ-ALC	-	●	●	●	●
6	Cotton Pad	-	-	●	●	●	●
7	High Precision Cleaver	CT-06	Flat Cleaving		●		●
8	Fiber Plates	AD-10	To adjust bare fiber length	Option			
9	Spacer	FMSECO-SP-C2	To adjust bare fiber length	●	●	●	●
10	250um fiber insert tool	-	To assemble FAST-SC for 250um fiber	●	●	●	●
11	Carrying Case	-	-	●	●	●	●
12	Cordage Assembly tool	FAST-SC-KIT-CO	To assemble cordage			●	●
13	ϕ 2mm Cable Clamp	FAST-SC-KIT-CO	To assemble ϕ 2mm cordage			●	●
14	ϕ 3mm Cable Clamp	FAST-SC-KIT-CO	To assemble ϕ 3mm cordage			●	●

* Kit(A) ; FAST-SC-KIT025DR-10, Kit(B) ; FAST-SC-KIT025DR-11 , Kit(C) ; FAST-SC-KIT/ALL-10, Kit(D) ; FAST-SC-KIT/ALL-11

① 
② 
③ 
④ 
⑤ 
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Notes

FuseConnect™

FuseConnect™ (for 900um fiber)

FuseConnect-SC-SF-SM-09

FuseConnect-LC-SF-SM-09

Features & Benefits

Fujikura's FuseConnector™ family connectors are factory pre-polished, and easily terminate by fusion splicer in the field. Similar with Fujikura's FAST family connectors, FuseConnector™ family are extremely simple and easy to assemble and apply via many innovative designs. Besides, FuseConnector™ provides less than 0.3dB insert loss and more than 65dB (APC polishing) return loss, and extend the applications from digital network to analog network.

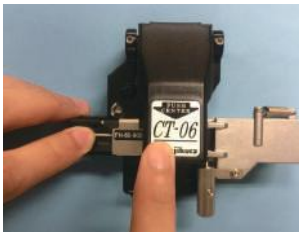
Applications

- Optical equipment internal connection
- FTTx network connection
- General optical network connection

Specification

Item	Content
Cable type	ϕ 900um fiber
Connector type	SC, LC
Ferrule polishing	UPC polishing, APC polishing
Insert loss (wrt master)	SM/MM: ≤ 0.30dB
Return loss	SM UPC: ≥ 55dB, SM APC: ≥ 65dB

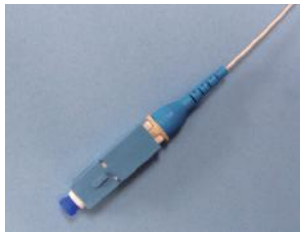
Assembly Flow



1. fiber processing

2. fiber splicing

3. protection sleeve shrinking



4. assembled connector

Ordering Information

Product Code FuseConnect - X1 - SF - X2 - 09

Connector type:
SC : SC connector
LC : LC connector

Ferrule polishing:
SM : SM UPC polishing
APC : SM APC polishing
GI5 : 50/125 MM UPC polishing
GI6 : 62.5/125 MM UPC polishing
10G : MM 10G UPC polishing

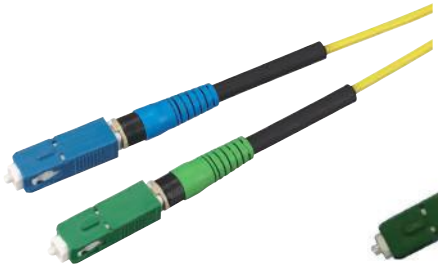
Package Information

- Connector with necessary parts: 1set / box

Option

Item	Description
Fusion splicer	single-fiber fusion splicer, such as 70S, 19S, FSM-60S, 12S
Assembly tools	900um fiber stripper (MS1-08S-40-FS), fiber cleaver (CT-06)

FuseConnect™ (for 2mm and 3mm cord)



FuseConnect-SC-SF

FuseConnect-SC-QA-APC-30

Feature

- Applicable for 2/3mm cordage
- High optical performance
- High reliability

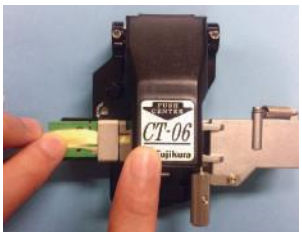
Applications

- FTTx network connection
- Optical equipment internal connection
- General optical network connection

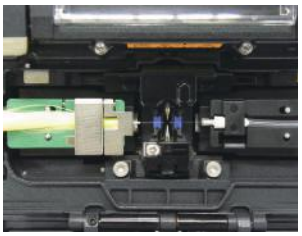
Specification

Item	Content
Cable type	ϕ 2mm, 3mm cord
Connector type	SC, LC
Ferrule polishing	UPC polishing, APC polishing
Insert loss (wrt master)	SM/MM: ≤ 0.30dB
Return loss	SM UPC: ≥ 55dB, SM APC: ≥ 65dB

Assembly Flow

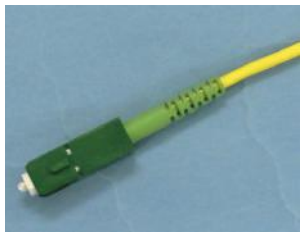


1. fiber processing



2. fiber splicing

3. protection sleeve shrinking



4. assembled connector

Ordering Information

Product Code **FuseConnect - X1 - X2 - X3 - X4**

Connector type:
SC : SC connector
LC : LC connector
FC : FC connector

Assembly type:
SF : Standard Format type
QA : Quick Assembly type

Cord type:
20/30 : 2mm and 3mm cord
20 : 2mm cord
30 : 3mm cord

Ferrule polishing:
SM : SM UPC polishing
APC : SM APC polishing
GI5 : 50/125 MM UPC polishing
GI6 : 62.5/125 MM UPC polishing
10G : MM 10G UPC polishing

Package Information

- Connector with necessary parts: 1set / box
- Cable clamp for 2mm or 3mm cord: 1pc / 10 connectors

Option

Item	Description
Fusion splicer	single-fiber fusion splicer, such as 70S, 19S, FSM-60S, 12S
Assembly tools	Jacket split tool (FUSE-ST), 900um fiber stripper (MS1-08S-40-FS), fiber cleaver (CT-06)

Notes

FuseConnect™

FuseConnect™ (for drop cable and low friction indoor cable)

FuseConnect-SC-LFC

FuseConnect-SC-DC

Feature

- Fusion termination for drop cable and low- friction indoor cable
- Factory pre-polished ferrule and easy assembly
- Low insert loss and high return loss

Applications

- FTTx network connection
- CATV or RoF network connection
- General optical network connection

Specification

Item	Content	
Cable type	Drop cable	Low-friction cable
Cable dimension	3.1 ± 0.2 × 2.0 ± 0.2mm	2.0 ± 0.1 × 1.6 ± 0.1mm
Connector type	SC	SC, LC
Polishing	UPC polishing, APC polishing	
Insert loss (wrt master)	≤ 0.30dB	
Return loss	SM UPC: ≥ 55dB, SM APC: ≥ 65dB	

Assembly Flow

1. fiber processing

2. fiber splicing

3. protection sleeve shrinking

4. assembled connector

Ordering Information

Product Code FuseConnect - SC - X1 - X2

Ferrule polishing:
Null : SM UPC polishing
APC : SM APC polishing

Cord type:
DC : drop cable
LFC : low friction cable

Package Information

- Connector with necessary parts: 1set / box

Option

Item	Description
Fusion splicer	single-fiber fusion splicer, such as 70S, 19S, FSM-60S, 12S
Assembly tools	900um fiber stripper (MS1-08S-40-FS), fiber cleaver (CT-06)

FuseConnect™ (for MPO)

Before Assemble

After Assemble

Features

- 12F fuse spliced by one time
- Factory pre-polished, easy assembly
- Mechanical protect mechanism, heat-free
- Applicable for 12F-ribbon and 3mm ribbon cord

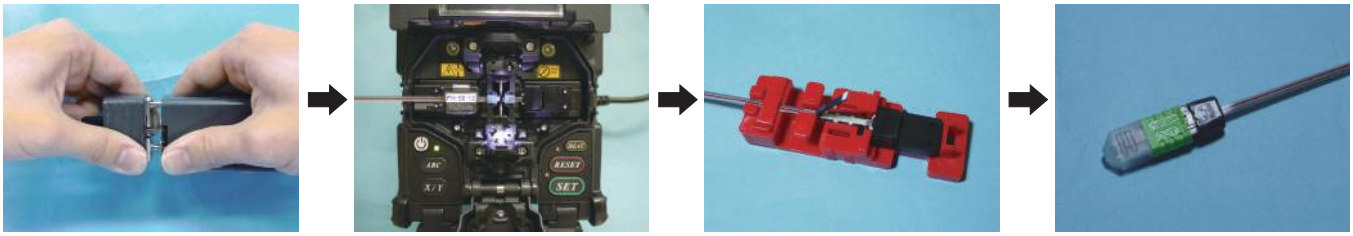
Applications

- Data center installation and maintenance
- Central office cabling and replacement
- Patch cord customization in the field
- FTTx multi-fiber connection

Specification

Item	Content			
Fiber type	SM	GI 50/125	GI 62.5/125	MM 10G
Fiber count	12F			
Housing color	Green	Black	Beige	Aqua
Insert loss (wrt master)	≤ 0.75dB	≤ 0.50dB		
Return loss	≥55dB	-		
Cord tension	≤ 50N			

Assembly Flow (MPO)



1. fiber ribbon processing
2. fiber ribbon splicing
3. protection part housing
4. assembled connector

Ordering Information

Product Code **FuseConnect-MPO- X1 - X2 - X3**

Type of connector:
Male : with guide pin
Female : without guide pin

Type of fibers:
SM : SM fiber
GI5 : 50/125 MM fiber
GI6 : 62.5/125 MM fiber
MM10G : MM 10G fiber

Type of cable:
Cordage : 3mm cord
Ribbon : 12F ribbon tape

Package Information

- Connector with necessary parts: 1set / box
- Assembly tool: 1pc / 10pcs connectors

Option

Item	Description
Fusion splicer	12F multi-fiber fusion splicer, such as 70R, 19R, FSM-60R
Assembly tools	Jacket split tool (FUSE-ST), ribbon tape cleaver, ribbon-form tool

One-Click™ Cleaner

Covered by US Patent No. 8,087,118

Features

- Removes dust and oil adhering to the ferrule endface of fiber optic connector with one push mechanical action.
- Cleans the ferrule endface inside an adapter or connectors on jumpers by making full use of guide cap.
- Refrains from transmission error or endface damage by dirty endface.
- Comfortable and user friendly design with one click cleaning.
- Complies with EU/95/2002/EC directive (RoHS).

Applications

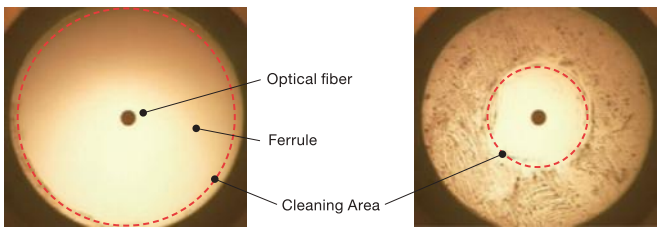
- Cleans the ferrule endface inside an adapter or connectors on jumpers and builds reliable networks for Datacom, FTTH, etc. with faster installation of patchcords, pigtails and field assembly connectors.

Product Name		One-Click Ultra Cleaner 2.5	One-Click Cleaner SC	One-Click Cleaner SC Mini	One-Click Cleaner MU/LC	One-Click Cleaner MU/LC Mini	One-Click Cleaner D-LC	One-Click Cleaner ODC	One-Click Cleaner M20
Model Number*3		M250-E-CLK-A	SC-CLK-B	SC-MINI-CLK-A	MU/LC-CLK-C	MU/LC-MINI-CLK-A	DLC-CLK-A	ODC-CLK-A	M20-CLK-A
Applicable Fiber Optic Connector & Adapter*1	SC	●	●	●					
	FC	●	●	●					
	ST	●	●	●					
	MU				●	●		●	
	LC				●	●	● (only for Duplex)	●	
	ϕ 1.25 mm Multi-connector (ODC®)							●	
	ϕ 2.0 mm Multi-connector (SMPTE 304M, etc.)								●
Applicable Polish Type		PC, UPC, APC					PC, UPC, APC	PC, UPC	
Type		Enlarged Area	Standard	Mini	Standard	Mini	Duplex	Standard	Standard
Nozzle Extendability			●		●			●	●
No. of Cleanings		≥ 500 times					≥ 500 times	≥ 500 times	
Cleaning Method		Dry (Cleaning the ferrule endface with cleaning cloth, with no chemical or solvent.)							
Dimensions (mm)*2 Extended Dimensions		22.5 W x 33.4 H x 193 L	17.5 W x 17.5 W x 165 L (200 L)	17.5 W x 30.5 H x 104 L	17.5 W x 17.5 W x 173 L (208 L)	17.5 W x 30.5 H x 104 L	18.0 W x 30.0 H x 195 L	17.5 W x 17.5 H x 178 L (213 L)	17.5 W x 17.5 H x 164 L (199 L)

*1: Limited to the connector endface inside an adapter. *2: Guide cap dimensions and prongs are not included. *3: Last letter indicates model version. This is subjected to change.

Cleaning Example (UPC Polish) with Enlarged Area Type

M250 type can clean wider area of the connector endface.

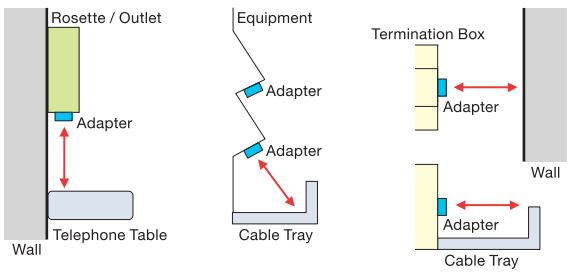


M250 SC

* The above is an example only.

Applications of Mini Type

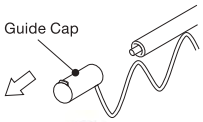
Mini type is useful when the work space is limited and it is difficult for workers to access to adapters.



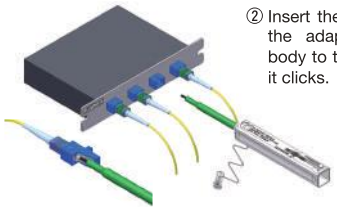
One-Click™ Cleaner

How to use*1

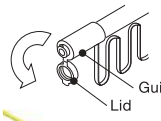
To clean the ferrule endface inside an adapter*2



① Remove the guide cap.



② Insert the nozzle tip into the adapter. Push the body to the adapter until it clicks.



① Open the lid of guide cap.

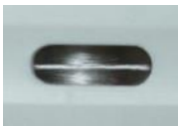
② Insert the ferrule into a hole on the guide cap and push the body to the adapter until it clicks.

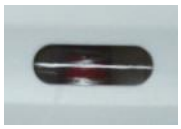
*1 Do not use the cleaner except for the endface cleaning.
*2 Limited to the connector endface inside an adapter.

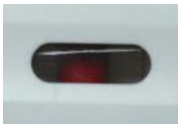
● Points

1. Insert the cleaner tip into the adapter or connector on jumpers straight and vertically, and then push it.
2. Push it slowly and gently.
3. Do not push it after hearing the click sound. Take it out gently and backward.
4. Do not squeeze it into the adapter or connector.

Check the remainder of cleaning cloth through window.


Many


Few

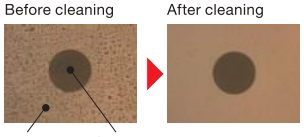

Nil

Cleaning Example (UPC Polish)

Enlarged image of endface before and after cleaning

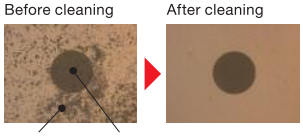
● Cleaning of Oil

Before cleaning / After cleaning



● Cleaning of Dust

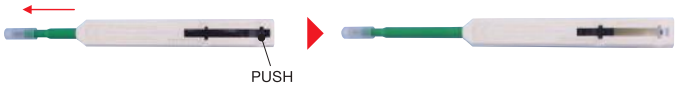
Before cleaning / After cleaning



* The above is an example only.

Extension Features of Nozzle (Standard type only)

Nozzle length can be extended if the adapter or connector is not reachable.



Gently pull the nozzle by pressing the unlock button, and then extended.

Multi-fiber Connector Cleaner

One-Click™ Cleaner MPO

MPO-CLK-D

Product Name	MPO Cleaner
Item / Model No	MPO-CLK-D
Applicable Connector	MPO, MTP®
Applicable Polish Type	PC, APC
No. of cleanings	≥ 500 times

MTP is a registered trademark of US Conec Ltd.

Multi-fiber Connector Cleaner

One-Click™ Cleaner MT-RJ

MTRJ-CLK-A

Product Name	One-Click cleaner MT-RJ
Item / Model No.	MTRJ-CLK-A
Applicable Connector	MTRJ
Applicable Polish Type	PC
No. of Cleanings	≥ 500 times

Notes

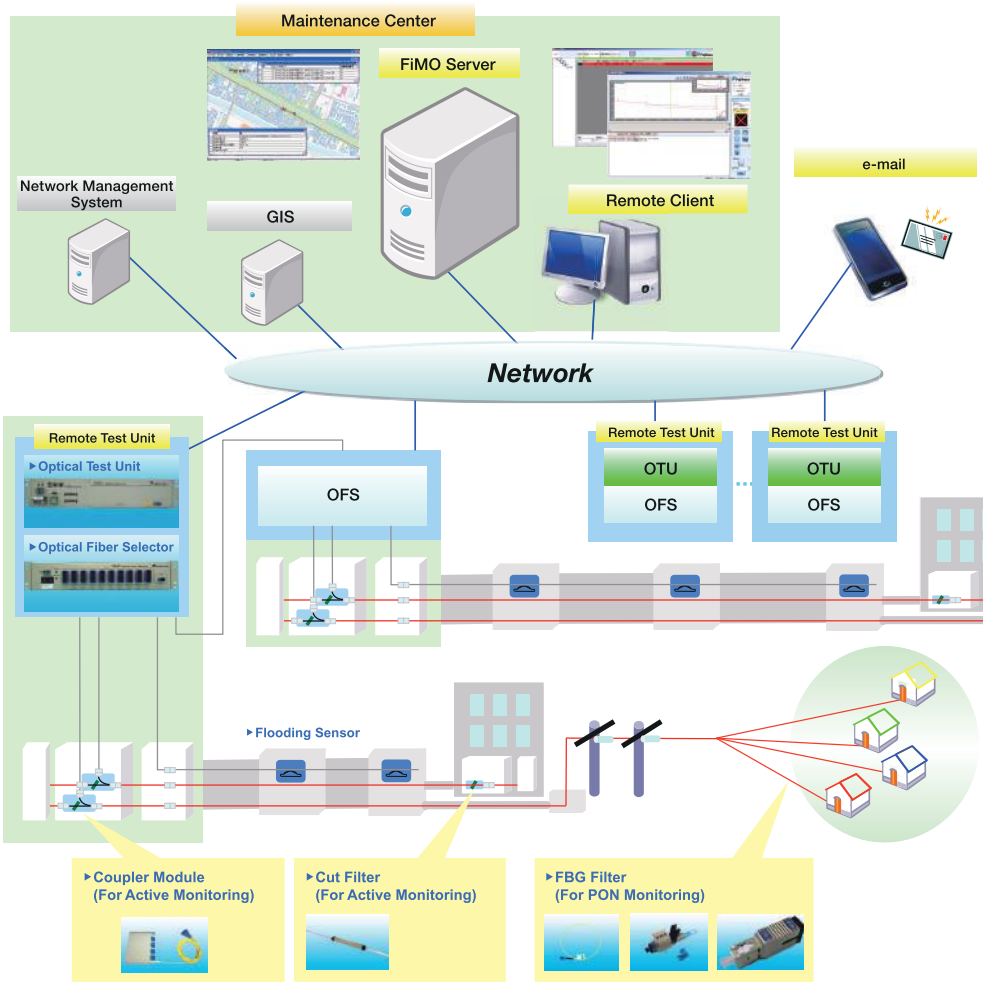
FiMO: Fiber Monitoring System

Fiber MOnitoring system (FiMO) provides trouble shooting and preventive maintenance monitoring fiber network 24 hours a day constantly.

Features

- Reduce Down-Time and operational costs
- Detecting alarm point automatically
- Mail sending with graphical waveform
- Showing alarm point on the map
- Web-based access and client software
- High dynamic range and short dead zone
- PON monitoring after splitter
- Server Geo-redundancy

System Configuration



FiMO server

FiMO server located at maintenance center manages multi optical test units at each exchange via network and manages database such as configuration, system information, alarm history and test data.

Remote Test Unit

Remote Test Unit (RTU) consists of Optical Test Unit (OTU) and Optical Fiber Selector (OFS).
OTU includes OTDR module for measurement and initial data processing.

Remote Client

Remote Client provides remote access function by application base and WEB base.

FiMO: Fiber Monitoring System

Specification

Optical Test Unit

Items	Dark Fiber Monitoring Type	Active and Dark Fiber Monitoring Type
Test Wavelength	(1550 ± 25nm)	(1650 ± 5nm)
Pulse Width	3ns-20μs	
Dynamic Range (Pulse Width : 20μs, Typical)	50dB	41dB
Event Dead Zone (Pulse Width : 3ns, Typical)	0.8m	0.45m
Power supply	AC100V – AC240V (50Hz/60Hz) or DC -48V	

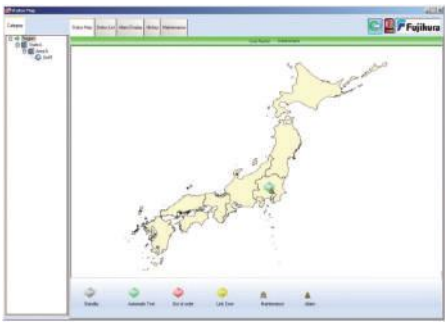
Optical Fiber Selector

Items		Specifications
Optical spec.	Insertion loss	1.0dB Typical (including dummy fiber and connector)
	Return loss	40dB Typical (including dummy fiber and connector)
Optical output port number		40/100 port (SC Adapter)
Built-in Dummy Fiber length		1000m

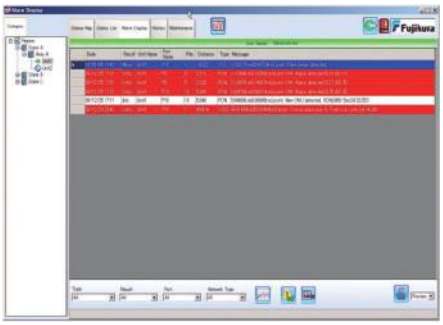
Optical Component

Items		Specifications	
WDM coupler Module		SC type, Monitoring 4 Cores/module	Total Insertion loss of WDM coupler and Filter ≤ 2.0dB Typical
Filter	Embedded SC Pigtail	1650nm Cut-Off, SC Pigtail	
	Embedded Field Installable SC Connector	1650mm Cut-Off, SC Field Installable	
	Embedded SC Adapter	1650nm Cut-Off, SC Adapter	

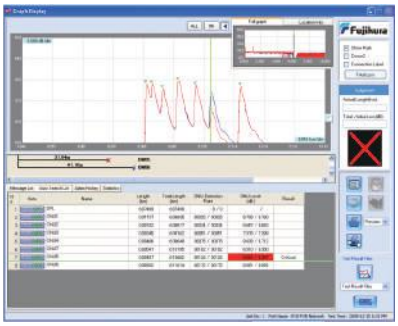
Software Function



Status Map Display



Alarm Display



Graph Display (PON monitoring)

Notes

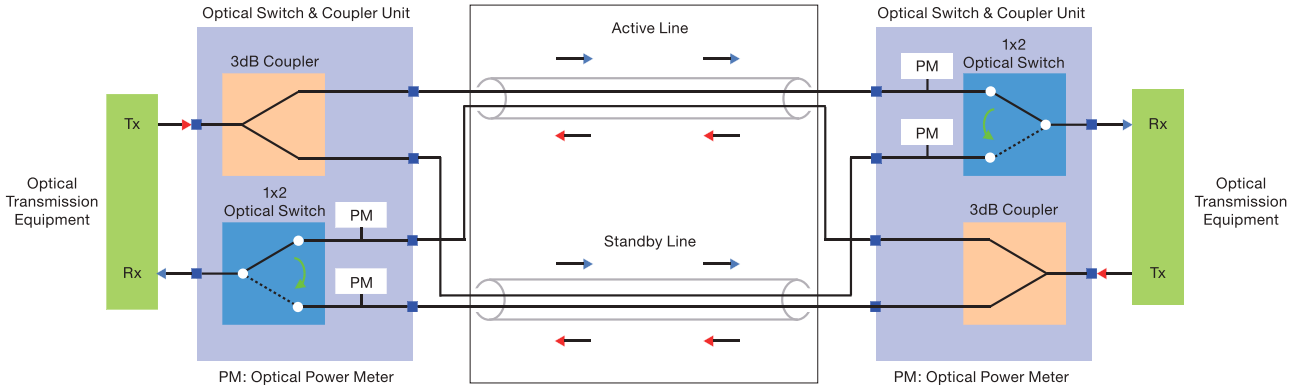
Redundant Optical Switch

- Redundant Optical Switch for switching an optical fiber path between different sets of transmission equipment.
- A redundant network is configured by monitoring an optical power level down and automatically switching the main path to a standby path if an alarm generates in the main path.

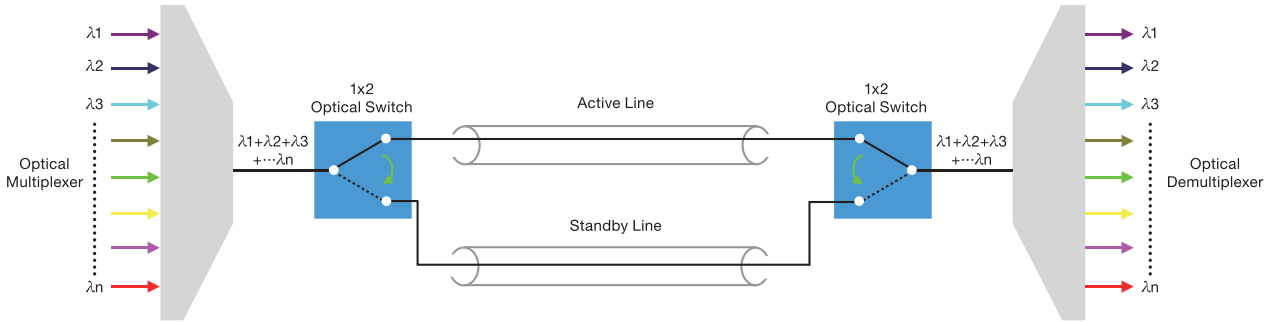
Features

- Compact size and Scalability
  Up to 8 channels per (19 inch rack 1U size)
  Hot plug-in switch unit design and unit expansion per 2 channels
- Safety Design
  Connection keeps when power supply is failed.
- Fast Switching
  Switching Speed : Less than 10ms
- Easy Operation
  Simple Network Management Protocol (SNMP) Notification
  Centalized management by OPeration System (OPS) for all redundant optical switches

Application Example 1 : Physical Line Redundancy

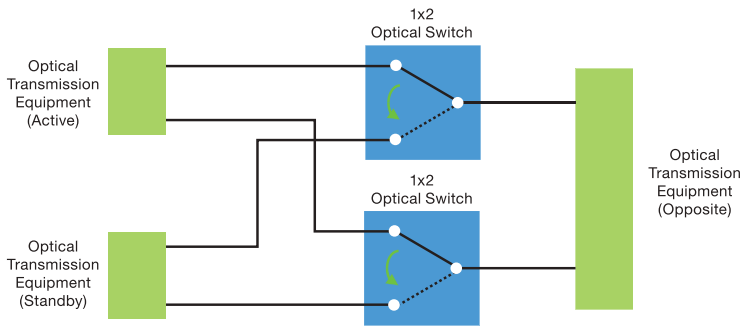


Application Example 2 : WDM Line Redundancy



Redundant Optical Switch

Application Example 3 : Optical Transmission Equipment Redundancy



Product Line-up

Product Name	Model Number	Fiber Type	Coupler	Optical Level Detection
Redundant Optical Switch Main Unit (AC)	**RSW-PFAC**	-	-	-
Redundant Optical Switch Main Unit (DC)	**RSW-PFDC**	-	-	-
Switch Coupler Unit (SM)	**RSW-SMCP**	SMF	Existence	Existence
Switch Coupler Unit (MM)	**RSW-MMCP**	MMF	Existence	Existence
Switch Unit (SM)	**RSW-SMEE**	SMF	None	None
Switch Unit (MM)	**RSW-MMEE**	MMF	None	None

Product Specifications

Items	Specifications
Type	Type 1 × 2
Operation	Latching Type
Switching Time	10 ms (4 ms (Typ))
Insersion Loss*1	Less than 2 dB (With PW monitoring) Less than 1 dB (Non PW monitoring)
Switching life	More than 10Million switches
PW Level	-40 to +10 dBm
Optical Coupler Type	1 × 2 (Split ratio 50 : 50)
Connectors LC	LC
Wavelength	SM : 1310 nm, 1550 nm MM : 850 nm
Optical fiber type	SMF (9/125 µm) MMF (50/125 µm)
Channel Number Max.	8
Slot Number	4
Interface	10/100 BASE-T
Dimension	W440 × D330 × H44 mm
Power supply	AC 85 to 265 V (AC Power Unit) DC-48 V (DC Power Unit)
Power Consumption	Less than 15 W
Operating Temperature	0 to 55 degree C
Operating Humidity*2	15 to 85 %RH

*1 Without Connector
*2 Non condensation

Notes

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ATTENTION

- Please read the instruction manual carefully before use.
- Should any problem related to the industrial property of a third party occur due to the use of the products in this catalog, we will not be liable for any responsibility if our design structure or manufacturing method is not directly involved. Seeking your kind understanding.
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