



PRODUCTS

No.	Item
1	SOC(Splice On Connector) & Field Fusion Splicer
2	Fiber Access Terminal(FAT, OTP)
3	Optical PLC Splitter
4	Optical Drop Cable(Outdoor & Indoor)
5	Fast Connector
6	Fiber Optic Patch Cord & Pigtail
8	Optical Distribution Frame (Rack Type)
9	Adapters



1. SOC(Splice On Connector)

1. Descriptions

- Cope with Defects of Fast Connector
- Field-Fusion Type
- Faster and Stable assembly
- No sleeve Heating Process required
- Simple protection process using Wing type sleeves
- Lower Insertion Loss and Return Loss
- SC/UPC, SC/APC, LC/UPC available



1.2 Technical Specifications

Item	Specification
Connector Type	SC, LC
Jacket Type	0.9, 2.0, 3.0 mm Round, 2.0, 3.0 Rectangular
Insertion Loss	≤ 0.1dB
Return Loss	UPC ≤ -55dB, APC ≤ - 65dB
Polish	UPC, APC
Operation Temperature	-40 d°C to + 75 °C



1.3 Field Fusion Splicer

- FTTH drop cable maintenance and repairing solution
- Drop cable splice closure
- Simple protection process using Wing type sleeves
- Lower Insertion Loss and Return Loss
- Tensile Force: Indoor 30N / Outdoor 100N



Item	Specification
Maker Type	Single Core
Applicable Fiber	Single-Mode (G.652 & G.657), Multi-Mode (G.651), DSF (G.653), NZDS (G.655)
Jacket Type	900 μ m, 2mm, 3mm, 3mm round, 2X3mm rectangular
Typical Average Splice Loss	0.1 dB of less
Splicing Time	10 sec
Splicing Cycle of Battery	200 splices
Electrode life	3,000 splices
Power Supply	Installed battery by Micro 5 pin USB port (Phone charger)
Dimension / Weight	110(W) X 115(L) X 60(H) mm/ 0.,65Kg



2. Splice Trays



Part No.	STT-ML	STT-MK	STT-MR
Splice slots	24	24	8
Fiber Type	Single fiber	Single fiber	Ribbon 4 or 8 fiber
Splice capacity	48 Fibers	48 Fibers	64 Fibers
Sleeve Type	fusion	fusion/mechanical	fusion

2.1 Accessories Included

1	Buffer tube	6 per tray
2	Mounting bracket	2
3	Cable Tie - Long	6
4	Cable Tie - Short	20
5	Vacuum Grease	1
6	Grounding wire	1
7	PVC Tape	1
8	Cable diameter gauge	1



Anchoring Bar (to install a closure on the wall. 1.0m long)



T-wrench (to screw/unscrew the bolts around the outer case. 25cm long.)



2.2 Splice Trays



Part No.	STT-LL	STT-LR
Splice slots	48	24
Fiber Type	Single fiber	Ribbon fiber
Splice capacity	96 Fibers	288 Fibers
Sleeve Type	fusion	Fusion/mechanical

2.3 Accessories Included

1	Buffer tube	Optional
2	Mounting bracket	2
3	Cable Tie	6
4	Vacuum Grease	2
5	PVC Tape	1
6	Branch cable bracket	2
7	Grounding wire	1



Anchoring Bar (to install a closure on the wall. 1.0m long)



T-wrench (to screw/unscrew the bolts around the outer case. 25cm long.)

3.3 Fiber Access Terminal(FAT, OTP-16 Fibers)

(Pic 3-3)

2 Inlet/16 Outlet



3.4 Technical Specifications (2 Inlet/16 Outlet)

Type	Details
External Dimension (W×D×H)	Packing Size :220×300×80 (mm)
Weight	1,400g
Possible Cable	Max 2ea (Cable Diameter 3mm~13mm)
Outgoing ports for drop cables	Max 16ea
Splice Tray	Mechanical/ Fusion (Slot No : 12ea)



3.5 Material

Material of outer boxes	PC + ASA
Tensile strength	Min. 620 kgf/cm ²
Tensile elongation	Min. 80%
Flexural strength	Min. 450 kgf/cm ²
Notched Iod Impact	Min 35kgf/cm at room temperature

3.6 Mechanical Characteristics

Test	Condition	Performance
Inlet cable retention	Apply an axial load of $D \times 1,000N / 45$ at 100cm from the edge of the box for 30 minutes.	Cable shall not slide off the box more than 1cm. Optical loss shall be less than 0.2dB
Drop cable retention	Apply an axial load of 5kg at 50cm from the edge of the box for 10 seconds.	Cable shall not slide off the box more than 1cm. Optical loss shall be less than 0.2dB
Vibration	Vibration at frequency of 10Hz ~ 55Hz ~ 10Hz / 10min for an hour.	No parts inside the box shall be separated, broken or bent. No screws shall be loosen. Optical loss shall be less than 0.2dB.
Falling	Condition the assembled box at $-20^{\circ}C \pm 2^{\circ}C$ for 2 hours. Let the box fall down to concrete ground from the 75cm height. Do the same test at $40^{\circ}C \pm 2^{\circ}C$.	There shall be no damage or crack on the box.
Temperature Cycling	Highest temperature $70^{\circ}C \pm 2^{\circ}C$ Lowest temperature : $-20^{\circ}C \pm 2^{\circ}C$ Duration : 72 hours Number of cycles : 9 cycles	There shall be no damage or crack on the box.
Artificial water falling	Spray artificial waters on the Assembled l/min from the distance of 50cm for an hour.	There shall be no evidence of the presence of water inside the closure.



3.7 Functional Characteristics

Splice slots	Both mechanical and heat shrinkable sleeves could be assembled.
Fiber arrangement	Minimum bending diameter of assembled fibers shall be 30mm.
Patch panel	8pcs ~16pcs of SC type adapters could be assembled.(Except for 1 Inlet)
Locking	A stainless steel screw
Water proof	Comply with IP65

3.8 Environmental Tests

Temperature Cycling	Operate the chamber temperature between $0\pm 2^{\circ}\text{C}$ and $-40\pm 2^{\circ}\text{C}$. Put a box inside the chamber for 9 cycles(72hours) 1 Cycle (8 hours) : 1 hour 23°C to -30°C 2 hours at -30°C 2hours -30°C to 60°C 2 hours at 60°C 1 hour 60°C to 23°C	There shall be no visible mechanical or physical damage.
Salt Fog Spray	The box shall be exposed to a salt fog spray in accordance with KS D 9502 for 96 ± 4 hours.	There shall be no rust or impurities at the external surface of the closure
Vibration	Measure and record the initial baseline value of the optical attenuation of the fibers monitored in the cable. Then the box will be subjected to a forced vibration at frequency of 10Hz ~ 55Hz ~ 10Hz / 10min for 1 hour. Measure the fiber attenuation after the vibration stopped.	The box and mounting hardware shall not exhibit any mechanical damage. There shall be no change in fiber attenuation greater than 0.2dB after the end of vibration when compared with the initial baseline values.



3.9 Fiber Access Terminal(FAT, OTP-2 Fibers)

- Wall Mount Type
- UV Protection
- LSZH, RoHS Compliant
- White OR Ivory color
- IP 43 support
- SC Simplex * 2 or LC Duplex * 2 Adapter installable



3.10 General Specification

Materials of Box	HIPS(PC + ABS)
Dimension (L * W * H)	100 * 80 * 22
Cable Inlet/Outlet	3/2
Splice Capacity	4 fibers
Temperature	-20 °C ~ 60 °C
Net Weight	0.16Kg
Temperature Cycling Terms	Over 500
Optical Attenuation after Full Installation	< 0,05



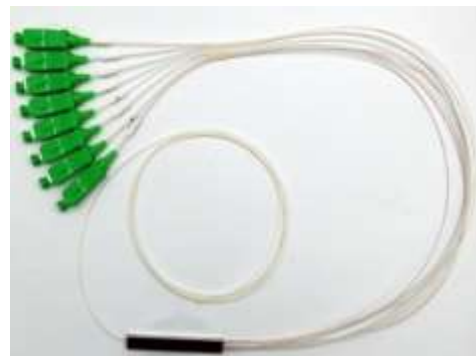
4. Optical PLC Splitter

1. Descriptions

Single mode 1XN , 2XN PLC Splitter

Optical Splitters can also be available Multi mode splitter, ITU-T G652D or G657 Fiber Available.

Comply with GR1209-CORE, GR-1221-CORE Testing



2. Characteristics

- Low Insertion Loss
- Low Return Loss
- Low PDL
- High Uniformity

4.3 Optical Specifications

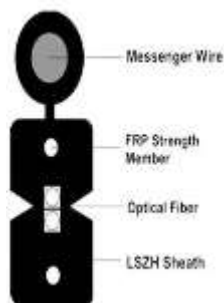
Type Parameter	Unit	1X2	1X4	1X8	1X16	1x32	1x64
Insertion Loss (IL)	dB	4.3	7.8	10.8	14.2	17.5	20.8
Return Loss (RL)	dB	≥55	≥55	≥55	≥55	≥55	≥55
PDL(dB)	dB	0.15	0.3	0.3	0.3	0.3	0.3
Uniformity	dB	0.8	0.8	1.0	1.25	1.8	1.8
Directivity	dB	≥55	≥55	≥55	≥55	≥55	≥55
Operation Temp.	-40 ~ +85 °C, Relative humidity: ≤ 95% RH.						

4.4 Mechanical Specifications

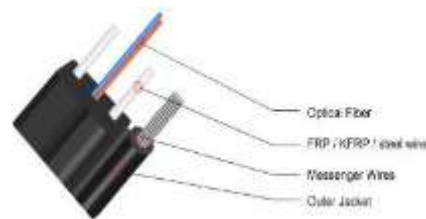
Configuration		1 x 2,4, 8	1 x 16, 1x 32	1 x 64
Package	Material	Stainless Steel		
	Dimension(mm) (L x W x H)	40 x 4 x 4	60 x 7 x 4	58 x 12 x 4
Other Package		Customize		



5. Optical Drop Cable(Out Door)



Outdoor 2 Core FTTH Fiber Drop Cable



FTTH Self-supporting Bow-type stranded steel type Drop Cable

1. Descriptions

The typical self-supporting bow-type drop fiber optic cable consists of SN-GJXFH/SN-GJXH cable, and an additional strength member (steel wire or 0.33mm*7 stranded steel wire).

2. Characteristics

Novel groove design, easily strip and splice, simplified installation and maintenance, higher tensile strength

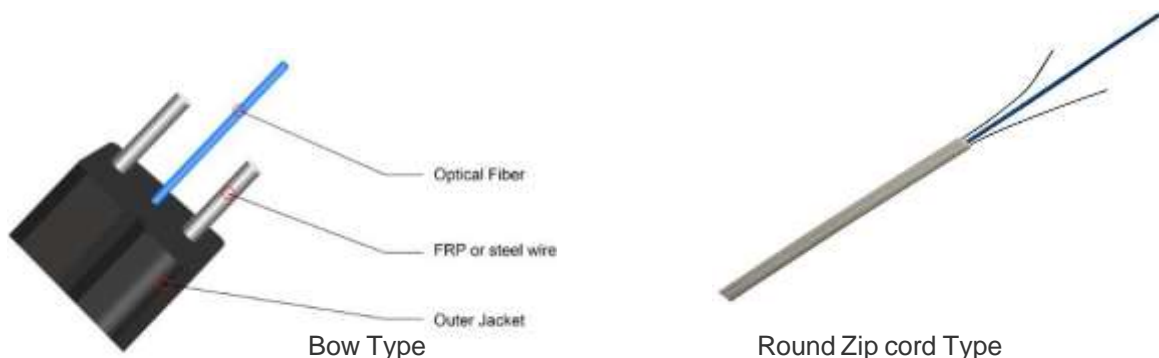
Suitable as cable extending from outdoor (as aerial cable) to indoor Low smoke, zero halogen and flame retardant sheath, environment-friendly, good safety

3. Technical Specifications

Fiber Counts	Cable Diameter (mm)	Weight (kg)	Tensile Strength Long/Short Term(N)	Crush Resistance Long/Short Term (N/100mm)	Bending Radius Static/Dynamic (mm)
SN-GJXFH-1	2.0*5.0	21	60/30	1000/300	15/30
SN-GJXFH-2	2.0*5.0	21	60/30	1000/300	15/30
SN-GJXFH-4	2.0*5.6	21.5	60/30	1000/300	15/30
SN-GJXH-1	2.0*5.0	21	60/30	1000/300	15/30
SN-GJXH-2	2.0*5.0	21	60/30	1000/300	15/30
SN-GJXH-4	2.0*5.6	21.5	60/30	1000/300	15/30



5.4 Optical Drop Cable(Indoor)



5. Descriptions

Simple structure, light weight, high tensile strength,
 Novel groove design for easy stripping, splicing, simplified installation and maintenance

Compliant with LSZH, flame retardant sheath, environment-friendly and good safety
 The typical bow-type drop optical cable includes central optical fibers with 2 parallel KFRPs or steel wire as the strength members placed on both sides, a LSZH or PVC sheath is extruded outside

6. Characteristics

Fiber	G652 D, G657 A1 G657 A2, etc
Strength Member	2 Pcs Metallic, FRP, KFRP with 0.50 ± 0.10 mm diameter
Fiber Count	1~12 fibers
Outer Sheath	PVS or LSZH available White, Ivory and black color Dimension : $2.0 H \times 3.0 W \pm 0.1$ mm OR $2.0 H \times 4.0 W \pm 0.1$ mm Marking available according to customer request



5.7 Technical Parameter

Fiber Counts	Cable Diameter (mm)	Weight (kg)	Tensile Strength Long/Short Term(N)	Crush Resistance Long/Short Term (N/100mm)	Bending Radius Static/Dynamic (mm)
SN-GJXFH-1	2.0*3.0	8	60/30	1000/300	15/30
SN-GJXFH-2	2.0*3.0	28.5	60/30	1000/300	15/30
SN-GJXFH-4	2.0*4.0	10	60/30	1000/300	15/30
SN-GJXH-1	2.0*3.0	9	60/30	1000/300	15/30SN-
SN-GJXH-2	2.0*3.0	9.5	60/30	1000/300	15/30
SN-GJXH-4	2.0*4.0	10	60/30	1000/300	15/30

5.8 Technical Specifications

Tensile properties of Indoor FTTH Cable		
Item	Units	Index
Pulling Load (short time)	N	≤ 80
Pulling Load (long time)	N	≤ 40
Crush load (short time)	N/100mm	≤ 1000
Crush load (long time)	N/100mm	≤ 500
Bend radius (static)	mm	≥ 15
Bend radius (Dynamic)	mm	≥ 30
Environmental conditions of Indoor FTTH Cable		
Item	Units	Index
Storage temperature range	°C	-40 to +70
Install the temperature range	°C	-0 to +50
Operating temperature range	°C	-20 to +70
Package of Indoor FTTH Cable		
Item	Index	
Length and packaging	1000m/Plywood Reel	
Plywood reel size	250x110x190mm	
Carton size	260x260x210mm	
Net weight	8.0 kg/km	
Gross weight	9.0 kg/Box	



6. Fast Connector

(Pic 7-1)

1. Descriptions

Field Assembly Optical Connector (Fast Connector) is designed for fast and simple field termination of single fiber, without polishing or epoxy. Fast connector is made with precision and high quality Zirconia ferrules and provides a highly reliable connection in most of the network application.

The SC type is available with 250/900um buffered fiber, 2.0mm, 1.6mm x 2.0mm, 2.0mm x 3.0mm and 3.0mm jacket cable. The universal type is also available, which is suitable for all of the 250/900um, 2mm and 3mm, 2.0mm x 3.0mm cable diameter



2. Characteristics

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- Comply with TIA/EIA and IEC
- Quick and easy fiber termination
- RoHS compliant
- Reusable termination capability [Up to 5 times]
- Insertion Loss $\leq 0.30\text{dB}$, Back Reflection Loss $\leq -55\text{dB}$ (APC : $\leq -60\text{dB}$)
- Operating Temperature : $-20 \sim 65^\circ\text{C}$, Relative humidity: $\leq 95\% \text{ RH}$
- The tensile strength of splicing point $\geq 5\text{N}$, the covered wire $\geq 20\text{N}$
- No special tools required
- Available connector type : SC/APC, LC/PC, FC/APC, ST
- The total length $\leq 58\text{mm}$

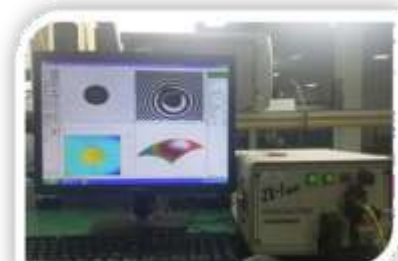
6.3 Technical Specification



7. Fiber Optic Patch Cord & Pigtail

1. Characteristics

- Comply with : JIS C-5973, IEC, Telcordia
- Optical performance 100% factory tested
- Most type of connectors are available : SC , FC, LC, MU, ST, DIN and E2000
- Customized assemblies available include of length, connector type and performance
- Precision ceramic ferrule(Concentricity $\leq 1.0\mu\text{m}$) with end-face geometry per IEC proposal
- PVC, LSZH jacket available
- Optical fiber & cable length depend on customer requirement(G652D, G657)
- Color of Pigtail jacket complies with TIA/EIA-598 standard



7.2 Technical Specifications

Characteristics	Conditions	Value
Insertion Loss	Against Reference Connector	<0.15dB, <0.3dB
Return Loss	UPC	>55dB
	APC	>65dB
Mating times	$\geq 1,000$	<0.2dB
Temperature Cycling	-40° ~+80° C(21Cycles), 168 hr	<0.2dB
Humidity Cycling	-10° ~+65° C, 95%RH, 168hr	<0.2dB
Vibration	20G, 20~2000Hz, 4min/Cy, 4Cy/axis, 6 axis	<0.2dB
Flex Test	0° ->90° ->0° ->90°, 5Kgf(100Cycles)	<0.2dB
Twist Test	$\varnothing 0.9\text{mm}:0.7\text{Kgf}$, $\varnothing 2.0\text{mm}:1.53\text{Kgf}$	<0.2dB
Straight Full test	100N Load, 5 sec at least	<0.2dB
Impact	5 times/direction, 6 6 direction, 500G, 1 ms	<0.2dB



8. Optical Distribution Frame (Rack Type) & Accessories

1. Descriptions

Adapter Plate, Optical Fiber Transmission, Fiber Patch Cord and Fiber Optical Cable can be installed in ODF Termination Equipment, and Fiber Repeater Equipment in order to connect and switch also can be installable



(Cabinet Type : SN-ODF-CT48)



(Drawer Type : SN-ODF-DR24)

8.2 Characteristics

- The acrylic upper palate(cover, Drawer Type) supports the eye inspection of what inside of ODF
- Cable entry optional from the right or left, backside of ODF
- Both 19" and ETSI rack mounting available
- Available fiber capacity is up to 144-fibers in 5U
- Adapter plate can be changeable to fix adapter with 30 degree angle
- 1 U covers up to 24 SC/APC adapters
- Working temperature : -40 ~ + 80 °C, Relative humidity: ≤ 95% RH
- Durability ≥ 1,000 times

8.3 Technical Specifications

ITEM	SPECIFICATION (Cabinet Type)	SPECIFICATION (Drawer Type)
Size (mm)	W(485) × D(305) × 2U(135)	W(520) × D(310) × 2 U(112)
Splice Capacity	48fibers with 1~4 U	48fibers with 2U
Material	Powder coated iron	Powder coated iron or Aluminum
No of Splice Tray	2~4	2~4

9. Adapters

- Compliant with : JIS C-5973, IEC, Telcordia
- Ceramic or phosphorous bronze sleeves available
- Convenience and easy of handling
- Flanged or threaded mounting hardware
- Various types are available(SC, FC, ST, LC, MU and E2000)



9.1 Technical Specification

Characteristics	Conditions	Value
Mating Durability	Cycling rate > 3sec, 1,000 times	<0.15B
Temperature Cycling	-40° ~+80° C(42Cycles)	<0.15dB
Humidity Cycling	75° C, 95%/336hr	<0.15dB
Vibration	10~55Hz(2hr)	<0.15dB
Impact	1.5m drop, 8 times	<0.15dB
Coupling	40N +/-1N, 120sec	<0.15dB