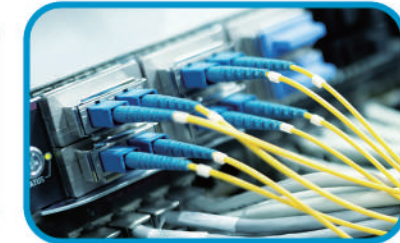


Excellent Quality
Service Worldwide



DATA CENTER



FTTX SOLUTIONS

深圳宏安通信科技有限公司

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深圳宏安通信科技有限公司
Shenzhen Sopto Technology Co.,Ltd

COMPANY PROFILE

Shenzhen Sopto Technology CO., LTD, hereafter called as Sopto, is a hi-tech enterprise specialized in R&D, manufacturing marketing and solution service of ICT network infrastructure. Sopto, which was established in 2006 and Shenzhen Sopto was founded in 2010, is one of the biggest subsidiaries of Hongan Group, located in Shenzhen China with 350+ employees, 3 factories and one main oversea sales center office. Sopto provides first-rate products and comprehensive FTTX solution, site(LTE) solutions, and Data Center solutions to domestic and overseas telecom operators, ICT equipment manufacturers and network integrators. Our product portfolio covers GPON/EPON equipment, Fiber transceivers, media converters, indoor/outdoor cables, PLC splitter, Fiber Patch Cord, Structured cabling system and ODN Products.

Sopto's main market is in Europe, the Americas, Southeast Asia, the Middle East and other countries. In order to meet customer demand and provide better service to our customers, First overseas branch company was set up in Myanmar in 2015 and invested and joint venture the PON equipment and PLC splitter factory in 2016.

At present, Sopto provides high quality products and services to customers in more than 130 countries and regions, including over 10 fields like Internet enterprises, Operators, finance, education, medical institutions and government departments. Through our expertise in the ICT sector and continuous customer-centric innovation, we will provide more competitive solutions and professional engineering services for customers.

Sopto would be your best partner for high-quality fiber optical network solutions.

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Outdoor Fiber Cable Indoor Fiber Cable Network Cable

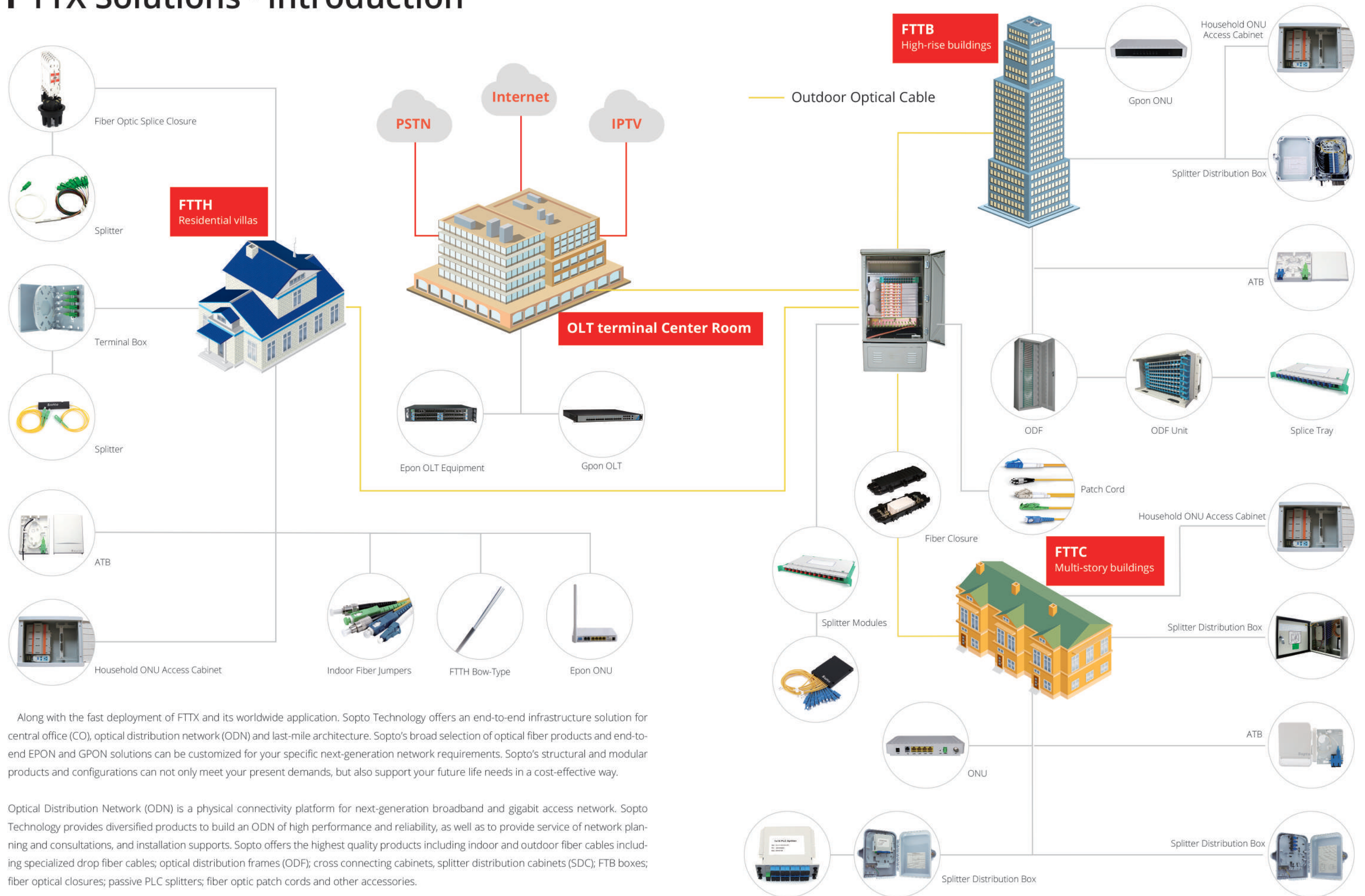
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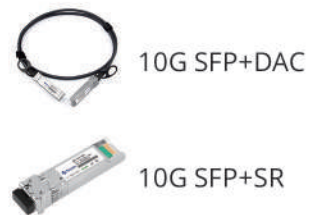
Fusion Splicer Power Meter OTDR Fiber Tools

FTTX Solutions · Introduction



Optics for the Data Center

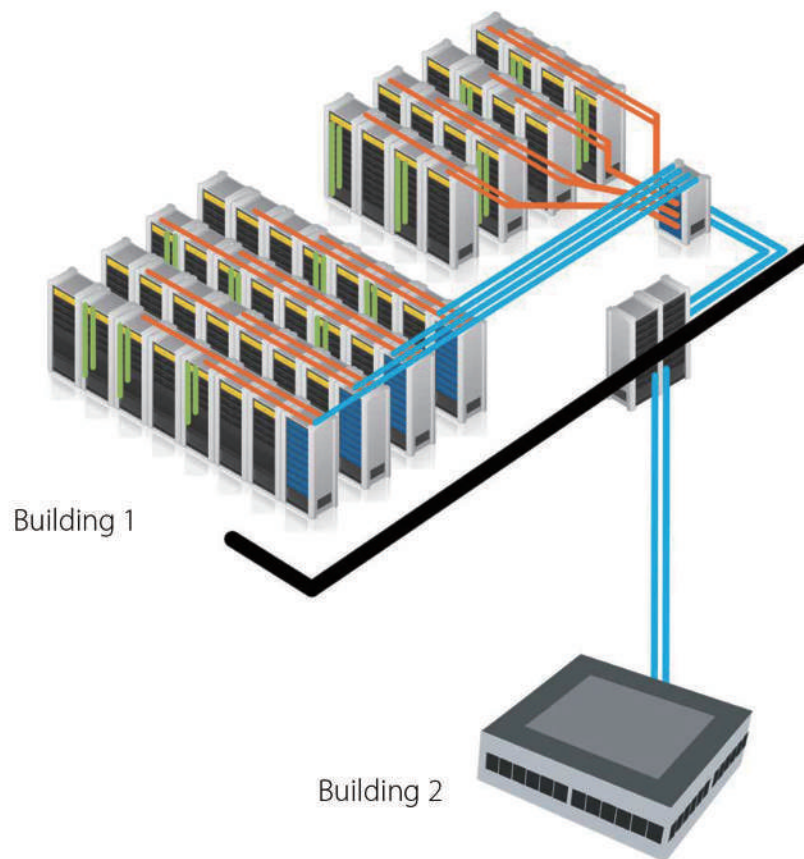
Intra-rack



Inter-building



Inter-rack



— 10/25G Intra-rack
— 10/25/40/100G Inter-rack
— 10/25/40/100G Long span/Inter-building

Ethernet

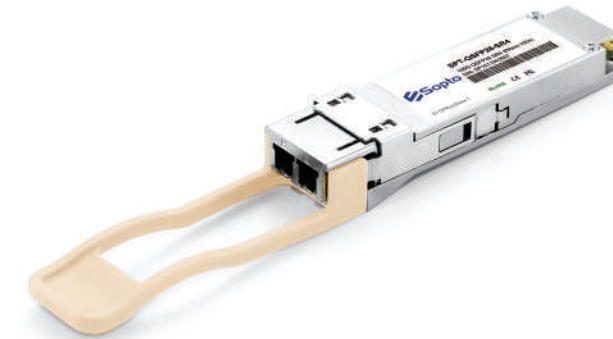
100G QSFP28

Distance: IR4 SR4 LR4 and ER4
MPO/MTP and LC connector
4x25G electrical interface

Operating

Temperature: Commercial

- ◆ Data Centers Switch Interconnect
- ◆ InfiniBand QDR and DDR Interconnects
- ◆ Server and Storage Area Network Interconnect
- ◆ Routers and Transport Interfaces in Core Networks



40G QSFP+

Distance: SR BIDI, SR4, IR4, CSR4, LR4 and ER4
MPO/MTP and LC connector
4x10.3G per channel

Operating

Temperature: Commercial

- ◆ Data Centers Switch Interconnect
- ◆ InfiniBand QDR and DDR Interconnects
- ◆ High Performance Computing Interconnect



Ordering Information

SPT-QSFP28-(M)XX	Optical Transceiver 100G QSFP28 XX=IR4/ SR4/ LR4/ ER4
SPT-QSFP+(M)XX	Optical Transceiver 40G QSFP+ XX=SR4/ CSR4/ IR4/ LR4/ ER4
SPT-QB8940G-SR	Optical Transceiver 40G QSFP+ SR Dual Fiber BIDI

M refers to when connector is MPO/MTP

Ethernet



25G SFP28

Form factor: Dual fiber SFP28

Distance: SR, LR

Operating

Temperature: Commercial and Industrial

- ◆ Identical in mechanical dimensions to SFP and SFP+
- ◆ 25GBASE interface, evolved from 100 Gigabit Ethernet which is typically implemented with 4 × 25 Gbit/s data lanes

10G SFP+

Form factor: Dual fiber SFP+

WDM & CWDM & DWDM SFP+

Distance: SR, LRM, LR, ER, ZR, ZR+, ZR++ (120KM)

Operating

Temperature: Commercial and Industrial

- ◆ Supports digital diagnostic monitoring (DDM)
- ◆ Interoperability with 10G XENPAK, 10G X2, and 10G XFP interfaces on the same link



10G XFP

Form factor: Dual fiber XFP

WDM & CWDM & DWDM XFP

Tunable DWDM XFP

Distance: SR, LRM, LR, ER, ZR, ZR+, ZR++ (120KM)

Operating

Temperature: Commercial and Industrial

- ◆ Supports digital diagnostic monitoring (DDM)
- ◆ Interoperability with 10G XENPAK, 10G X2, and 10G SFP+ interfaces on the same link

Ethernet

Ordering Information

SPT-SFP28-XX	Optical Transceiver 25G SFP28 XX=SR/LR
SPT-P**TG-XX	Optical Transceiver 10G SFP+ XX=LRM/ SR/ LR/ ER/ ZR/ ZR+/ ZR++
SPT-PB**TG-LXX	Optical Transceiver 10G BIDI SFP+ XX=10KM / 40KM/ 60KM/ 80KM
SPT-XFP-XX	Optical Transceiver 10G XFP XX=LRM/ SR/ LR/ ER/ ZR/ ZR+
SPT-XB**TG-LXX	Optical Transceiver 10G BIDI XFP+ XX=10KM / 40KM/ 60KM/ 80KM

** refers to the wavelength. Eg: 2733=TX1270nm/RX1330nm

In BIDI SFP+'s PN, "L" refers to LC connector. If the connector is SC, "S" replace "L"



1.25G SFP

Form factor: Dual fiber SFP Copper SFP CSFP

SGMII SFP

WDM & CWDM & DWDM SFP

Distance: 100m up to 150km

Operating

Temperature: Commercial and Industrial

- ◆ Supports digital diagnostic monitoring (DDM)
- ◆ Interoperability with GBIC/SFP/1x9 on the same link

125M SFP

Form factor: Dual fiber SFP

Copper SFP

WDM & CWDM & DWDM SFP

Distance: 100m up to 150km

Operating

Temperature: Commercial and Industrial

- ◆ Supports digital diagnostic monitoring (DDM)
- ◆ Interoperability with SFP/1x9 on the same link



Ethernet

Ordering Information

SPT-P**1G-XXD	Optical Transceiver 1.25G SFP XX=550m or 10km or 40 km upto reach 150km
SPT-PB**1G-LXXD	Optical Transceiver 1.25G SFP BIDI XX=550m or 10km or 40 km upto reach 120km
SPT-PC**1G-LXXD	Optical Transceiver 1.25G CWDM SFP XX=550m or 10km or 40 km upto reach 140km
SPT-PD**1G-LXXD	Optical Transceiver 1.25G DWDM SFP XX=550m or 10km or 40 km upto reach 140km

**refers to the wavelength. Eg: 13=1310nm
In BIDI SFP+'s PN, "L" refers to LC connector. If the connector is SC, "S" replace "L"
D refers to DDM function

LTE



CPRI OBSAI LTE SFP

Form factor: SFP and SFP+ CWDM & DWDM
Data rate: 3.072G/6.144G/10.3125G
Distance: From 2km up to 80km
Operating Temperature: Commercial and Industrial
◆ Supports digital diagnostic monitoring (DDM)

Ordering Information

SPT-P**3G-LXXD	Optical Transceiver 3.072G SFP XX=2KM, 10KM, 20KM,40KM,80KM
SPT-P**6G-LXXD	Optical Transceiver 6.144G SFP XX=2KM, 10KM, 20KM,40KM,80KM
SPT-P**10G-LXXD	Optical Transceiver 10.3125G SFP XX=2KM, 10KM, 20KM,40KM,80KM

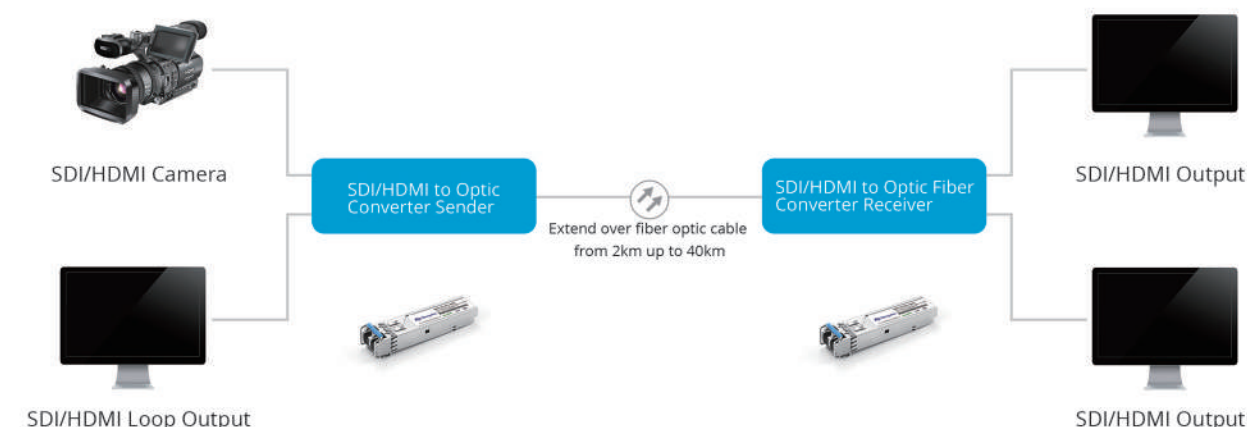
Video

Video SFP

Form factor: Single Tx & Single Rx SFP
Dual Tx & Dual Rx SFP
Transceiver SFP
CWDM & DWDM SFP

Date rate: From 50 Mbps to 3Gbps
Distance: 2km up to 60km

Operating Temperature: Commercial and Industrial
◆ Supports digital diagnostic monitoring (DDM)
◆ SMPTE 297-2006 compatible
◆ Supports SD-SDI, HD-SDI and 3G-SDI

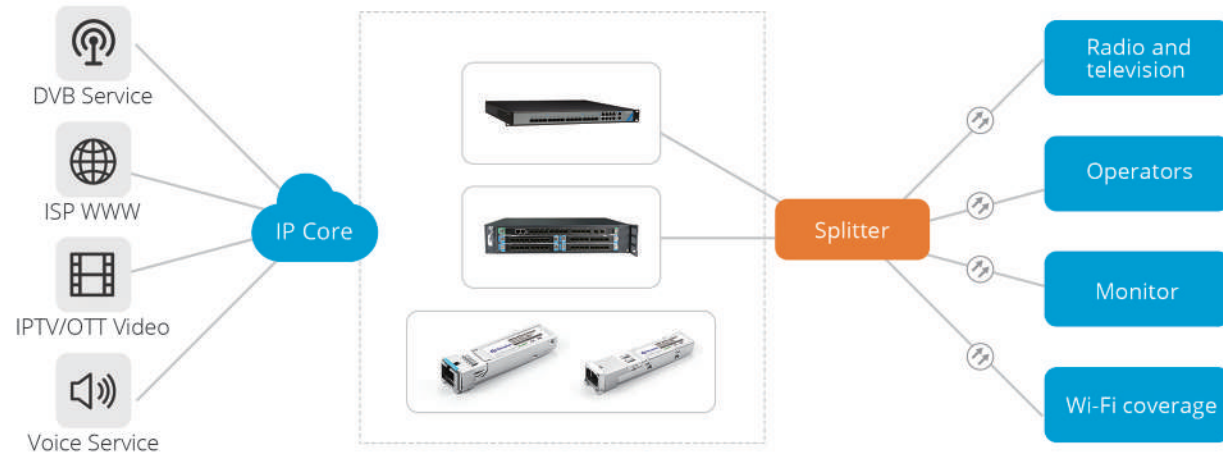


Ordering Information

SPT-P2T13V3-XX	Optical Transmitter 2.97G Video SFP Dual TX,1310nm,LCXX=2KM,20KM,40KM
SPT-P1RV3-40	Optical Receiver 2.97G Video SFP single Rx, PIN photodetector ≤40KM
SPT-P2RV3-40	Optical Receiver 2.97G Video SFP Dual RX, PIN photodetector ≤40KM
SPT-P13V3-XX	Optical Transceiver 2.97G Video SFP,1310nm,LC, XX=2KM, 20KM,40KM
SPT-PB**V3-LXX	Optical transceiver 2.97G Video SFP, 1310nm, LC, XX=2KM, 20KM, 40KM

** refers to the wavelength. Eg:35=TX1310nm/RX1550nm

XPON



GPON SFP

Distance:

Up to 20km at 9/125μm G.652 SMF
SC receptacle, both ONU and OLT series
Digital Optical Monitoring (DOM) support
Operating Case Temperature Commercial and Industrial
Complies with ITU-T G.984.2 class B+ and C+



GEAPON SFP

Distance:

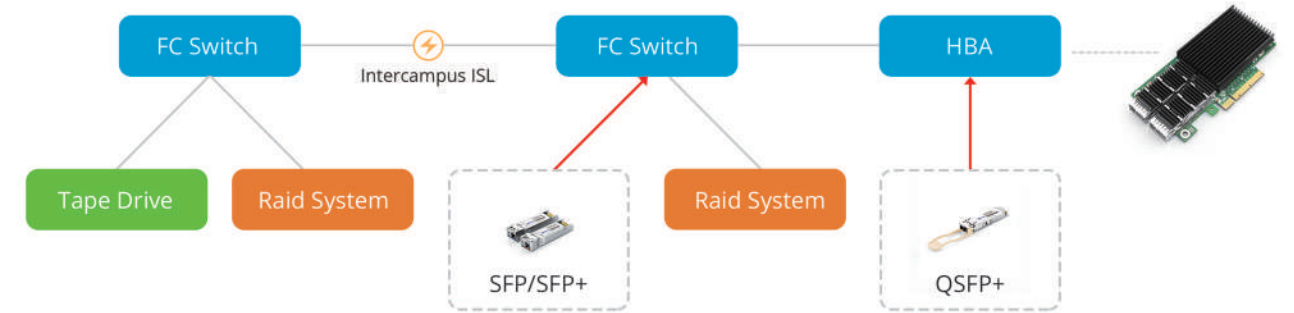
Up to 20km at 9/125μm G.652 SMF
SC receptacle, both ONU and OLT series
Digital Optical Monitoring (DOM) support
Operating Case Temperature commercial and industrial
Compliant With IEEE 802.3ah-2004, PX20+ and PX20++

Ordering Information

SPT-GT4321-SB2BD	Optical Transceiver GPON OLT SFP Class B+
SPT-GT4321-SC2AD	Optical Transceiver GPON OLT SFP Class C+
SPT-GU3412-SB2BD	Optical Transceiver GPON ONU SFP
SPT-ET4311-SE2AD	Optical Transceiver GEAPON OLT SFP PX20+
SPT-ET4311-SE2CD	Optical Transceiver GEAPON OLT SFP PX20++
SPT-EU3411-SE2AD	Optical Transceiver GEAPON ONU SFP

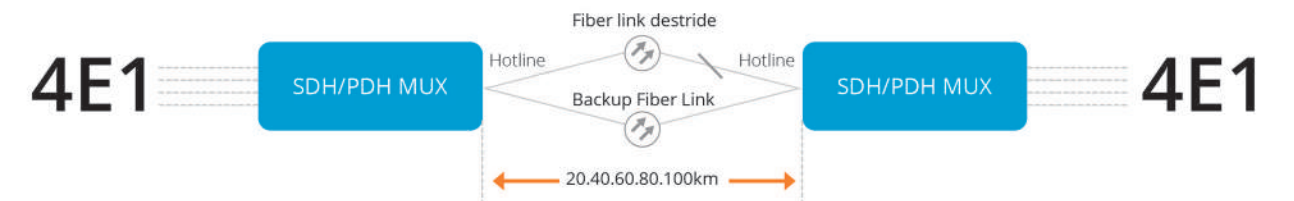
Need to confirm ONU SFP Laser is on when Tx_Burst is low or high.
D refers to DDM function

Fiber Channel&SDH



Fiber Channel SFP

Form factor: SFP and SFP+ CWDM & DWDM
Data rate: 2.125G, 4.25G, 8.5G
Distance: From 2km upto 80km
Operating Temperature: Commercial and Industrial
◆ Supports digital diagnostic monitoring (DDM)



SDH/SONET SFP

Form factor: SFP and SFP+ WDM & CWDM & DWDM
Data rate: STM-1/STM-4/STM-16/STM-64
Distance: From 2km upto 80km
Operating Temperature: Commercial and Industrial
◆ Supports digital diagnostic monitoring (DDM)

DAC(Direct Attach Copper Cable)

100G QSFP28 DAC

Form factor: QSFP28 to QSFP28
QSFP28 to 4*25G SFP28 breakout DAC
Max distance: 3 meters
Datarate: 100 GB/s (4 x 25.78 GB/s)
Operating Temperature: Commercial and Industrial
Application: 100GbE, QDR InfiniBand



40G~56G QSFP+ DAC

Form factor: QSFP+ to QSFP+
QSFP+ to 4 SFP+ breakout DAC
Max distance: 10 meters
Datarate: 40Gbs and 56Gbs
Operating Temperature: Commercial and Industrial
Application: 40GbE, QDR InfiniBand, SAS & Fiber Channel



25G SFP28 DAC

Form factor: SFP28 to SFP28
Max distance: 7 meters
Datarate: multi-gigabit data rates up to 25Gbp
Operating Temperature: Commercial and Industrial
Application: 25GBASE Ethernet



10G SFP+ DAC

Form factor: SFP+ to SFP+
Max distance: 10 meters
Datarate: Multi-Gigabit upto 10.5G, backward compatible to 1Gbps
Operating Temperature: Commercial and Industrial
Application: Ethernet, Fiber Channel



AOC(Active Optical Cable)

100G QSFP28 AOC

Form factor: QSFP28 to QSFP28
Max distance: 70m on OM3(MMF) 100m on OM4(MMF)
Datarate: 100 GB/s (4 x 25.78 GB/s)
Operating Temperature: Commercial
Application: 100GbE, QDR InfiniBand



40G~56G QSFP+ AOC

Form factor: QSFP+ to QSFP+ QSFP+ to 4*SFP+ breakout AOC
QSFP+ to 8*LC Connectors breakout AOC
Max distance: 100m on OM3(MMF) 150m on OM4(MMF)
Datarate: 40Gbs and 56Gbs
Operating Temperature: Commercial
Application: 40GbE, QDR InfiniBand, SAS & Fiber Channel



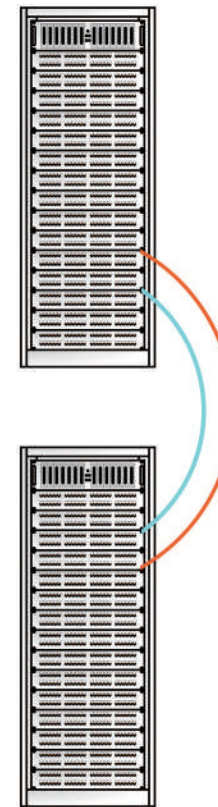
25G SFP28 AOC

Form factor: SFP28 to SFP28
Max distance: 100 meters
Datarate: multi-gigabit data rates up to 25Gbps
Operating Temperature: Commercial
Application: 25GBASE Ethernet



10G SFP+ AOC

Form factor: SFP+ to SFP+
Max distance: 100 meters
Datarate: From 1G to 11.3Gbps
Operating Temperature: Commercial
Application: 1&10GbE, 1*QDR InfiniBand, Fiber Channel



GPON

Features of GPON Products

- ◆ Meet ITU-T G.984/G.988 standard and relative GPON standards of Chinese Communication Industry
- ◆ Support OMCI remote management for ONT/ONU, compatible with ITU-T G.984.4/G.988 OMCI Protocol
- ◆ Standalone 1U 8 or 16PON compact design of OLT products
- ◆ SFU, HGU series ONT products, Meet the needs of the different scenarios of networking
- ◆ The complete layer 2 switching function
- ◆ Layer 3 Switching Function (in development)
- ◆ The QOS security
- ◆ Easy-to-use management system
- ◆ 1 USB interface



GPON OLT

16PON GPON OLT

- ◆ 1U GPON OLT Chassis
- ◆ 16*GPON OLT ports
- ◆ 4*GE uplink SFP ports + 4*GE uplink UTP Ports(combo)
- ◆ 2*10GE SFP+ uplink port

GPON ONU

SPU-G1200AW-HR

- ◆ 1*10/100/1000M ports
- ◆ 1* CATV POT
- ◆ 1*GE Fiber Port(1550nm)
- ◆ WIFI

Ordering Information

SPO-GS16424	1U GPON OLT,16*PON ports,4*GE SFP slots + 4*GE UTP ports(combo) + 2*10GE SFP+ slots
SPO-GS8424	1U GPON OLT,8*PON ports,4*GE SFP slots + 4*GE UTP ports(combo) + 2*10GE SFP+ slots
SPU-G120(W)	GPON ONU 1*GE Ethernet interface +(WIFI Optional)
SPU-G420	GPON ONU 4*GE Ethernet interface +1 GPON interface
SPU-G420(W)	GPON ONU 4*GE Ethernet interface +(WIFI Optional)
SPU-G1200A(W)	GPON ONU 1*GE Ethernet interface +1*CATV+(WIFI Optional) AGC built-in FWDM
SPU-G4200A(W)	GPON ONU 4*GE Ethernet interface +1*CATV+(WIFI Optional) AGC built-in FWDM

EPON

Features of EPON Products

- ◆ Max PON Ports up to 40
- ◆ With 1:64splitting ratio at most
- ◆ Maximum Transmission distance: 20km (1:32 splitting ratio)
- ◆ 10/100M and 10/100/1000M auto-adapting Ethernet ports, support downlink rate 1.244Gbit/s, uplink rate is 1.244Gbit/s
- ◆ Series products: pizza-box, card, compact, and outdoor types of OLT products; data, CATV, WIFI, POTS, MDU, outdoor, HGU types of ONU products for different networking and needs
- ◆ The completed layer 2 switching function
- ◆ Design to meet the requirement of the broadband access network and hot-pluggable
- ◆ The QOS function to realize stable and efficient dynamic bandwidth allocation (DBA)
- ◆ Support OAM function including IGMP Proxy and Snooping function etc
- ◆ Support Telnet and local command lines management, EMS management based on standard SNMP protocol
- ◆ Fully compatible with IEEE802.3ah standard, and CTC2.0/CTC2.1/CTC3.0 standard



EPON OLT

SPO-EC40

- ◆ 3U EPON OLT Chassis
- ◆ OLT Control Card
- ◆ 8 * PON Ports + 8 * GE Uplink
- ◆ SFP Ports + 2 * 10GE SFP+ Ports EPON Cards(1-4pcs)
- ◆ 8 * SFP PON Ports/PC

EPON ONU

SPU-G4201AW-HR

- ◆ 4 * 10/100/1000M Ports
- ◆ 1 * CATV Port
- ◆ 1 * GE Fiber Port (1550nm)
- ◆ WIFI

Ordering Information

SPO-ES16424	1U EPON OLT,16*PON ports,4*GE SFP slots + 4*GE UTP Ports(combo) + 2*10GE SFP+ slots
SPO-GS8444	1U EPON OLT,8*PON ports,4*GE SFP slots + 4*GE UTP Ports + 4*10GE SFP+ slots
SPO-ES8808	1U EPON OLT,8*EPON OLT ports,8*GE uplink SFP ports + 8*GE uplink UTP Ports
SPO-ES4400	Outdoor EPON OLT,4*EPON OLT ports,4*GE uplink UTP Ports
SPU-E120 (W)	EPON ONU 1*GE Port (WIFI Optional)
SPU-E410(W)	EPON ONU 4*FE Ethernet interface +(WIFI Optional)
SPU-E4200A(W)	EPON ONU 4*GE Ethernet interface +1*CATV+(WIFI Optional) AGC built-in FWDM

EOC

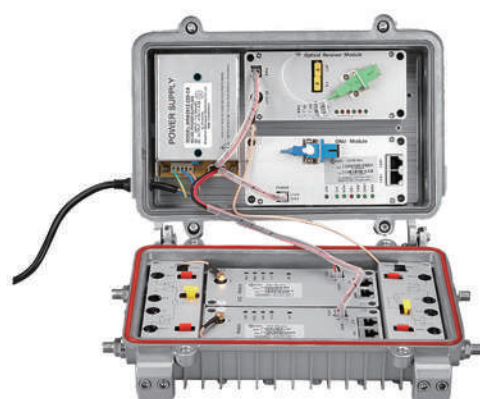
Indoor Type EOC Master

- ◆ HomePlug AV or IEEE1901 standard
- ◆ AR7410 chipset EOC Module
- ◆ Two 10/100/1000M Auto-negotiation Ethernet ports
- ◆ Two TV input port
- ◆ Two Cable output port
- ◆ Support WEB, CLI, SNMP based network management
- ◆ Aluminum alloy die casting shaping, good heat dissipation



All In One EOC Master(Outdoor Type)

- ◆ With two EOC Master modules, one ONU module and one OR module
- ◆ Outdoor waterproof designed
- ◆ One CATV optical input, two or four TV+ DATA mixed output
- ◆ OR support AGC
- ◆ CATV RF output up to 108dBuV
- ◆ ONU module compliant with IEEE802.3ah and CTC2.1 standards.
- ◆ ONU module provides two auto-negotiation GE ports
- ◆ Support the EMS network based on SNMP



Ordering Information

Indoor type	SPE-7201	Built-in one 74 series chipset EOC Module: 1 TV input port,1Cable (mixed signals). output port, 1*10/100/1000M UTP uplink ports,220V AC power supply.
	SPE-7202	Built-in one 74 series chipset EOC Module: 2 TV input port,2Cable (mixed signals). output port, 1*10/100/1000M UTP uplink ports,220V AC power supply.
Outdoor type	SPE-7932	Built-in one PON ONU Module, one OR module and two 74 series chipset EOC Modules. One PON uplink port, one CATV optical input, two TV+ data mixed output port. Outdoor waterproof designed. 220VAC or 60VAC power supply.
	SPE-7934	Built-in one PON ONU Module, one OR module and two 74 series chipset EOC Modules. One PON uplink port, one CATV optical input, four TV+ data mixed output port. Outdoor waterproof designed. 220VAC or 60VAC power supply.

Note: 1.PON ONU Module refers to EPON ONU Module or GPON ONU Module
2.Built-in WDM optional in OR Module

EOC Slave

- ◆ Based on HomePlug AV solution
- ◆ Reside at subscribers home
- ◆ Support the isolation of slave under one master
- ◆ One or four 100M auto-negotiation Ethernet port
- ◆ One TV output port and one cable input for CATV Service
- ◆ 5-65Mhz frequency for EOC signals., no influence on CATV Service (Data Service)
- ◆ Optional Wifi function
- ◆ Support WEB, CLI and SNMP management



SPE-5301 CE



SPE-5204WL-R

Ordering Information

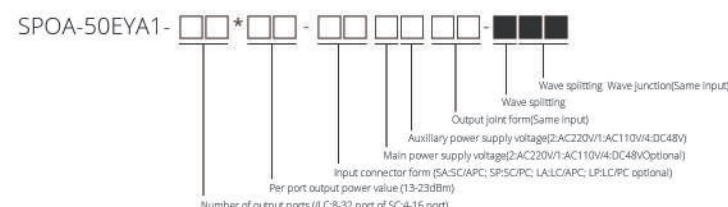
Nomal	SPE-5301CE	1*10/100M Ethernet interface, 1 RF input, plastic casing, external power supply adapter
	SPE-5204L	4 ETH + 1*TV Output RF Port +1*Cable(Mix) Input RF Port,12V DC External power supply adapter
With Wifi	SPE-5204WL-R	4*10/100M UTP Port(2 ETH2,LAN related to Wifi)+ 1*TV Output RF Port +1*Cable (Mix) Input RF Port+WIFI,12V DC External power supply adapter
	SPE-5204W2-R	4 LAN user ports+ 1*TV Output RF Port +1*Cable(Mix) Input RF Port+WIFI, plastic casing,12V DC external power supply adapter

EDFA

1550nm High Power Optical Amplifier

Features

- Using erbium and ytterbium Co doped double clad fiber technology
- The built-in low noise preamplifier without EDFA cascade reduces the deterioration of CNR and MER greatly
- The output port is optional:
1U:SC connector 4~16 ports optional;LC connector 8~32 ports optional, WDM can be selected
2U:SC connector 16~64 ports optional; LC connector 32~128 ports optional; optional WDM
- Low noise coefficient: 0dBm input < 5dB
- The perfect network management interface, conforms to the SNMP network management protocol
- The server's mature dual power hot backup structure and the intelligent temperature control system controlled by microcomputer can effectively improve the system reliability
- The output power +0.5~-4dBm is adjustable

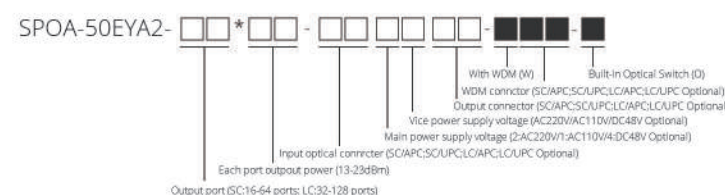
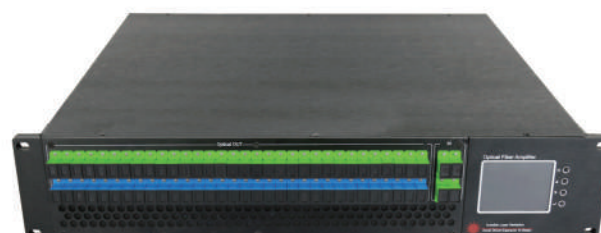


SPOA-50EYA1-16*22-SA24SA-WSP

This 1U device is the erbium and ytterbium Co doped high power fiber amplifier with 16 port output, output 22dBm, input connector SC/APC, main power 220V power supply, auxiliary power 48V power supply, output connector SC/APC, WDM, WDM joint SC/PC

SPOA-50EYA2-16*22-SA24A-WSU-O

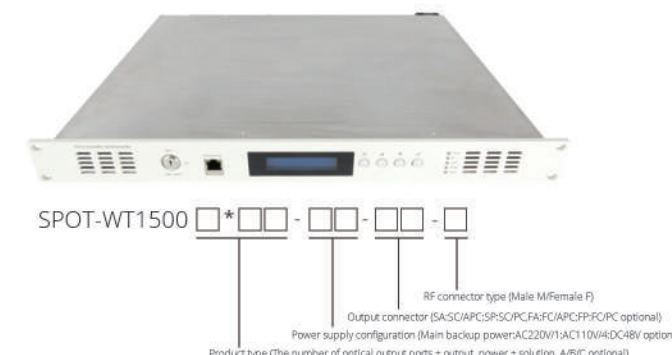
This 2U chassis optical amplifier device is with 16 output ports, each port output power is 22dBm, input optical connector is SC/APC, main power supply voltage is 220V. Vice power supply voltage is 48V, output port optical connector is SC/APC, with WDM, WDM connector is SC/UPC, built in optical switch



Optical Transmitter

SPOT-WT1500-2*9C-22-FA-M

This is 2U chassis optical amplifier device, 16 output ports, each port output power is 22dBm, input optical connector is SC/APC, main power supply voltage is 220V. Vice power supply voltage is 48V, output port optical connector is SC/APC, with WDM, WDM connector is SC/UPC, built in optical switch



Optical Receiver

Features

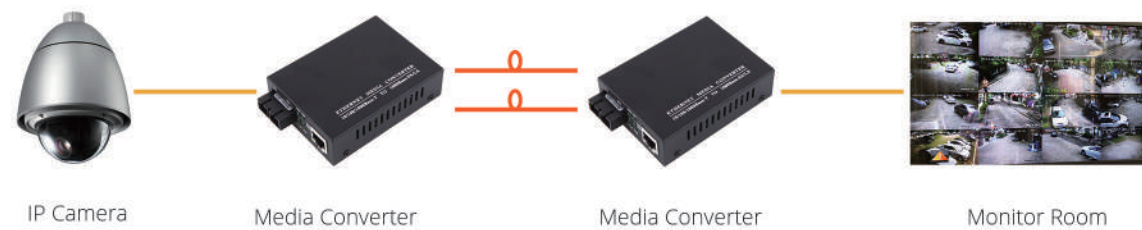
- Highly linear optical to electrical converter for use in FTTH applications
- Use a high gain, low distortion receiver PD and low noise RF circuit to deliver high RF level output at lower optical power, provide good CNR, CSO and CTB distortion specifications
- RF reach to 1000Mhz bandwidth
- Optional AGC Function: Automatic Gain Control (AGC) circuits is to provide a relatively constant output amplitude of CATV signals. optical receiver built in AGC function to enable RF output tolerance in 2dB even when optical input power various from -8dBm to 0dBm
- Optional Built-in WDM Function: The 1550 nm broadcast analog video signal can be delivered over P2MP GPON or GEAPON network by using WDM technology. The built-in WDM optical receiver has the one optical input port and on PON output port. The optical input contains downstream forward path CATV signals at 1550nm, downstream Ethernet data at 1490nm and upstream Ethernet data at 1310nm. The optical output passes the 1310nm and 1490nm signals. The 1550nm wavelength goes to a photodiode and is amplified



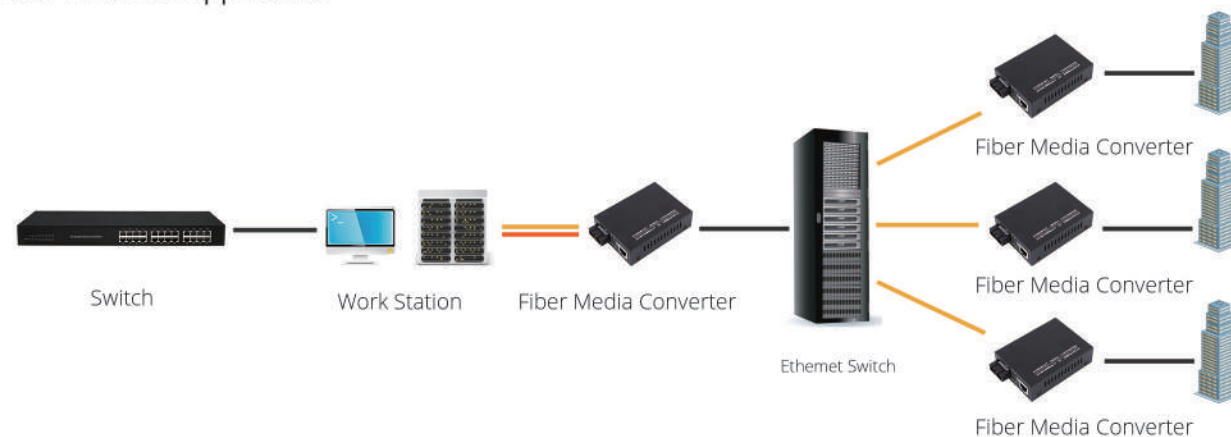
Fiber Media Converter

Sopto offers switches, routers and fiber converters including 10/100M, 10/100/1000M and 10G fiber converters, SFP fiber converters, manageable/unmanageable fiber converters, OEO fiber converters, POE fiber converters, fiber converter cards, and fiber converter chassis; transmitting distance from 2km(MM) to 150km(SM) with SC or LC or FC connectors

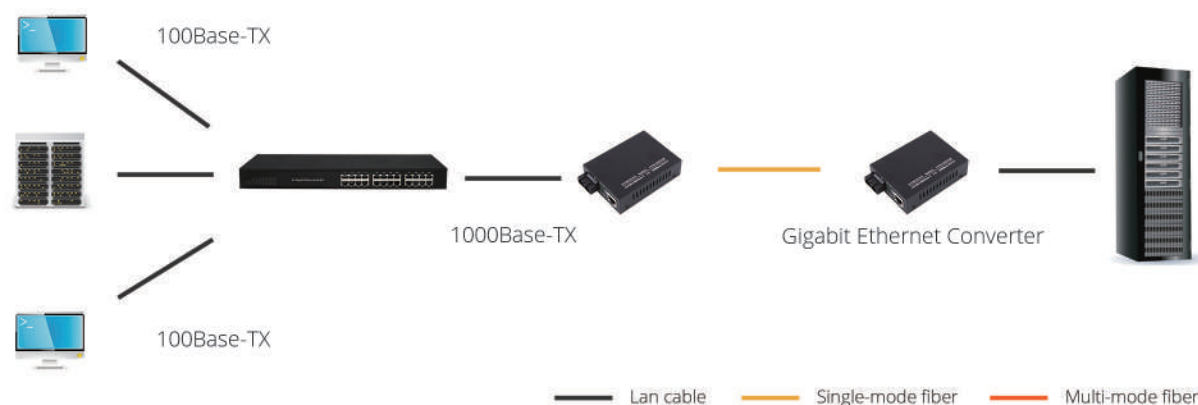
Video Monitoring Application



Fast Ethernet Application



Gigabit Ethernet Application



Media Converter



OEO Converter



Media Converter Chassis



Manageable Media Converter



POE Media Converter



Industrial Media Converter

Access Point

802.11AC INDOOR CEILING ACCESS POINTS

Features

- ◆ Max speed of wireless is 1.2Gbps
- ◆ Built-in 2*2MIMO antenna
- ◆ Support 2.4G and 5G terminal access
- ◆ Supports POE 48V power supply
- ◆ Support 802.11b/g/n,802.11a/n and 802.11ac
- ◆ Support ceiling ,wall mounted and keel installation
- ◆ High receiving sensitivity, meet operators technical standard
- ◆ Support Telnet and WEB management

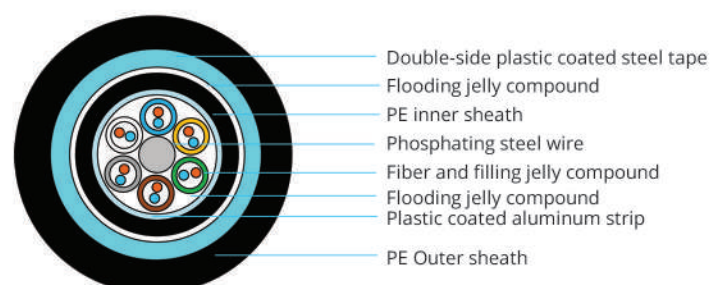


SPAP-IG1C2D-2

Wireless rate 1.2Gbps,1000Mbps eth, POE power,2.4GHz and 5GHZ.802.11ac

Outdoor Fiber Cable

GYTA53



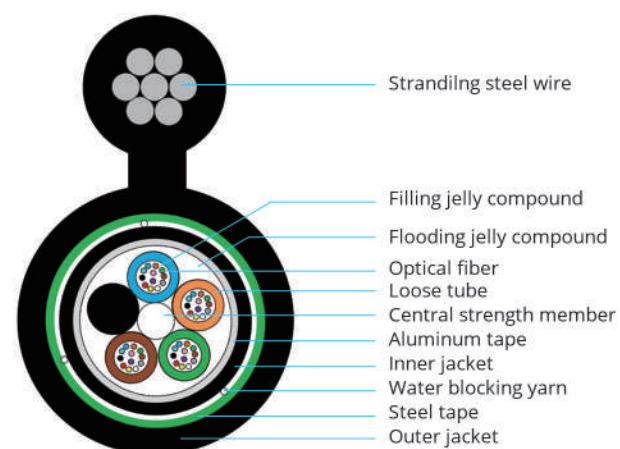
Application:

Direct buried

Features:

- ◆ Good mechanical and temperature performance
- ◆ High strength loose tube that is hydrolysis resistant
- ◆ Special tube filling compound ensure a critical protection of fiber
- ◆ Crush resistance and flexibility
- ◆ Compact structure, excellent water-blocking performance

GYFTC8A53



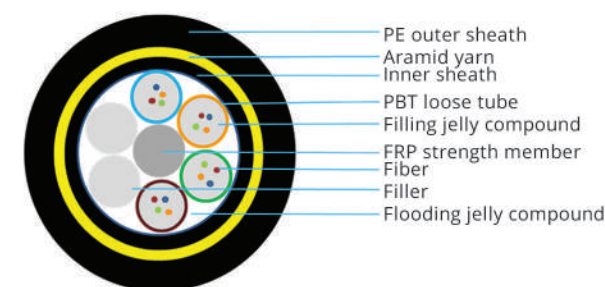
Application:

Aerial

Features:

- ◆ Good mechanical and temperature performance
- ◆ Loose tube material has good hydrolysis resistance performance and high strength
- ◆ Special tube filling compound ensure a critical protection of fiber
- ◆ Specially designed compact structure is good at preventing loose tubes from shrinking
- ◆ Crush resistance and flexibility
- ◆ Compact structure, excellent water-blocking performance

ADSS



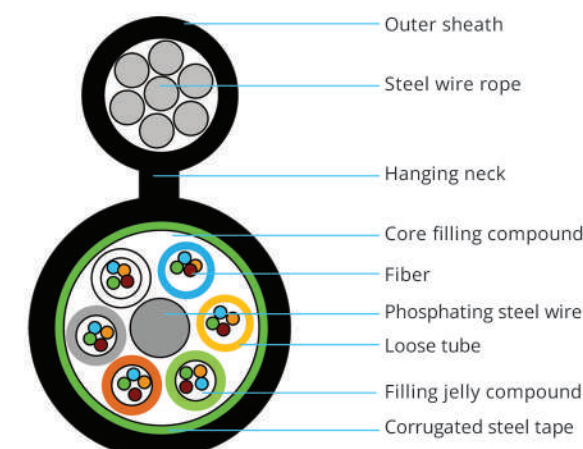
Application:

Self-supporting Aerial

Features:

- ◆ Can be installed without shutting off the power
- ◆ Excellent AT performance. The maximum inductive at the operating point of AT sheath can reach 35kV
- ◆ Light weight and small diameter reducing the load caused by ice & wind and the load on towers & back props
- ◆ Large span lengths and the largest span is over 1000m
- ◆ Good performance of tensile strength and temperature
- ◆ The design life span is over 20 years

GYTC8S



Application:

Self-supporting Aerial

Features:

- ◆ High tensile strength of stranded wires meet the requirement of self-supporting and reduce the installation cost
- ◆ Good mechanical and temperature performance
- ◆ Loose tube material has good hydrolysis resistance performance and high strength
- ◆ Special tube filling compound ensure a critical protection of fiber
- ◆ Compact structure, excellent water-blocking performance

Indoor Fiber Cable

Application:

Access Network, Fiber to the Home (FTTH)

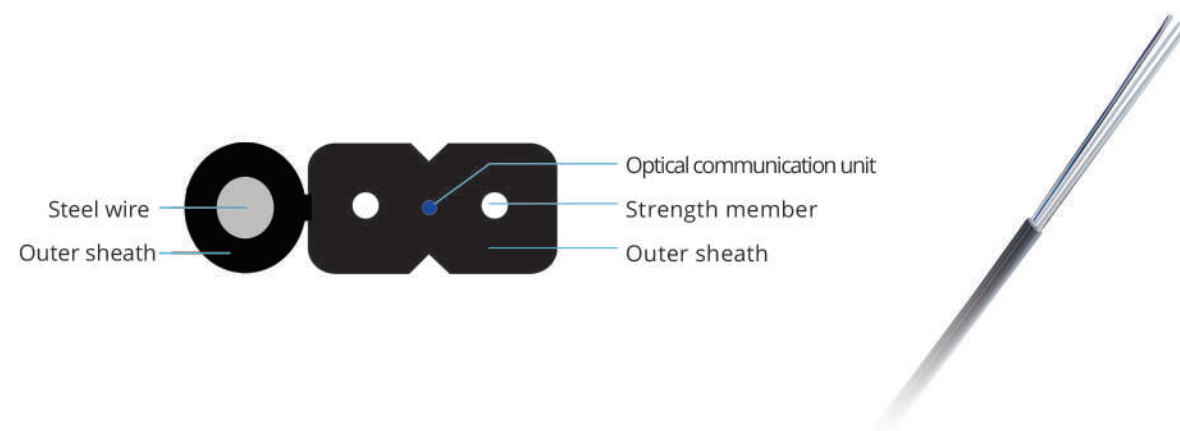
Features:

- ◆ Special low-bend-sensitivity fiber provides high bandwidth and excellent communication transmission property
- ◆ Two parallel FRP strength members ensure good performance of crush resistance to protect the fiber
- ◆ Simple structure, light weight and high practicability
- ◆ Flute design, easily strip and splice, simplify the installation and maintenance
- ◆ Low smoke, zero halogen (LSZH) and flame retardant sheath

GJXFH



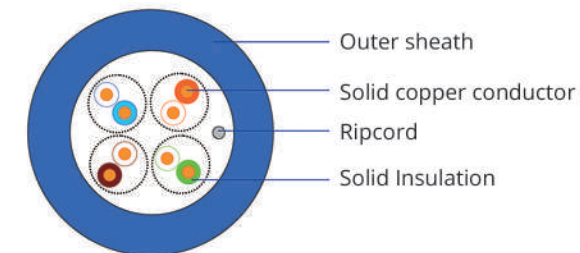
GJYXFCH



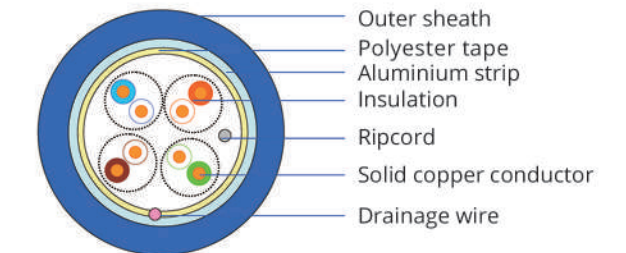
Network Cable

Symmetrical Pair Cables for Digital Communications Horizontal Floor Wiring

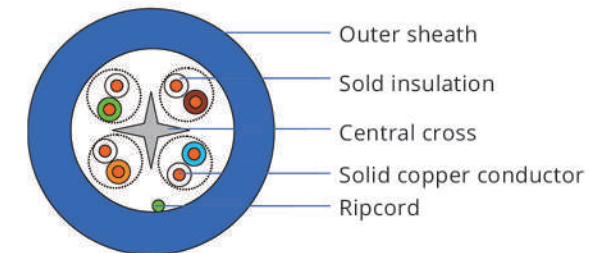
HSYV5e



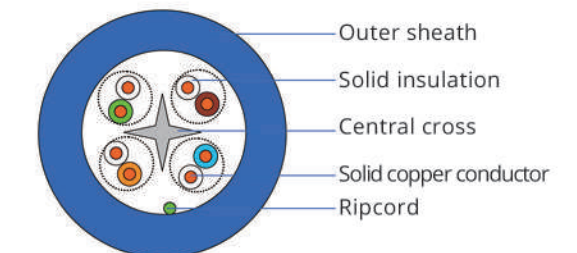
HSYVP5e



HSYV6



HSYV6A



Category: Indoor and Outdoor FTP/UTP CAT5/CAT5E/CAT6/CAT6A/CAT6E/CAT7

Applications: 10Base/100Base/155M ATM up to 10GBase

Impedance: More bandwidth excess than 100MHz/250MHz/500MHz/600MHz

Design: Customized outer sheath or other purpose

Standards: ISO/IEC11801; ANSI/TIA/EIA-568-C; YD/T1019; UL444; IEC61156; EN50288-4-1; GB/T18015; ROHS

RJ45 Distribution Frame



Size: 19 inch * 1U or 2U

Capacity: 12/ 24/ 48 ports

Availability: UTP & FTP CAT5E, UTP & FTP CAT6, CAT6A and CAT6E

Standards: Meet or be superior to CAT5E, CAT6, CAT6A and CAT6E standards of TIA/EIA-568A/568B standards

Fiber Patch Cable



General Jumpers

Bunched Fan-out

multicores 4, 6, 8 up to 96 cores



Features:

- ◆ Available for different connectors: SC, LC, FC, ST, MPO/MTP, MTRJ, MU, etc
- ◆ PC, UPC and APC polishing are available in Zirconia ceramic ferrule
- ◆ Available for Simplex and duplex, pigtail type
- ◆ Single mode fiber G652D, G657A1 and G657A2, Multimode fiber OM1, OM2, OM3 and OM4 are available
- ◆ The outer jacket can be PVC, LSZH, OFNR, OFNP etc
- ◆ Low insertion loss and high return loss, high dense connection, easy for operation
- ◆ Customer lengths and connectors are available upon request

MPO

MPO/MTP Patch Cord

Features:

- ◆ High density structure, 12~48 fibers in a termi, Straight cross polarity connection or pair flip polarity are available
- ◆ Available for Multimode (OM3 and OM4) and Single mode fiber types
- ◆ Available for MPO/MTP trunk cable which combing 12~144 fibers



MPO/MTP to LC (SC, FC) Breakout Patch Cord

Features:

- ◆ Offer Male or Female MPO/MTP connector
- ◆ Support MPO/MTP to LC or SC or FC connectors in fiber counts of 4, 8, 12, 24
- ◆ Straight, cross polarity connection or pair flip polarity are available
- ◆ Available for Multimode (OM3 and OM4) and Single mode fiber types



Drop Cable Patch Cord

Application:

Access Network, Fiber to the Home (FTTH)

Features:

- ◆ Special low-bend-sensitivity fiber provides high bandwidth and excellent communication transmission property
- ◆ Two parallel FRP strength members ensure good performance of crush resistance to protect the fiber
- ◆ Simple structure, light weight and high practicability
- ◆ Flute design, easily strip and splice, simplify the installation and maintenance
- ◆ Low smoke, zero halogen (LSZH) and flame retardant sheath
- ◆ Default SC connectors on both sides



Fiber Patch Cord

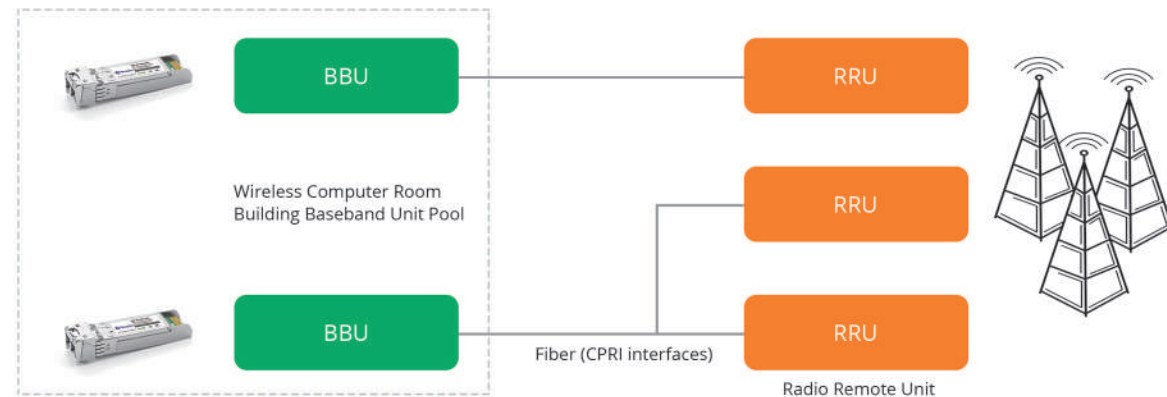
CPRI Patch Cord

Features:

- ◆ 500cycles Mechanical life
- ◆ Available Single mode and Multimode
- ◆ Low insertion/return loss, steady optical transmitting
- ◆ IP67 protection, salt-mist proof, humidity proof, dust proof
- ◆ Light weight, waterproof, dustproof, moisture proof, Metal hard housing
- ◆ Standard Duplex LC connector, well connected with standard LC adaptor
- ◆ We can supply these products with PC, APC and UPC end-face connector

Application:

- ◆ 2G, 3G, 4G and 5G Base Station, BBU, RRU, RRH outdoor



Armored Breakout Type



PDL Cover+Armored Type

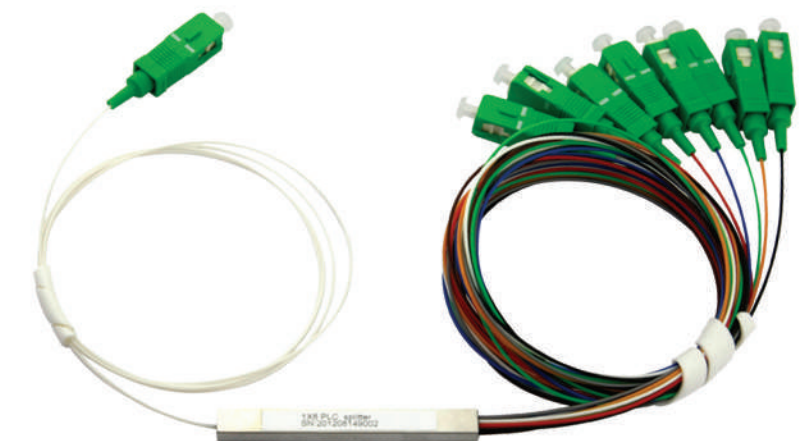


PLC Splitter

Features:

- ◆ Available for 1*2, 1*4, 1*8, 1*16, 1*32, 1*64, 1*128 and 2*2, 2*4, 2*8, 2*16, 2*32, 2*64 configurations
- ◆ With different connectors: LC, SC, FC, etc
- ◆ Available for different packages: Steel tube, ABS box, Insert-type
- ◆ Low insertion loss and low PDL
- ◆ Excellent uniformity over a wide wavelength range from 1260nm to 1620nm
- ◆ Working in temperature from -40C to +85C
- ◆ Fully comply with Telcordia GR-1209-CORE and Telcordia GR-1221-CORE

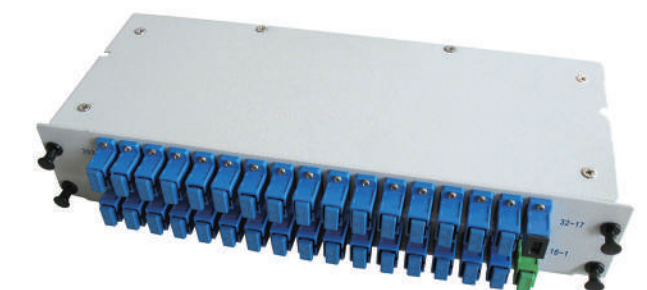
Steel Tube



ABS Box



Insert Type
Splitter Module



CWDM DWDM

Features:

- ◆ CWDM 20nm ITU Channel Spacing, 1470nm-1610nm , up to 18ch channels over Single or Duplex fiber
- ◆ DWDM 100GHz or 50GHz ITU Channel Spacing, C15-C62 & H15-H62 , X channels over Single or Duplex fiber
- ◆ 100Mb~10Gb per channel
- ◆ ABS cassette, LGX or 19 inch Rack Fixed
- ◆ Low Insertion Loss
- ◆ Wide Pass Band
- ◆ High Channel Isolation
- ◆ High Stability and Reliability
- ◆ Expansion Port optional: Express Port, Upgrade Port, Monitor Port

Application:

- ◆ Channel Add/Drop
- ◆ WDM Network
- ◆ Fiber Optical Amplifier
- ◆ CATV Fiber-optic System

CWDM



DWDM

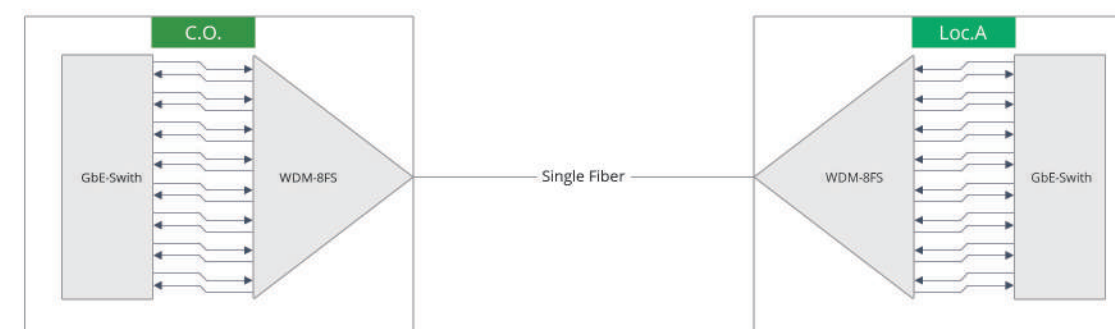
CWDM Specification Example

Parameter	Unit	Specification
Parameter	nm	1260~1620
Center Wavelength	nm	Customer specified 8 wavelengths or 16 wavelengths etc
Channel Spacing	nm	20
Pass band	nm	CW±6.5
Insertion Loss	dB	≤2.5
Adjacent Channel Isolation	dB	≥30
Non-Adjacent Isolation	dB	≥45
Reflection Channel Isolation	dB	≥15
PDL	dB	≤0.2
Directivity	dB	≥50
Return Loss	dB	≥45
PMD	ps	≤0.1
Optical Power	mW	≤500
Operating Temperature	°C	-10 to +70
Storage Temperature	°C	-40 to +85
Fiber Type	G657A1 Fiber	
Connector Type	LC/UPC or others	
Communication Type	Single or Dual Fiber	
Optional ports	1310 Express port; Upgrade port; Monitor port	

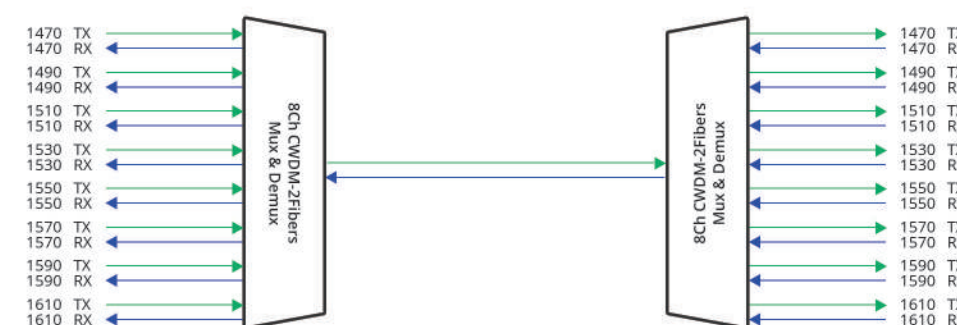
DWDM Specification Example

Parameter	Unit	Specification
Operating Wavelength Range	nm	1500 ~ 1600
Channel Number	-	X+UPG
Center Wavelength	nm	Customer specified X wavelengths ,such as C53 C54 C55 C56 C57 C58 C59 C60 (X=8) etc
Channel Spacing	GHz	100
Channel Passband(@-0.5dB)	nm	≥0.11
Insertion Loss	dB	≤3.2
Adjacent Channel Isolation	dB	≥30
Non-Adjacent Isolation	dB	≥40
UPG Port Isolation	dB	≥12
PDL	dB	≤0.2
Directivity	dB	≥50
Return Loss	dB	≥45
PMD	ps	≤0.20
Operating Temperature	°C	-10 to +70
Storage Temperature	°C	-40 to +85
Fiber Type	G657A1 Fiber	
Connector Type	LC/UPC or others	
Communication Type	Single or Dual Fiber	

SINGLE FIBER



DUAL FIBER

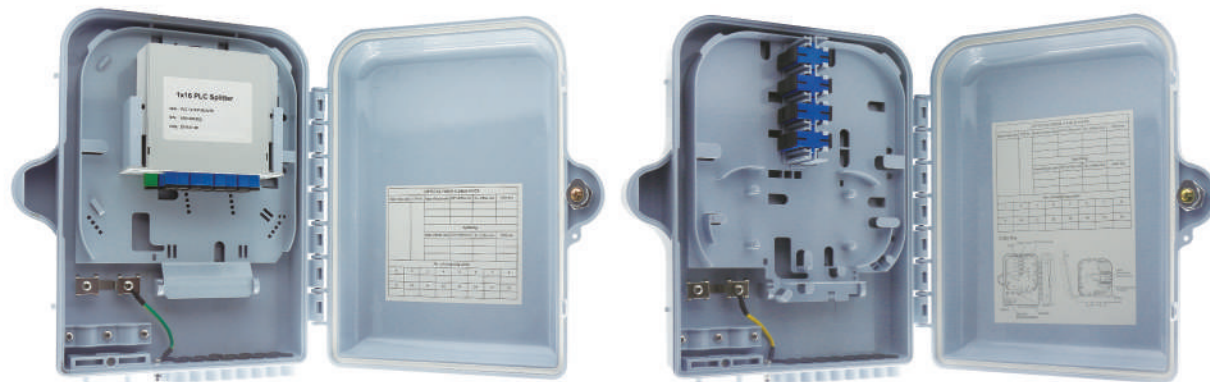


FTTH Splitter Distribution Box

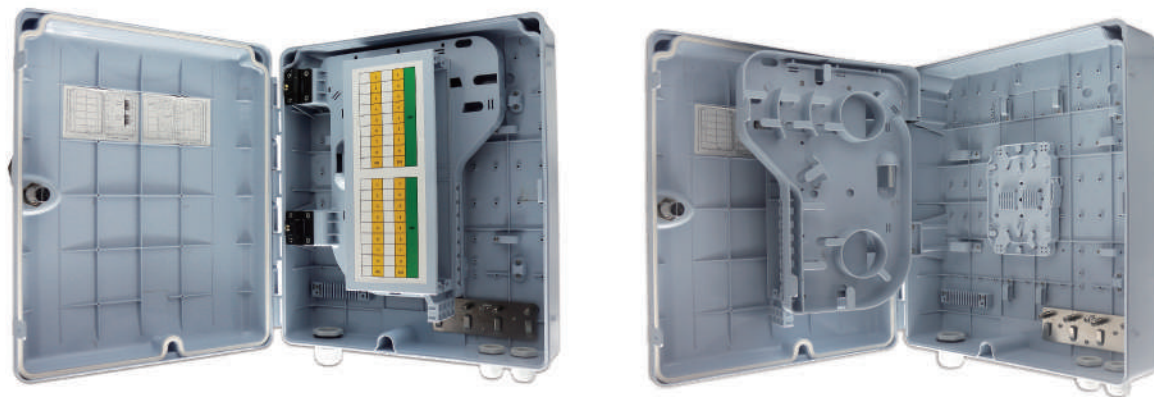
Description:

This series splitter distribution box is suitable for insert-type splitter module and Steel tube splitter; they are used as a termination point for the feeder cable to connect with drop cable in FTTx communication network system

16 Cores



32 Cores



Features:

- ◆ Available for 1*4, 1*8 and the max capacity can reach 1*64 or 2*32
- ◆ Material: PC+ABS Plastic and Metal; Protection Level: IP65, wet-proof, water proof, dust proof, antiaging
- ◆ Clamping for feeder cable and drop cable, fiber fixation, storage, distribution, etc
- ◆ Cable, pigtails, patch cords are running through own path without disturbing each other, insert-type splitter installation, easy maintenance
- ◆ Distribution panel can be flipped up; feeder cable can be placed in a cup-joint way, easy for maintenance and installation

Splitter Distribution Box

Features:

- ◆ Splitter Distribution Box is available for small capacity communication system, wall mounting. Two parts of box frame- Part 1 for fiber splicing and branching through installing common splicing tray,real capacity could be adjusted as practical situation through adding splicing tray with reversible gap. Part 2 is for connecting patch cord in the use of ABS cassette splitter
- ◆ Whole range protected design for fiber lay to ensure the bending radius=40mm
- ◆ Available for SC, FC, LC , ST adaptors
- ◆ 12, 24, 48 ports are available



Fiber Patch Panel

Fixed Type



Drawer Type



Features

- ◆ 19 inch standard structure, rack mounted
- ◆ Available for the installation of FC, SC, ST, LC adaptors
- ◆ 12, 24, 48, 72 and 96 ports are available
- ◆ Fixed type,drawer type,dust proof type
- ◆ These series of terminal box can be applied in the branch connection of fiber termination, worked as distribution box

Optical Cable Cross Connecting Cabinet

Description:

Optical Cable Cross Connecting Cabinet (hereafter named OCC) is used to connect the fiber trunk cable and the distribution cable between the interface device, which has the import of cable, fastness, grounding protection, welding, jumping (distribution), storage, switching and other functions



Features:

- ◆ Standard case body made of high intensity composite material SMC or metal , anti-corrosive, anti-aging special
- ◆ Suitable for various bad weather with reliable sealing (water-proof and damp-proof)
- ◆ Splicing & distribution integration module with adaptor assembling, fusion and connection, storage in integration, inserted assembling and available for different type of adaptors such as FC, SC, ST
- ◆ Adaptors assembling with defluxion of 30° to ensure fiber pigtail bending radius, with control winding ring of the fiber in horizontal and vertical. It makes the fiber distribution tidiness and be protected in security
- ◆ The bottom end is assembled with spare splice try, for the direct fusion and connection of trunk optical cables and distribution cables
- ◆ Every side of the cabinet bear the vertical pressure of 980N, and 200N for the outer edge over the door when door open

Indoor Optic Distribution Frame

Description:

It can be used in the termination and distribution of partial trunk optical cable in optical cable communication system easy to realize connection, distribution and adjustment



ODF Unit



Features:

- ◆ 19 standard cabinets with large-capacity, high- density, modular structure
- ◆ Integrated with fiber fusion, storage and distribution, available to manage every single modular on or off rack
- ◆ Ensure process ability with organized arrangement of fibers, pigtails and patch cords
- ◆ Suitable for medium capacity distribution site of FTTX splitting spot etc
- ◆ Preloaded with splitter modules, achieve light splitting function easily

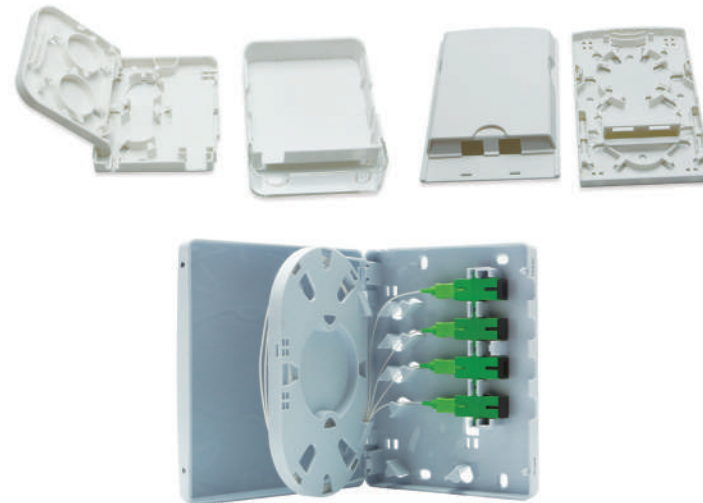
FTTH Terminal Box

Indoor

The series are used in the end termination in residence to be fixed with pigtails. Wall mounting is available. It can adapt variety of optical connections

Features:

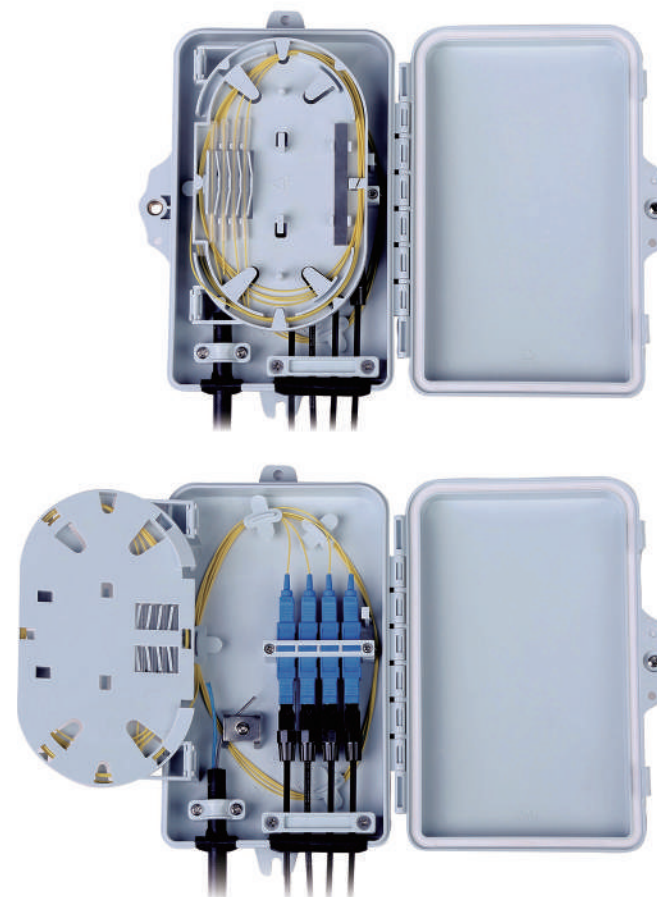
- ◆ With protective doors, dustproof
- ◆ Suitable for many types of modules, used in cabling work area subsystem
- ◆ Embedded type surface, easy for installation and removal
- ◆ Available for fiber optic SC simplex or LC duplex and can be used in both surface mounted installation and concealed panel installation
- ◆ All modules are solderless mode



Outdoor

Features:

- ◆ Total enclosed structure, be in nice shape
- ◆ Material: PC+ABS, wet-proof, water-proof, dust-proof, anti-aging, protection level up to IP65
- ◆ With the function of fiber splicing, fixation, storage, distribution for feeder cable and drop cable
- ◆ Cable, pigtails, patch cords are running through their own path without disturbing each other, SC/LC/ adapter, insert-type splitter module and Steel tube splitter installation, easy maintenance
- ◆ Distribution panel can be flipped up, feeder cable can go through a mid-span access way, easy for maintenance and installation
- ◆ Wall-mounted, suitable for both indoor and outdoor use



Fiber Closure

In-line Horizontal Type

Features:

- ◆ Available for the diameter of cable is 10-23mm
- ◆ Available for 12, 24 and the max capacity can reach 288 cores
- ◆ Can be used in aerial, duct and direct buried application
- ◆ High quality material and with the mechanical sealing structure filled with the sealing material
- ◆ The external components and fastening parts are all made of stainless steel, it can be reopened and reused without changing sealing material



Overhead Type

Features:

- ◆ Fiber Closure Overhead Type support Splitter 16 Cores Max , 2 IN 2 OUT Mechanical Splicing
- ◆ The cabinet accommodates 1x2, 1x4, 1x8 and 1x16 etc. splitters
- ◆ The case body is made from imported high-intensity engineering plastics (ABS) and formed the shape with mould plastics under high pressure. It is in the shape of HALF rectangle, with the advantages of less weight, high mechanical intensity, corrosive-resistance, anti-thunderstruck and long service life



Dome Vertical Type

Features:

- ◆ Available for 12, 24 and the max capacity can reach 144 cores
- ◆ Support the PLC Splitter installation, max ratio 2:32 or 2:16
- ◆ The Max quantity of SC adapter is 36 pcs (other types of adapter can be customized)
- ◆ The Max quantity of pigtail is 36 pcs SC/PC of 1.5
- ◆ Can be used in aerial, wall mounted and pole application
- ◆ The cover and base are filled with silicone rubber and sealed with hoop
- ◆ The entry ports are sealed with screw thread parts
- ◆ They can be opened after sealing and can be reused without changing sealing material

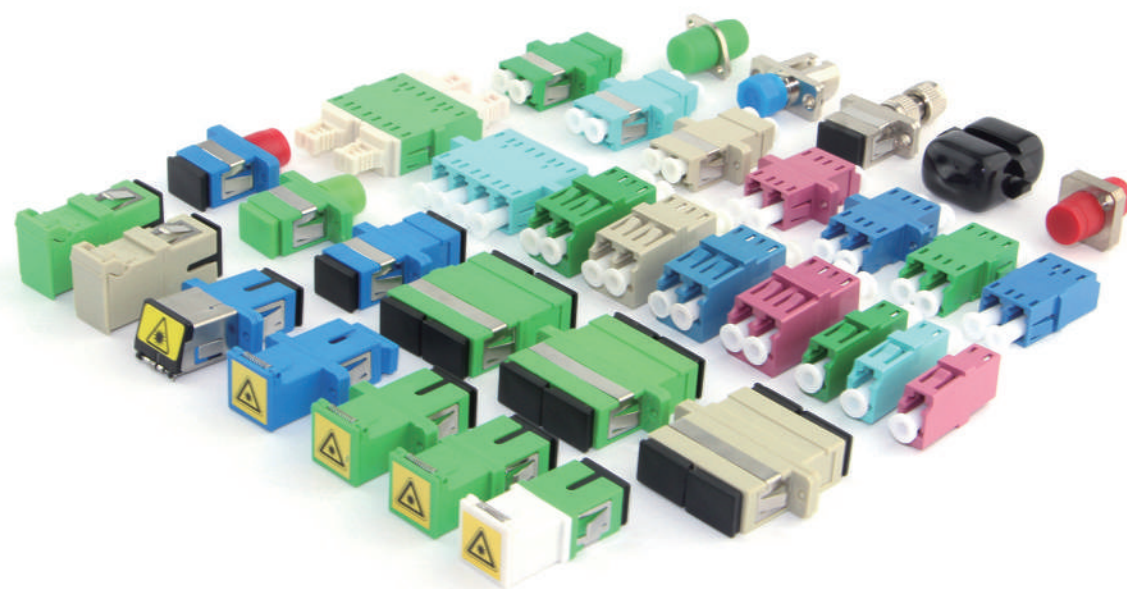


Interconnecting Accessories

Adaptor

Features:

- ◆ Available for LC, SC, FC, ST, MPO/MTP and hybrid type
- ◆ SM and MM optional
- ◆ Simplex and duplex are available
- ◆ Low insertion loss and high return loss
- ◆ PC, APC, UPC optional
- ◆ Durability≥1000times



LC

SC

MPO

FC

ST

Fast Connector

Features:

- ◆ Available for SC/APC and SC/APC type
- ◆ SM and MM optional
- ◆ Pre-terminated fiber in the ferrule, no epoxy, curing and polishing
- ◆ Suitable for 3x2.0mm drop cable or 3.0/2.0/0.9mm cable
- ◆ Durability≥1000times
- ◆ Comply standard of IEC61754-4



Network Rack

Features:

- ◆ Glass door, flat net door optional; wall-mounted, floor-standing optional
- ◆ Various specifications can be customized according to customer requirements
- ◆ Optional color: black, dark gray, light gray
- ◆ Using high-hardness powder anti-static coating to reach BS6497 international standard
- ◆ The upper and lower wire holes are provided with grouping cover plates, and the bottom is ventilated and anti-rat
- ◆ System installation meets 19-inch standards, metric standards and ETSI (European Telecommunications Standards Institute) standards
- ◆ The 19-inch column in the cabinet can be flexibly adjusted front and rear, providing a reasonable installation layout according to the special environment of various system equipment
- ◆ The skeleton is made of high quality cold rolled steel plate and assembled structure. The universal casters and the legs are installed at the same time, which is convenient to move and stable in placement

Application:

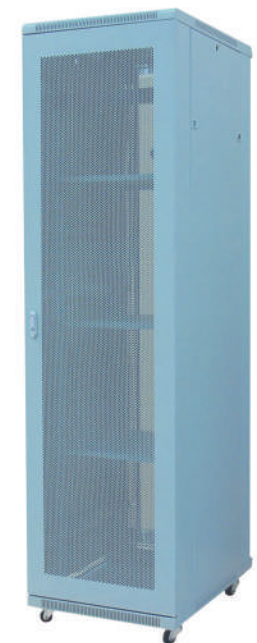
Server cabinets are used in computer network integrated engineering, building wiring, telecommunications, broadcast audio engineering, securities, gold Economic and large-scale wiring project projects such as Rong, intelligent community, school, government, etc



Wall mounted type 6U



42U mesh door



42U glass door

Fusion Splicer

SPTK-4107

Features:

- ◆ Used for FTTH and ordinary fiber project
- ◆ Core to core alignment by PAS technology
- ◆ 8 sec splicing time and 30 sec heat time
- ◆ 300 X or Y view, 200 X and Y view
- ◆ 5 inch digital high-quality LCD screen, observe X and Y view at same time
- ◆ Three in one fixture, splicing single fiber, cable indoor and pigtail
- ◆ Built in large capacity lithium battery of 200 times splicing and heating
- ◆ Small size and light weight, 2.1KG including battery



SPTK-740

Features:

- ◆ Compact & Light weight
- ◆ Applied for Fibers, Cables and SOC (splice- on connector)
- ◆ Integrated Holder Design
- ◆ Fully Automatic, Semi-automatic and Manual Operation
- ◆ 7 sec splicing time and 15 sec heat time
- ◆ Shockproof, Drop resistance
- ◆ Power saving Function
- ◆ 4.3 inch Color LCD monitor
- ◆ USB&DC interface



SPTK-4106S

Features:

- ◆ Precise fiber core alignment, ultra-low fiber fusion splicing consumption
- ◆ 7s fast fusion splicing, 18s highly efficient heating
- ◆ 320 times image magnification, 5mm fusion splicing for fibers of ultra-short cutting length
- ◆ 300 groups of fusion splicing modes, 100 groups of heating modes
- ◆ 10000 groups of fusion records, 64 images storage
- ◆ Ceramic presser foot, ceramic V-block, all-in-one fixture
- ◆ Dual-direction splicing, automatic splicing, intelligent pyrocondensation
- ◆ USB and SD card interfaces, U-disk automatic software upgrade
- ◆ Built-in modular lithium battery, supports 220 times of splicing and heating cycles



Power Meter

SPTK-3208A1	Hand Held Power Meter -70 ~+6 dBm power range, Alkaline battery power supply For FC connector
SPTK-3208C1	Hand Held Power Meter -50 ~+26 dBm power range, Alkaline battery power supply For FC connector
SPTK-3208C2	Hand Held Power Meter -50 ~+26 dBm power range, Alkaline battery power supply For LC/SC/FC connector



SPTK-3216A	Hand Held Power Meter -70 ~+6dBm power range, with 220V AC adapter, Direct charge or Alkaline battery power supply For FC connector
SPTK-3216C	Hand Held Power Meter -50~+26 dBm power range , with 220V AC adapter, Direct charge or Alkaline battery power supply For FC connector



PON Optical Power Meter—3213 Series

3213 Series PON Optical Power Meter target at the FTTx application and maintenance. This power meter is able to simultaneously test and estimate the signals of the voice, data and video. It is an essential and ideal tool for the construction and maintenance of the PON projects



Brief information	SPTK-3213	SPTK-3213A	SPTK-3213AV	SPTK-3213AP
Continuously Operation Time (h)	PON:90h	PON:90h OPM:100h VFL:50h	PON:90h VFL:50h	PON:90h OPM:100h
Normal Optical Power Meter Calibration Wavelength(nm)	NONE	1310/1490/ 1550/1625	NONE	1310/ 1490/ 1550/1625
VFL	NONE	650nm,Output power>0.5mW	650nm,Output power >0.5mW	NONE

OTDR

What you need is all-in-one!

SPTK-3302 Series Optical Time Domain Reflectometer (OTDR) is an intelligent meter of a new generation for the detection of fiber communications systems. With the popularization of optical network construction in cities and countrysides, the measurement of optical network becomes short and disperse; SPTK-3302 Series is specially designed for that kind of application. It's economic, having outstanding performance. SPTK-3302 Series is manufactured with patience and carefulness, following the national standards to combine the rich experience and modern technology, subject to stringent mechanical, electronic and optical testing and quality assurance; In the other way, the new design makes SPTK-3302 Series more smart and compact and whether you want to detect link layer in the construction and installation of optical network or proceed efficient maintenance and trouble shooting, SPTK-3302F Series can be your best assistant. SPTK-3302 Series OTDR uses 1625nm wavelength to scan and analyze the access point and proceed online testing with optical filter, and will not disturb the service.

VFL (visual fault locator,as standard function)

The VFL, available as a standard module in SPTK-3302F series OTDR, offers built-in 650nm visual fault location on a FC/UPC connector

PM (power meter,as standard function)

SPTK-3302F series OTDR comes with optional built-in power meter that let technicians easily verify the presence of a signal

LS (laser source,as optional function)

SPTK-3302F series OTDR comes with optional built-in laser source through OTDR1 Port that let technicians easily verify the total loss of the local network with a power meter

FM (fiber microscope,as optional function)

The optional fiber inspection probe facilitates the inspection before the connection. SPTK-3302F series OTDR offers this capability through a USB port connection, which allows quick and easy inspection of connector end faces for contamination and also enables it capture and store the image

PON Online Test(as optional function)

SPTK-3302F series OTDR uses 1625nm wavelength to scan and analyze the access point and proceed online testing with optical filter, and will not disturb the service

OTDR

SPTK-3302A	Handheld OTDR Dual Wavelengths-SM 1310/1550nm Maximum dynamic range 36/35dB 100km
SPTK-3302B	Handheld OTDR Dual Wavelengths-SM 1310/1550nm Maximum dynamic range 30/28dB 80km
SPTK-3302C	Handheld OTDR Dual Wavelengths-SM 1310/1550nm Maximum dynamic range 28/26dB 80km



SPTK-3302A	Handheld OTDR Dual Wavelengths-SM 1310/1550nm Maximum dynamic range 36/35dB 100km
SPTK-3302B	Handheld OTDR Dual Wavelengths-SM 1310/1550nm Maximum dynamic range 30/28dB 80km



Features:

- ◆ Integrated design, smart and rugged
- ◆ IP65 protection level, outdoor enhanced
- ◆ 7-inch anti-reflection LCD screen
- ◆ PON online test module (1625nm optional)
- ◆ Support multi-language display and input



SPTK-3302F-SM	Handheld OTDR Two Wavelengths-SM 1310/1550nm Maximum dynamic range 32/30dB
SPTK-3302F-SM2	Handheld OTDR Three Wavelengths-SM 1310/1550/1625nm Maximum dynamic range 37/36/36dB

Optical Fiber Tools

Fiber Optical Installation Tool Kits



SPTK-610A



SPTK-630A



(Note:aluminium alloy)

SPTK-08A



(Note:aluminium alloy)

SPTK-08C

Fiber Optical Fusion Splicing Tool Kits



SPTK-650A

Fiber Optical Grinding Tool Kits



SPTK-95N



SPTK-990



SPTK-6000A



SPTK-171A

Optical Fiber Tools

Fiber Optical Test Tool Kits



SPTK-580N

Fiber Optical Installation Tool Kits



SPTK-1103R



SPTK-FTTH-TKA



SPTK-FTTH-1103S



SPTK-1103

Fiber Optical Cleaning Tool Kits



SPTK-930A



SPTK-930R-V1



SPTK-710A



SPTK-710C