11 Accessories

11.1 SSD-240GB (240 GB SSD Card)

Version Mapping

Table 11-1 lists the mapping between the SSD-240GB card and software versions.

Table 11-1 Version mapping

Card Model	Software Version
SSD-240GB	V200R012C00 to V200R019C10 versions

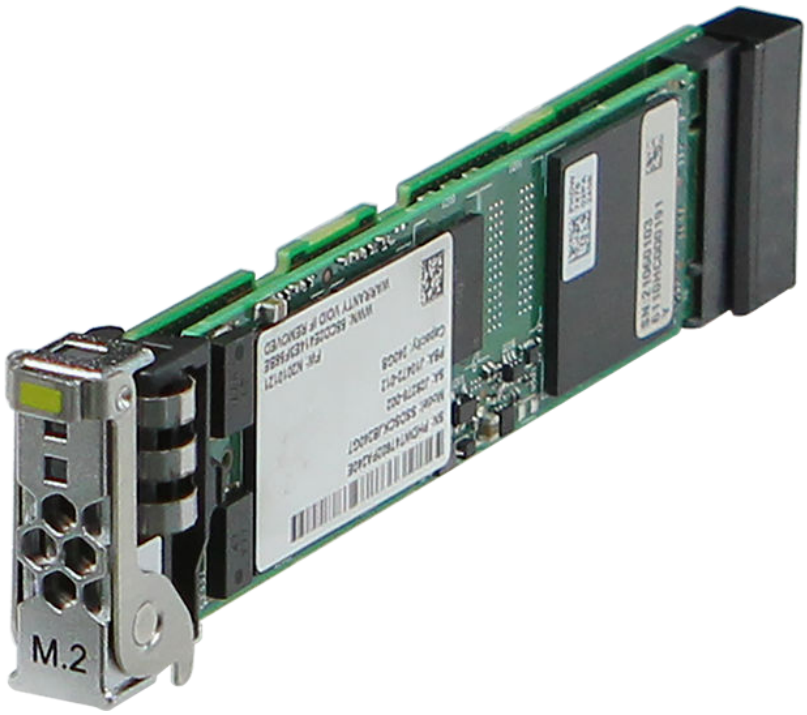
Card Overview

The SSD-240GB can be installed in the SSD card slot at the rear of the S5730-HI.

Table 11-2 Applicable switch models

Card	Switch Model
SSD-240GB	• S5730-36C-HI • S5730-36C-PWH-HI • S5730-60C-HI • S5730-60C-PWH-HI • S5730-36C-HI-24S • S5730-60C-HI-48S

Figure 11-1 SSD-240GB appearance



Functions

Table 11-3 Functions

Function	Description
Storage space	240 GB **NOTE** You can only use the **display version** command to view the storage space of a solid-state drive (SSD), and use the **format ssd** command to format the SSD.

Function	Description
Hot swapping	Not supported

Indicator Description

Figure 11-2 Indicators on the SSD-240GB

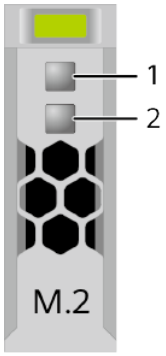


Table 11-4 Indicator description

No.	Indicator	Color	Description
1	Fault indicator	Off	The SSD card is running properly.
		Yellow	Steady on: The SSD card cannot be detected or fails.
2	Active indicator	Off	The SSD card is not in position or fails.
		Green	• Steady on: The SSD card is in inactive state. • Blinking: The SSD card is being read, written to, or synchronized with.

Technical Specifications

Table 11-5 Technical specifications

Item	Description
Physical specifications	• Dimensions (H x W x D): 25 mm x 8 mm x 110 mm (0.98 in. x 0.31 in. x 4.33 in.) • Weight: 0.1 kg (0.22 lb) • Maximum power consumption: 3.5 W
Environment specifications	• Operating temperature: 0°C to 45°C (32°F to 113°F) • Relative humidity: 5% RH to 95% RH • Storage temperature: -40°C to +70°C (-40°F to +158°F)

Ordering Information

Ordering information is subject to updates with product version upgrades. The ordering information provided in this manual is for reference only. To obtain the latest ordering information, contact Huawei switch distributors or Huawei local office.

Table 11-6 provides the SSD-240GB ordering information.

Table 11-6 Ordering information

Card Description	Card Name	Part Number
240 GB SSD card	SSD-240GB	03032TXD

11.2 WLA220W01-20 kA Surge Protector

Overview

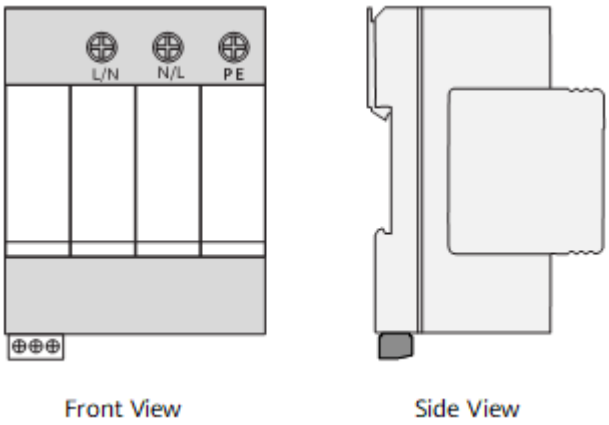
A 20 kA surge protector (model: WLA220W01) protects the 220 V single-phase power system and powered devices against the surge voltage caused by lightning strikes.

Appearance

A 20 kA surge protector uses an integrated base to facilitate installation and maintenance, and provides an alarm port (dry contact point) for remote monitoring.

Figure 11-3 shows the appearance of a 20 kA surge protector.

Figure 11-3 Appearance of a 20 kA surge protector



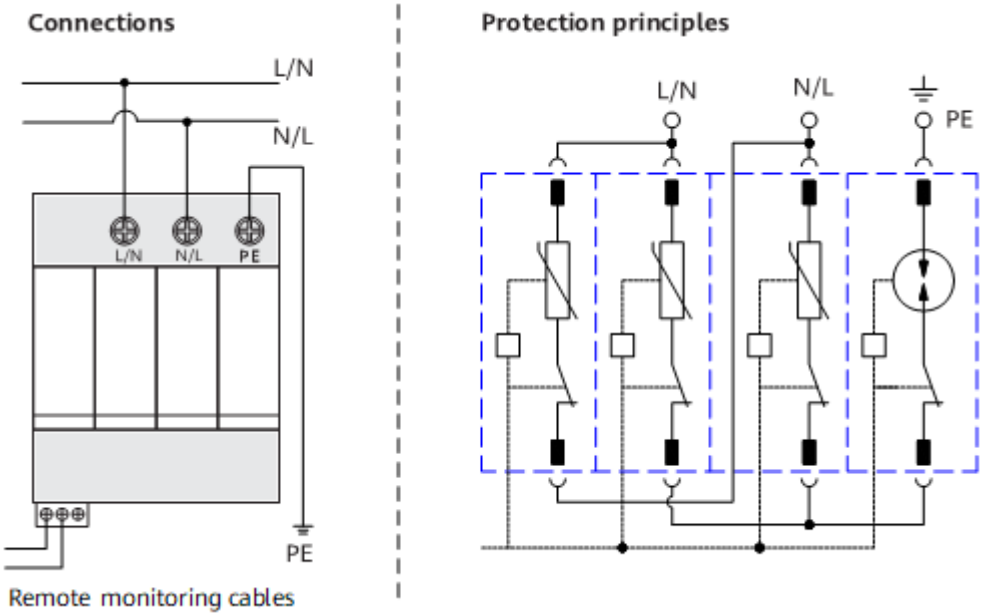
Principles

A 20 kA surge protector uses the 3+1 protection circuit and provides overheat and overcurrent protection. When the surge protector fails, it is automatically disconnected from the power grid to avoid fire caused by a short circuit.

When the status indication window of a surge protector is red, the surge protector fails and must be replaced immediately. If a remote alarm buzzer is connected to the surge protector, the alarm buzzer will generate alarm signals.

Figure 11-4 shows the protection principles of a 20 kA surge protector.

Figure 11-4 Protection principles of a 20 kA surge protector



Application Scenario

When the S5720I-SI series switches are installed in outdoor cabinets, 20 kA surge protectors must be used in some scenarios. Ensure that the following requirements are met:

- AC switch:
  - If the 220 V mains supply is used, install a 20 kA surge protector between the power port of the switch and the mains.
  - If power is supplied by an isolated inverter near the outdoor cabinet, no surge protector needs to be installed between the power port of the switch and the inverter.
- DC switch: An isolated power supply must be used and placed in the same outdoor cabinet as the switch. Surge protection is required for the power input of the outdoor cabinet. The surge protector, power supply, and switch must be equipotential. The outdoor cabinet must be properly grounded and the grounding impedance must be less than or equal to 10 ohms. If a DC switch is connected to the PAC-260WA-E or PAC240S56-CN power module that is powered by the 220 V mains, install a 20 kA surge protector between the power input port of the PAC-260WA-E or PAC240S56-CN and the mains.

The 20 kA surge protector and S5720I-SI switch can be decoupled using 5-10 m power cables or decoupling inductors, as shown in **Figure 11-5** and **Figure 11-6**.

Figure 11-5 Using 5-10 m power cables for decoupling

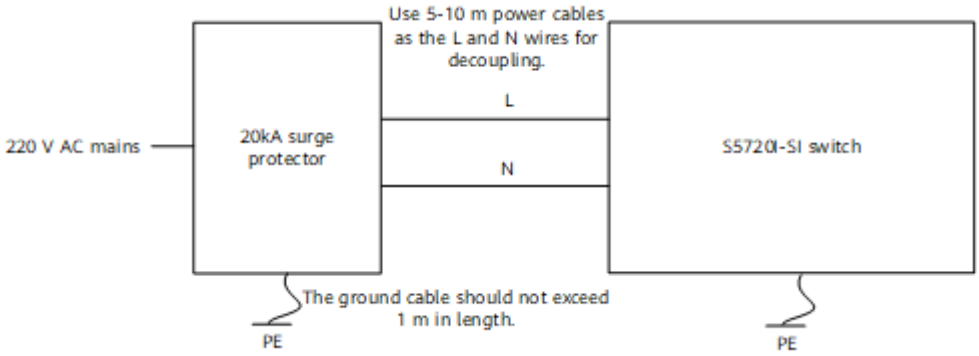
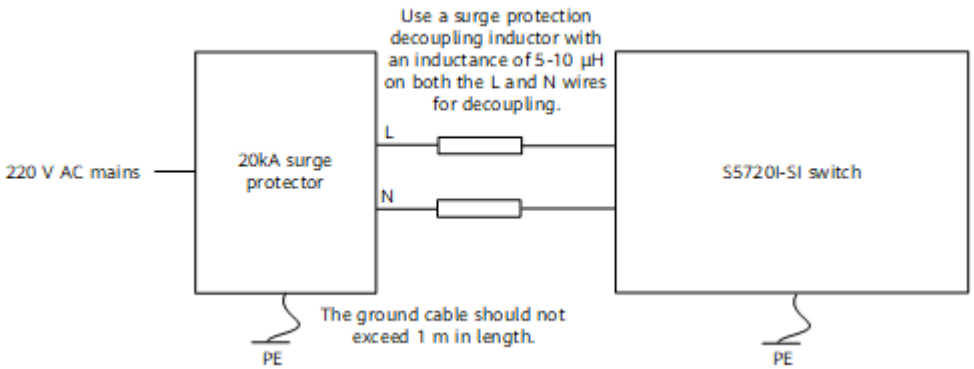


Figure 11-6 Using decoupling inductors for decoupling



NOTE

- The recommended cross-sectional area of a live wire/neutral wire (L/N) power cable for decoupling is 1.25 mm^2.
- The cross-sectional area of a PE ground cable must be greater than or equal to 16 mm^2.
- If there is no space for placing 5-10 m power cables in the cabinet for decoupling, install a hollow-core surge protection decoupling inductor with an inductance of 5-10 μH on both the L and N wires. The decoupling inductors need to be purchased separately.

Specifications

Table 11-7 lists the specifications of a 20 kA surge protector.

Table 11-7 Specifications of a 20 kA surge protector

Item	Description
Dimensions (H x W x D)	72 mm x 90 mm x 65 mm (2.83 in. x 3.54 in. x 2.56 in.)
Nominal voltage	220 V AC
Maximum continuous operating voltage (U_c)	385 V AC
Maximum discharge current (I_{max})	40 kA (8/20 μs)
Nominal discharge current (I_n)	20 kA (8/20 μs)
Protection level (U_p)	1.8 kV
Status indication window (four red/green bi-color windows)	• Green: normal state • Red: failure
Part number	19020062

11.3 OADM Combiner and Circulator

Overview

The optical add/drop multiplexer (OADM) combiner can be logically divided into a transmit device and a receive device, which work together to add/drop fixed wavelengths to/from the multiplexed signals. The OADM combiner features low insertion loss, flexible capacity expansion, and low cost, reducing the usage of long-distance optical fibers.

A circulator is used with an OADM combiner. The circulator can separate signals from each other by implementing unidirectional transmission of high-frequency signals and controlling the transmission of optical waves along a certain ring.

The OADM combiner and circulator are passive devices (can be used without power supply). Table 11-8 lists the models of OADM combiners and circulators.

Table 11-8 OADM combiner and circulator

Type	Model	Description
OADM combiner	OADM-OC-00	OADM module - 18 channels - indoor - integrated circulator
OADM combiner	OADM-00-00	OADM module - 18 channels - outdoor
Circulator	OC-1270-1380-00	Optical circulator - 1270 nm - 1380 nm
Circulator	OC-1381-1500-00	Optical circulator - 1381 nm - 1500 nm
Circulator	OC-1501-1620-00	Optical circulator - 1501 nm - 1620 nm

Appearance

Figure 11-7 and Figure 11-8 shows the appearances of the OADM combiner.

Figure 11-7 Appearance of the OADM combiner (OADM-OC-00)

Figure 11-8 Appearance of the OADM combiner (OADM-00-00)

Figure 11-9 shows the appearance of a circulator.

Figure 11-9 Appearance of the circulator

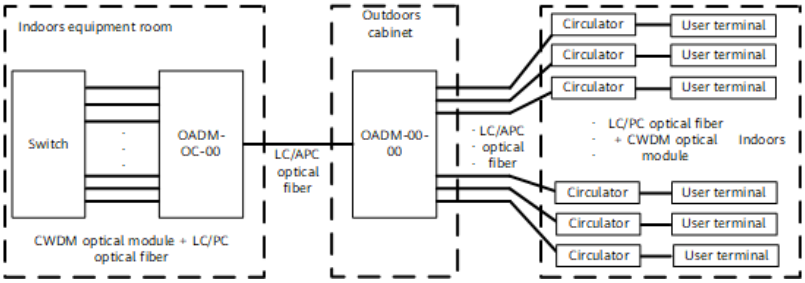
NOTE

Except for having different nameplates on the bottom surface, the three types of circulators have the same appearance.

Application Scenario

The OADM combiner and circulator are mainly used between switches and end users. They are used with GE-CWDM eSFP Optical Modules (Used Only in the OADM scenario) to implement GE fiber to the home (FTTH).

Figure 11-10 Typical application scenario of OADM combiners and circulators

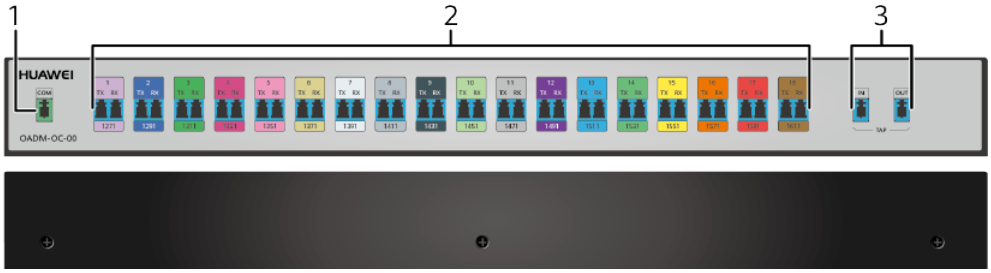


The following lists the cable requirements for connections of devices and components:

- The switch and OADM-OC-00 are installed in the indoor equipment room: The switch is connected to the combiner using the CWDM optical module, and the LC/PC optical fiber is used.
- The OADM-00-00 is installed in an outdoor cabinet near the user side: The OADM-00-00 and OADM-OC-00 are connected through a long-distance LC/APC optical fiber, reducing the number of long-distance optical fibers.
- The circulators are installed indoors: The circulators are connected to the OADM-00-00 using LC/APC optical fibers.
- The CWDM optical modules are installed on the user terminals: The CWDM optical modules are connected to circulators using LC/PC optical fibers.

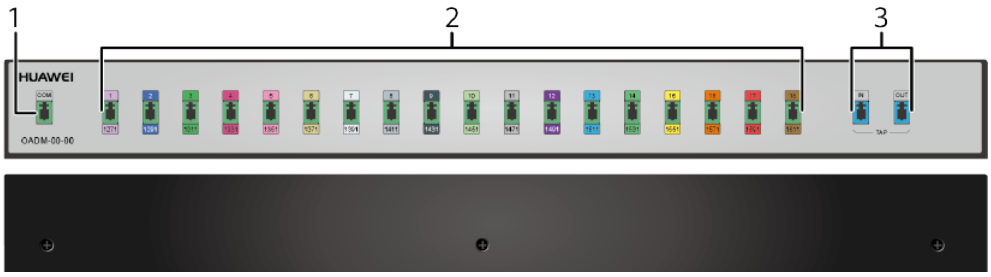
Port Description

Figure 11-11 Ports on the OADM-OC-00



1	COM port **NOTE** The combination port of the OADM-OC-00 is connected to that of the OADM-00-00 using the LC/APC optical fiber.	2	18-channel optical ports with different wavelengths **NOTE** The 18-channel optical ports are connected to CWDM optical modules on the switches using the LC/PC optical fibers. The wavelength ID on the interface must match that of the optical module. The TX port is connected to the RX port on the CWDM optical module, and the RX port is connected to the TX port on the CWDM optical module.
3	TAP port **NOTE** The detection ports are connected using the LC/PC optical fibers. The IN port is used to detect 18-channel CWDM optical paths, and the OUT port is used to detect the optical path on the COM port.	-	-

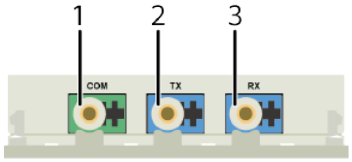
Figure 11-12 Ports on the OADM-00-00



1	COM port **NOTE** The combination port of the OADM-00-00 is connected to that of the OADM-OC-00 using the LC/APC optical fiber.	2	18-channel optical ports with different wavelengths **NOTE** The optical ports are connected to the user-side circulators using LC/APC optical fibers. The wavelength ID on the interface must match that of the circulator.

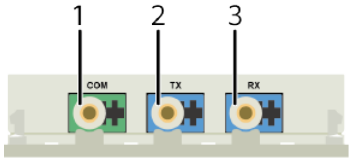
3	TAP port **NOTE** The detection ports are connected using the LC/PC optical fibers. The IN port is used to detect 18-channel CWDM optical paths, and the OUT port is used to detect the optical path on the COM port.	-	-

Figure 11-13 Ports on the OC-1270-1380-00



1	COM port **NOTE** This port can be connected to the 1271, 1291, 1311, 1331, 1351, and 1371 ports of the OADM-00-00 using the LC/APC optical fibers.	2	TX port **NOTE** This port is connected to the RX port of the CWDM optical module using the LC/PC optical fiber.
3	RX port **NOTE** This port is connected to the TX port of the CWDM optical module using the LC/PC optical fiber.	-	-

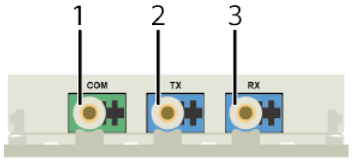
Figure 11-14 Ports on the OC-1381-1500-00



1	COM port **NOTE** This port can be connected to the 1391, 1411, 1431, 1451, 1471, and 1491 ports of the OADM-00-00 using the LC/APC optical fibers.	2	TX port **NOTE** This port is connected to the RX port of the CWDM optical module using the LC/PC optical fiber.

3	RX port **NOTE** This port is connected to the TX port of the CWDM optical module using the LC/PC optical fiber.	-	-

Figure 11-15 Ports on the OC-1501-1620-00



1	COM port **NOTE** This port can be connected to the 1511, 1531, 1551, 1571, 1591, and 1611 ports of the OADM-00-00 using the LC/APC optical fibers.	2	TX port **NOTE** This port is connected to the RX port of the CWDM optical module using the LC/PC optical fiber.
3	RX port **NOTE** This port is connected to the TX port of the CWDM optical module using the LC/PC optical fiber.	-	-

NOTE

If no port is used, cover ports with dust plugs.

Technical Specifications

Table 11-9 lists technical specifications of OADM combiners and circulators.

Table 11-9 Technical specifications

Item	Description
Dimensions (H x W x D)	• OADM-OC-00: 43.6 mm x 442.0 mm x 220.0 mm (1.72 in. x 17.4 in. x 8.66 in.) • OADM-00-00: 43.6 mm x 442.0 mm x 220.0 mm (1.72 in. x 17.4 in. x 8.66 in.) • OC-1270-1380-00: 14 mm x 60.0 mm x 115.0 mm (0.55 in. x 2.36 in. x 4.53 in.) • OC-1381-1500-00: 14 mm x 60.0 mm x 115.0 mm (0.55 in. x 2.36 in. x 4.53 in.) • OC-1501-1620-00: 14 mm x 60.0 mm x 115.0 mm (0.55 in. x 2.36 in. x 4.53 in.)
Operating temperature	• OADM-OC-00: -5°C to +55°C (23°F to 131°F) at an altitude of 0-2000 m (0-6562 ft.) • OADM-00-00: -40°C to +70°C (-40°F to +158°F) at an altitude of 0-2000 m (0-6562 ft.) • OC-1270-1380-00: -5°C to +55°C (23°F to 131°F) at an altitude of 0-2000 m (0-6562 ft.) • OC-1381-1500-00: -5°C to +55°C (23°F to 131°F) at an altitude of 0-2000 m (0-6562 ft.) • OC-1501-1620-00: -5°C to +55°C (23°F to 131°F) at an altitude of 0-2000 m (0-6562 ft.)
Storage temperature	-40°C to +85°C (-40°F to +185°F)
Relative humidity	5% to 95%, noncondensing
Device attribute	Passive
Supported CWDM wavelength (nm)	• OADM-OC-00: 1271/1291/1311/1331/1351/1371/1391/1411/1431/1451/1471/1491/1511/1531/1551/1571/1591/1611 • OADM-00-00: 1271/1291/1311/1331/1351/1371/1391/1411/1431/1451/1471/1491/1511/1531/1551/1571/1591/1611 • OC-1270-1380-00: 1271/1291/1311/1331/1351/1371 • OC-1381-1500-00: 1391/1411/1431/1451/1471/1491 • OC-1501-1620-00: 1511/1531/1551/1571/1591/1611
Part number	• OADM-OC-00: 45020427 • OADM-00-00: 45020428 • OC-1270-1380-00: 45090008 • OC-1381-1500-00: 45090009 • OC-1501-1620-00: 45090010

11.4 HCDF48PDLC00 (48-Port Hybrid Cable Distribution Frame)

Overview

HCDF48PDLC00 is a hybrid cable distribution frame (HDF) used to route hybrid cables for S series hybrid optical-electrical switches. One end of a hybrid cable is connected to an AP or a remote unit, and the other end is connected to a hybrid optical-electrical switch through a fiber jumper, facilitating line connection, distribution, and scheduling.

The HDF is a passive device and can be used with no power input.

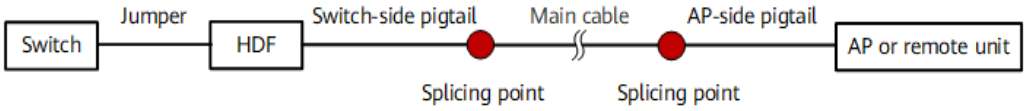
Appearance

Figure 11-16 HCDF48PDLC00 appearance

Application Scenario

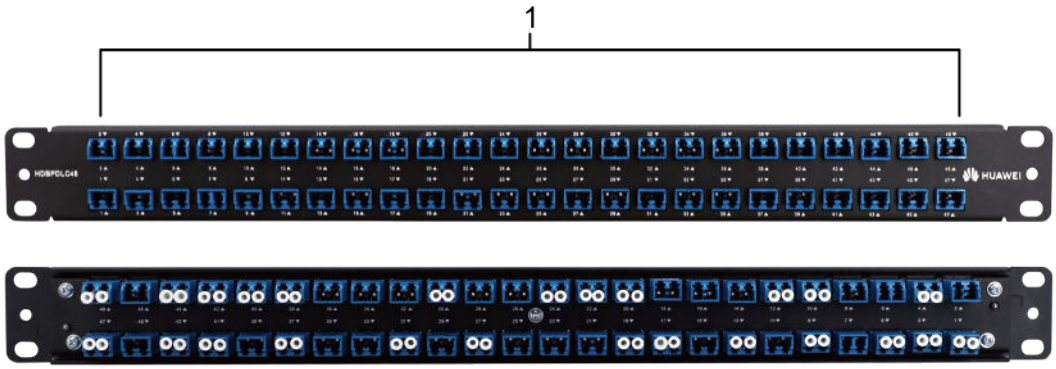
With an HDF deployed: One end of a hybrid cable 1.0 is connected to a hybrid optical-electrical port on a switch through a fiber jumper, and the other end is connected to a hybrid optical-electrical port on the HDF. When it comes to hybrid cable 2.0, one end of the cable is connected to a hybrid optical-electrical port on the HDF, and the other end is connected to a hybrid optical-electrical port on an AP or remote unit.

Figure 11-17 Connection diagram with an HDF deployed



Port Description

Figure 11-18 Ports on the HCDF48PDLC00



1. 48 x hybrid optical-electrical ports

NOTE

When routing cables, ensure that the port in use on the front side of the HDF has the same port number as that in use on the rear side of the HDF.

Cover unused ports with dust plugs.

Technical Specifications

Table 11-10 Technical specifications of the HCDF48PDLC00

Item	Description
Dimensions without packaging (H x W x D) [mm]	43.6 mm x 482.6 mm x 35.2 mm
Weight without packaging	1.0 kg
Component attribute	Passive
Number of ports	• Front: 48 • Rear: 48
Port connector type	PDLC
Part number	98011935
Model	HCDF48PDLC00
Silkscreen	HDBPDLC48

Item	Description
Description	HCDF48PDLC00 (48-port hybrid cable distribution frame)

11.5 S5700-48U-NDF

Overview

Table 11-11 Basic information about the S5700-48U-NDF

Item	Details
Description	S5700-48U-NDF (Network isolated distribution frame, 48*10/100/1000BASE-T ports, PoE++)
Part Number	98012291
Model	S5700-48U-NDF
Other part numbers	• Maximum power of each port: 45 W @ 45°C; 30 W @ 60°C • If the S5700-48U-NDF is deployed between two devices, the total length of the Ethernet cables for connecting to the two devices cannot exceed 80 m.

Appearance

Figure 11-19 Front view of S5700-48U-NDF

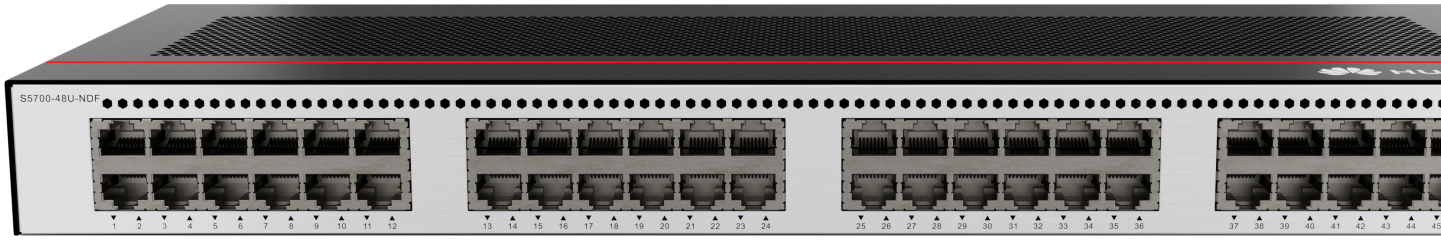
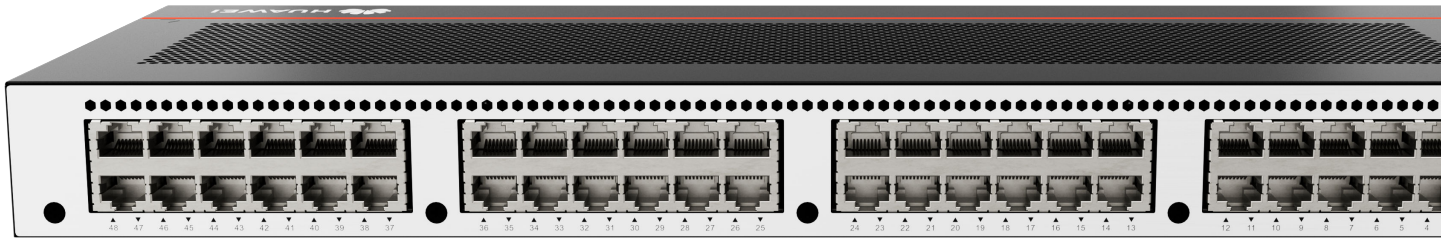


Figure 11-20 Rear view of S5700-48U-NDF



Ports

Table 11-12 Ports on the S5700-48U-NDF

Port	Connector Type	Description	Available Components
10/100/1000BASE-T port	RJ45	A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s. The port supports PoE/PoE+/PoE++ transparent transmission of a maximum of 45 W.	Ethernet cable

Power Supply System

The S5700-48U-NDF is connected between two switches or between a PoE switch and a PD for isolation protection. When the S5700-48U-NDF is used between a PoE switch and a PD, each port supports PoE/PoE+/PoE++ transparent transmission of a maximum of 30 W (at an ambient temperature of 60°C) or 45 W (at an ambient temperature of 45°C). The ports on the S5700-48U-NDF do not distinguish the input end and input end. You only need to connect the ports on both ends of the S5700-48U-NDF to the ports with the same number.

Heat Dissipation System

The device has no fans and uses natural heat dissipation.

Technical Specifications

Table 11-13 Technical specifications of the S5700-48U-NDF

Item	Specification
Dimensions without packaging (H x W x D) [mm(in.)]	Basic dimensions (excluding the parts protruding from the body): 43.6 mm x 442.0 mm x 160.0 mm (1.72 in. x 17.4 in. x 6.3 in.) Maximum dimensions (the depth is the distance from ports on the front panel to the parts protruding from the rear panel): 43.6 mm x 442.0 mm x 166.0 mm (1.72 in. x 17.4 in. x 6.54 in.)
Dimensions with packaging (H x W x D) [mm(in.)]	90.0 mm x 550.0 mm x 360.0 mm (3.54 in. x 21.65 in. x 14.17 in.)
Chassis height [U]	1 U
Weight without packaging [kg(lb)]	2.00 kg (4.41 lb)
Weight with packaging [kg(lb)]	2.43 kg (5.36 lb)
Typical power consumption [W]	-
Typical heat dissipation [BTU/hour]	-
Maximum power consumption [W]	-
Maximum heat dissipation [BTU/hour]	-
Static power consumption [W]	-
MTBF [years]	48.14 years
MTTR [hours]	2 hours
Availability	> 0.99999
Noise at normal temperature (acoustic power) [dB(A)]	Noise-free (no fans), < 20
Noise at normal temperature (acoustic pressure) [dB(A)]	Noise-free (no fans), < 20
Number of card slots	0
Number of power slots	0
Number of fans modules	0
Redundant power supply	Not supported
Long-term operating temperature [°C(°F)]	-40°C to 60°C (-40°F to 140°F) at an altitude of 0-1800 m (0-5906 ft.)

Item	Specification
Restriction on the operating temperature variation rate [°C(°F)]	When the altitude is 1800-5000 m (5906-16404 ft.), the highest operating temperature reduces by 1°C (1.8°F) every time the altitude increases by 220 m (722 ft.).
Storage temperature [°C(°F)]	–40°C to +70°C (–40°F to +158°F)
Long-term operating relative humidity [RH]	5% RH to 95% RH (non-condensing)
Long-term operating altitude [m(ft.)]	0–5000 m (0–16404 ft.)
Storage altitude [m(ft.)]	0-5000 m (0-16404 ft.)
Power supply mode	PoE_IN
Rated input voltage [V]	PoE input: 56 V DC
Input voltage range [V]	AF PoE input: 46 V DC to 57 V DC AT PoE input: 52 V DC to 57 V DC BT PoE input: 54 V DC to 57 V DC
Maximum input current [A]	Maximum input current of each port: 0.8 A
Memory	-
Flash memory	-
Storage	-
Console port	-
Eth Management port	-
USB	Not supported
RTC	Not supported
RPS input	Not supported
Service port surge protection [kV]	Common mode: ±6 kV
Power supply surge protection [kV]	-
Ingress protection level (dustproof/ waterproof)	IP20
Types of fans	None
Heat dissipation mode	Natural heat dissipation
Airflow direction	-
PoE	Supported

Item	Specification
Certification	EMC certification Safety certification Manufacturing certification

11.6 Hybrid Cable Terminal Boxes

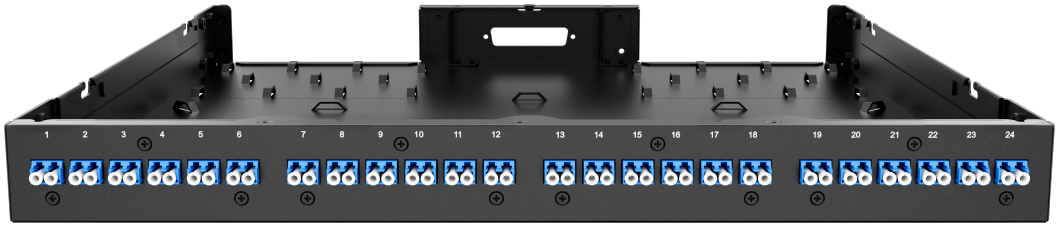
11.6.1 ES5MFMT00000

Overview

ES5MFMT00000 is a 24-port hybrid cable terminal box, which offers 24 PDLC optical-electrical adapters and is applicable to optical-electrical integration and optical-electrical separation scenarios.

Appearance

Figure 11-21 Appearance of the ES5MFMT00000 terminal box (without the cover)



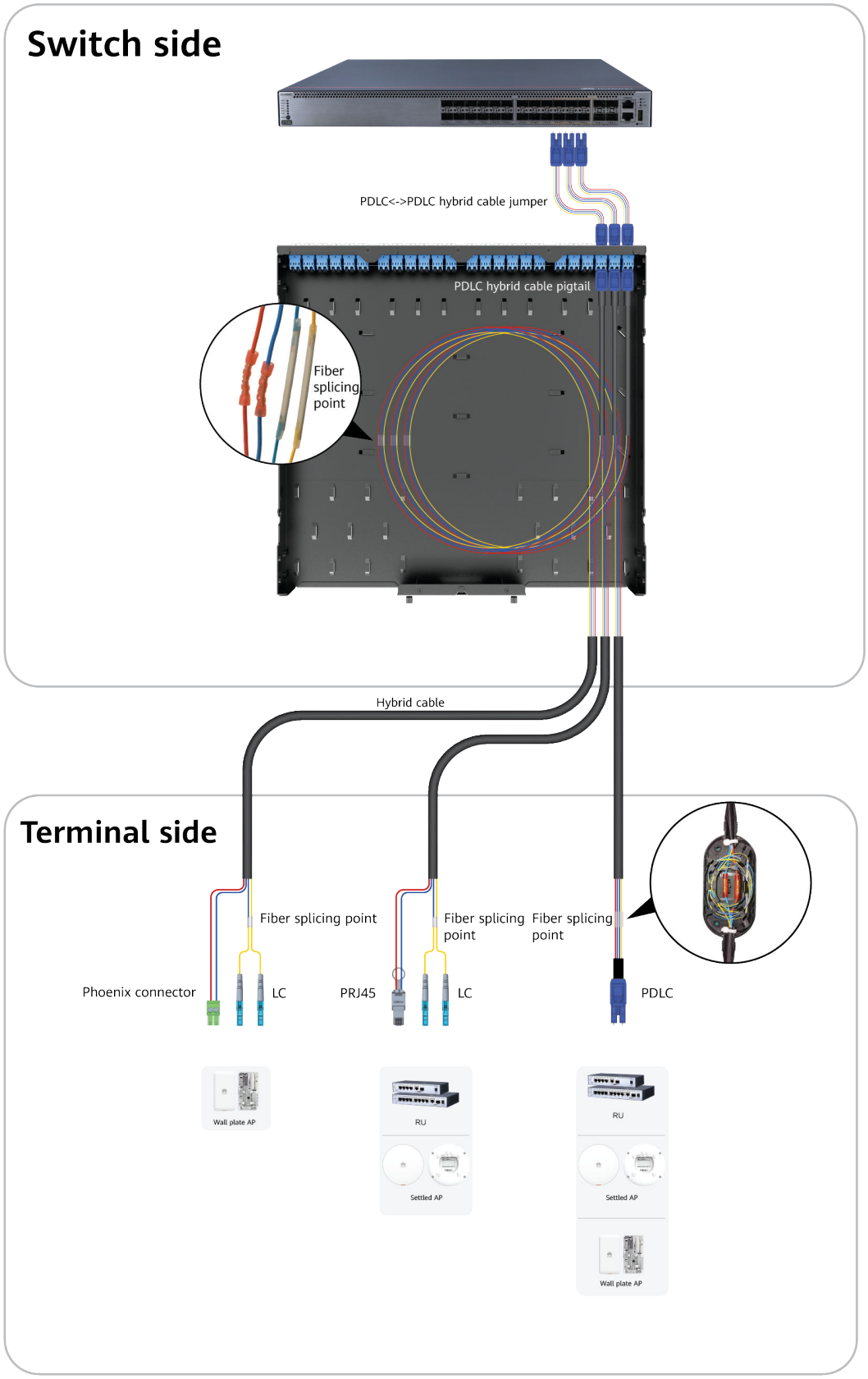
Cable Connections

The ES5MFMT00000 terminal box can be used with S5731-H and S5731S-H hybrid optical-electrical switches in optical-electrical integration scenarios and S5732-H hybrid optical-electrical switches in optical-electrical separation scenarios.

Auxiliary components such as devices and cables related to the ES5MFMT00000 terminal box in optical-electrical integration scenarios:

- S5731-H and S5731S-H hybrid optical-electrical switches
- ES5MFMT00000 terminal box
- Main cable of the hybrid cable
- PDLC hybrid cable pigtail (used inside the terminal box, not included in the terminal box)
- PDLC<->PDLC hybrid cable jumper (used outside the terminal box, not included in the terminal box)

Figure 11-22 Connections of the ES5MFMT00000 terminal box (optical-electrical integration scenario)



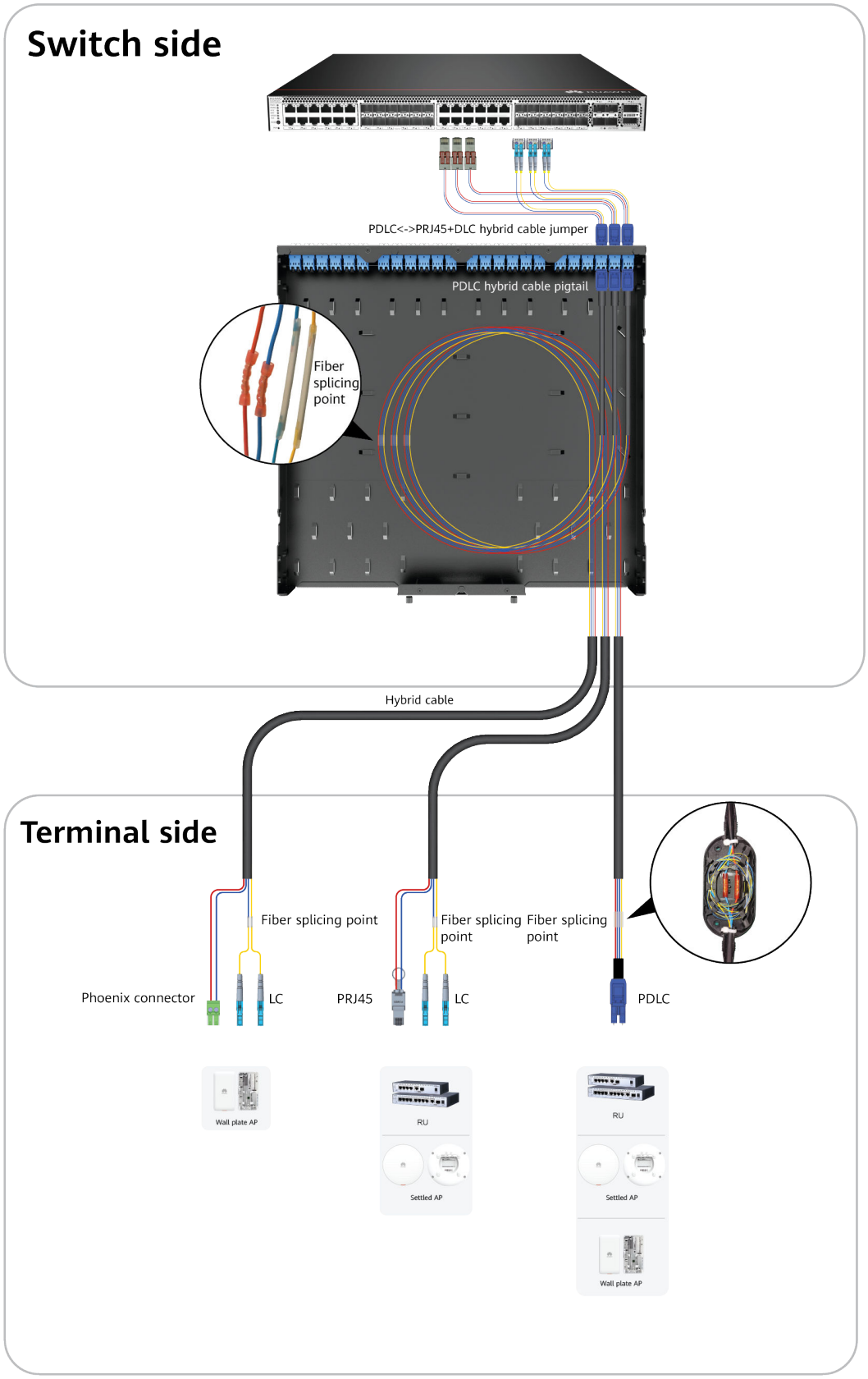
Connection instructions:

- Inside the terminal box:
  - Splice the main cable of the hybrid cable with the PDLC hybrid cable pigtail, connect the PDLC connector of the pigtail to the front panel of the terminal box, and coil the spliced cable inside the terminal box.
- Outside the terminal box:
  - Connect the front panel of the terminal box to the hybrid optical-electrical port on the S5731-H and S5731S-H hybrid optical-electrical switches through the PDLC<->PDLC hybrid cable jumper.

Auxiliary components such as devices and cables related to the ES5MFMT00000 terminal box in optical-electrical separation scenarios:

- S5732-H hybrid optical-electrical switch
- ES5MFMT00000 terminal box
- Main cable of the hybrid cable
- PDLC hybrid cable pigtail (used inside the terminal box, not included in the terminal box)
- PDLC<->PRJ45+DLC hybrid cable jumper (used outside the terminal box, not included in the terminal box)

Figure 11-23 Connections of the ES5MFMT00000 terminal box (optical-electrical separation scenario)



Connection instructions:

- Inside the terminal box:
  - Splice the main cable of the hybrid cable with the PDLC hybrid cable pigtail, connect the PDLC connector of the pigtail to the front panel of the terminal box, and coil the spliced cable inside the terminal box.
- Outside the terminal box:
  - Connect the front panel of the terminal box to the hybrid optical-electrical port of the S5732-H hybrid optical-electrical switch through a PDLC<->PRJ45+DLC hybrid cable jumper.

NOTE

- One terminal box can house a maximum of 24 hybrid cables. If a 48-port hybrid optical-electrical switch is used, two terminal boxes are required.
- Strip the sheath of the hybrid cables inside the terminal box. The stripping start position depends on the installation position of the terminal box in the cabinet. It is recommended that hybrid cables be stripped for a maximum of 1 m to 2.5 m, starting from at least 1 U higher or lower than the terminal box, depending on whether hybrid cables are routed from the top or bottom. When fiber splicing conditions permit, hybrid cables should be stripped as short as possible. If there are a large number of hybrid cables in the cabinet, you are advised to strip the sheath of hybrid cables before routing them into the cabinet.
- A hybrid cable may contain fire-retardant and lubrication materials, such as mica or talcum powder. Dust may be generated when the cable sheath is stripped. Therefore, you are advised to take protective measures, such as wearing gloves and masks.
- For details about the splicing and connection of a hybrid cable, see **(Video) Hybrid Cable 1.0 Assembly and Connection Guide** and **(Video) Hybrid Cable 2.0 Assembly and Connection Guide**.
- When a terminal box is used, no splicing protection tube is required for the optical fiber splicing part.
- It is recommended that the distance between the switch and a terminal box be at least 1 U.

Figure 11-24 Cable connections between a 48-port hybrid optical-electrical switch and two terminal boxes (based on the cabling distance, recommended)

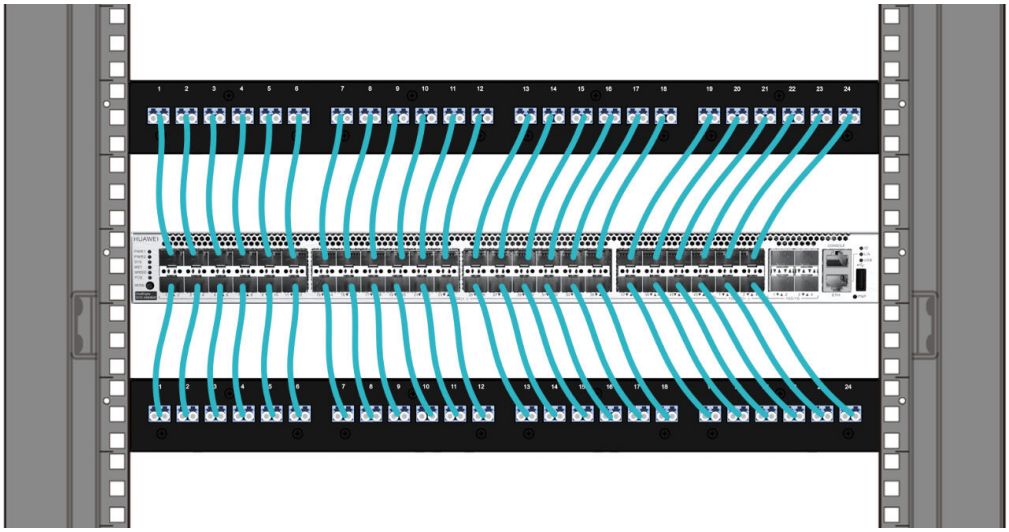
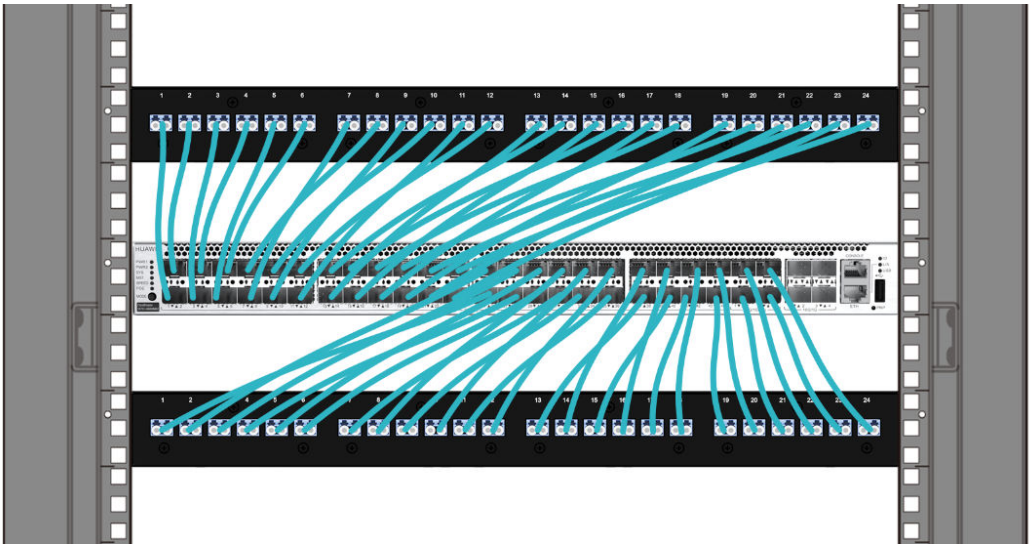


Figure 11-25 Connections between a 48-port hybrid optical-electrical switch and two terminal boxes (based on port numbers)



Technical Specifications

Table 11-14 Technical specifications

Item	Description
Model	ES5MFMT00000
Description	24-port hybrid cable terminal box (with 24 PDLC optical-electrical adapters, applicable to optical-electrical integration scenarios)
Part number	98012287
Dimensions without packaging (H x W x D)	43.6 mm x 442.0 mm x 420.0 mm (1.72 in. x 17.4 in. x 16.54 in.)
Height	1 U

11.6.2 ES5MFMT00001

Overview

ES5MFMT00001 is a 24-port hybrid cable terminal box, which offers 24 empty ports but no PDLC optical-electrical adapters and is applicable to optical-electrical integration and optical-electrical separation scenarios.

Appearance

Figure 11-26 Appearance of the ES5MFMT00001 terminal box (without the cover)

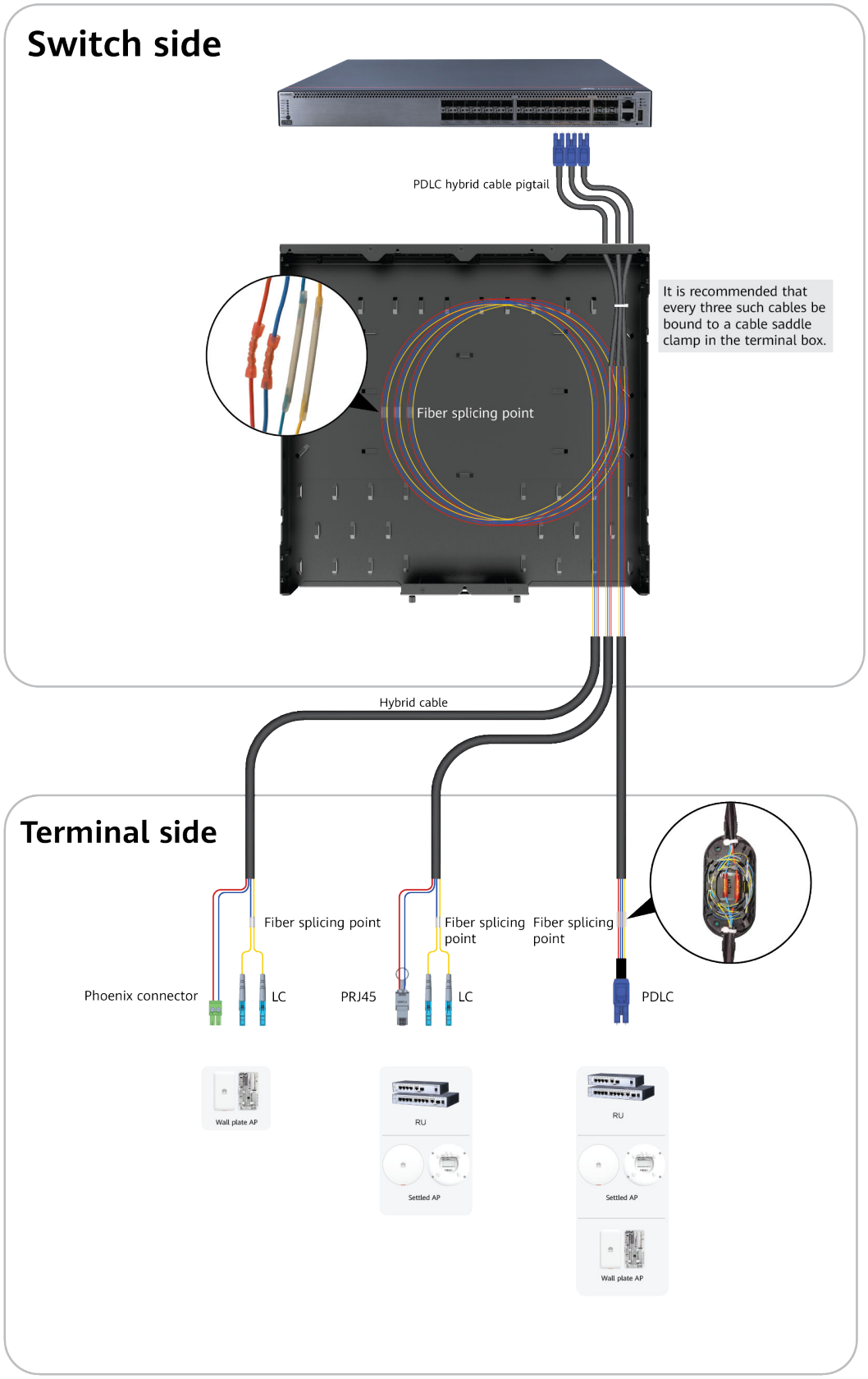
Cable Connections

The ES5MFMT00001 terminal box can be used with S5731-H and S5731S-H hybrid optical-electrical switches in optical-electrical integration scenarios and S5732-H hybrid optical-electrical switches in optical-electrical separation scenarios.

Auxiliary components such as devices and cables related to the ES5MFMT00001 terminal box in optical-electrical integration scenarios:

- S5731-H and S5731S-H hybrid optical-electrical switches
- ES5MFMT00001 terminal box
- PDLC hybrid cable pigtail (The same pigtail is used inside and outside the terminal box and is not included in the terminal box.)
- Main cable of the hybrid cable

Figure 11-27 Connections of the ES5MFMT00001 terminal box (optical-electrical integration scenario)



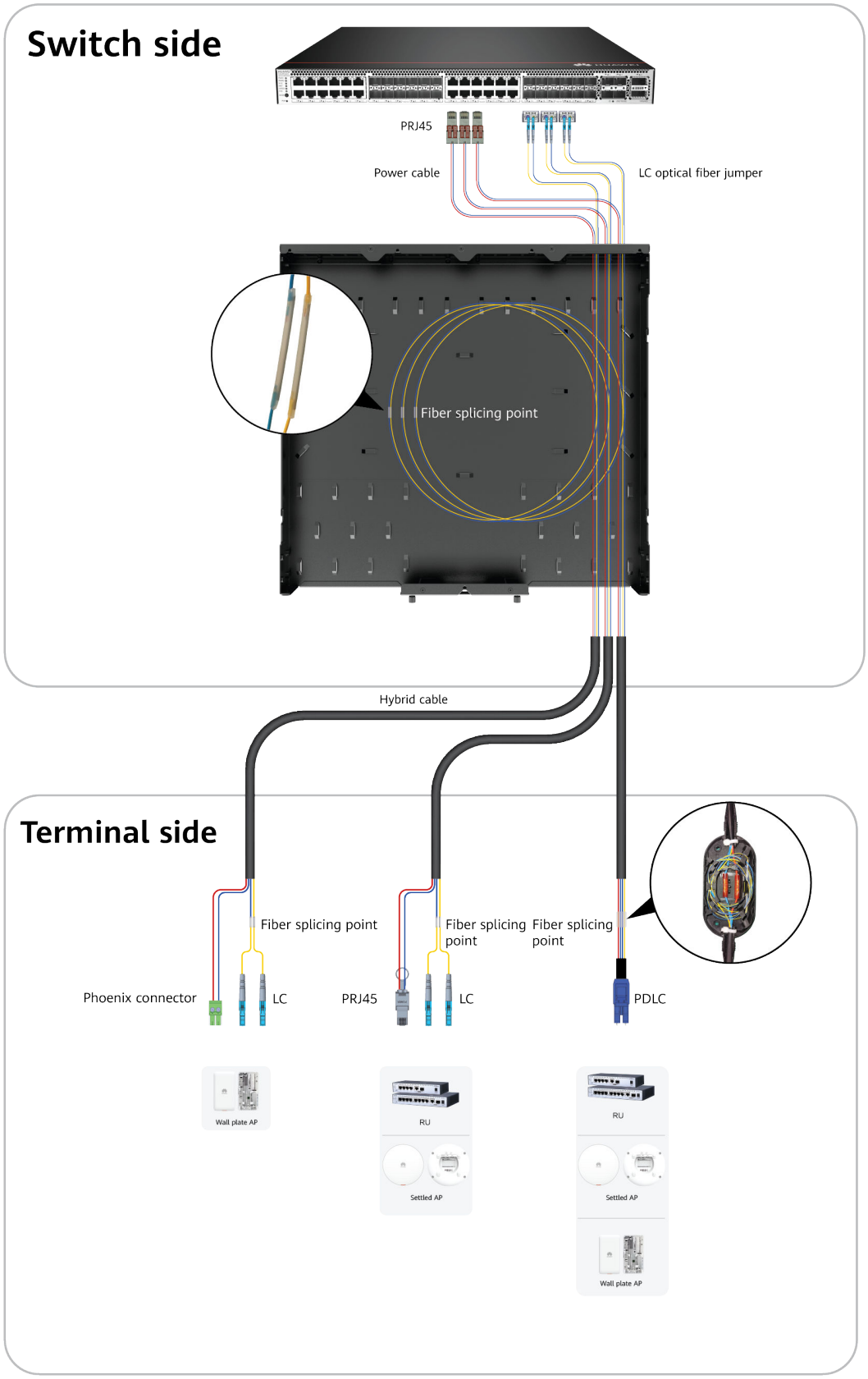
Connection instructions:

- Inside the terminal box:
  - Before splicing, route the hybrid cable pigtail through an empty port on the front panel of the terminal box. (The front panel of the terminal box does not contain a PDLC optical-electrical adapter.)
  - After the main cable of the hybrid cable is spliced with the hybrid cable pigtail, coil the spliced cable inside the terminal box.
- Outside the terminal box:
  - Connect the hybrid cable pigtail to the hybrid optical-electrical port on S5731-H and S5731S-H hybrid optical-electrical switches.

Auxiliary components such as devices and cables related to the ES5MFMT00001 terminal box in optical-electrical separation scenarios:

- S5732-H hybrid optical-electrical switch
- ES5MFMT00001 terminal box
- LC optical fiber pigtail (The same pigtail is used inside and outside the terminal box and is not included in the terminal box.)
- PRJ45 connector
- Main cable of the hybrid cable

Figure 11-28 Connections of the ES5MFMT00001 terminal box (optical-electrical separation scenario)



Connection instructions:

- Inside the terminal box:
  - Before splicing, route the LC optical fiber pigtail through an empty port on the front panel of the terminal box. (The front panel of the terminal box does not contain a DLC fiber adapter.)
  - After the optical fiber of the hybrid cable is spliced with the LC optical fiber pigtail, coil the spliced cable inside the terminal box.
  - Route the power cable of the hybrid cable through an empty port on the front panel of the terminal box.
- Outside the terminal box:
  - Connect the LC optical fiber pigtail to an optical port of the S5732-H hybrid optical-electrical switch and connect the power cable of the hybrid cable to an electrical port of the S5732-H hybrid optical-electrical switch through a PRJ45 connector.

NOTE

- One terminal box can house a maximum of 24 hybrid cables. If a 48-port hybrid optical-electrical switch is used, two terminal boxes are required.
- Strip the sheath of the hybrid cables inside the terminal box. The stripping start position depends on the installation position of the terminal box in the cabinet. It is recommended that hybrid cables be stripped for a maximum of 1 m to 2.5 m, starting from at least 1 U higher or lower than the terminal box, depending on whether hybrid cables are routed from the top or bottom. When fiber splicing conditions permit, hybrid cables should be stripped as short as possible. If there are a large number of hybrid cables in the cabinet, you are advised to strip the sheath of hybrid cables before routing them into the cabinet.
- A hybrid cable may contain fire-retardant and lubrication materials, such as mica or talcum powder. Dust may be generated when the cable sheath is stripped. Therefore, you are advised to take protective measures, such as wearing gloves and masks.
- For details about the splicing and connection of a hybrid cable, see **(Video) Hybrid Cable 1.0 Assembly and Connection Guide** and **(Video) Hybrid Cable 2.0 Assembly and Connection Guide**.
- When a terminal box is used, no splicing protection tube is required for the optical fiber splicing part.
- It is recommended that the distance between the switch and a terminal box be at least 1 U.

Technical Specifications

Table 11-15 Technical specifications

Item	Description
Model	ES5MFMT00001
Description	24-port hybrid cable terminal box (24 empty ports, no optical-electrical adapter)
Part number	98012288
Dimensions without packaging (H x W x D)	43.6 mm x 442.0 mm x 420.0 mm (1.72 in. x 17.4 in. x 16.54 in.)

Item	Description
Height	1 U

11.6.3 ES5MFMT00003

Overview

ES5MFMT00003 is a single-hybrid-cable terminal box. It is applicable to optical-electrical integration or optical-electrical separation scenarios of RUs.

Appearance

Figure 11-29 Appearance of the ES5MFMT00003 terminal box (without the cover)

Cable Connections

The ES5MFMT00003 terminal box can be used with RUs.

Auxiliary components such as devices and cables related to the ES5MFMT00003 terminal box in optical-electrical integration scenarios:

- RU
- ES5MFMT00003 terminal box
- PDLC hybrid cable pigtail
- Main cable of the hybrid cable

Figure 11-30 Connections of the ES5MFMT00003 terminal box (without a cover, optical-electrical integration scenario)

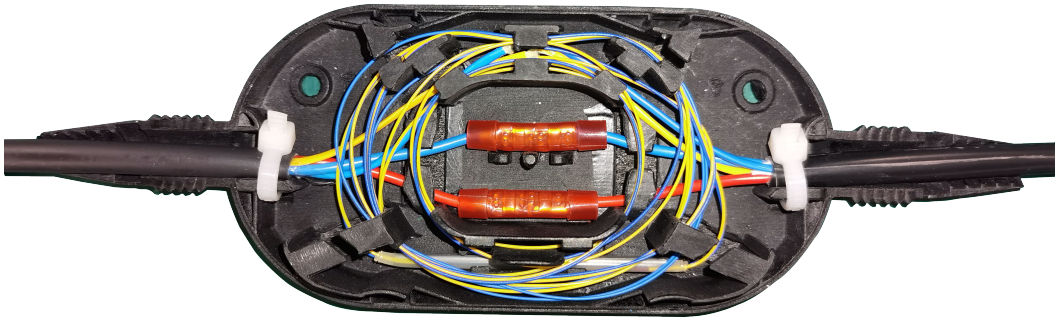


Figure 11-31 Connections of the ES5MFMT00003 terminal box (with a cover, optical-electrical integration scenario)

Connection instructions:

- Inside the terminal box:
  - Crimp the main cable of a hybrid cable and the hybrid cable pigtail together using bare crimp terminals. Ensure that the colors of the cables at both ends are the same before crimping. After optical fibers are spliced, coil the spliced cable inside the terminal box.
- Outside the terminal box:
  - Connect one end of the terminal box to the main cable of the hybrid cable and the other end to the hybrid cable pigtail.

Auxiliary components such as devices and cables related to the ES5MFMT00003 terminal box in optical-electrical separation scenarios:

- RU
- ES5MFMT00003 terminal box
- LC optical fiber pigtail
- PRJ45 connector
- Main cable of the hybrid cable

Figure 11-32 Connections of the ES5MFMT00003 terminal box (without a cover, optical-electrical separation scenario)

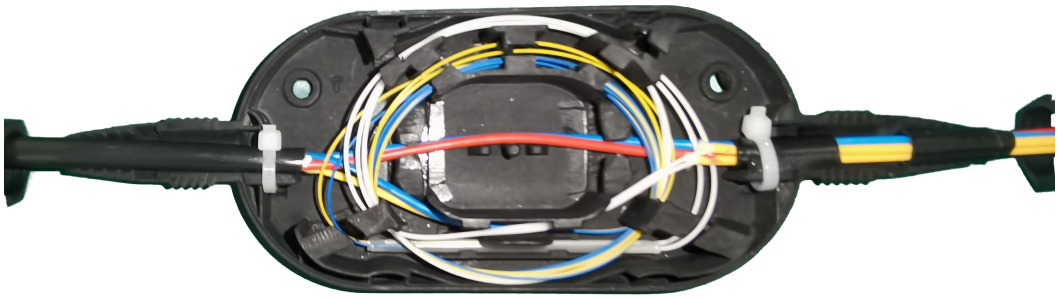


Figure 11-33 Connections of the ES5MFMT00003 terminal box (with a cover, optical-electrical separation scenario)

Connection instructions:

- Inside the terminal box:
  - After the optical fiber of the hybrid cable is spliced with the LC optical fiber pigtail, coil the spliced cable inside the terminal box.
  - The power cable connector inside the terminal box can be removed. After the connector is removed, route the power cable of the hybrid cable out of the terminal box.
- Outside the terminal box:
  - Connect one end of the terminal box to the main cable of the hybrid cable, and the LC optical fiber pigtail at the other end to an optical port of the RU. Connect the power cable of the hybrid cable to an electrical port of the RU through a PRJ45 connector.

NOTE

- Before connecting cables, remove the caps from both ends of the terminal box, route the cables into the caps, and then splice or crimp the cables. This prevents the failure to install the caps on the terminal box after cable connection.
- When LC optical fiber pigtails and PRJ45 connectors are used on the RU side, use at least five layers of insulation tape to protect the binding positions of LC optical fiber pigtails and power cables and exit of the terminal box.
- When a terminal box is used, no splicing protection tube is required for the optical fiber splicing part.

Technical Specifications

Table 11-16 Technical specifications

Item	Description
Model	ES5MFMT00003
Description	Single-hybrid-cable terminal box (applicable to the remote unit scenario)
Part number	98012290

