H3C WX5800X Series Access Controllers

Hardware Information and Specifications

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Preface

H3C WX5800X Series Access Controllers Hardware Information and Specifications describes product models, technical specifications, ports,and LEDs of the WX5800X series access controllers.

This preface includes the following topics about the documentation:

- Audience.
- Conventions.
- Documentation feedback.

Audience

This documentation is intended for:

- Network planners.
- Field technical support and servicing engineers.
- Network administrators working with the WX5800X series access controllers.

Conventions

The following information describes the conventions used in the documentation.

Command conventions

Convention	Description
Boldface	**Bold** text represents commands and keywords that you enter literally as shown.
Italic	*Italic* text represents arguments that you replace with actual values.
[ ]	Square brackets enclose syntax choices (keywords or arguments) that are optional.
{ x | y | ... }	Braces enclose a set of required syntax choices separated by vertical bars, from which you select one.
[x | y | ...]	Square brackets enclose a set of optional syntax choices separated by vertical bars, from which you select one or none.
{ x | y | ... } *	Asterisk marked braces enclose a set of required syntax choices separated by vertical bars, from which you select a minimum of one.
[x | y | ...] *	Asterisk marked square brackets enclose optional syntax choices separated by vertical bars, from which you select one choice, multiple choices, or none.
&<1-n>	The argument or keyword and argument combination before the ampersand (&) sign can be entered 1 to n times.
#	A line that starts with a pound (#) sign is comments.

GUI conventions

Convention	Description
Boldface	Window names, button names, field names, and menu items are in Boldface. For example, the **New User** window opens; click **OK**.
>	Multi-level menus are separated by angle brackets. For example, **File** > **Create** > **Folder**.

Symbols

Convention	Description
WARNING!	An alert that calls attention to important information that if not understood or followed can result in personal injury.
CAUTION:	An alert that calls attention to important information that if not understood or followed can result in data loss, data corruption, or damage to hardware or software.
IMPORTANT:	An alert that calls attention to essential information.
NOTE:	An alert that contains additional or supplementary information.
TIP:	An alert that provides helpful information.

Network topology icons

Convention	Description
	Represents a generic network device, such as a router, switch, or firewall.
	Represents a routing-capable device, such as a router or Layer 3 switch.
	Represents a generic switch, such as a Layer 2 or Layer 3 switch, or a router that supports Layer 2 forwarding and other Layer 2 features.
	Represents an access controller, a unified wired-WLAN module, or the access controller engine on a unified wired-WLAN switch.
	Represents an access point.
	Represents a wireless terminator unit.
	Represents a wireless terminator.
	Represents a mesh access point.
	Represents omnidirectional signals.
	Represents directional signals.
	Represents a security product, such as a firewall, UTM, multiservice security gateway, or load balancing device.
	Represents a security module, such as a firewall, load balancing, NetStream, SSL VPN, IPS, or ACG module.

Examples provided in this document

Examples in this document might use devices that differ from your device in hardware model, configuration, or software version. It is normal that the port numbers, sample output, screenshots, and other information in the examples differ from what you have on your device.

Documentation feedback

You can e-mail your comments about product documentation to info@h3c.com.

We appreciate your comments.

Contents

1 Product overview

Product models

This document is applicable to the WX5800X series access controllers. Table1-1 describes the WX5800X series access controller models.

Table1-1 WX5800X series access controller models

Product series	Product code	Model	Remarks
WX5800X series	EWP-WX5860X	WX5860X	Non-PoE model

Technical specifications

Table1-2 Technical specifications

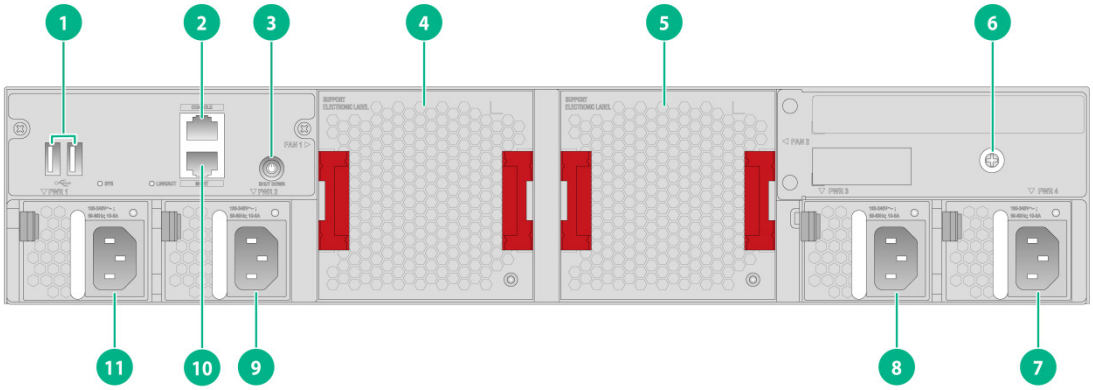
Item	Specification
Dimensions (H × W × D)	88.1 × 440 × 660 mm (3.47 × 17.32 × 25.98 in)
Weight	< 22.9 kg (50.49 lb)
Console port	1, control port, 9600 bps
USB port	2 (USB2.0)
Management port	1 × 100/1000BASE-T management Ethernet port
Memory	64GB DDR4
Storage media	32GB eMMC memory
Rated voltage range	• PSR650B-12A1: 100 to 240 VAC @ 50 or 60 Hz • PSR650B-12D1: –40 to –60 VDC
System power consumption	< 502 W
Operating temperature	0°C to 45°C (32°F to 113°F)
Operating humidity	5% RH to 95% RH, noncondensing

Chassis views

WX5860X

Front, rear, and side views

Figure1-1 Front view

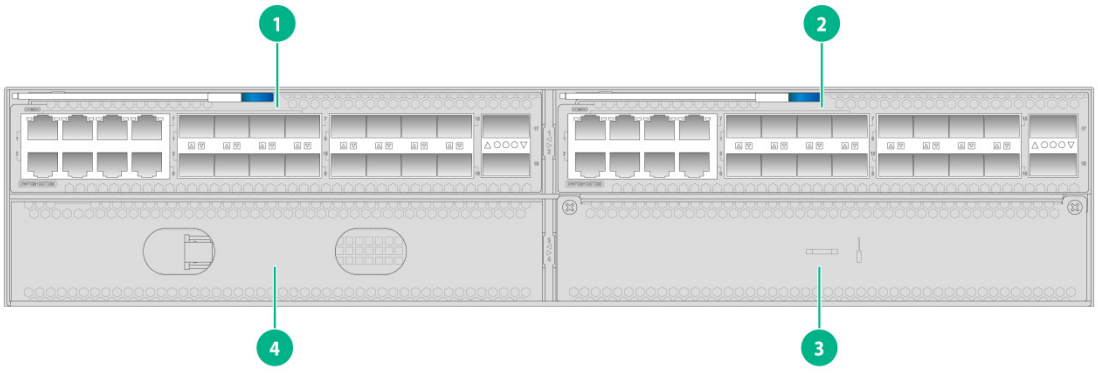


(1) USB ports	(2) Serial console port
(3) SHUT DOWN button LED	(4) Fan tray 1
(5) Fan tray 2	(6) Grounding screw (auxiliary grounding point 2)
(7) Power supply 4	(8) Power supply 3
(9) Power supply 2	(10) Management Ethernet port
(11) Power supply 1	

NOTE:

Pressing the SHUT DOWN button LED for more than 15 milliseconds powers on the device. If you press and hold the button LED for more than 2 seconds, the LED is fast flashing at 1 Hz. You must wait for the device to notify the x86 operating system to shut down, and you can power off the device only when the LED turns off.

Figure1-2 Rear view



(1) Expansion slot 1	(2) Expansion slot 2
(3) Expansion slot 4 (reserved)	(4) Expansion slot 3 (reserved)

The device comes with expansion slot 1 empty and the other expansion slots each installed with a filler panel. You can install expansion modules only in expansion slots 1 and 2. Expansion slots 3 and

4 are reserved. You can install one to two expansion modules for the device as required. In Figure1-2, expansion modules are installed in two expansion module slots.

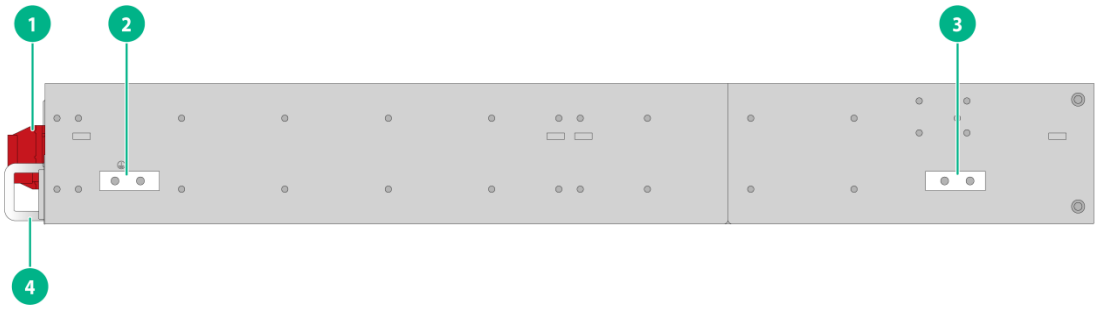
The device comes with power supply slot PWR1 empty and the other three power supply slots each installed with a filler panel. One power supply can meet the power requirement of the device. You can also install two, three, or four power supplies for the device to achieve 1+1, 1+2, or 1+3 redundancy, respectively. In Figure1-1, four power supplies are installed in the power supply slots.

The device comes with the two fan tray slots empty. In Figure1-1, two fan trays are installed in the fan tray slots.

CAUTION:

- Do not hot swap expansion modules. Hot swapping expansion modules restarts the device. Please be cautious.
- To ensure adequate heat dissipation, you must install two fan trays for the device.

Figure1-3 Side view

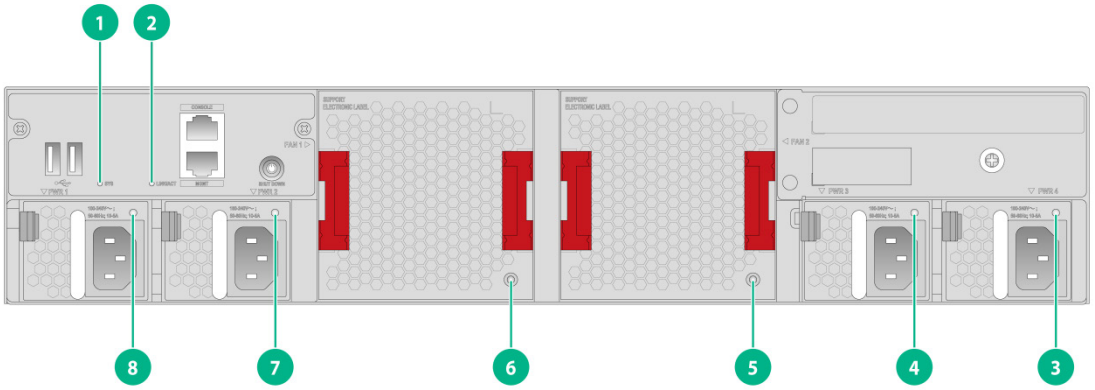


(1) Fan tray handle	(2) Primary grounding point
(3) Auxiliary grounding point	(4) Power supply handle

LED locations

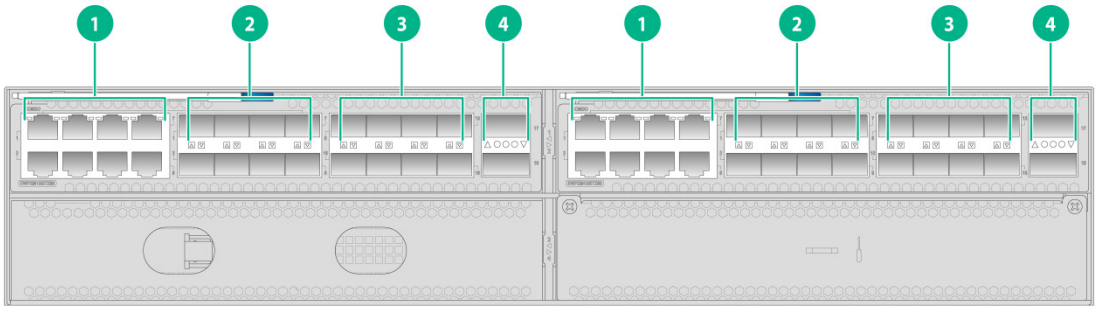
The device in the following figures is fully configured with AC power supplies, fan trays, and expansion modules.

Figure1-4 Front panel LED locations



(1) System status LED (SYS)	(2) Management Ethernet port LED (LINK/ACT)
(3) Power supply status LEDs (3, 4, 7, and 8)	(4) Fan tray status LEDs (5 and 6)

Figure1-5 Rear panel LED locations



(1) 1000BASE-T Ethernet port LEDs	(2) SFP port LEDs
(3) 10G SFP+ port LEDs	(4) 40G QSFP+ port LEDs

2 Removable components

Removable components and compatibility matrixes

The access controllers use modular design. Table2-1 describes the compatibility matrix between access controllers and removable components.

Table2-1 Compatibility matrix between access controllers and removable components

Removable components	WX5860X
Removable power supplies	
PSR650B-12A1	Supported
PSR650B-12D1	Supported
Removable fan trays	
LSWM1BFANSCB-SN	Supported
Expansion modules	
EWPXM1BSTX80	Supported

Table2-2 describes the compatibility matrix between expansion modules and expansion slots.

Table2-2 Compatibility matrix between expansion modules and expansion slots

Expansion module	WX5860X	
	Slot 1 **Slot 2**	**Slot 3** **Slot 4**
EWPXM1BSTX80	Supported	N/A

The power supplies support asset management. You can use **`display device manuinfo`** command to view the name, sequence number, and vendor of the power supply you have installed on the device.

Power supplies

Power supply specifications

WARNING!

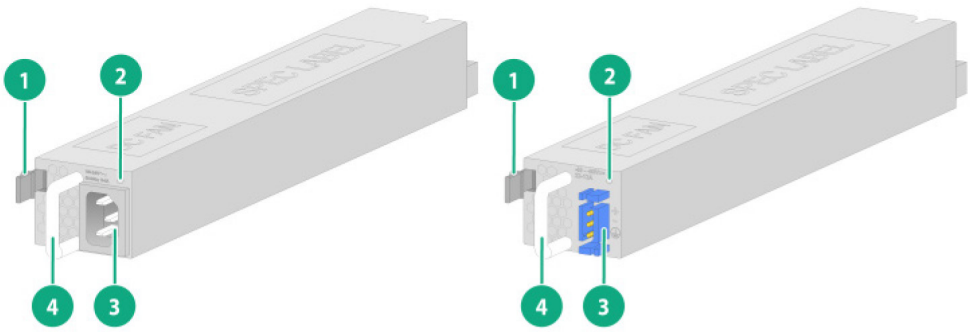
When the device has power supplies in redundancy, you can replace a power supply without powering off the device. To avoid device damage and bodily injury, make sure the power supply is powered off before you replace it.

Table2-3 Power supply specifications

Power supply model	Item	Specification
PSR650B-12A1	Product code	PSR650B-12A1-D
	Rated AC input voltage range	100 to 240 VAC @ 50 or 60 Hz
	Output voltage	12 V/5 V
	Max output current	52.9 A (12 V)/3 A (5 V)
	Max output power	650 W
	Dimensions (H × W × D)	40.2 × 50.5 × 300 mm (1.58 × 1.99 × 11.81 in)
	Operating temperature	–5°C to +50°C (23°F to 122°F)
	Operating humidity	5% RH to 95% RH, noncondensing
PSR650B-12D1	Product code	PSR650B-12D1-GL
	Rated DC input voltage range	–40 to –60 VDC
	Output voltage	12 V/5 V
	Max output current	52.9 A (12 V)/3 A (5 V)
	Max output power	650 W
	Dimensions (H × W × D)	40.2 × 50.5 × 300 mm (1.58 × 1.99 × 11.81 in)
	Operating temperature	–5°C to +45°C (23°F to 113°F)
	Operating humidity	5% RH to 95% RH, noncondensing

Power supply views

Figure2-1 PSR650B-12A1&PSR650B-12D1



(1) Latch	(2) Status LED
(3) Power input receptacle	(4) Handle

Fan trays

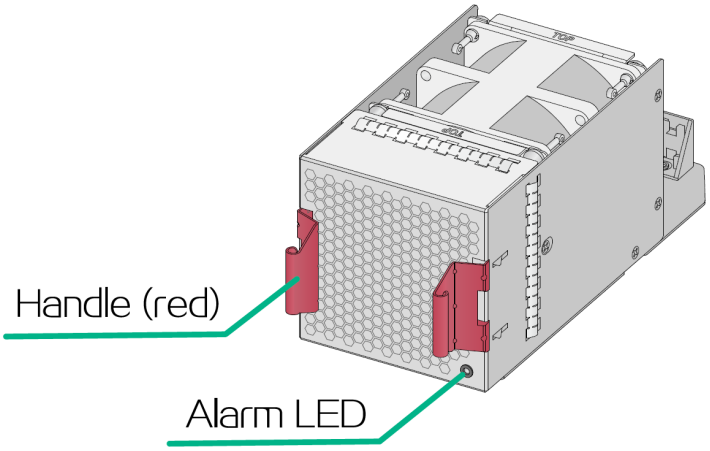
Fan tray specifications

Table2-4 Fan tray specifications

Fan tray model	Item	Specification
LSWM1BFANSCB-SN	Dimensions (H × W × D)	80 × 80 × 232.6 mm (3.15 × 3.15 × 9.16 in)
	Airflow direction	Air exhausted from the fan tray faceplate
	Fan speed	13380 R.P.M
	Max airflow	120 CFM (3.40 m^3/min)
	Operating voltage	12 V
	Max power consumption	57 W
	Operating temperature	0°C to 45°C (32°F to 113°F)
	Operating humidity	5% RH to 95% RH, noncondensing
	Storage temperature	–40°C to +70°C (–40°F to +158°F)
	Storage humidity	5% RH to 95% RH, noncondensing

Fan tray views

Figure2-2 LSWM1BFANSCB-SN



Expansion modules

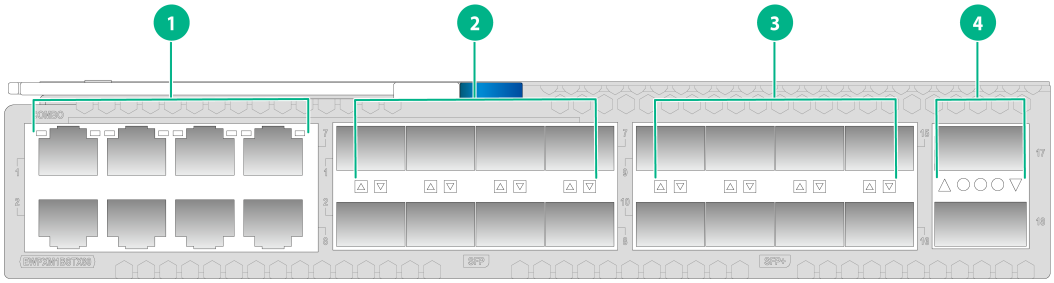
Expansion module specifications

Table2-5 Expansion module specifications

Expansion module model	Item	Specification
EWPXM1BSTX80	Name	Hardware acceleration module
	Port quantity and types	• 8 × GE combo interfaces: Each combo interface contains a 1000BASE-T copper Ethernet port and a 1000BASE-X-SFP fiber Ethernet port • 8 × 10GE SFP+ fiber ports • 2 × 40GE QSFP+ fiber ports Note: Do not use 10GBASE-R-SFP+ fiber ports and 40GBASE-R-QSFP+ fiber ports simultaneously.
	Port specifications	• For information about GE combo interfaces, see "Combo interface." • For information about SFP+ modules and cables supported by the SFP+ fiber ports, see Table3-7. • For information about QSFP+ modules and cables supported by the QSFP+ fiber ports, see Table3-9.
	Power consumption	82.3 W to 110.4 W
	Dimensions (H × W × D)	40.1 × 214 × 274.2 mm (1.58 × 8.43 × 10.80 in)
	Weight	1.9 kg (4.19 lb)

Expansion module views

Figure2-3 Front panel



(1) 1000BASE-T copper Ethernet ports（Combo interfaces）	(2) 1000BASE-X-SFP fiber Ethernet ports（Combo interfaces）
(3) 10GBASE-R-SFP+ fiber ports	(4) 40GBASE-R-QSFP+ fiber ports

3 Ports and LEDs

Ports

Console port

Table3-1 Console port specifications

Item	Specification
Connector type	RJ-45
Compliant standard	EIA/TIA-232
Port transmission rate	9600 bps
Services	• Provides connection to an ASCII terminal • Provides connection to the serial port of a local PC running terminal emulation program
Compatible models	WX5860X

USB port

Table3-2 USB port specifications

Item	Specification
Interface type	USB 2.0
Compliant standard	OHCI
Port transmission rate	Uploads and downloads data at a rate up to 480 Mbps
Functions and services	Accesses the file system on the flash of the device, for example, to upload or download application and configuration files
Compatible models	WX5860X

NOTE:

USB devices from different vendors vary in compatibilities and drivers. H3C does not guarantee correct operation of USB devices from other vendors on the device. If a USB device fails to operate on the device, replace it with one from another vendor.

Combo interface

A combo interface is a logical interface that physically contains one 1000BASE-T copper Ethernet port and one 1000BASE-X-SFP fiber Ethernet port on the device panel. The two ports share one forwarding interface and one interface view. As a result, they cannot work simultaneously.

- If you first insert a cable into the copper port, the copper port is preferentially used for data switching.

- If you first insert a transceiver module into the fiber port, the fiber port is preferentially used for data switching.
- If you insert a cable into the copper port and a transceiver module into the fiber port simultaneously, the copper port is preferentially used for data switching.

1000BASE-T copper Ethernet port

Table3-3 1000BASE-T copper Ethernet port specifications

Item	Specification
Connector type	RJ-45
Auto-MDI/MDI-X	MDI/MDI-X autosensing
Max transmission distance	100 m (328.08 ft)
Transmission medium	Category 5 or above twisted pair cable
Compliant standard	IEEE 802.3ab
Compatible models	EWPXM1BSTX80

1000BASE-X-SFP fiber Ethernet port

Table3-4 1000BASE-X-SFP fiber Ethernet port specifications

Item	Specification
Connector type	LC
Compatible transceiver modules	GE SFP transceiver modules in Table3-5
Compatible models	EWPXM1BSTX80

Table3-5 GE SFP transceiver modules

Transceiver module type	Transceiver module model	Central wavelength	Receiver sensitivity	Fiber diameter	Data rate	Max transmission distance
GE multi-mode module	SFP-GE-SX-MM850-A	850 nm	–17 dBm	50 µm	1.25 Gbps	550 m (1804.46 ft)
	SFP-GE-SX-MM850-D	850 nm	–17 dBm	50 µm	1.25 Gbps	550 m (1804.46 ft)
GE single-mode module	SFP-GE-LX-SM1310-A	1310 nm	–20 dBm	9 µm	1.25 Gbps	10 km (6.21 miles)
	SFP-GE-LX-SM1310-D	1310 nm	–20 dBm	9 µm	1.25 Gbps	10 km (6.21 miles)

NOTE:

- As a best practice, use H3C transceiver modules for the device.
- The H3C transceiver modules are subject to change over time. For the most recent list of H3C transceiver modules, contact your H3C Support or marketing staff.
- For more information about H3C transceiver modules, see *H3C Transceiver Modules User Guide*.

10GBASE-R-SFP+ port

Table3-6 SFP+ port specifications

Item	Specification
Connector type	LC
Compatible transceiver modules and cables	10GE SFP+ transceiver modules and cables in Table3-7
Compatible devices	EWPXM1BSTX80

Table3-7 10GE SFP+ transceiver modules and cables

Transceiver module or cable type	Transceiver module or cable model	Central wavelength	Receiver sensitivity	Fiber diameter	Data rate	Max transmission distance
10GE multi-mode module	SFP-XG-SX-MM850-A	850nm	-9.9dBm	50μm	10.31Gb/s	300m
	SFP-XG-SX-MM850-D	850 nm	–9.9 dBm	50 μm	10.31 Gbps	300 m (984.25 ft)
	SFP-XG-SX-MM850-E	850 nm	–9.9 dBm	50 μm	10.31 Gbps	300 m (984.25 ft)
10GE single-mode module	SFP-XG-LX-SM1310	1310nm	-14.4dBm	9μm	10.31Gb/s	10km
	SFP-XG-LX-SM1310-D	1310 nm	–14.4 dBm	9 μm	10.31 Gbps	10 km (6.21 miles)
	SFP-XG-LX-SM1310-E	1310 nm	–14.4 dBm	9 μm	10.31 Gbps	10 km (6.21 miles)
SFP+ cable	LSWM3STK	N/A	N/A	N/A	N/A	3 m (9.84 ft)

Figure3-1 SFP+ cable

(1) Connector	(2) Pull latch

NOTE:

- As a best practice, use H3C transceiver modules and cables for the device.
- The H3C transceiver modules and cables are subject to change over time. For the most recent list of H3C transceiver modules and cables, contact your H3C Support or marketing staff.
- For more information about H3C transceiver modules and cables, see *H3C Transceiver Modules User Guide*.

40GBASE-R-QSFP+ port

Table3-8 QSFP+ port specifications

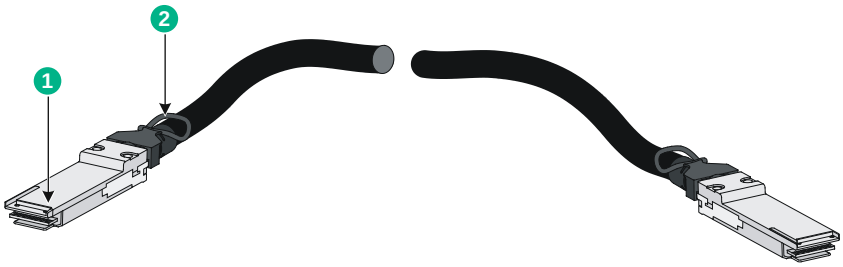
Item	Specification
Connector type	• LC: QSFP-40G-LR4L-WDM1300, QSFP-40G-LR4-WDM1300, QSFP-40G-BIDI-SR-MM850 • MPO: QSFP-40G-CSR4-MM850, QSFP-40G-SR4-MM850
Compatible transceiver modules and cables	QSFP+ transceiver modules and cables in Table3-9
Compatible models	EWPXM1BSTX80

Table3-9 QSFP+ transceiver modules and cables

Transceiver module or cable type	Transceiver module or cable model	Central wavelength	Receiver sensitivity	Fiber diameter	Data rate	Max transmission distance
QSFP+ 40G transceiver module	QSFP-40G-BIDI-SR-MM850	850 nm	–6 dBm	50 µm	41.25 Gbps	100 m (328.08 ft)
	QSFP-40G-CSR4-MM850	850 nm	–9.9 dBm	50 µm	41.25 Gbps	300 m (984.25

Transceiver module or cable type	Transceiver module or cable model	Central wavelength	Receiver sensitivity	Fiber diameter	Data rate	Max transmission distance
						ft)
	QSFP-40G-SR4-MM850	850 nm	–9.5 dBm	50 µm	41.25 Gbps	100 m (328.08 ft)
	QSFP-40G-LR4-WDM1300	1310 nm	–11.5 dBm	9 µm	41.25 Gbps	10 km (6.21 miles)
	QSFP-40G-LR4L-WDM1300	1310 nm	–11.5 dBm	9 µm	41.25 Gbps	2 km (1.24 miles)
QSFP+ cable	LSWM1QSTK2	N/A	N/A	N/A	N/A	5 m (16.40 ft)

Figure3-2 QSFP+ cable



(1) Connector (2) Pull latch

NOTE:

- As a best practice, use H3C transceiver modules and cables for the device.
- The H3C transceiver modules and cables are subject to change over time. For the most recent list of H3C transceiver modules and cables, contact your H3C Support or marketing staff.
- For more information about H3C transceiver modules and cables, see *H3C Transceiver Modules User Guide*.

100/1000BASE-T management Ethernet port

Table3-10 100/1000BASE-T management Ethernet port specifications

Item	Specification
Connector type	RJ-45
Rate, duplex mode, and auto-MDI/MDI-X	• 100 Mbps, half/full duplex • 1000 Mbps, full duplex • MDI/MDI-X autosensing
Transmission medium	Category 5 or above twisted pair cable
Max transmission	100 m (328.08 ft)

Item	Specification
distance	
Compliant standard	IEEE 802.3i, 802.3u, 802.3ab
Functions and services	Device software and Boot ROM upgrade, network management
Compatible models	WX5860X

LEDs

WX5860X device port status LEDs

System status LED

The system status LED shows the operating status of the device.

Table3-11 System status LED description

LED mark	Status	Description
SYS	Fast flashing green (4 Hz)	The system is starting up.
	Slow flashing green (0.5 Hz)	The system is operating correctly.
	Steady red	A critical alarm has been triggered, for example, power supply alarm, fan tray alarm, high temperature alarm, and software loss.
	Off	The device has not started up.

100/1000BASE-T management Ethernet port LED

Table3-12 100/1000BASE-T management Ethernet port LED description

LED mark	Status	Description
LINK/ACT	Steady green	A link is present.
	Flashing green	The port is receiving or sending data.
	Off	No link is present.

Power supply status LED

Table3-13 Power supply status LED description

LED status	Description
Steady green	The power supply is operating correctly.
Flashing green	The power supply has power input but is not installed on the device.
Steady red	The power supply is faulty or has entered protection state.
Red/green flashing alternatively	The power supply has generated an alarm for power issues (such as output overcurrent, output overload, and overtemperature), but has not entered protection state.

LED status	Description
Flashing red	• The power supply does not have power input. The device is installed with two power supplies. If one has power input, but the other does not, the status LED on the power supply that does not have power input flashes red. • The power supply has entered input undervoltage protection state.
Off	The power supply does not have power input.

Status LED on a fan tray

The LSWM1BFANSCB-SN fan tray provides a status LED to indicate its operating status.

Table3-14 Description for the status LED on a fan tray

LED status	Description
On	The fan tray is operating incorrectly.
Off	The fan tray is operating correctly.

Port LED on an expansion module

Table3-15 Description for port LEDs on an expansion module

LED	Status	Description
1000BASE-T Ethernet port LED	Steady green	A 1000 Mbps link is present on the port.
	Flashing green	The port is receiving or sending data at 1000 Mbps.
	Off	No link is present on the port.
SFP fiber port LED	Steady green	A 1000 Mbps link is present on the port.
	Flashing green	The port is receiving or sending data at 1000 Mbps.
	Off	No link is present on the port.
10G SFP+ port LED	Steady green	A 10 Gbps link is present on the port.
	Flashing green	The port is receiving or sending data at 10 Gbps.
	Off	No link is present on the port.
40G QSFP+ port LED	Steady green	A 40 Gbps link is present on the port.
	Flashing green	The port is receiving or sending data at 40 Gbps.
	Off	No link is present on the port.

4 Cooling system

To dissipate heat timely and enhance system stability, the device uses a high-performance cooling system. Consider the site ventilation design when you plan the installation site for the device.

Table4-1 Cooling system

Product series	Product model	Airflow direction
WX5800X series	WX5860X	The device uses a front-rear air aisle. It can provide airflow from the port side to the power supply side by using fan trays. See Figure4-1.

Figure4-1 Airflow from the port side to the power supply side through the device chassis