ufiSpace

S9720-56ED

Core/Edge Router

Hardware Installation Guide

R1.6

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13.1 Cautions and Regulatory Compliances 29

1 Overview

The UfiSpace S9720-56ED is an 18 x 800G disaggregated open router that evolves the network to an 800G network, which enables next generation of 5G services and AI applications. The S9720-56ED can be deployed as a standalone device or within a core switching cluster as a "line card" element within the distributed disaggregated chassis. As a standalone router, the S9720-56ED can be deployed at the edge network to enable transport services over a scalable next generation Telecom network. It is also suitable for central office data centers and general network aggregation.

When coupled with UfiSpace's fabric switch, the S9720-56ED becomes a building block for the distributed disaggregated chassis (DDC). The DDC allows network service providers to implement a pay-as-you-grow model when scaling core network capacities with a S9720-56ED cluster scaling up to 921.6Tbps.

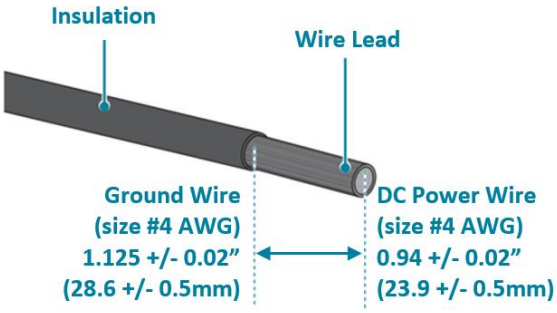
The S9720-56ED disaggregated core router uses the Broadcom J3 chipset, which provides 16GB deep buffering and 14.4Tbps switching capacity. As a core router, the S9720-56ED enables fault and performance monitoring, nonstop routing support for control and data plane, and comprehensive high-availability networks.

This document describes the technical specifications designed for S9720-56ED.

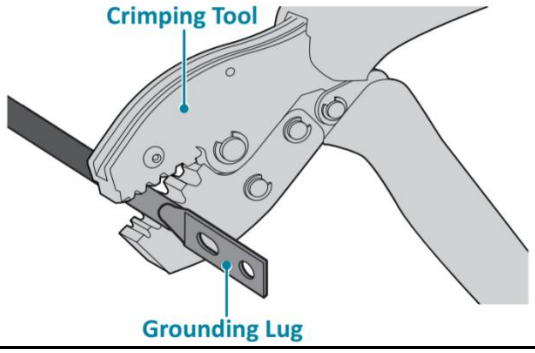
2 Preparation

2.1 Installation Tools

Phillips #2 Screw Driver



4-AWG green-and-yellow wire for grounding
4-AWG for DC power wire



Crimping tool

Wire stripping tool

Note	All illustrations within this document are for reference purposes only. Actual objects may differ.

- PC with terminal emulation software. Refer to the "Initial System Setup" section for details.
  - Baud rate: 115200 bps
  - Data bits: 8
  - Parity: None
  - Stop bits: 1
  - Flow control: None

2.2 Installation Environment Requirements

- Power Reserve: The S9720-56ED power supply is available with:
  1. **DC Version:** 1+1 Redundant and hot swappable, active-active -40 to -72V DC power supply field replaceable unit or;
  2. **AC Version:** 1+1 Redundant and hot swappable, active-active 200 to 240V AC power supply field replaceable unit.

  To ensure the redundant, active-active feed power design functions properly, a field with dual power circuit is recommended with a reserve of at least 3000 watts on each power circuit.

- Space Clearance: The S9720-56ED chassis width is 17.16 inches (43.6cm) and is shipped with an adjustable mounting rail kit suited for standard 19 inch (48.3cm) wide racks. The depth of the S9720-56ED chassis is 30 inches (76.2cm) without the field replaceable units (FRUs). The handle of fan FRU is 1 inch (2.5cm) and the handle of the PSU FRU is 1.5 inches (3.8cm). Therefore, to accommodate the fan, power supply handles, airflow and cabling, a minimum space clearance of 6 inches (15.2cm) is needed at front and back of the S9720-56ED. A total minimum reserve depth of 42 inches (106.6cm) is required.

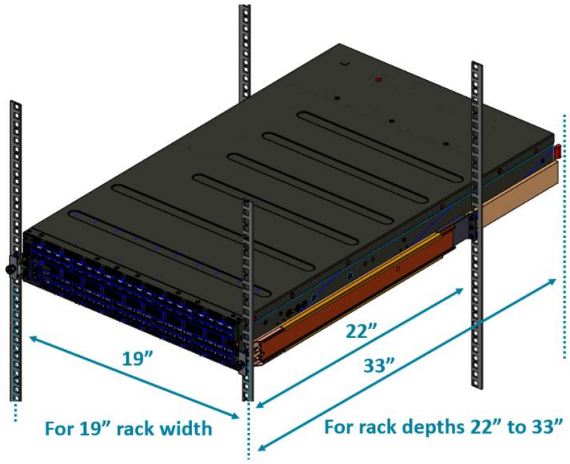


Figure 1.

- Cooling: The S9720-56ED airflow direction is front-to-back. Make sure the equipment on the same rack have the same airflow direction.

Figure 2.

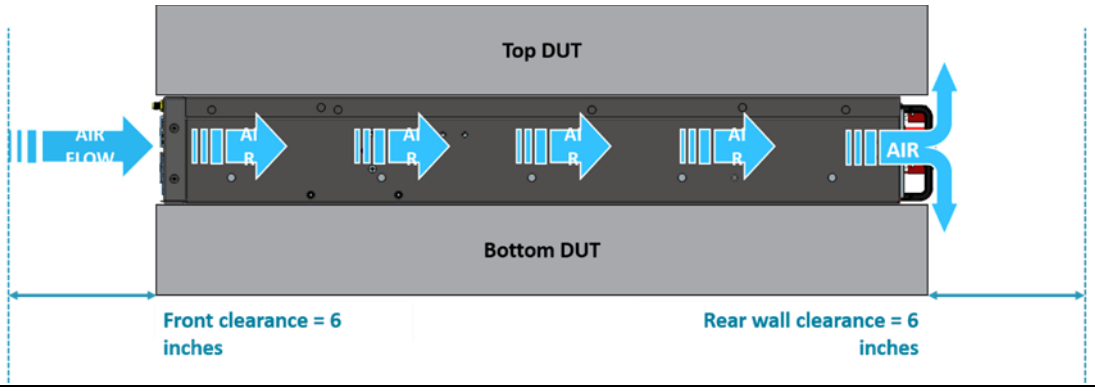


Figure 3.

2.3 Preparation Check List

Task	Check	Date
Power voltage and electric current requirement **DC version**: -40 to -72V DC, 80A maximum x2 or; **AC version:** 200 to 240V AC, 16A maximum x2		
Installation spacing requirement S9720-56ED chassis spacing requires a height of 2RU (3.45”/8.8cm), a width of 19” (48.3cm), and a depth of 42 inches (106.6cm)		
Thermal requirement S9720-56ED working temperature is 0°C to 45°C (32°F to 113°F), airflow direction is front-to-back		
Installation tools required #2 Philips screwdriver, wire-stripping tools for stripping 4-AWG, crimping tool for ground lug		
Accessories required PC with USB ports and terminal emulation software		

3 Package Contents

3.1 Accessory List

Item	Description	Spec. & Dimensions	Qty.	Weight
1	Grounding Kit and Screw Kit	1 x Grounding Lug (# 4 AWG) 1.65” x 1.45” x 0.55” (41.91 x 36.83 x 13.97mm) 2 x Screw: M4*L8.0mm 2 x M4 Lock Washers	1 set	0.05lbs (21.1g)/1 set
2	DC Input Lug (DC version only)	4 x Grounding Lug (# 4 AWG) 2.4” x 0.6” x 0.42” (60.96 x 15.24 x 10.688mm)	1 set	0.18lbs (81.48g)/1 set
3	AC Power Cord (AC version only)	72.05”(1830mm)	2 pcs	0.77lbs (350g)/1 pcs
4	RJ45 to DB9 Female Cable	8’ (2438mm)	1 pcs	0.23lbs (105g)/1 pcs
5	USB 3.0 Cable	7.87” (200mm)	1 set	0.04lbs (17.2g)/1set
6	Micro USB Cable	3.28’ (1000mm)	1 pcs	0.06lbs (25.5g)/1 pcs
7	Screw Kit (for adjustable mounting Rail)	2 x Screw M4.0*L5.5mm	1 set	0.004lbs (1.9g)/1 set
8	Adjustable Mounting Rail (for 4 post)	30.4” x 1.7” x 0.9” (771 x 44 x 22mm) (22”~33” rack depth)	2 set	7.01lbs (3.178kg)/2 set (3.5lbs (1.589kg)/1 set)

3.2 Component Physical Information

Specification	Item	Description
Weight	Total package contents	92.59lbs (42kg)
	Chassis without FRU	56.88lbs (25.8kg)
	Power Supply Unit (PSU)	DC PSU: 4.19lbs (1.9kg)
		AC PSU: 4.6lbs (2.08kg)
	Fan module unit	1.6lbs (741g)
	Ground lug	0.045lbs (20.37g)
	Adjustable mounting rail	3.5lbs (1.589kg)
	Micro USB cable	0.06lbs (25.5g)
	RJ45 to DB9 Female cable	0.23lbs (105g)
	AC power cord (AC version only)	0.77lbs (350g)
Dimension	S9720-56ED (W x D x H)	17.16” x 30” x 3.45” (436 x 762 x 87.7mm)
	PSU (W x D x H)	2.67 x 17.66” x 1.60” (68 x 448.7 x 40.6mm)
	Fan (W x D x H)	3.19” x 6.09” x 3.21” (81 x 154.8 x 81.5mm)

4 Identifying Your System

4.1 S9720-56ED Overview

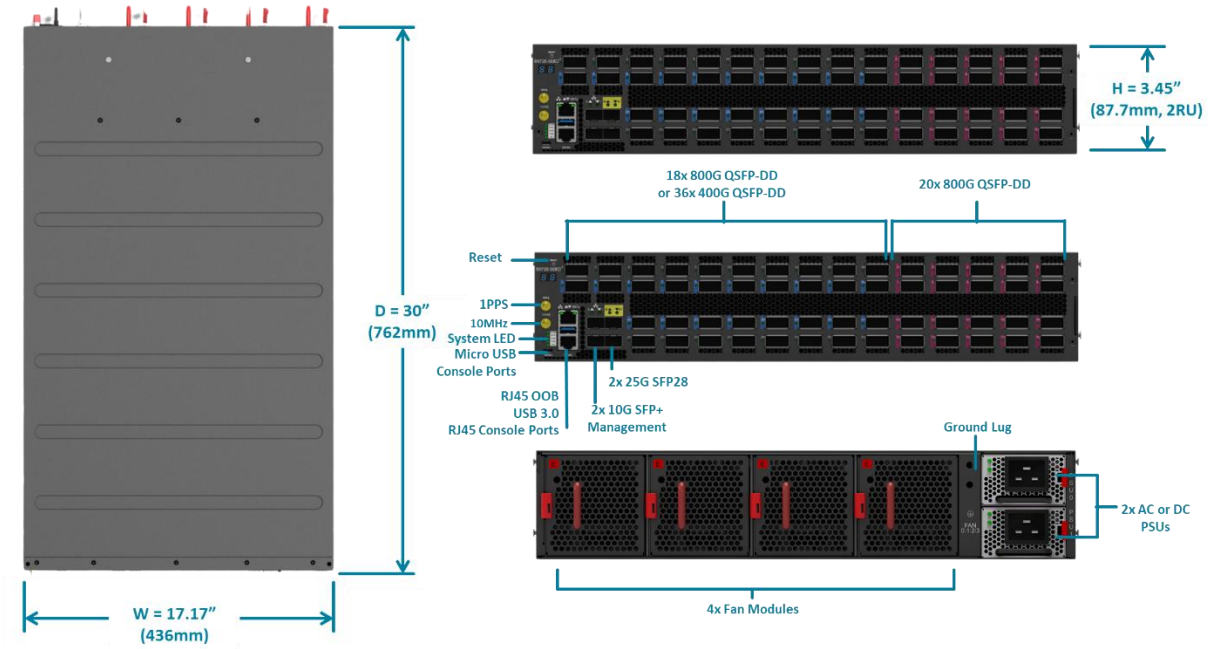


Figure 4.

4.2 PSU Overview

Power supply unit (PSU) with 1+1 Redundancy. Hot swappable, field replaceable unit (FRU).

AC Version:

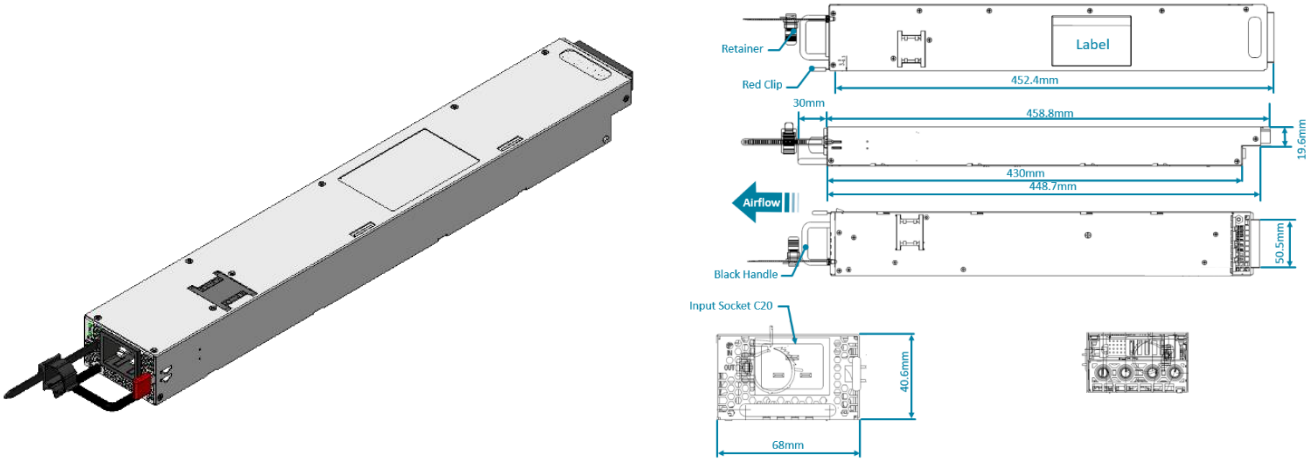


Figure 5.

DC Version:

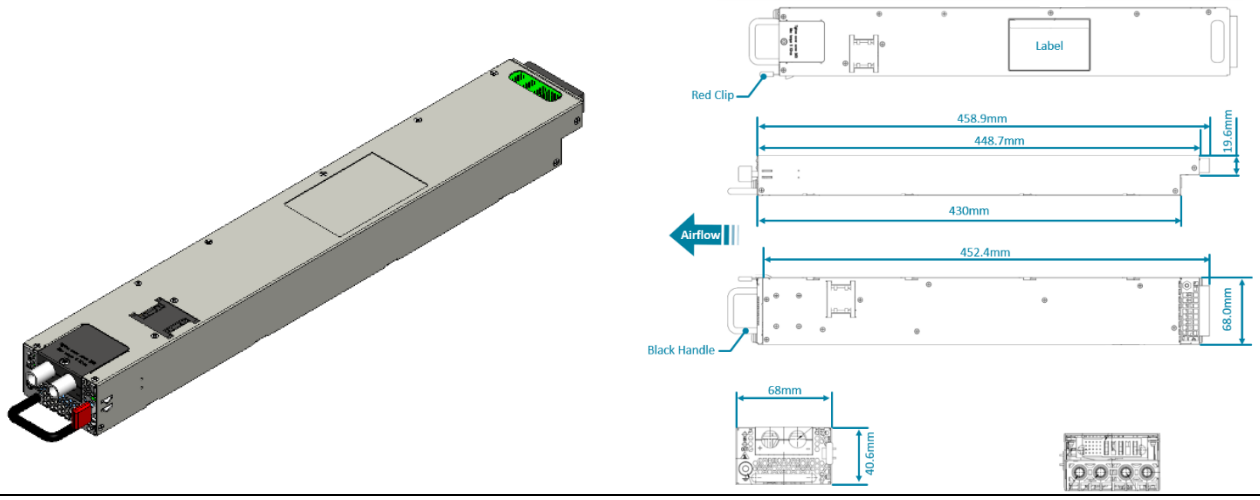


Figure 6.

4.3 Fan Overview

3+1 Redundant, hot swappable, field replaceable unit (FRU).

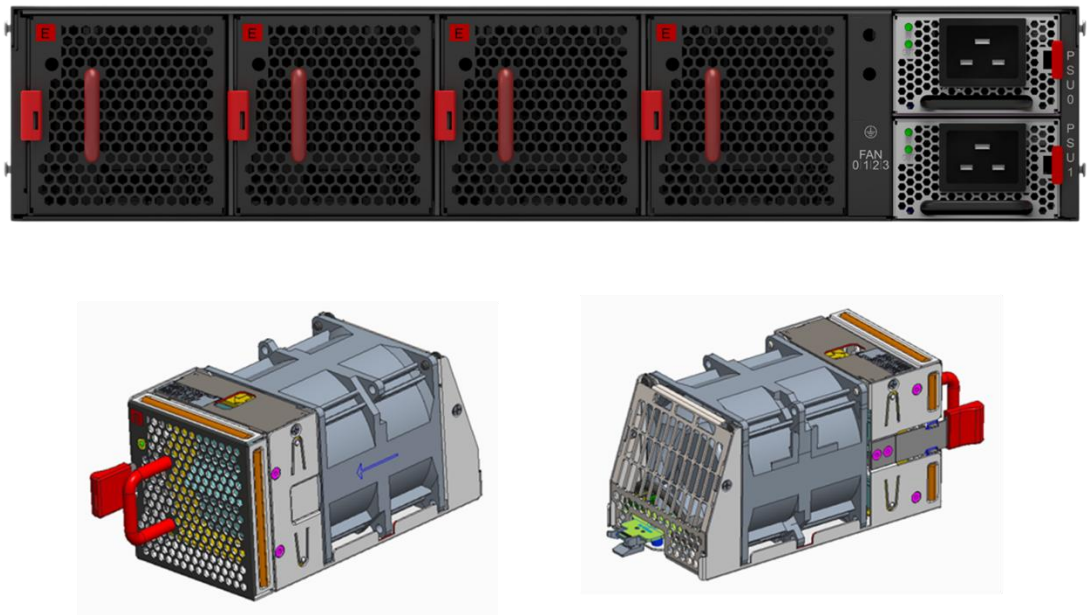


Figure 7.

4.4 Port Overview

Port ID	Form Factor	Maximum Support Distance	Support Speed
00 ~ 35 (Blue)	QSFP-DD	Up to 316.68mi (500km)	100/200/400/800G
36 ~ 37	SFP28	Up to 24.85mi (40km)	1/10/25G
00 ~ 19 (Red)	QSFP-DD	Up to 984.25ft link length(300m)	800G

The ports labelled in blue function as service ports. The ports labelled in red function as fabric ports. (shown in Figure 8)

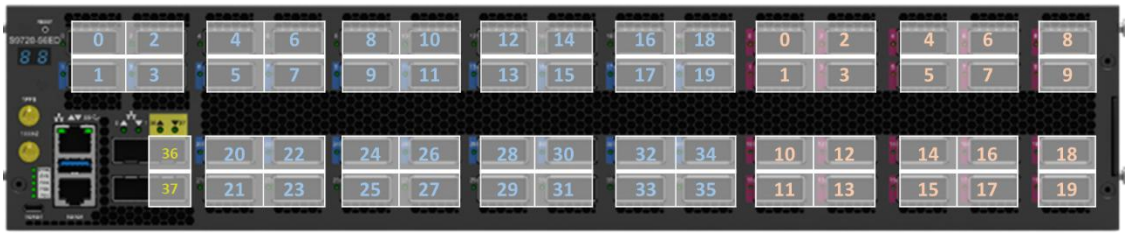


Figure 8.

To build a Distributed Disaggregated Chassis (DDC) cluster, connect the fabric ports (labelled in red in Figure 8) to a fabric router, such as the S9705-48D and S9725-64E.

The service ports, labeled in blue in Figure 8, can be configured in pairs to operate either as a single 800G port or as two separate 400G ports. As shown in Figure 9, each blue-labeled port represents an 800G port, which can be individually reconfigured into two 400G ports, as indicated by the red lines.
The S9720-56ED supports OpenZR+ and ZR for long-haul applications. The ports highlighted in blue (shown in Figure 9) support 800G/400G OpenZR+ and ZR.

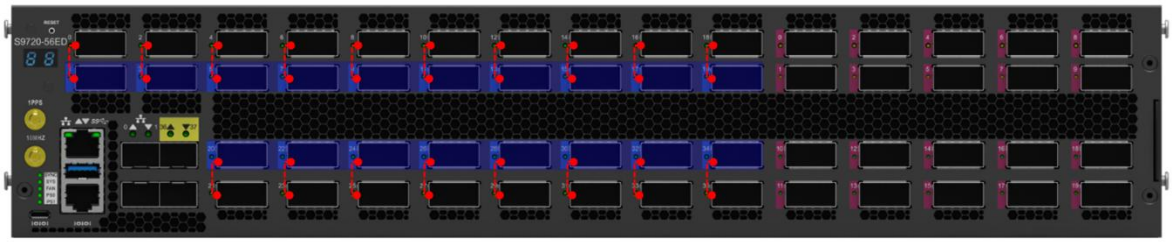


Figure 9.

5 Rack Mounting

Caution	It is recommended that installation be done by at least two trained professionals. One individual should hold the router in position, while the other secures it in place onto the rail slides.

1. Separate the adjustable mounting rail slides.
   1.1 Pull apart the inner and outer rails until it is locked in place. An audible click can be heard when the rails are locked in place.
   1.2 Pull the white tab forward to unlock the rails in order to completely separate the inner rail from the outer rail. The white tab is located on the inner rail.
   1.3 Once the inner rail is separated, push the tab located on the outer rail to unlock and slide the middle rail back.

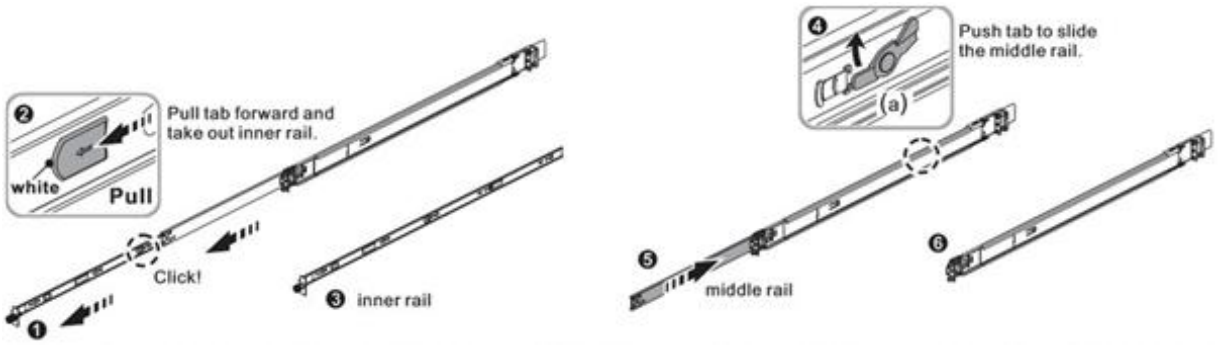


Figure 10.

2 Install the inner rails onto the chassis.
   2.1 The inner rail has key-shaped holes where attachment pins on the chassis can be aligned. The chassis has 5 attachment pins on each side, for a total of 10 pins. Fit the key-shaped holes with the attachment pins and pull back to hold the inner rack in place.

Note	Make sure the locking screw of the inner rail is positioned at the front of the chassis.

   2.2 After the attachment pins are secured to the inner rail, lock the inner rail to the chassis using two M4 screws (one on each chassis side).

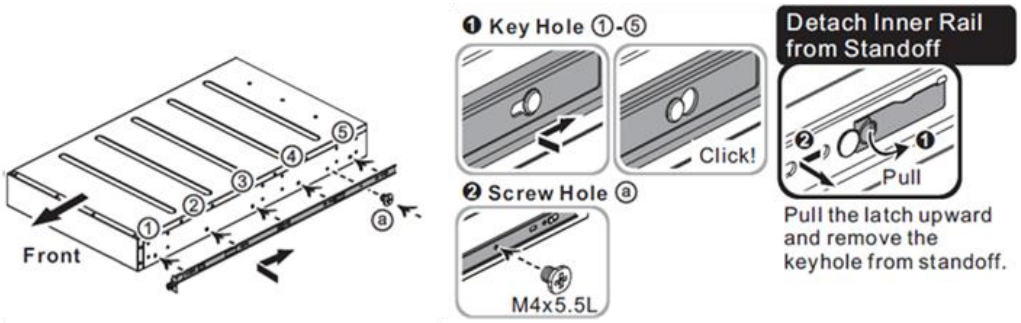


Figure 11.

3 Fix the outer rails onto the rack.

3.1 The outer rails have two brackets on the front and rear. Pull back the clip of the rear bracket to attach it onto the rack. An audible click can be hear when the bracket is secured onto the rack.

3.2 Once the rear bracket is secured, pull back the clip of the front bracket attach it to the rack. An audible click can be heard when the bracket is secured onto the rack.

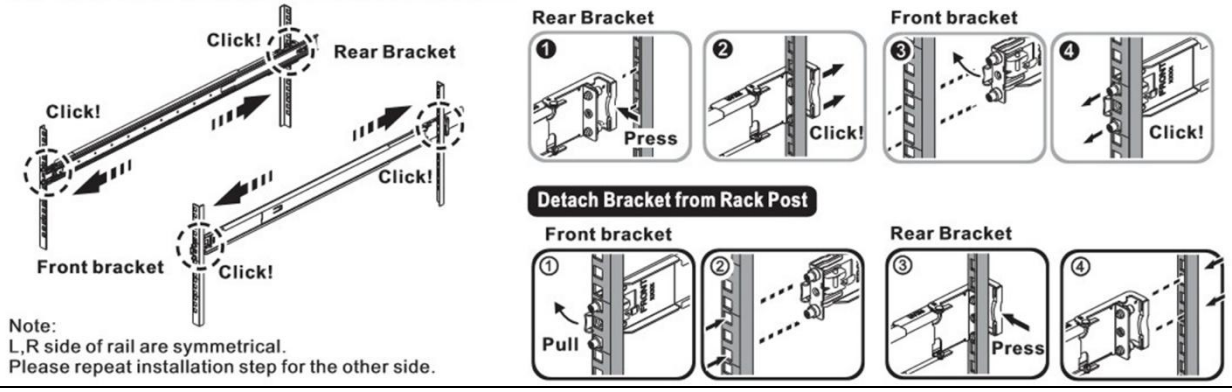


Figure 12.

4 Insert the Chassis to complete the installation.

4.1 Pull the middle rail fully extended into lock position, an audible click can be heard when the middle rail is fully extended and locked into position.

4.2 Insert the chassis by lining up the inner rails into the slot of the middle rail.

4.3 Slide the chassis into the middle rail until it hits a stop.

4.4 Push the blue release tab on each rail to unlock the rails and slide the chassis all the way into the rack.

4.5 Lock the chassis into place by using the screw on the front of the inner rail with a torque value of 22.5 +/- 2.0kgf.cm.

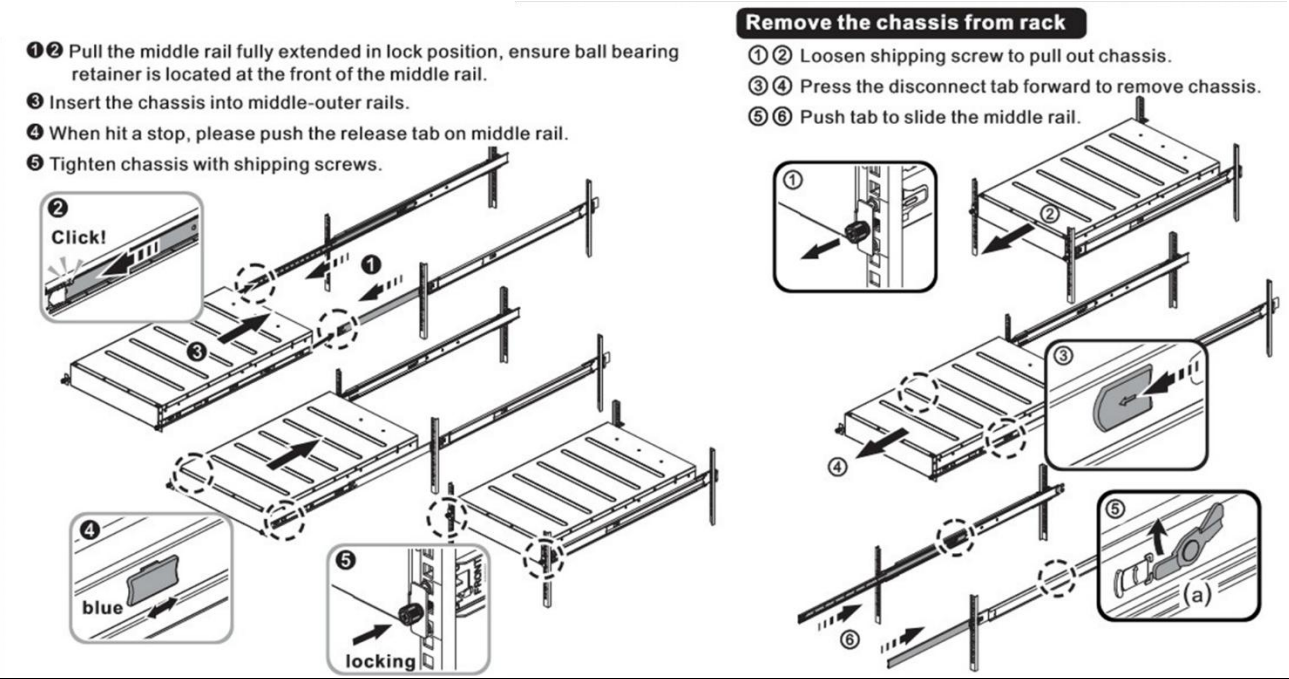

❶❷ Pull the middle rail fully extended in lock position, ensure ball bearing retainer is located at the front of the middle rail.
❸ Insert the chassis into middle-outer rails.
❹ When hit a stop, please push the release tab on middle rail.
❺ Tighten chassis with shipping screws.
❷ Click!
❸
❶
❹ blue
❺ locking
Remove the chassis from rack
①② Loosen shipping screw to pull out chassis.
③④ Press the disconnect tab forward to remove chassis.
⑤⑥ Push tab to slide the middle rail.
①
②
③
④
⑤
(a)
⑥

Figure 13.

6 Installing Fan Modules

The fan modules are hot swappable field replaceable units (FRUs), which can be replaced while the router is operating as long as all the remaining modules are installed and in operation. The fans come pre-installed and the following steps are instructions on how to install a new fan module.

1. Locate the release tab on the fan module. Then press and hold the release tab to unlock the fan module.

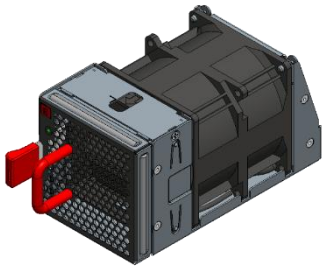


Figure 14.

2. While holding down the release tab, grip the fan handle and gently pull the fan module out of the fan bay.

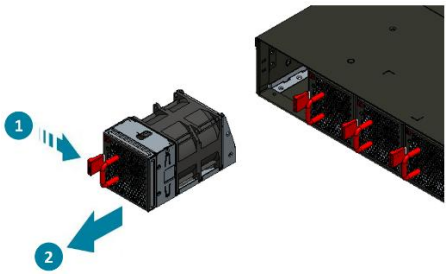


Figure 15.

3. Align the new fan module with the fan bay, ensuring that the fan module's power connector is in the correct position.
4. Carefully slide the new fan module into the fan bay and gently push until it is flush with the case.
5. An audible click will be heard when the fan module is installed correctly. The fan module will not go in all the way if it is installed in the wrong direction.

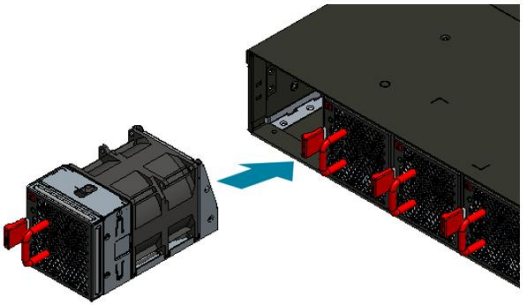


Figure 16.

7 Installing Power Supply Units

The power supply unit (PSU) is a hot swappable field replaceable unit and can be replaced while the router is operating as long as the remaining (second) PSU is installed and in operation. The AC and DC PSU follow the same steps for installation. The PSU comes pre-installed and the following are instructions on how to install a new PSU.

If power input for AC power supply is only 110V, there will only be 1500 watts per power supply and will not be enough power for the power supply to be changed while the router is in operation. In order for AC power supply to be changed while the router is in operation, ensure that 220V power is supplied.

Safety Notices
Caution! Shock hazard!

TO DISCONNECT POWER, REMOVE ALL POWER CORDS FROM UNIT.

DC: AC:

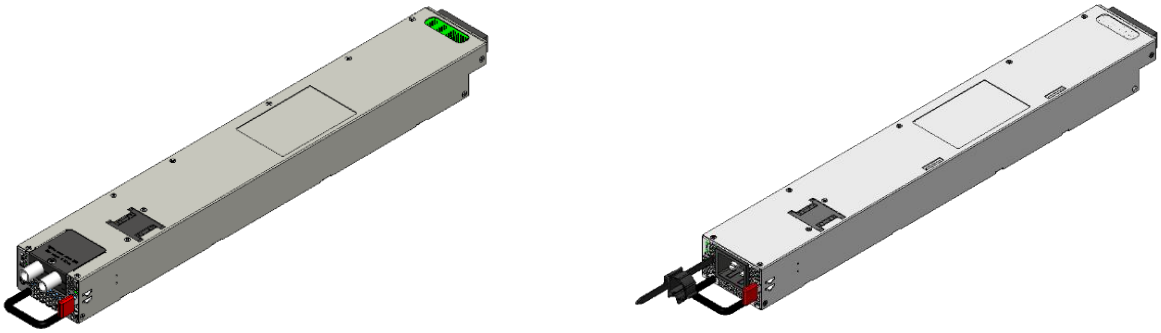


Figure 17.

1. Locate the release tab on the PSU. Then press and hold down the release tab to unlock the PSU.
2. While holding down the release tab, grip the PSU's handle and firmly pull it out of the power bay.

DC Version: AC Version:

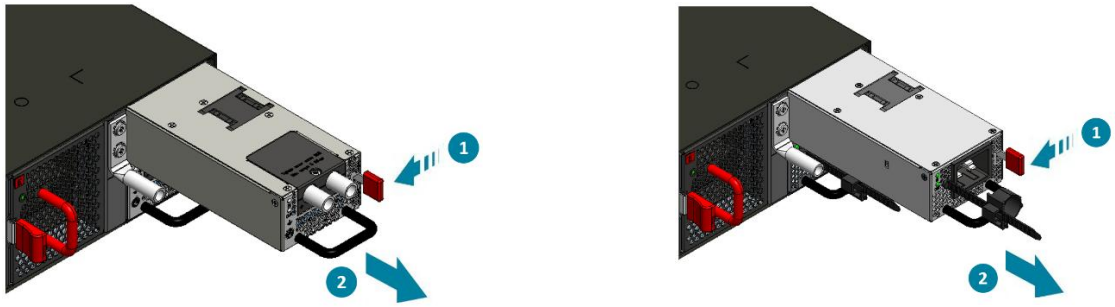
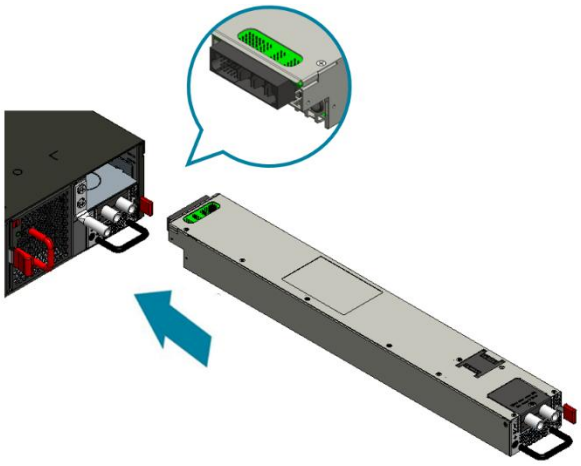


Figure 18.

3. Align the new PSU with the power bay, ensuring the PSU's power connector is in the correct position.
4. Carefully slide the new PSU into the power bay and gently push until it is flush with the case.
5. An audible click will be heard when the PSU is installed correctly. The PSU will not go in all the way if it is in the wrong direction.

DC Version:



AC Version:

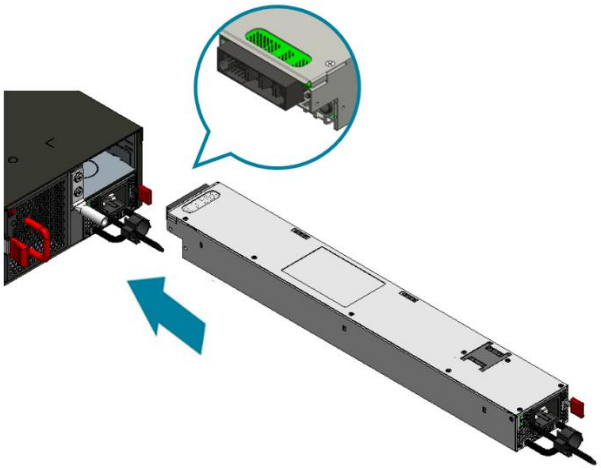


Figure 19.

8 Grounding the Router

It is recommended that equipment changes be done on a grounded rack system. This will reduce or prevent the risk of shock hazards, equipment damage, and potential of data corruption.

The router can be grounded from the router's case and/or the power supply units (PSUs). When grounding the PSUs, ensure that both PSUs are grounded at the same time in case one of them is removed. A grounding lug, M4 screws and washers are provided with the package contents, however, the grounding wire is not included. The location for securing the grounding lug is at the rear of the case and is covered with a protective label.

The following instructions are for installing the grounding lug onto the case.

Warning	This equipment must be grounded. Do not defeat the ground conductor or operate the equipment without correctly grounding the equipment. If there is any uncertainty about the integrity of the equipment's grounding, please contact the electrical inspection authority or a certified electrician.

1. Before grounding the router, ensure that the rack is properly grounded and in compliance with local regulatory guidelines. Ensure that there is nothing that can obstruct the connection for grounding and remove any paint or materials that may prevent good grounding contact.
2. Strip the insulation from a size #4 AWG grounding wire (not provided within the package contents), leaving 1.125”+/-0.02” (28.6+/-0.5mm) of exposed grounding wire.
3. Insert the exposed grounding wire all the way into the hole of the grounding lug (provided with package contents).
4. Using a crimping tool, firmly secure the grounding wire to the grounding lug.

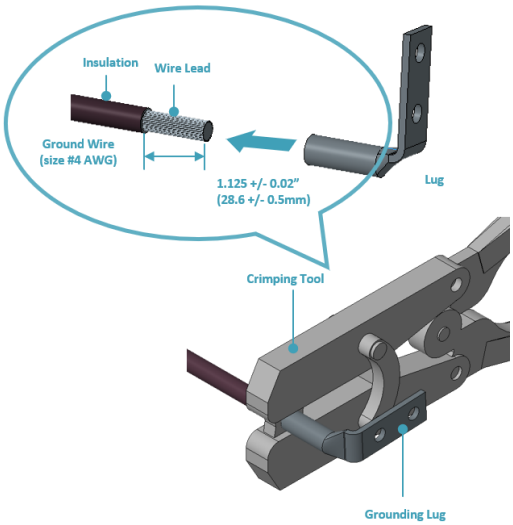


Figure 20.

5. Locate the designated location for securing the grounding lug, which is located on the rear of the router and remove the protective label.

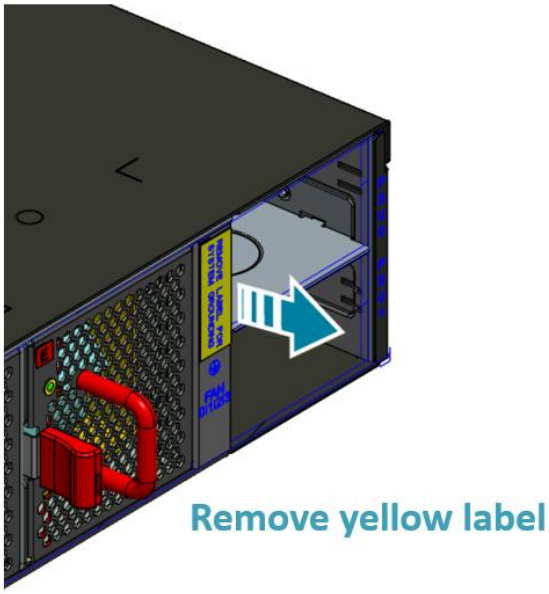


Figure 21.

6. Using 2 M4 screws and 2 washers (provided with the package contents), firmly lock the grounding lug to the designated grounding location on the router.

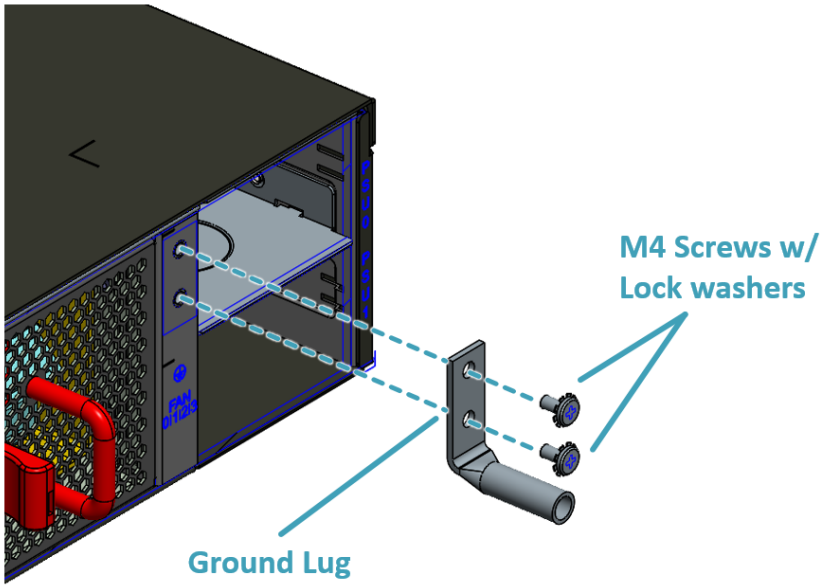


Figure 22.

9 Connecting Power

Note	All power cables must be routed entirely within the designated rack cable management areas and fixed properly using appropriate strain relief and fasteners.

9.1 DC Version

Warning	Dangerous voltage! • Must be powered off before removing! • Verify that all electrical connections are grounded before powering on • The DC power source must be reliably grounded

1. Ensure there is enough power to supply the system.
   The maximum system power consumption is 2088 watts under MSA standards. With Open ZR+ transceivers (on selected ports, please refer to section 4.4), the maximum power consumption is 2339 watts. The actual power consumption might vary depending on the use case. It is recommended to ensure that enough power is reserved from the power distribution system before installation. Also, please ensure that both PSUs have been properly installed before powering up the equipment, as the S9720-56ED is designed to support 1 + 1 power redundancy.

   Note
   Testing criteria for maximum power are as follows:
   Temperature:45°C
   Optics: full populated
   Traffic: 100% load

2. Attach the DC power cables to the lugs.
   The UL 1015, #4 AWG DC power cable (not provided), made of stranded copper, must be attached to a two-hole lug before connecting to the PSU. The following instructions are for connecting the DC Power Cable to the lug:
   2.1 Strip the insulation from a DC Power Cable, leaving 0.94”+/-0.02”(23.9+/-0.5mm) of exposed cable
   2.2 Insert the exposed DC power cable into the heat shrink tubing, the length of heat shrink tubing should not less than 38.5mm.
   2.3 Insert the exposed DC power cable all the way into the hollow tube of the lug (provided with the package contents).
   2.4 Using a crimping tool, firmly secure the DC power cable to the lug. It is recommended to not crimp exceeding the lines indicated on the lug, which is also depicted as the cross-section area in the picture on the below.

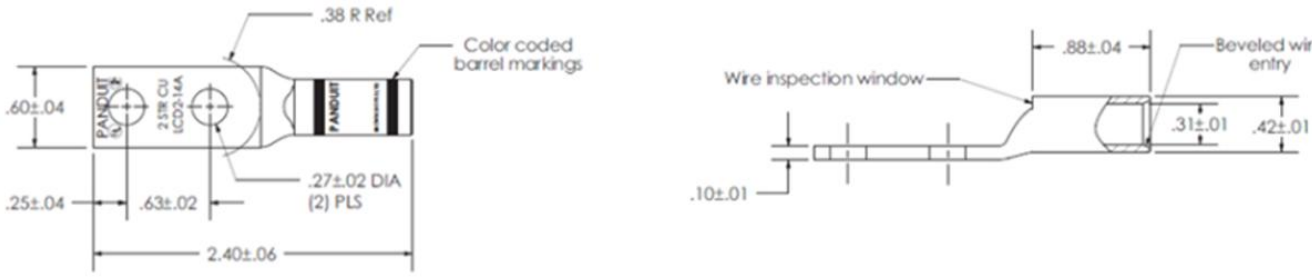


Figure 23.

2.5 Move the heat shrink tubing to cover any exposed metal on the DC power cable and lug.

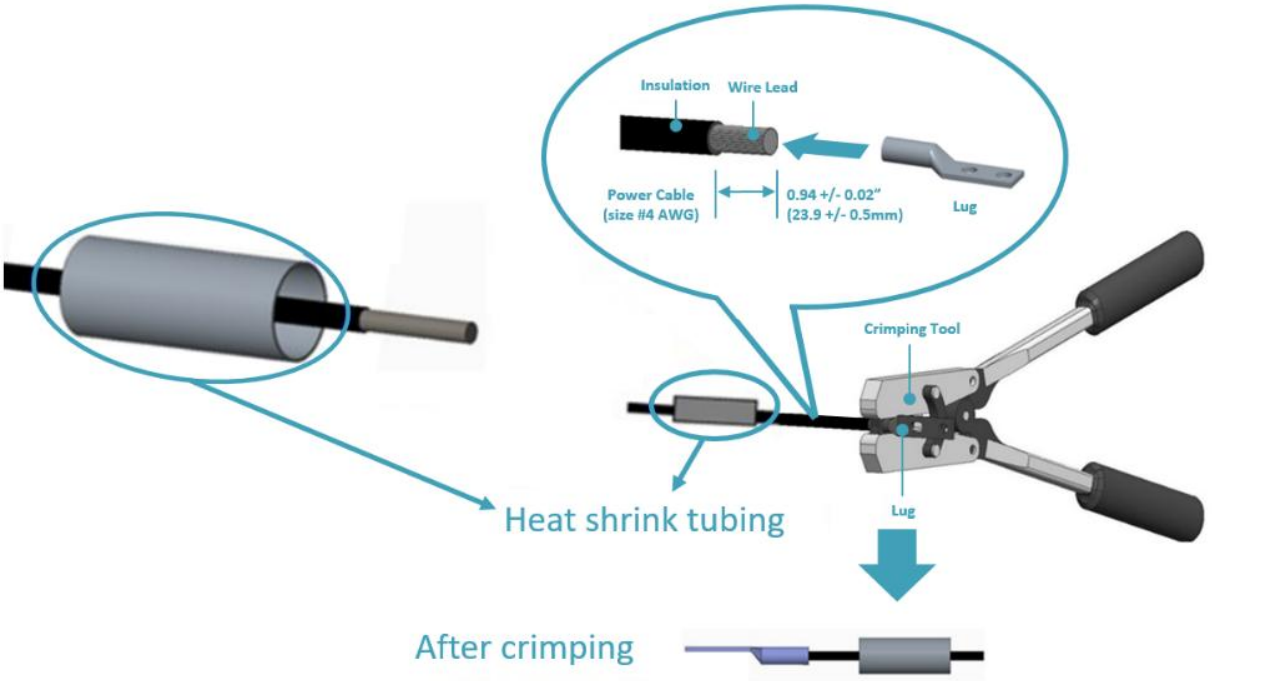


Figure 24.

2.6 Use a heat source to secure the heat shrink tubing in place. Allow the heat shrink tubing to cool before attaching the DC power cable. An example of the installed DC version with insulation material as below.

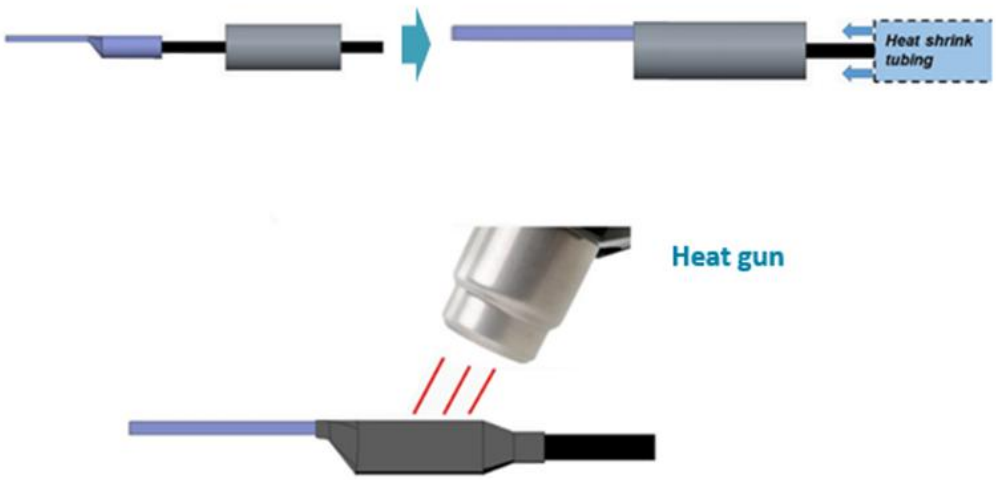


Figure 25.

3. Attach the power cable.
   Locate the DC power screw-type terminal block located on the PSU. Remove the plastic cover that is protecting the terminal block by removing the single screw locking it in place. Secure the two-hole lugs (with the DC power cable attached) to the terminal block.

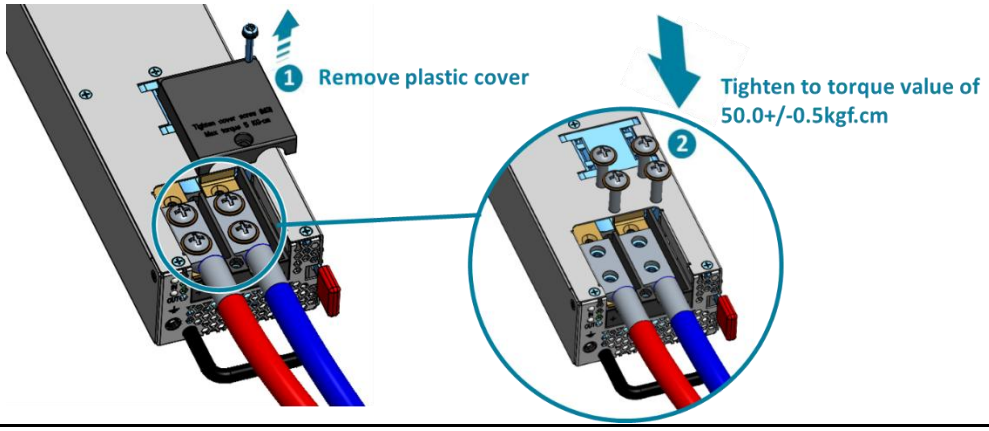


Figure 26.

4. Tighten the screws to the specified torque.
   Tighten the screws to a torque value of 50.0+/-0.5kgf.cm. If the torque is not enough, the lug will not be secure and may cause malfunctions. If the torque is too much, the terminal block or lug may be damaged. Secure the plastic cover back onto the terminal block with the single screw provided. The figure below depicts how it should look once the lug is attached and the protective plastic cover reinstalled.

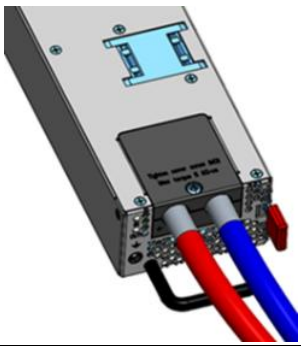


Figure 27.

5. Feed DC power into the system.
   Use a -40V to -72V DC power source rated for operation up to 5000 meters, and be aware that the system will receive 12.3V and 12VSB power instantly upon connection.
   The PSU has a built in 150A fast acting fuse based on the PSU maximum capacity, which will act as a second-tier system protection in case the power distribution unit's fuse is not functioning.
6. Verify that the power supply is operating.
   If connected correctly, when turned on, the LED on the PSU will light up with a Green color designating normal operation.

9.2 AC Version

1. Ensure there is enough power to supply the system.
   The maximum system power consumption is 2035 watts under MSA standards. With Open ZR+ transceivers (on selected ports, please refer to section 4.4), the maximum power consumption is 2280 watts. The actual power consumption might vary depending on the use case. It is recommended to ensure that enough power is reserved from the power distribution system before installation. Also, please ensure that both PSUs have been properly installed before powering up the equipment, as the S9720-56ED is designed to support 1 + 1 power redundancy.
2. Attach the power cable.
   Locate the AC inlet connector on the PSU and plug the AC power cable (250VAC 15A, IEC60320 C19) into the AC inlet connector.
3. Feed AC power into the system.
   Use a 200V to 240V AC power source rated for operation up to 5000 meters, and be aware that the system will receive 12.3V & 12VSB power instantly upon connection.
   The PSU has a built-in 25A, fast acting fuse based on the PSU maximum capacity, which will act as a second-tier system protection in case the power distribution unit's fuse is not functioning.
4. Verify that the power supply is operating.
   If connected correctly, when turned on, the LED on the PSU will light up with a solid Green color designating normal operation.

> **Note**
> If only a 110V AC power source is available, the S9720-56ED can still be powered with both PSUs providing 1500 watts each for a total output of 3000 watts. However, in this case, if one PSU stops functioning, the power output would be inefficient to sustain the router's operation.

10 Verifying System Operation

10.1 Front Panel LED

Verify basic operations by checking the system LEDs located on the front panel. When operating normally, the SYS, FAN, PS0 and PS1 LEDs should all display green.

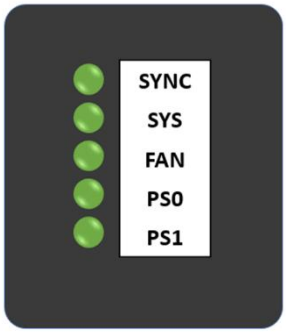


Figure 28.

LED Condition	Equipment Status
SYNC	
OFF	System timing synchronization is disabled or in free-run mode.
Solid Green	System timing core is synchronized to PTP packet(phase) or one of external timing sources, frequency is also locked.
Blinking Green	System is synchronized to PTP packet(frequency) or one of external timing(frequency) sources.
Solid Amber	System timing core is in acquiring state or holdover mode.
Blinking Amber	System timing synchronization fail, or acquiring/holdover time out (Shift 1.1uS >1~2hour)
SYS	
OFF	No power
Solid Green	Host CPU/BMC boot complete
Solid Amber	Power is up but Host CPU/BMC boot failed
FAN	
OFF	FAN modules are not initialized
Solid Green	All Fan modules are working normal
Blinking Amber	Fan failed: one or more fans need service
PS0	
OFF	No Power
Solid Green	PSU 0 is working normal
Blinking Amber	PSU 0 fail (PSU0 need service)
PS1	
OFF	No Power
Solid Green	PSU 1 is working normal
Blinking Amber	PSU 1 fail (PSU1 need service)

10.2 PSU FRU LED

Additional information about PSU status can be obtained by the LEDs located on the PSU itself.

LED Condition	Equipment Status
Input LED	
Green	Input within range
Off	Input out of range
	FW upgrading
Output LED	
Solid green	12.3V Main output OK
Blinking green(1Hz)	12.3 Main output in standby mode.
Off	12.3V main output off due to input out of range
Blinking yellow(1Hz)	Over temp warning
	Fan error
Solid yellow	12.3V main output or 12VSB out or range
	OTP, OVP, UVP, OCP

OTP: Over Temperature Protection, OVP: Over Voltage Protection, UVP: Under Voltage Protection, OCP: Over Current Protection

10.3 Fan FRU LED

Additional information about fan status can be obtained by the LEDs located on the fan itself.

LED Condition	Equipment Status
Off	No input power
Green	Fan FRU function normal
Amber	Fan FRU is abnormal, service is required

10.4 Management port LED

LED Condition	Equipment Status
Left LED	
Off	1G no link
Solid Green	1G link-up
Blinking Green	1G TX/RX activity
Right LED	
Off	10M/100M no link
Solid Amber	10M/100M link-up
Blinking Amber	10M/100M TX/RX activity

11 Initial System Setup

Establishing a first-time serial connection.

To assign an IP address, you must have access to the command line interface (CLI). The CLI is a text-based interface that can be accessed through a direct serial connection to the router.

Access the CLI by connecting to the console port. After you assign an IP address, you can access the system through Telnet or SSH by Putty, TeraTerm or HyperTerminal.

Perform the following steps to access the router through a serial connection:

1. Connect the console cable.
   - The console can be connected either with the RJ45 port or the micro USB port, both labelled IOIO. If connecting with micro USB, drivers will need to be installed.
   - To connect the console using the RJ45 port, locate the RJ45 port labelled IOIO, then plug a serial cable into the console port and connect the other end to the computer. Cable types may vary depending on the router model.

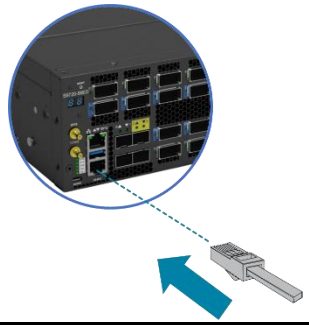


Figure 29.

   - To connect the console using the micro USB port, locate the port on the front panel of the router, then connect your computer using the micro USB cable provided in the packaging contents. Download the suitable driver for your operating system (OS) using the URL below:
     - https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers
     - https://www.silabs.com/ and search for CP210X

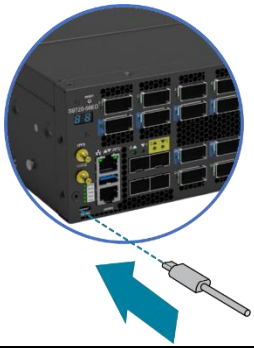


Figure 30.

2. Check for serial control availability.
   Disable any serial communication programs running on the computer such as synchronization programs to prevent interference.
3. Launch a terminal emulator.
   Open a terminal emulator application such as HyperTerminal (Windows PC), Putty or TeraTerm and configure the application. The following settings are for a Windows environment (other operating systems may vary):
   - Baud rate: 115200 bps
   - Data bits: 8
   - Parity: None
   - Stop bits: 1
   - Flow control: None
4. Login to the device.
   After the connection is established, a prompt for the username and password displays. Enter the username and password to access the CLI. The username and password should be provided by the Network Operating System (NOS) vendor.

12 Cable Connections

12.1 Connecting the USB Extender Cable

Connect the USB 3.0 A Type plug (male connector) into the USB port (female connector) located on the front panel of the router. This USB port is a maintenance port.
To avoid any interoperability issue, we recommend that you run the following command lines and then restart your USB after installing the USB device.

- USB Reset

usbreset 002/002

- Restart 5V Power

i2cset -y 0 0x71 0x01
i2cget -y 0 0x30 0x44
i2cset -y 0 0x30 0x44 0x5f
i2cset -y 0 0x30 0x44 0xdf

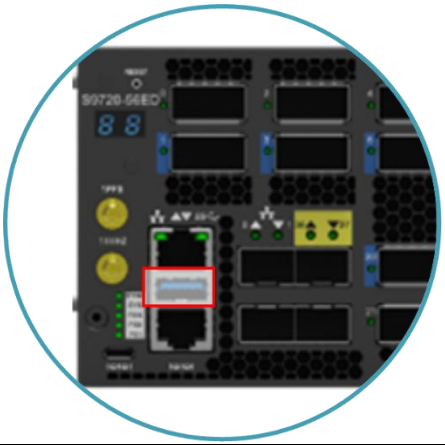


Figure 31.

12.2 Connecting the 1PPS Interface

Note	The maximum length of the 1PPS coaxial SMB/1PPS Ethernet cable should not be more than 3 meters.

Connect an external 1PPS cable with an impedance of 50 ohms to the port labelled “1PPS”.

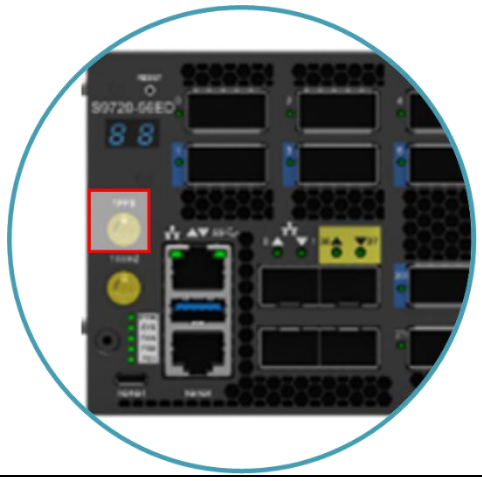


Figure 32.

12.3 Connecting the 10MHz Interface

Note	The maximum length of the 10MHz coaxial SMB cable should not be more than 3 meters.

Connect an external 10MHz cable with an impedance of 50 ohms to the port labelled "10MHz”.

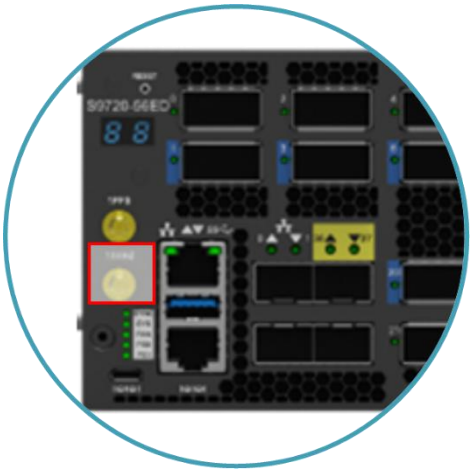


Figure 33.

12.4 Connecting the Transceiver

Note	To prevent over tightening and damaging the optic fibers, it is not recommended to use tie wraps with optical cables.

Read the following guidelines before connecting the transceiver:

- Before installing the router, take into consideration rack space requirements for cable management and plan accordingly.
- It is recommended to use hook-and-loop style straps to secure and organize the cables.
- For easier management, label each fiber-optic cable and record its respective connection.
- Maintain a clear line of sight to the port LEDs by routing the cables away from the LEDs.

Before connecting anything (cables, transceivers, etc.) to the router, please ensure to discharge any static electricity that may have built up during handling. It is also recommended the cabling be done by a professional who is grounded, such as by wearing an ESD wrist strap.

The following the steps below for connecting a transceiver.

1. Remove the new transceiver from its protective packaging.
2. Remove the protective plug from the transceiver itself.
3. Place the bail (wire handle) in the unlocked position and align the transceiver with the port.
4. Slide the transceiver into the port and gently push until it is secured in place. An audible click can be heard when the transceiver is secured in the port.

13 Cautions and Regulatory Compliance Statements

13.1 Cautions and Regulatory Compliances

Safety Notices
Caution! Shock hazard!
TO DISCONNECT POWER, REMOVE ALL POWER CORDS FROM UNIT.

Electrical Hazard: Only qualified personnel should perform installation procedures.
Risques d'électrocution: Seul un personnel qualifié doit effectuer les procedures d'installation.

Warning: Network Switch power supplies do not have switches for turning the unit on and off. Before servicing, disconnect all power cords to remove power from the device. Make sure that these connections are easily accessible.

Avertissement: Network Switch alimentations ne sont pas des interrupteurs pour allumer l'appareil et en dehors. Avant l'entretien, débranchez tous les cordons d'alimentation pour couper l'alimentation de l'appareil. Assurez-vous que ces connexions sont facilement accessibles.

Caution: Before mounting the device, ensure that the rack can support it without compromising stability. Otherwise, personal injury and/or equipment damage may result.

Caution: This unit must be installed indoors. The unit, AC power supplies, DC power supplies, and its cables are not designed for outdoor use.

Caution: Follow appropriate ESD procedures when unpacking and handling the switch. These include unpacking the switch in an ESD-safe environment and wearing appropriate ESD protective gear, such as ESD-safe footwear and ESD wrist straps where appropriate.

Caution: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Warning: Do not use optical instruments to view the laser output. The use of optical instruments to view laser output increases eye hazard. Use only UL/CSA, IEC/EN60825-1/-2 recognized pluggable modules.

Avertissement: Ne pas utiliser d'instruments optiques pour voir la sortie du laser. L'utilisation de instruments optiques pour afficher la sortie laser augmente les risques oculaires. Utilisez uniquement UL/CSA, IEC/EN60825-1 /-2 reconnu modules enfichables.

Caution: Only Laser Class 1 optical transceivers shall be used.

＜電源コードセットに関する使用上の注意事項＞
付属の「ＡＣ電源コードセット」は、本製品専用のものです。他の電気機器には絶対に使用しないでください。

Federal Communications Commission (FCC) Notice

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Notice

CAN ICES-003 (A)/NMB-003(A)

This digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

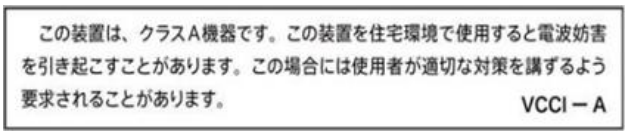
Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada

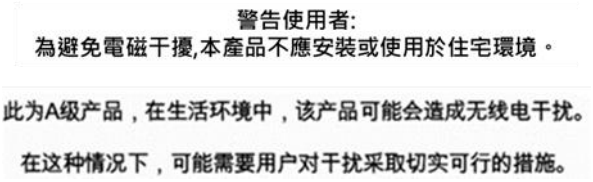
Class A ITE Notice

This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

VCCI Notice

This is Class A equipment. Operation of this equipment in a residential environment could cause radio interference. In such a case, the user may be required to take corrective actions.





Installation Statement

Note	It is recommended that the device be installed only in a server room or computer room where access is: ➢ Restricted to qualified service personnel or users familiar with restrictions applied to the location, reasons therefore, and any precautions required. ➢ Only afforded by the use of a tool or lock and key, or other means of security, and controlled by the authority responsible for the location. Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

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