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Installation Job Aid (English) for Avaya Ethernet Routing Switch 5900 Series (NN47211-301, ver 01.04)

How to get help

To access the complete range of services and support that Avaya provides, go to www.avaya.com.

You can also go to www.avaya.com/support to access the following pages:

- technical documentation
- product training
- technical support

If you purchased a service contract for your Avaya product from a distributor or authorized reseller and you need assistance, contact the technical support staff for that distributor or reseller.

Notices

Notice paragraphs alert you about issues that require your attention. The following paragraphs describe the types of notices used in this guide.

 **Note:**

Notes provide tips and useful information regarding the installation and operation of Avaya products.

 **Electrostatic alert:**

ESD

ESD notices provide information about how to avoid discharge of static electricity and subsequent damage to Avaya products.

 **Caution:**

Caution notices provide information about how to avoid possible service disruption or damage to Avaya products.

 **Warning:**

Warning notices provide information about how to avoid personal injury when working with Avaya products.

 **Voltage:**

Danger — High Voltage notices provide information about how to avoid a situation or condition that can cause serious personal injury or death from high voltage or electric shock.

 **Danger:**

Danger notices provide information about how to avoid a situation or condition that can cause serious personal injury or death.

Safety messages

Safety messages are an important part of the technical documentation. The messages alert you to hazards to personnel and equipment and provide guidance for the safe operation of your equipment. Failure to comply with the safety messages could result in equipment damage and personal injury.

Following are the most common types of safety messages.

 **Warning:**

Installation must be performed by qualified service personnel only. Read and follow all warning notices and instructions marked on the product or included in the documentation.

 **Voltage:**

This equipment relies on the building's installation for overcurrent protection. Ensure that a fuse or circuit breaker no larger than 120 VAC/20 A or 240 VAC/16 A is used on the phase conductors.

 **Caution:**

This device is a Class A product. In a domestic environment, this device can cause radio interference, in which case the user may be required to take appropriate measures.

 **Caution:**

When mounting this device in a rack, do not stack units directly on top of one another in the rack. Each unit must be secured to the rack with appropriate mounting brackets. Mounting brackets are not designed to support multiple units.

 **Voltage:**

Use only power cords that have a grounding path. Without a proper ground, a person who touches the switch is in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions.

⚠ Voltage:

The ERS 5952GTS-PWR+ can draw up to 1900 Watts of power when two power supply units are installed and all 802.3at ports are operating at maximum power. In installations operating at 120 VAC, do not operate more than two power supplies from a single 120 VAC/20A circuit.

⚠ Warning:

Disconnecting the power cord is the only way to turn off power to this device. Always connect the power cord in a location that can be reached quickly and safely in case of an emergency.

⚠ Warning:

Fiber optic equipment can emit laser or infrared light that can injure your eyes. Never look into an optical fiber or connector port. Always assume that fiber optic cables are connected to a light source.



⚠ Caution:

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Installation preparation

Before you begin

Ensure the area where you install and use the Avaya ERS 5900 Series switch meets the following environmental requirements:

- Ambient temperature between 32° and 106° F (0° and 50° C)
- Relative humidity between 10% and 90% noncondensing
- No nearby heat sources such as hot air vents or direct sunlight
- No nearby sources of severe electromagnetic noise
- No excessive dust
- Adequate power source within six feet; one circuit required for each power supply (see table, AC and DC power specifications)
- At least 2 inches (5.08 cm) on each side of the switch unit for ventilation
- Adequate space at the front and rear of the switch for access to cables

If you are installing a single Avaya Ethernet Routing Switch on a table or shelf, ensure the surface can support at least 21 to 33 pounds (9.5 to 15 kilograms).

Installing the fan trays and power supply

Your switch supports a combination of field-replaceable power supplies and cooling fan trays. Two fan trays are included with your switch. You must install the two fan trays and at least one power supply before using the switch. The switch supports an optional second power supply for redundancy and load sharing.

To install the fan trays and power supplies to your switch, use the following procedure.

! Important:

Supported cooling airflow directions are: front to back or back to front. The airflow direction of fan trays and power supplies are labelled and fixed. Ensure the fan trays and power supplies have the same direction of airflow.

The fan trays and power supplies do not support the ability to change their airflow direction. The first power supply determines the airflow direction.

In a single power supply installation, keep the blanking plate installed over the unused power supply slot for proper cooling. Avaya recommends you use PS 1 (the left most power supply slot when viewed from the front) in a single power supply installation.

Before you begin

Verify that the fan trays and power supply are compatible—ensure that the airflow direction for all fans and power supplies match.

Procedure

1. Insert each fan tray into a rear fan tray slot.
2. Verify that each fan tray is fully seated in the slot and secure each fan tray with two thumb screws.
3. Insert each power supply into a rear power supply slot.

If a blanking plate covers the required power-supply slot, remove the plate before inserting the power supply.

4. Verify that each power supply is fully seated in the slot and securely clipped in place.

Example

The following figure shows how to properly insert the cooling fan trays and power supplies into your switch.

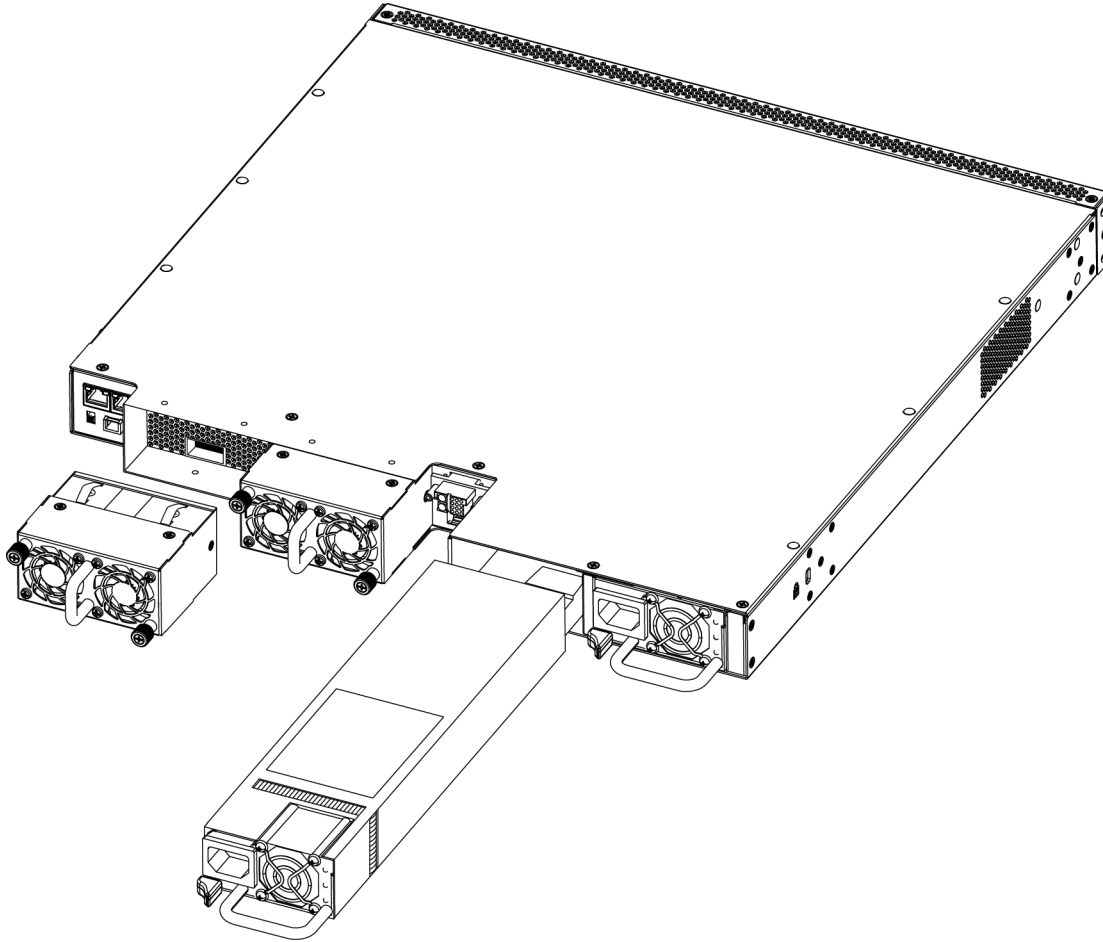


Figure 1: Installing the fan trays and power supplies

Next steps

After you install the two fan trays and at least one power supply, you can install and connect power to the switch.

Installing the switch in an equipment rack

Avaya recommends you install the switch in an equipment rack.

Before you begin

Tool requirements

- Phillips screwdriver to attach brackets to the switch and the switch to the rack

Rack requirements

- Space of 2.8 inches (7.1 cm) for each switch is available in an E1A or 1EC standard 19 inch (48.2 cm) equipment rack and T1A 23 inch (58.5 cm) equipment rack.
- Appropriate rack space is available to accommodate 1U switch height (44 mm).
- Rack is bolted to the floor and braced if necessary.

- Rack is grounded to the same grounding electrode used by the power service in the area. The ground path must be permanent and must not exceed 1 Ohm of resistance from the rack to the grounding electrode.

*** Note:**

Avaya does not supply the bolts used to secure the switch to the rack. Ensure you obtain the appropriate bolts to secure the switch to your specific rack before you begin.

Procedure

1. Ensure power is disconnected from the switch.
2. Attach a bracket to each side of the switch with the included screws.

You have different options for front and rear mounting positions. Attach the brackets in the best position for your specific equipment rack.

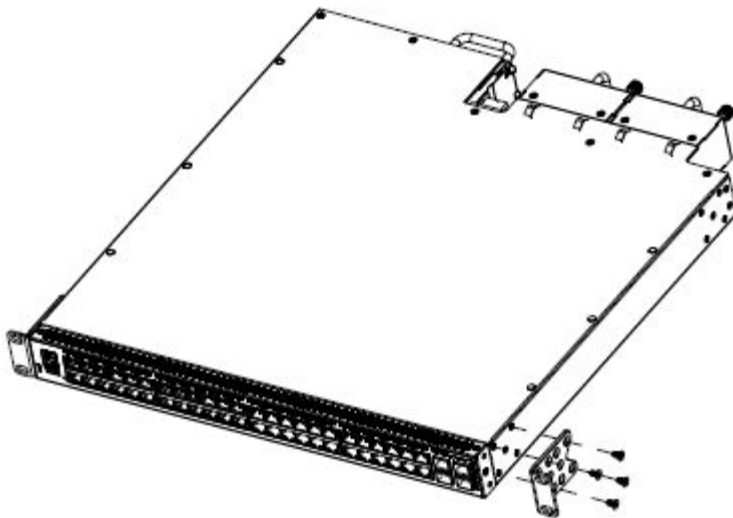


Figure 2: Front-mounted rack bracket installation

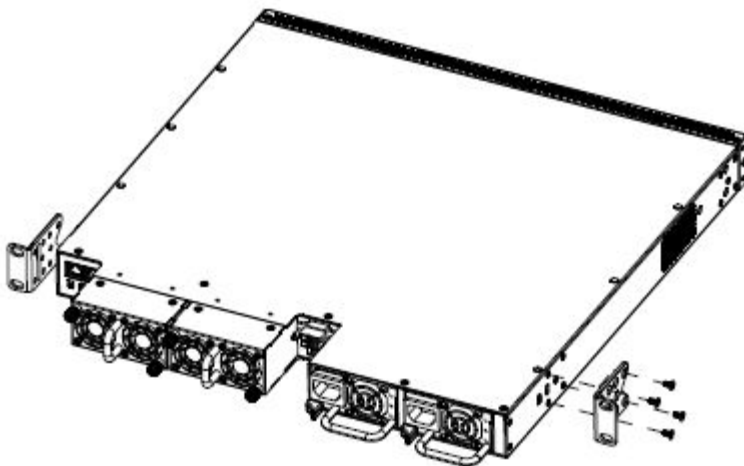


Figure 3: Rear-mounted rack bracket installation

3. Slide the switch into the rack.
4. Insert and tighten the rack mount screws.

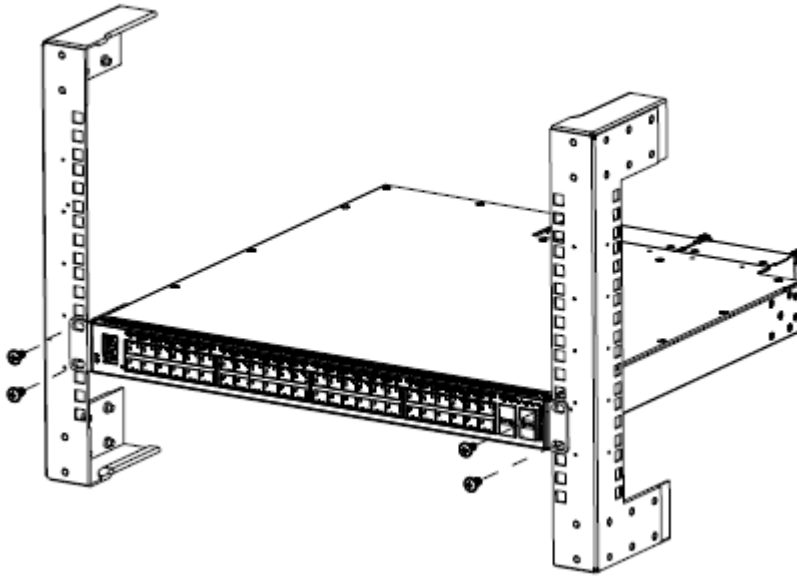


Figure 4: Front-mounted rack installation

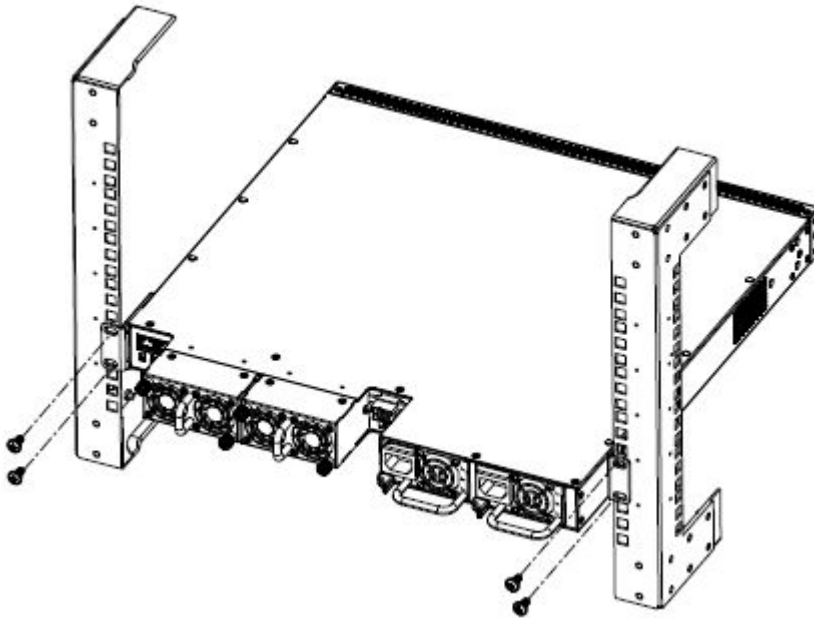


Figure 5: Rear-mounted rack bracket installation

For four-post equipment rack installations, an optional four-post rack mounting kit (sold separately) is available that includes adjustable rear brackets. For more information, see *Installing Avaya Ethernet Routing Switch 5900 Series*, NN47211-300.

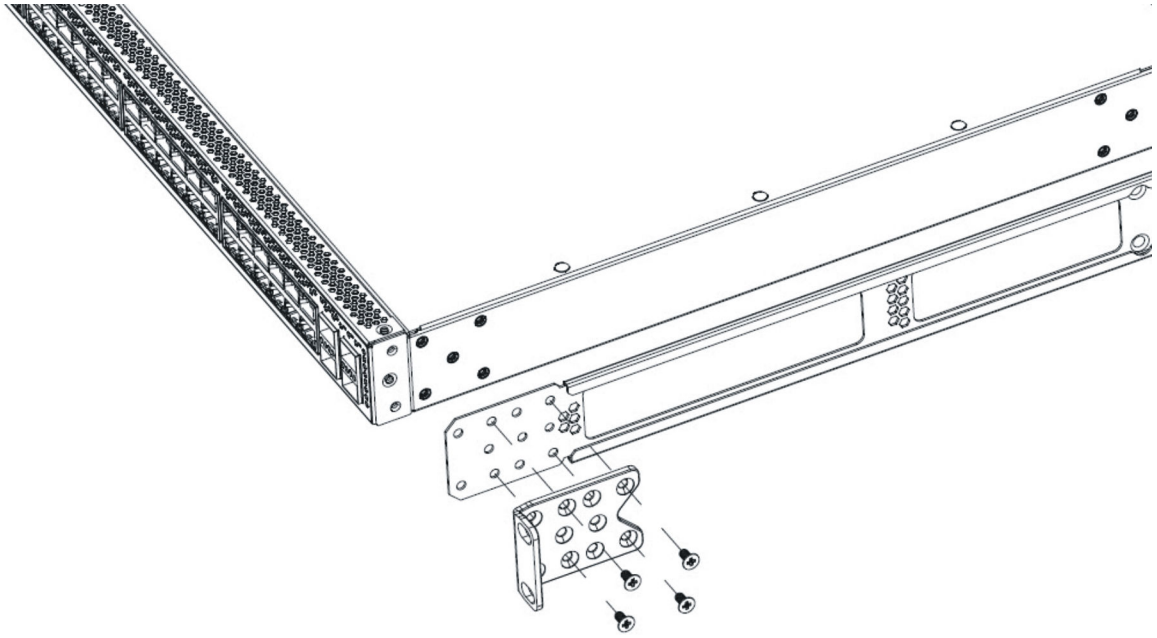


Figure 6: Rack mount attachment screws

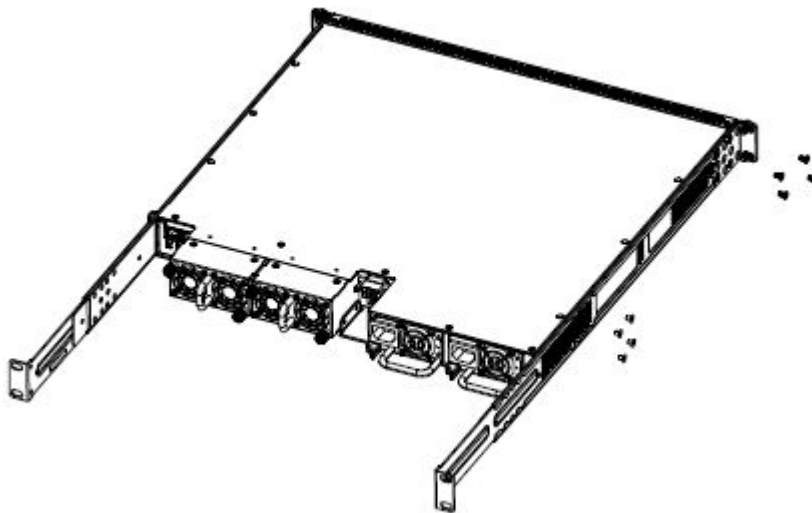


Figure 7: Optional four-post rack mount brackets

5. Slide the switch into the rack.
6. Fasten the switch to the equipment rack with rack mount screws.

For four-post equipment rack installations, fasten the switch to the equipment rack with rack mount screws on all four corners.

7. Verify that the switch is securely fastened to the rack.

You can proceed with the installation by connecting power and network connections to the switch.

AC power specifications

The following table describes the AC power specifications for the Ethernet Routing Switch 5900 Series.

Model	Power supply configuration	Power supply		Input power (margined by 10%)		Power consumption (Thermal rating)	
		Rated	Line voltage	Watts (Total)	Amps	Watts	BTUs/hr
ERS 5952GTS-PWR+	Dual supply (1000 W/PSU)	1000 W/PSU	100–120 VAC	1910	9.6 to 8.0*	470	1603.7
	Single supply (1000 W)			1075	10.8 to 9.0	275	938.3
	Dual supply (1400 W/PSU)	1400 W/PSU	200–240 VAC	1830	9.2 to 7.6*	390	1330.7
	Single supply (1400 W)			1540	15.4 to 12.8	340	1160.1
ERS 5928GTS-PWR+	Dual supply (1000 W/PSU)	1000 W/PSU	100–120 VAC	960	4.8 to 4.0*	240	818.9
	Single supply (1000 W)			950	9.5 to 7.9	230	784.8
	Dual supply (1400 W/PSU)	1400 W/PSU	200–240 VAC	955	4.8 to 4.0*	235	801.9
	Single supply (1400 W)			935	9.4 to 7.8	215	733.6
ERS 5952GTS	Dual supply (450 W/PSU)	450 W/PSU	100–120 VAC	125	0.6 to 0.5*	125	426.5
	Single supply (450 W)			95	1.0 to 0.8	95	324.2
	Dual supply (450 W/PSU)	450 W/PSU	200–240 VAC	130	0.7 to 0.5*	130	443.6
	Single supply (450 W)			95	1.0 to 0.8	95	324.2
ERS 5928GTS	Dual supply (450 W/PSU)	450 W/PSU	100–120 VAC	100	0.5 to 0.4*	100	341.2
	Single supply (450 W)			85	0.9 to 0.7	85	290.0
	Dual supply (450 W/PSU)	450 W/PSU	200–240 VAC	105	0.5 to 0.4*	105	358.3
	Single supply (450 W)			90	0.9 to 0.8	90	307.1

Model	Power supply configuration	Power supply		Input power (marginied by 10%)		Power consumption (Thermal rating)	
		Rated	Line voltage	Watts (Total)	Amps	Watts	BTUs/hr
* per power supply							

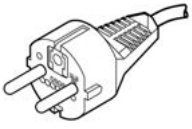
The following table describes the Power over Ethernet (PoE+) specifications for the Ethernet Routing Switch 5900 Series.

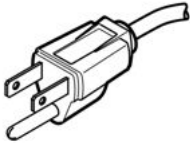
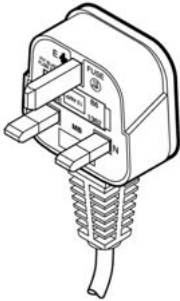
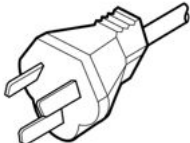
Model	Power supply configuration	Power supply		Power over Ethernet (PoE+) power output		
		Rated	Line voltage	Max Power per Port (Watts)	Max power output Sum of all Ports (Watts)	
ERS 5952GTS-PWR+	Dual supply (1000 W/ PSU)	1000 W/PSU	100–120 VAC	30	1440	48 ports @ 30 W
	Single supply (1000 W)			30	800	26 ports @ 30 W
	Dual supply (1400 W/ PSU)	1400 W/PSU	200–240 VAC	30	1440	48 ports @ 30 W
	Single supply (1400 W)			30	1200	40 ports @ 30 W
ERS 5928GTS-PWR+	Dual supply (1000 W/ PSU)	1000 W/PSU	100–120 VAC	30	720	24 ports @ 30 W
	Single supply (1000 W)			30	720	24 ports @ 30 W
	Dual supply (1400 W/ PSU)	1400 W/PSU	200–240 VAC	30	720	24 ports @ 30 W
	Single supply (1400 W)			30	720	24 ports @ 30 W

AC power cord specifications

The following section outlines the AC power cord specifications for various countries. Ensure that you use the correct cord for your location.

Table 1: International power cord specifications

Country / Plug Specification	Specifications	Typical Plug
Continental Europe: <ul style="list-style-type: none"> CEE7 standard VII male plug Harmonized cord (HAR marking on the outside of the cord jacket to comply with 	<ul style="list-style-type: none"> 220 or 230 VAC 50 Hz Single Phase 	 228FA

Country / Plug Specification	Specifications	Typical Plug
the CENELEC Harmonized Document HD-21)		
United States of America / Canada / Japan: <ul style="list-style-type: none"> • NEMA5-15P male plug • UL-recognized (UL stamped on cord jacket) • CSA-certified (CSA label secured to the cord) 	<ul style="list-style-type: none"> • 100 or 120 VAC • 50 - 60 Hz • Single Phase 	 <p style="text-align: center;">227FA</p>
United Kingdom: <ul style="list-style-type: none"> • BS1363 male plug with fuse • Harmonized cord 	<ul style="list-style-type: none"> • 240 VAC • 50 Hz • Single Phase 	 <p style="text-align: center;">229FA</p>
Australia: <ul style="list-style-type: none"> • AS3112-1981 male plug 	<ul style="list-style-type: none"> • 240 VAC • 50 Hz • Single Phase 	 <p style="text-align: center;">230FA</p>

Connecting AC power

The Ethernet Routing Switch 5900 Series does not have a power switch. When you connect the AC power cord to a suitable AC power outlet, the switch powers up immediately.

Connect the AC power cord to the back of the switch, and then connect the cord to a power outlet. Ensure that you use the correct power cord for the switch and power supply.

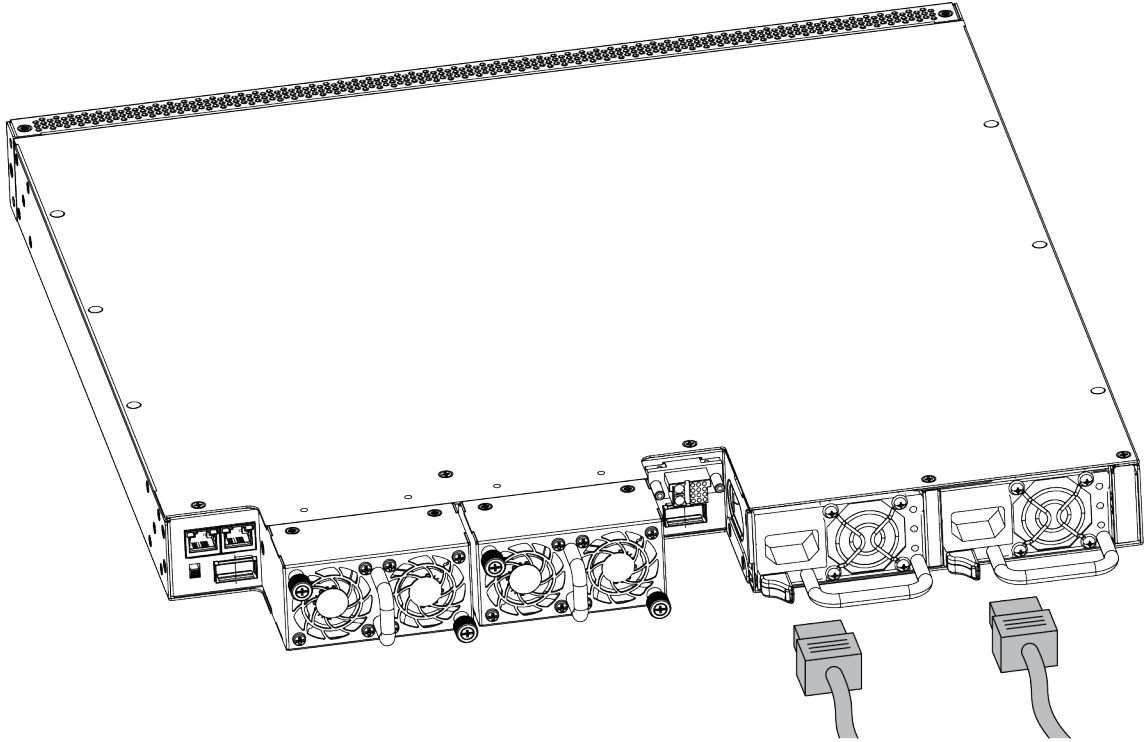


Figure 8: Connecting the AC power cord to the Ethernet Routing Switch 5900 Series