HPE Aruba Networking
EdgeConnect 10104 SD-WAN Gateway
Installation Guide

Hewlett Packard Enterprise

Installation Guide

Copyright

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Contents

This document describes the hardware features of the Aruba EdgeConnect 10104 SD-WAN Gateway. It provides a detailed overview of the physical and performance characteristics of the gateway and explains how to install the gateway and its accessories.

Guide Overview

- provides a detailed hardware overview of the Aruba EdgeConnect 10104 SD-WAN Gateway and each of its components.
- describes how to install the HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway.
- describes how to configure the EC-10104.
- lists the Gateways's technical specifications and safety and regulatory compliance information.

Contacting Support

Table 1 *Contact Information*

Main Site	www.arubanetworks.com
Support Site	https://asp.arubanetworks.com
Airheads Social Forums and Knowledge Base	www.community.arubanetworks.com
North American Telephone	1-800-943-4526 (Toll Free) 1-650-750-0350
International Telephones	https://www.arubanetworks.com/support-services/contact-support/
Software Licensing Site	www.hpe.com/networking/support
End of Support information	www.arubanetworks.com/support-services/end-of-life/
Security Incident Response Team (SIRT)	Site: https://www.arubanetworks.com/support-services/security-bulletins/ Email: aruba-sirt@hpe.com

The HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway provides high-performance networking and SD-WAN in compact and cost-effective form factor, ideally suited for small branch and remote office environments.

Table 2 describes the EC-10104 SD-WAN Gateway port configuration.

Table 2 *HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway Port Configuration*

Ports	Number of Ports	Description
10/100/1000BASE-T ports	4	LAN0, LAN1, WAN0, WAN1
USB 3.0 port	1	
RJ45 console port	1	
Micro USB console port	1	Supports CLI access; Functions similarly to RJ45 port.

Package Checklist

Inform your supplier if there are any incorrect, missing, or damaged parts. To return this product, repack this unit and other materials included into the original packaging before returning it to the supplier.

Table 3 *Package Contents*

Item	Quantity
HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway	1
DB9-RJ45 console cable	1
Ethernet Cable	4
Power adapter	1
Adapter cable saddle	1
Wall mount kit (2 screws, 2 anchors, 1 template)	1

NOTE

Optional accessories are available for use with the HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway and are sold separately. Contact your Aruba sales representative for details and assistance.

# HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway Components

This section introduces EC-10104 SD-WAN Gateway components and their location on the gateway.

Figure 1 shows the front panel of the EC-10104. Figure 2 shows the back panel of the EC-10104.

Figure 1 *Front Panel of the HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway*

Figure 2 *Back Panel of the HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway*
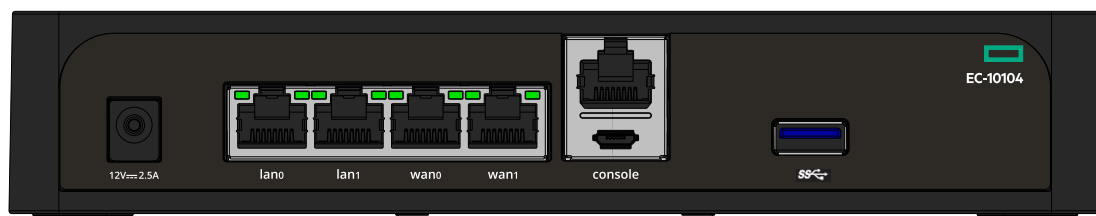
Front Panel LED

The front panel LED show the power status of the EC-10104. The following table describes the LED indicators and their corresponding status:

Table 4 *LED Status*

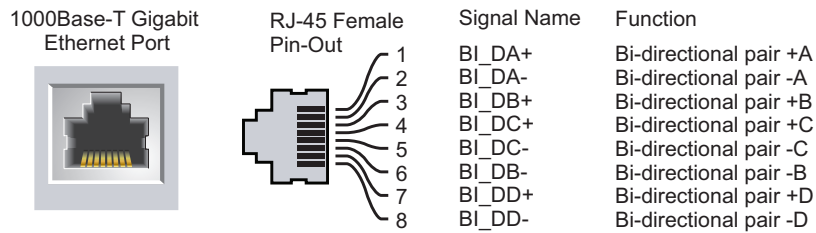| LED	Function	Indicator	Status
Power	Power Status	Green (Solid)	Powered and Operational
		Off	Power Off

DC Power Connector

The AC-DC adapter kit with the following specification is used to power the EC-10104.

- 12V/2.5A power interface
- Center-positive 2.1/5.5 mm circular plug, 9.5 mm length

Ethernet Ports

The EC-10104 SD-WAN Gateway is equipped with four 10/100/1000BASE-T Gigabit Ethernet ports (Lan0, LAN1, Wan0, and Wan1). Gigabit Ethernet uses all eight wires and each pair is bidirectional, which means the same pair is used for both data transmission and reception. Figure 3 illustrates the Gigabit Ethernet port pin- out for an RJ-45 connector. The pins paired on a 10/100/1000Base-T Gigabit Ethernet port are: 1/2, 3/ 6, 4/5, and 7/8.

Figure 3 *Gigabit Ethernet Port Pin-Out*

1000Base-T Gigabit Ethernet Port	RJ-45 Female Pin-Out	Signal Name	Function
	1	BI_DA+	Bi-directional pair +A
	2	BI_DA-	Bi-directional pair -A
	3	BI_DB+	Bi-directional pair +B
	4	BI_DC+	Bi-directional pair +C
	5	BI_DC-	Bi-directional pair -C
	6	BI_DB-	Bi-directional pair -B
	7	BI_DD+	Bi-directional pair +D
	8	BI_DD-	Bi-directional pair -D

Ethernet Port LEDs

Each 10/100/1000BASE-T Ethernet port is equipped with two LEDs that allow basic monitoring of link/ port status and activity.

- **LINK/ACT**: Placed on the left side of the port; displays the link status and activity of the port.
- **STATUS**: Placed on the right side of the port; displays the status of the port based on the CLI.

The following table describes the LED behavior for each mode:

Table 5 *10/100/1000BASE-T Ethernet Port LEDs*

LED	Function	Mode	Indicator	Status
LINK/ACT	Link status	NA	Green (Solid)	Link established
			Green (Blinking)	Port is transmitting or receiving data
			Off	No link
STATUS	Port status	Speed	Green (Solid)	Link at 1000 Mbps
			Off	Link at 100/10 Mbps

Micro-USB Console Port

The EC-10104 SD-WAN Gateway is equipped with a Micro-USB (type B) connector that provides console access for direct local access. If both Micro-USB and RJ-45 console ports are connected, the Micro-USB connection takes precedence over the RJ-45 console connection.

Micro-USB Driver

To use the Micro-USB console port, you must install the Aruba Micro-USB driver on the computer that will manage your SD WAN. To download the driver, perform the following steps:

1. Go to https://asp.arubanetworks.com.
2. Click on the **Tools & Resources** tab.
3. Open the **USB Console Driver** folder.
4. Open the **Mobility Gateway and Mobility Access Switch** folder.

Select the appropriate file for your application. The corresponding operating system is in the file name.

RJ-45 Console Port

The serial console port allows connecting an SD-WAN Gateway to a serial terminal or a laptop for direct local management. This port is a RJ-45 female connector with the pin-outs descried in Figure 4 on page 8. Connect it directly to a terminal or terminal server using an Ethernet cable.

Figure 4 *Serial Console Port Pin-Out*
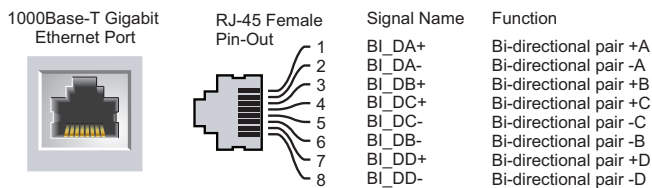
The communication settings for the Console port is shown in the following table:

Table 6 *Console Terminal Settings*

Baud Rate	Data Bits	Parity	Stop Bits	Flow Control
9600	8	None	1	None

> **CAUTION**
>
> The CONSOLE port is compatible only with RS-232 devices. Non-RS-232 devices, such as APs, are not supported.

> **CAUTION**
>
> Do not connect the Console port to an Ethernet switch or a PoE power source. This may damage the gateway.

USB Port

The EC-10104 SD-WAN Gateway is equipped with a USB 3.0 interface. A USB storage device can be used to save and upload configurations to the gateway.

CAUTION

Installation of the device should be performed by a trained installation professional.

This chapter describes how to install the Aruba EdgeConnect 10104 SD-WAN Gateway.

You can mount the gateway on any flat surface such as a desktop or a shelf. You can also mount the gateway in a standard, 19-inch telco rack or on a wall using the appropriate accessory kit (not included in box) provided by Aruba.

Installation Recommendations

- For proper air circulation, leave at least 10 cm (4 inches) clearance on the left, right, front, and rear side of the SD-WAN Gateway.
- Leave additional space in front and rear side of the gateway to access power cords, network cables, and indicator LEDs.
- Avoid placing anything on top of the gateway because it can lead to overheating of the gateway.
- Avoid placing this gateway on any other device because the heat dissipated from the other device can over heat the gateway.

Precautions

- Dangerous voltage above 240 V AC is always present while an Aruba gateway is plugged into an electrical outlet. Remove all rings, jewelry, and other potentially conductive material before working with this device.
- Never insert foreign objects into the chassis, power supply, or any other component, even when the power supply is turned off, unplugged, or removed.
- Ensure that the main power is fully disconnected from the gateway by unplugging all power cords from their outlets. For safety, verify that the power outlets and plugs are easily reachable by the operator.
- Do not handle electrical cables which are not insulated. This also includes network cables.
- Keep water and other fluids away from the gateway to minimize electrical hazards.
- Comply with electrical grounding standards during all phases of installation and operation of the product. Do not allow the gateway's chassis, network ports, power supply, or mounting brackets to contact any device, cable, object, or person attached to a different electrical ground. Also, never connect the device to external storm grounding sources.
- Perform installation or removal of the chassis or any module in a static-free environment. Proper use of anti-static body straps and mats is strongly recommended.
- Modules must be kept in anti-static packaging when not installed in the chassis.
- Do not ship or store this product near strong electromagnetic, electrostatic, magnetic, or radioactive fields.
- This product, power cords, and all interconnected cables are for indoor use only.

Cable Saddle Installation Instructions

The EC-10104 SD-WAN Gateway provides the option of attaching a cable saddle to the device to secure the power cable with the device.

To attach a cable saddle to the EC-10104, perform the following steps:

1. Align the cable saddle with the slot on the side of the gateway and push the cable saddle into the unit to secure it. See Figure 5.

Figure 5 *Attaching a Cable Saddle*

2. Insert the cable into the cable saddle and attach it to the power connector slot. This secures the cable and keeps it in place.See Figure 6.

Figure 6 *Securing a Cable*

Your cable saddle installation in now complete.
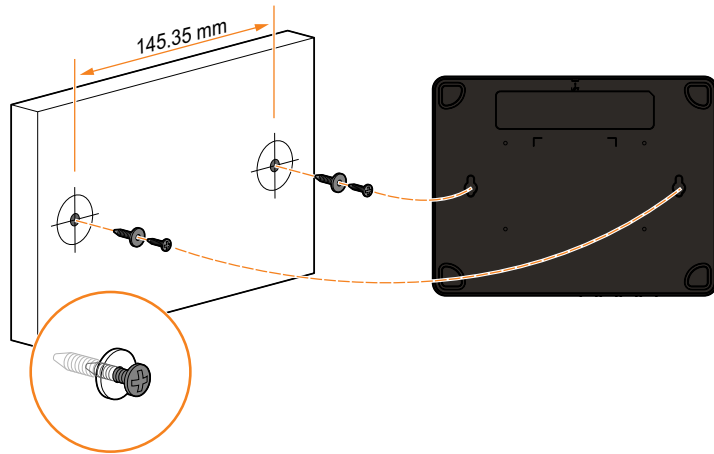
Wall-Mounting Installation Instructions

The keyhole-shaped slots on the bottom of the gateway can be used to attach the device upright (back port facing downwards) to an indoor wall or shelf.

Make sure to mount the gateway in such a way that there is a clear path to the Ethernet port, such as a predrilled hole in the mounting surface.

1. At the mounting location, install two screws on the wall or shelf, 145.35 mm apart. If you are attaching the device to drywall, it is recommended that you use appropriate wall anchors (included in the package). See Figure 7.

   - Use 3/4 inch long #6 pan head wood screws for mounting the gateway on wood.
   - Use 3/4 inch long #6 pan head wood screws with plastic screw anchor #6-8 x 1 inch on dry wall or concrete wall.
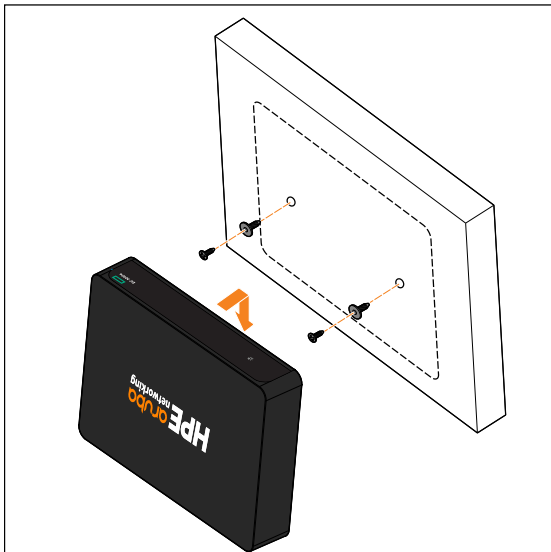   - Required quantity: 2 screws per unit

   Screws can be installed at the required location by using the provided template.

Figure 7 *Mounting Using the Integrated Wall-Mounting Slots*

2. Align the mounting slots on the bottom of the gateway over the screws and slide the unit into place. See Figure 8.

Figure 8 *Wall Mounting Aruba EdgeConnect 10104 SD-WAN Gateway*

Rack Mounting Installation Instructions

This mounting option allows mounting the EC-10104 SD-WAN Gateway in a two-post 19-inch Telco rack with either the front panel facing outward or the rear panel facing outward using the Aruba 10104-MNT-19 Rack Mount Kit (additional accessory).

⚠️ **CAUTION**

Each EC-10104 SD-WAN Gateway should have its own mounting equipment. Do not place other networking equipment directly on top of a mounted SD-WAN Gateway. Failure to do so can damage the device.

Required Tools and Equipment

The following tools and equipment are required for installing an EC-10104:

- Rack mount tray (x1) for rack mounting installation
- Rubber clamps (x2) for securing the power adapter on the rack mount tray (included in the kit)
- M3 x 5 mm flat head screws (x4) for securing the gateway on the rack mount tray (included in the kit)
- M6 x 15 mm Phillips pan head screws (x4) for rack mount (included in the kit)
- Suitable screwdrivers for all screw types provided in the box (not included in the kit)

📝 **NOTE**

Some racks require screws that differ from those included with the EC-10104 SD-WAN Gateway kit. Ensure that you have the correct screws before installing the device.

Installation Steps

To install an EC-10104 into a two-post 19-inch Telco rack with the front panel outwards, perform the following steps:

1. Align the EC-10104 to the screw hole provided on the rack mount tray. See Figure 9.
2. Align the screws under the rack mount tray and tighten the screws to secure the gateway on the rack mount tray. See Figure 9.

Figure 9 *Aligning the Aruba EdgeConnect 10104 SD-WAN Gatewaywith the Rack Mount Tray*
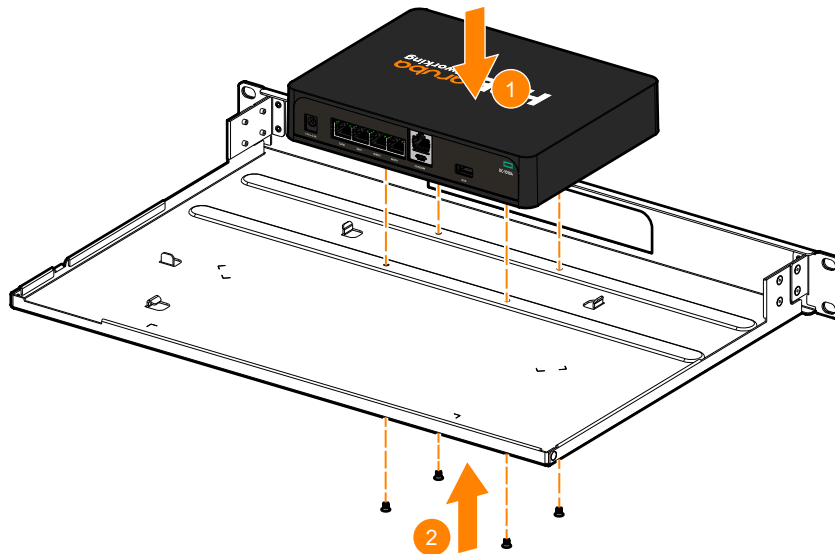
3. Use the rubber clamps provided with the kit to secure the power cable with the power adapter.

4. Pass one end of the rubber clamp through the DC cable of the adapter. Pass the power cable plug through the other end of the rubber clamp before attaching it with the adapter. See Figure 10.

Figure 10 *Attaching Rubber Clamp to the DC Power Adapter*
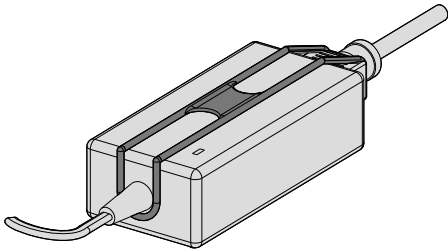
> **NOTE**
>
> Leave a minimum of 10 cm (4 inches) of space on the left and right side of the device for proper air flow and ventilation.
> Leave additional space in the front and the back of the device to access network cables, LED status indicators, and power cord.
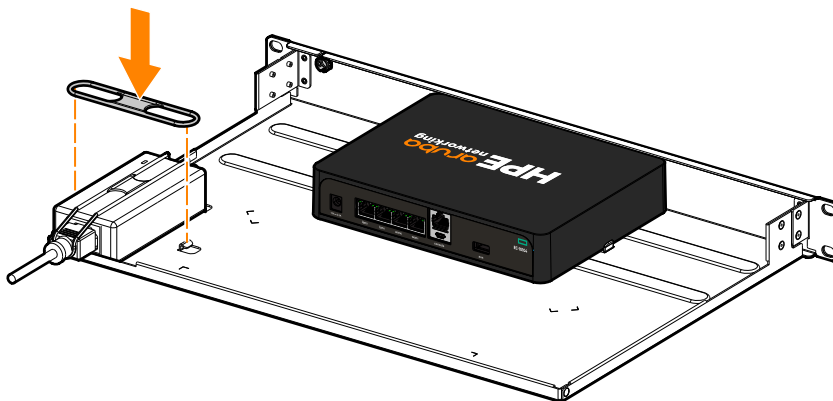
5. Place the power adapter on the rack mount tray aligning it with the placement tabs provided. See Figure 11.

**Figure 11** *Power Adapter Mounting*
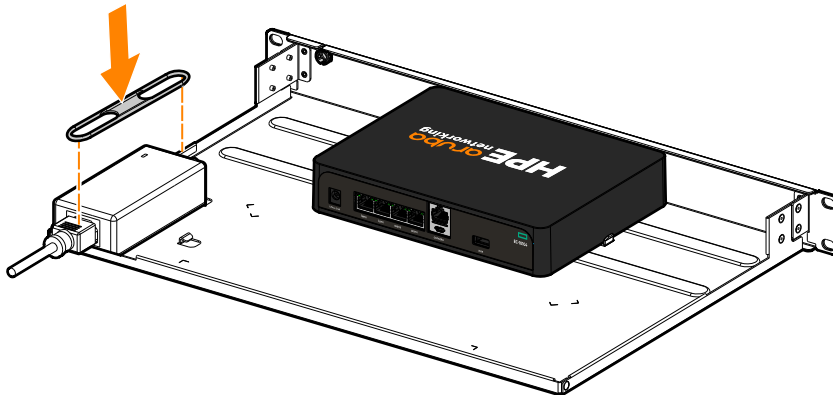
6. Use the other rubber clamp provided with the mounting kit to secure the adapter on the rack mount tray. See Figure 12.

**Figure 12** *Securing Power Adapter on the Rack Mount Tray*

7. Hook one end of the clamp into the left hook provided on the tray, pull the other end and hook it to the right hook provided on the tray to secure the adapter completely. See Figure 13.

Figure 13 *Securing Power Adapter on the Rack Mount Tray*
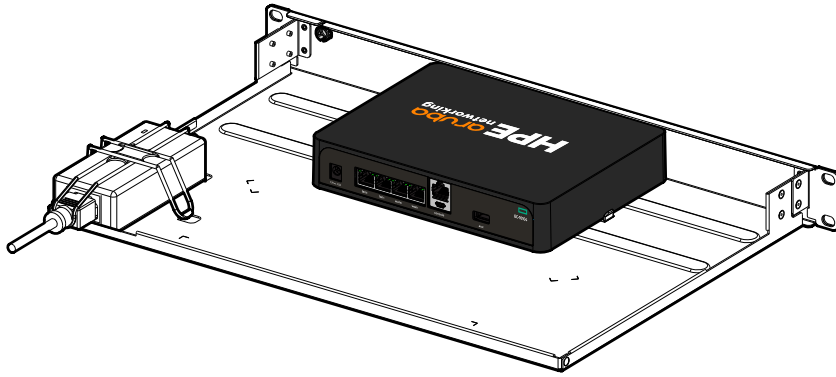
8. Connect the DC power plug to the DC power connector located on the back panel of the EC-10104.

9. Mount the rack mount tray within the two-post 19-inch rack using four M6 x 15 mm Phillips pan head screws and a suitable screwdriver. See Figure 14.
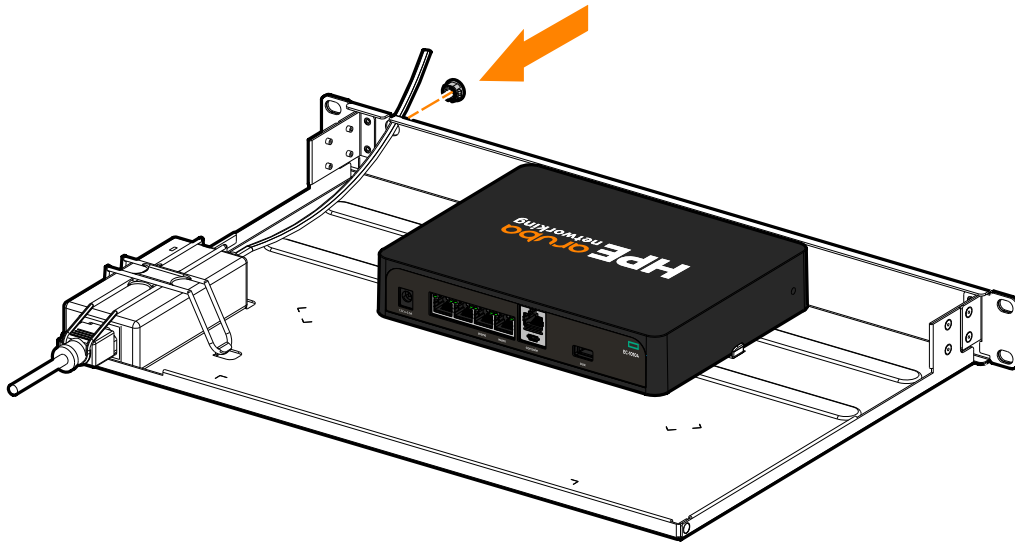
Figure 14 *Rack Mount Installation*
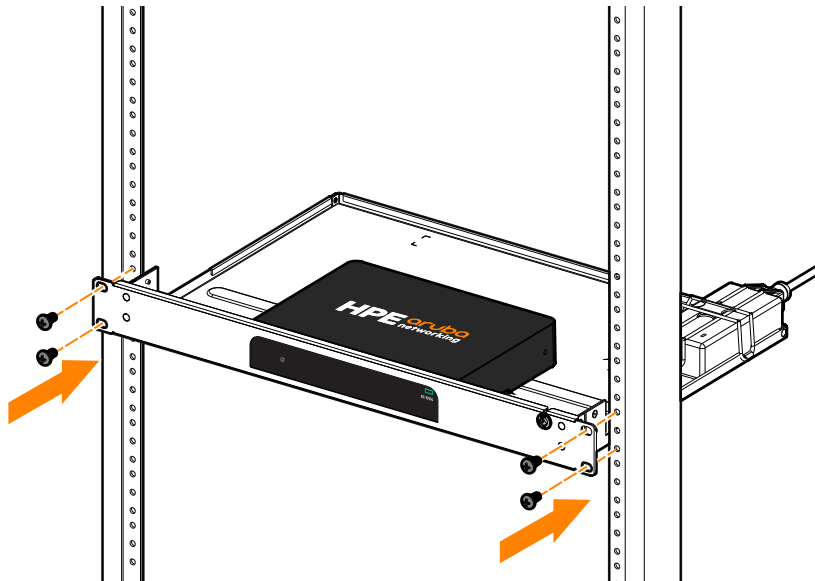
When installing an EC-10104 SD-WAN Gateway into a two-post 19-inch Telco rack with the rear panel outwards, the DC cable should be routed through the outlet hole provided on the rack panel.
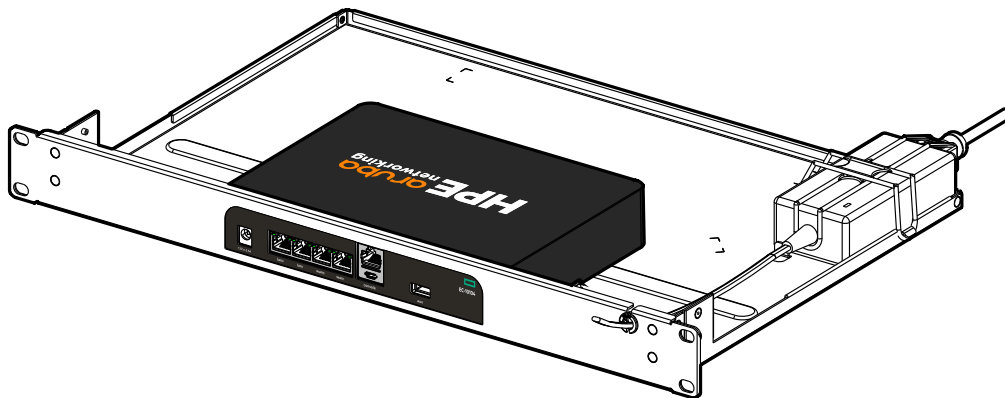
10. Remove the cable grommet from the outlet hole and insert the DC cable into the cable grommet through the slit provided. See Figure 15.

Figure 15 *Routing the DC Cable through the Outlet Hole*

11. Reinsert the cable grommet into the outlet hole on the rack mount tray. See Figure 16.

Figure 16 *Inserting the DC cable into the Cable Grommet*

12. Connect the DC cable into the DC jack on the device.

Rack mount installation of the EC-10104 SD-WAN Gateway is now complete.

> **NOTE**
>
> IMPORTANT - READ THIS FIRST: You must install and register your Orchestrator with the Aruba Cloud Portal BEFORE setting up an EdgeConnect gateway. After Orchestrator is registered with your account name and key, you can proceed with EdgeConnect installation. If you don't know or are unsure wht role the Orchestrator plays, please contact your network architect or deployment lead.

Install the Gateway into the Network

All copper RJ-45 Gigabit Ethernet interfaces in the gateway support MDI/MDI-X and auto-negotiation.

To install the gateway into the network, perform the following:

1. Identify the relevant ports on the rear of the gateway.
2. Connect network cables from the gateway to the identified network equipment ports.

Figure 17 *Connecting the Gateway to Network Equipment Ports.*
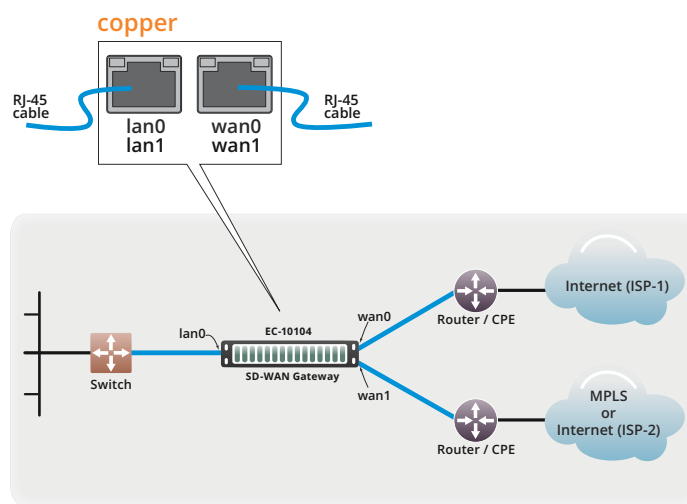
Connect Power Cords

1. Connect the power adapter DC connector to the EC-10104 SD-WAN Gateway.
2. Plug the power cord female end to the power adapter and the male end to your local power source.

Turn the Power On

The gateway powers up as soon as it is plugged into the local power source. On the front panel, verify the Power LED illuminates green.

Approve the Discovered Appliance (Gateway)

After you power on the EdgeConnect gateway, it automatically registers its serial number with the Cloud Portal. The portal knows how to associate a serial number with a specific account.

1. Go to the Orchestrator.
2. In the header, click the blinking box named Appliances Discovered.

   The Discovered Appliances page opens, listing the most recently discovered appliances first.

Figure 18 *Approving Gateway*
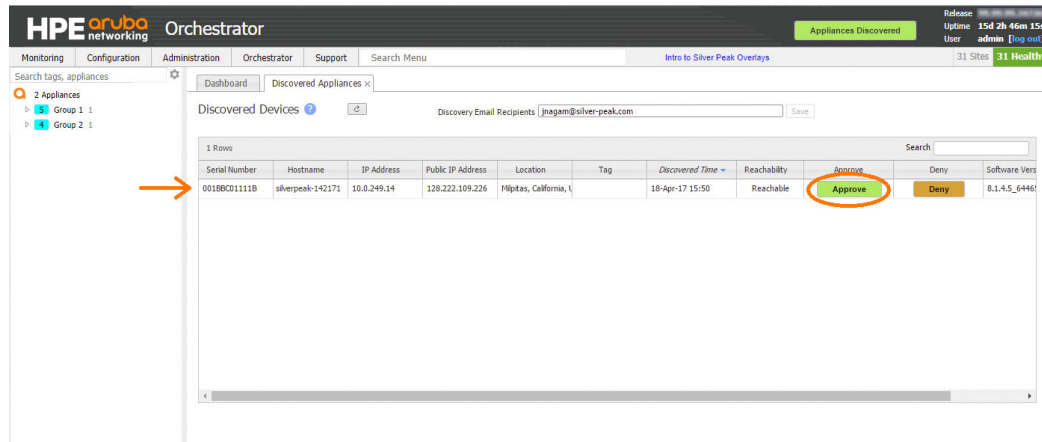
3. After verifying that the appliance is yours, click Approve.
4. Select the group and click Apply.

The Appliance Manager Configuration Wizard opens (Figure 19).

Complete the Appliance Manager Configuration Wizard

1. If you purchased EdgeConnect bandwidth licensing or EdgeConnect Boost and want to apply it to this appliance, select the relevant check box(es) on Wizard page 2 or the Deployment Profile page.

Figure 19 *Gateway Setup Wizard – page 1*

2. At the end, click Apply. It may take up to two minutes to register the appliance.
3. Complete the remaining wizard screens.

On the Deployment page's default configuration, the WAN–side interfaces use DHCP IP addresses, unless you manually enter static IP addresses.

HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway Specifications

Physical

- Device Dimensions (HxWxD): 3.82 cm x 19.85cm x 15.31 cm
- Device Weight: 2.519 lbs (1.143 kg)

Electrical

- Ethernet
  - 4 x 100/1000BASE-T auto-sensing Ethernet RJ-45 Interfaces
  - MDI/MDX
- Power
  - 12V DC power interface, supports powering through an 12V DC, 2.5A AC-to-DC power adapter.

Environmental

- Operating
  - Temperature Range: 0 °C to 40 °C (32 °F to 104 °F)
  - Humidity Range: 10% to 90% (RH), non-condensing
- Storage and Transportation
  - Temperature Range: –40 °C to 70 °C (–40 °F to 158 °F)
  - Humidity Range: 10% to 95% (RH), non-condensing

For additional specifications on this product, please refer to the data sheet. The data sheet can be found at www.arubanetworks.com

Safety and Regulatory Compliance

Aruba, a Hewlett Packard Enterprise company provides a multi-language document that contains country-specific restrictions and additional safety and regulatory information for all Aruba products. This document can be viewed or downloaded from the following location: www.arubanetworks.com/safety_addendum

![CAUTION] Aruba gateways must be installed by a professional installer. The professional installer is responsible for ensuring that grounding is available and it meets applicable local and national electrical codes.

FCC Class B Part 15

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules.

This equipment has been tested and found to comply with the limits for a Class B 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 generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION

Changes or modifications to this unit not expressly approved by Aruba, a Hewlett Packard Enterprise company could void the user's authority to operate this equipment.

Industry Canada

This Class B digital apparatus meets all of the requirements of the Canadian Interference-Causing Equipment Regulations.

This device complies with Industry Canada's license-exempt RSS regulations. Operation of this device is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation.

Déclaration d'Industrie Canada

Conformément aux réglementations d'Industrie Canada, cet émetteur-récepteur radio doit être utilisé uniquement avecune antenne dont le type et le gain maximal doivent être approuvés par Industrie Canada.

Ce périphérique est conforme aux règlements RSS exempts de licence d'Industrie Canada. L'utilisation de ce périphérique est soumise aux deux conditions suivantes : (1) ce périphérique ne doit pas provoquer d'interférences, et (2) ce périphérique doit accepter toute interférence, y compris les interférences susceptibles de provoquer undysfonctionnement.

EU Regulatory Conformance

The Declaration of Conformity made under EMC Directive 2014/30/EU is available for viewing at http://www.hpe.com/eu/certificates. Select the document that corresponds to your device's model number as it is indicated on the product label.

CAUTION

Use of controls or adjustments of performance or procedures other than those specified in this manual may result in hazardous radiation exposure.

CAUTION

Although this gateway has been tested up to 1 kV per CE immunity requirements, it requires surge protection to be provided as part of the building installation to protect against unidirectional surges resulting from electrical switching and lightning strikes.
For protection against these surges in an outdoor installation, any exposed wiring must be shielded, and the shield for the wiring must be grounded at both ends.

Battery Statements

CAUTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.
Remplacer uniquement avec une batterie due même type ou d'un équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux unstruction du fabricant.

CAUTION

The battery supplied with this product may contain perchlorate material. Special handling may apply in California and certain other states. See www.dtsc.ca.gov/hazardouswaste/perchlorate for more information.

WARNING There is a risk of explosion if battery is replaced by an incorrect type, so dispose used batteries according to the instructions.

Thailand

Regulatory Model Name

The regulatory model name for the HPE Aruba Networking EdgeConnect 10104 SD-WAN Gateway is EC-10104.

Proper Disposal of Aruba Equipment

Waste of Electrical and Electronic Equipment

Aruba, a Hewlett Packard Enterprise company products at end of life are subject to separate collection and treatment in the EU Member States, Norway, and Switzerland and therefore are marked with the symbol shown at the left (crossed-out wheelie bin). The treatment applied at end of life of these products in these countries shall comply with the applicable national laws of countries implementing Directive 2012/19/EU on Waste of Electrical and Electronic Equipment (WEEE).

European Union RoHS

Aruba, a Hewlett Packard Enterprise company products also comply with the EU Restriction of Hazardous Substances Directive 2011/65/EU (RoHS). EU RoHS restricts the use of specific hazardous materials in the manufacture of electrical and electronic equipment. Specifically, restricted materials under the RoHS Directive are Lead (including Solder used in printed circuit assemblies), Cadmium, Mercury, Hexavalent Chromium, and Bromine. Some Aruba products are subject to the exemptions listed in RoHS Directive Annex 7 (Lead in solder used in printed circuit assemblies). Products and packaging will be marked with the "RoHS" label shown at the left indicating conformance to this Directive.