Ruijie Reyee RG-RAP6262 Access Point

Installation Guide

Document Version: V1.4

Date: October 21, 2025

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Preface

Intended Audience

This document is intended for:

- Network engineers
- Technical support and servicing engineers
- Network administrators

Technical Support

- Ruijie Reyee website: https://reyee.ruijie.com
- Online support center: https://reyee.ruijie.com/en-global/support
- Case portal: https://www.ruijie.com/support/caseportal
- Community: https://community.ruijie.com
- Email support: service_rj@ruijie.com
- Live chat: https://reyee.ruijie.com/en-global/rita

Conventions

1. GUI Symbols

Interface symbol	Description	Example
Boldface	1. Button names 2. Window names, tab name, field name and menu items 3. Link	1. Click **OK**. 2. Select **Config Wizard**. 3. Click the **Download File** link.
>	Multi-level menus items	Select **System** > **Time**.

2. Signs

The signs used in this document are described as follows:

Warning

An alert that calls attention to important rules and information that if not understood or followed can result in data loss or equipment damage.

Caution

An alert that calls attention to essential information that if not understood or followed can result in function failure or performance degradation.

Note

An alert that contains additional or supplementary information that if not understood or followed will not lead to serious consequences.

Specification

An alert that contains a description of product or version support.

3. Note

This manual provides installation steps, troubleshooting, technical specifications, and usage guidelines for cables and connectors. It is intended for users who want to understand the above and have extensive experience in network deployment and management, and assume that users are familiar with related terms and concepts.

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1 Product Overview

1.1 About the RG-RAP6262 Access Point

The RG-RAP6262 is a dual-radio access point designed for outdoor scenarios by Ruijie Networks. Compliant with the IEEE 802.11a/b/g/n/ac/ax standard, the access point can work in the 2.4 GHz and 5 GHz bands at the same time. The access point delivers a combined data rate of 2974 Mbps, with up to 573 Mbps in the 2.4 GHz band and 2401 Mbps in the 5 GHz band. The access point provides one GE copper port and one GE fiber port. The access point adopts either IEEE 802.3at PoE power supply or 12 V DC/2 A local power supply.

The enclosure of RG-RAP6262 meets the IP68 protection grade, which withstands the extreme outdoor environment and can effectively avoid the influence of bad weather and environment. The mounting method greatly simplifies the installation and maintenance.

RG-RAP6262 supports PoE power supply and can be applied to a wide variety of outdoor scenarios in the sectors including higher education, wireless cities, energy and business.

1.2 Package Contents

Table 1-1 Package Contents

No.	Item	Quantity
1	RG-RAP6262 access point	1
2	Hose clamps	2
3	Mounting bracket	1
4	Internal/External hex machine screws (M8 x 20 mm)	2
5	Expansion anchors (M8 x 60 mm)	4
6	Mounting arm (Pre-installed)	1
7	Cover of a mounting arm	1
8	Cable gland for an SFP port	1
9	SFP port plug (pre-installed)	1
10	User Manual	1
11	Warranty Card	1

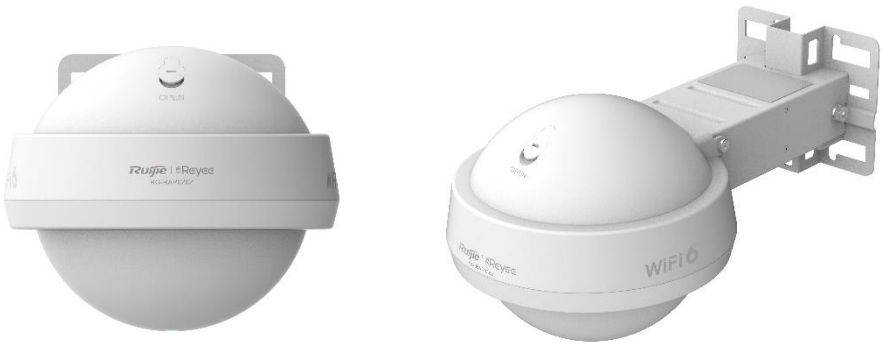
Note

The package contents generally cover the above items. The actual delivery is subject to the order contract. And please check your goods carefully against package contents or the order contract. If you have any questions, please contact the distributor.

1.3 Hardware Features

1.3.1 Access Point

Figure 1-1 Access Point



Note

CMIIT ID is printed on the device nameplate.

Table 1-2 LED

LED	Status	Description
Wi-Fi LED (Green)	Flashing	Data is transmitted by Wi-Fi.
	Solid on	Wi-Fi is enabled and no data is transmitted.
	Off	Wi-Fi is disabled.
System Status LED (Blue)	Fast flashing	The access point is starting up.
	Slow flashing (at 0.5 Hz)	The network is unreachable.
	Flashing twice in succession	Possible cases: 1. Restoring the access point to factory settings. 2. Upgrading the firmware. 3. Handling alarms automatically. Note: Do not power off the access point in this case.
	Solid on	The access point is functioning properly.
	Off	The access point is not receiving power.
LAN Port Status LED (Green)	Flashing	The port has made a successful link and is sending/receiving traffic.

	Solid on	The port has made a successful link and is not sending/receiving traffic.
	Off	No link is detected for the port.
SFP Port Status LED (Green)	Flashing	The port has made a successful link and is sending/receiving traffic.
	Solid on	The port has made a successful link and is not sending/receiving traffic.
	Off	No link is detected for the port.

1.3.2 Ports and RESET Hole

Figure 1-2 Ports and RESET Hole

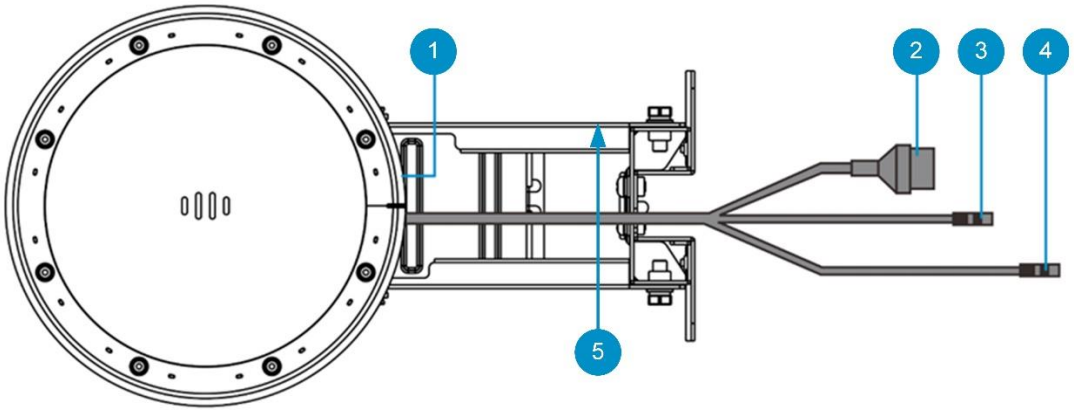


Table 1-3 Ports and RESET Hole

No.	Ports	Description
1	SFP Port	1000Base-X SFP port
2	LAN/PoE Port	One 10/100/1000Base-T Ethernet port (PoE-capable)
3	RESET Hole	Stick the pin into the Reset hole: Restart the access point.
		Press and hold the pin to the Reset hole for more than 5 seconds: Restore the access point to factory settings.
4	DC Connector	12 V DC input port
5	Label	The label is located on the top of the mounting arm.

1.4 Technical Specifications

Table 1-4 Technical Specifications

System Specifications	Flash memory	128 MB
	RAM	256 MB DDR3
Wi-Fi Radio	5 GHz Wi-Fi	Wi-Fi 4 (IEEE 802.11a/n) Wi-Fi 5 (IEEE 802.11ac) Wi-Fi 6 (IEEE 802.11ax)
	2.4 GHz Wi-Fi	Wi-Fi 4 (IEEE 802.11b/g/n) Wi-Fi 6 (IEEE 802.11ax)
	Operating band	IEEE 802.11b/g/n/ax, 2.400 GHz to 2.4835 GHz IEEE 802.11a/n/ac/ax, 5.150 GHz to 5.350 GHz, 5.470 GHz to 5.725 GHz, 5.725 GHz to 5.850 GHz Note: Available bands vary with countries and regions. To use the preceding frequency bands, ensure that your country or region supports these frequency bands.
	Radio design	Dual-radio 4 spatial streams ● 2.4 GHz: 2 x 2, MU-MIMO ● 5 GHz: 2 x 2, MU-MIMO
	5 GHz channel width	Auto/20/40/80/160 MHz
	2.4 GHz channel width	Auto/20/40 MHz
	Maximum wireless data rate	2974 Mbps
	5 GHz wireless data rate	2401 Mbps
	2.4 GHz wireless data rate	573 Mbps
	Maximum transmit power (5 GHz)	Combined power: 30.7 dBm (single-stream power: 26 dBm) Note: The transmit power varies according to regulations in different countries and regions.
	Maximum transmit power (2.4 GHz)	Combined power: 29 dBm (single-stream power: 26 dBm)

		Note: The transmit power varies according to regulations in different countries and regions.
	Maximum transmit power	Frequency bands and maximum Effective Isotropic Radiated Power (EIRP): Note: Country specific restrictions apply. ● European Union & United Kingdom: ○ 2400–2483.5 MHz, EIRP ≤ 20 dBm ○ 5470–5725 MHz, EIRP ≤ 30 dBm ● United States: ○ 2400–2483.5 MHz, max output power ≤ 30 dBm & EIRP ≤ 36 dBm ○ 5150–5250 MHz, max output power ≤ 30 dBm & EIRP ≤ 36 dBm ○ 5250–5350 MHz, max output power < 24 dBm & EIRP ≤ 30 dBm ○ 5470–5725 MHz, max output power < 24 dBm & EIRP ≤ 30 dBm ○ 5725–5850 MHz, max output power ≤ 30 dBm & EIRP ≤ 36 dBm ● Myanmar: ○ 2400–2483.5 MHz, EIRP ≤ 23 dBm ○ 5725–5825 MHz, EIRP ≤ 30 dBm ● Thailand: ○ 2400–2483.5 MHz, EIRP ≤ 20 dBm ○ 5470–5725 MHz, EIRP ≤ 30 dBm ○ 5725–5825 MHz, EIRP ≤ 30 dBm ● Indonesia: ○ 2400–2483.5 MHz, EIRP ≤ 36 dBm ○ 5725–5825 MHz, EIRP ≤ 36 dBm ● Egypt: ○ 2400–2483.5 MHz, EIRP ≤ 20 dBm ○ 5150–5350 MHz, EIRP ≤ 23 dBm
	Coverage range	5 GHz max: 400 m (1312.34 ft.) 2.4 GHz max: 150 m (492.13 ft.) 5 GHz recommended: 200 m (656.17 ft.) 2.4 GHz recommended: 50 m (164.04 ft.)

		Note: The data is obtained in an ideal environment without obstruction. The signal coverage radius depends on client performance and environmental interference.
	Modulation	OFDM: BPSK @ 6/9 Mbps, QPSK @ 12/18 Mbps, 16-QAM @ 24 Mbps, 64-QAM @ 48/54 Mbps DSSS: DBPSK @ 1 Mbps, DQPSK @ 2 Mbps, and CCK @ 5.5/11 Mbps MIMO-OFDM: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM and 1024-QAM OFDMA
	Receive sensitivity	11b: –91 dBm (1 Mbps), –88 dBm (5.5 Mbps), –85 dBm (11 Mbps) 11a/g: –89 dBm (6 Mbps), –80 dBm (24 Mbps), –76 dBm (36 Mbps), –71 dBm (54 Mbps) 11n: –83 dBm (MCS0), –65 dBm (MCS7), –83 dBm (MCS8), –65 dBm (MCS15) 11ac: 20 MHz: –83 dBm (MCS0), –57 dBm (MCS9) 11ac: 40 MHz: –79 dBm (MCS0), –57 dBm (MCS9) 11ac: 80 MHz: –76 dBm (MCS0), –51 dBm (MCS9) 11ac: 160 MHz: –76 dBm (MCS0), –50 dBm (MCS9) 11ax: 20 MHz: –85 dBm (MCS0), –58 dBm (MCS11) 11ax: 40 MHz: –82 dBm (MCS0), –54 dBm (MCS11) 11ax: 80 MHz: –79 dBm (MCS0), –52 dBm (MCS11) 11ax: 160 MHz: –76 dBm (MCS0), –49 dBm (MCS11)
Antenna	Antenna	2.4 GHz: 2 built-in omnidirectional antennas 5 GHz: 3 built-in omnidirectional antennas
	Antenna gain (5 GHz)	4.00 dBi
	Antenna gain (2.4 GHz)	3.00 dBi

Port Specifications	Number of 10/100/1000BASE-T ports	1
	Number of 1GE SFP ports	1
	Maximum rate of the LAN port	1000 Mbps
	Reset button	1
	LEDs	1 x system status LED 1 x Wi-Fi LED 2 x Ethernet port LEDs
Power Supply and Consumption	Power supply	• DC power adapter • PoE/PoE+ Note: If both the DC power adapter and PoE/PoE+ are available for power supply, the DC power adapter is preferred.
	Local power supply	Yes, one DC power connector (12 V, 2 A)
	Dimensions of the DC connector	Outer diameter: 5.5 mm (0.22 in.) Inner diameter: 2.1 mm (0.08 in.) Depth: 10 mm (0.39 in.)
	PoE In standard	IEEE 802.3af (PoE) Note: Radio transmission and reception is limited to 2T2R at 2.4 GHz and 5 GHz, and the wireless rate at 5 GHz is 60% of the original rate. IEEE 802.3at (PoE+)
	Maximum power consumption	24 W
Dimensions and Weight	Product dimensions (diameter x height)	Ø230 mm x 195 mm (Ø9.06 in. x 7.68 in.) (spherical device, excluding the mounting bracket)
	Package dimensions (W x D x H)	475 mm x 305 mm x 270 mm (18.70 in. x 12.01 in. x 10.63 in.)
	Color	White
	Weight	≤ 1.4 kg (3.09 lbs.) (without packaging materials)

	Shipping weight	≤ 4.62 kg (10.19 lbs.)
Environment and Reliability	Operating temperature	–30°C to +65°C (–22°F to +149°F)
	Storage temperature	–40°C to +85°C (–40°F to +185°F)
	Operating humidity	0% RH to 100% RH (non-condensing)
	Storage humidity	0% RH to 100% RH (non-condensing)
	Mounting options	Wall/Pole
	IP rating	IP68
	Surge protection	Ethernet port: ±4 kV for common mode
	MTBF	400,000 hours
Certification and Regulatory Compliance	RoHS	Yes
	Certification	CE, FCC, CB, ISED, cTUVus

1.5 Power Specifications

The access point can be powered by either DC or PoE power supply.

- In a DC power supply scenario, use a Ruijie 12 V DC/2 A power adapter. The adapter should be purchased separately.
- In a PoE power supply scenario, connect one end of the Ethernet cable to the LAN/PoE port of the access point, and connect the other end to a port of a PoE-capable switch or a PoE device. The power source equipment (PSE) must be 802.3at-capable.

1.6 Cooling

The RG-RAP6262 adopts a fanless design. Maintain a sufficient clearance around the access point for proper ventilation.

2 Preparing for Installation

2.1 Safety Precautions

Note

- To avoid personal injury and device damage, carefully read the safety precautions before you install the access point.
- The following safety precautions may not cover all possible dangers.

2.1.1 General Safety Precautions

- Do not expose the access point to high temperature, dusts, or harmful gases. Do not install the AP in an inflammable or explosive environment. Keep the AP away from EMI sources such as large radar stations, radio stations, and substations. Do not subject the AP to unstable voltage, vibration, and noise.
- Keep the access point at least 500 meters (0.31 miles) away from the ocean and do not face it towards the sea breeze.
- The installation site should be free from water flooding, seepage, dripping, or condensation. The installation site should be selected according to network planning and communications equipment features, and considerations such as climate, hydrology, geology, earthquake, electrical power, and transportation.

Caution

Please follow the procedures in the user manual to install and remove the access point.

2.1.2 Handling Safety

- Do not move the access point frequently after installation.
- Cut off all the power supplies and unplug all power cords before moving or handling the access point.

2.1.3 Electric Safety

- Observe local regulations and specifications during electric operations. Only personnel with relevant qualifications can perform such operations.
- Check whether there are potential risks in the work area. For example, check whether the ground is wet.
- Learn about the position of the indoor emergency power switch before installation. First cut off the power switch in case of accidents.
- Be sure to make a careful check before you shut down the power supply.
- Keep the access point far away from grounding or lightning protection devices for power equipment.
- Keep the access point far away from high-power radio stations, radar stations, high-frequency high-current devices, and microwave ovens.

Warning

- Any nonstandard or inaccurate electrical operation can cause accidents such as fires or electrical attacks, thus causing severe, or even fatal damages to human bodies and the devices.
- Direct or indirect touch through a wet object on high-voltage and mains supply can bring a fatal danger.

2.2 Installation Environment Requirements

2.2.1 Site Requirements

- Do not expose the access point to high temperature, dusts, or harmful gases. Do not install the AP in an inflammable or explosive environment. Keep the AP away from EMI sources such as large radar stations, radio stations, and substations. Do not subject the AP to unstable voltage, vibration, and noise.
- Keep the access point at least 500 meters (0.31 miles) away from the ocean and do not face it towards the sea breeze.
- The installation site should be free from water flooding, seepage, dripping, or condensation. The installation site should be selected according to network planning and communications equipment features, and considerations such as climate, hydrology, geology, earthquake, electrical power, and transportation.

2.2.2 Temperature/Humidity Requirements

Table 2-1 Working Environment Requirements

Operating Temperature	Operating Humidity
–30°C to 65°C (–22°F to 149°F)	0% to 100% RH (non-condensing)

To ensure the normal operation and prolonged service life of the access point, maintain an appropriate temperature and humidity in the working environment. Working in an environment with too high or too low temperature and humidity for a long period may damage the access point.

- In an environment with high relative humidity, the insulating material may have poor insulation or even leak electricity. Sometimes it is also prone to changes in the mechanical properties and causes rusting of metal parts.
- In an environment with low relative humidity, static electricity is prone to occur and damage the internal circuits of the access point.
- A high temperature can accelerate the aging process of insulation materials, greatly reducing the reliability of the access point and severely affecting its service life.

2.2.3 Outdoor Installation Requirement

The RG-RAP6262 access point can be installed outdoors. It can be mounted on a wall, a vertical pole or a horizontal pole.

2.2.4 Waterproof Requirement

- Seal the unused ports using the connector plugs or cable glands to ensure that the access point is watertight.

- Seal the reset hole and the DC connector with the waterproof caps.
- The cable glands must be used for all cables that are threaded through the ports to prevent exposing the access point interior to environmental elements. For details, see Installing the Cables.

2.2.5 EMI Requirements

All interference sources, either from outside or inside of the device or application system, affect the device by capacitive coupling, inductive coupling, or electromagnetic waves.

Electromagnetic interference (EMI) occurs due to electromagnetic radiation or conduction, depending on the transmission path. When the energy, often RF energy, from a component arrives at a sensitive component through the space, the energy is known as radiated interference. The interference source can be both a part of the interfered system and a completely electrically isolated unit. Conducted interference results from the electromagnetic wire or signal cable connection between the source and the sensitive component. The interference is conducted from one unit to another unit through cables. Conducted interference often affects the power supply of the equipment, but can be controlled by a filter. Radiated interference may affect any signal path in the device, and is difficult to shield.

- Take interference prevention measures for the power supply system.
- Keep the access point far away from grounding or lightning protection devices for power equipment.
- Keep the access point far away from high-power radio stations, radar stations, and high-frequency high-current devices.
- Measures must be taken to isolate static electricity.

2.3 Tools

Table 2-2 Tools

Common Tools	Phillips screwdriver, power cords, Ethernet cables, fastening bolts, diagonal plier, binding straps, and 5 mm Allen key
Special Tools	Wire stripper, crimping plier, crystal connector crimping plier, and wire cutter
Meters	Multimeter, bit error rate tester

Note

The RG-RAP6262 access point is delivered without a tool kit. The tool kit is customer-supplied.

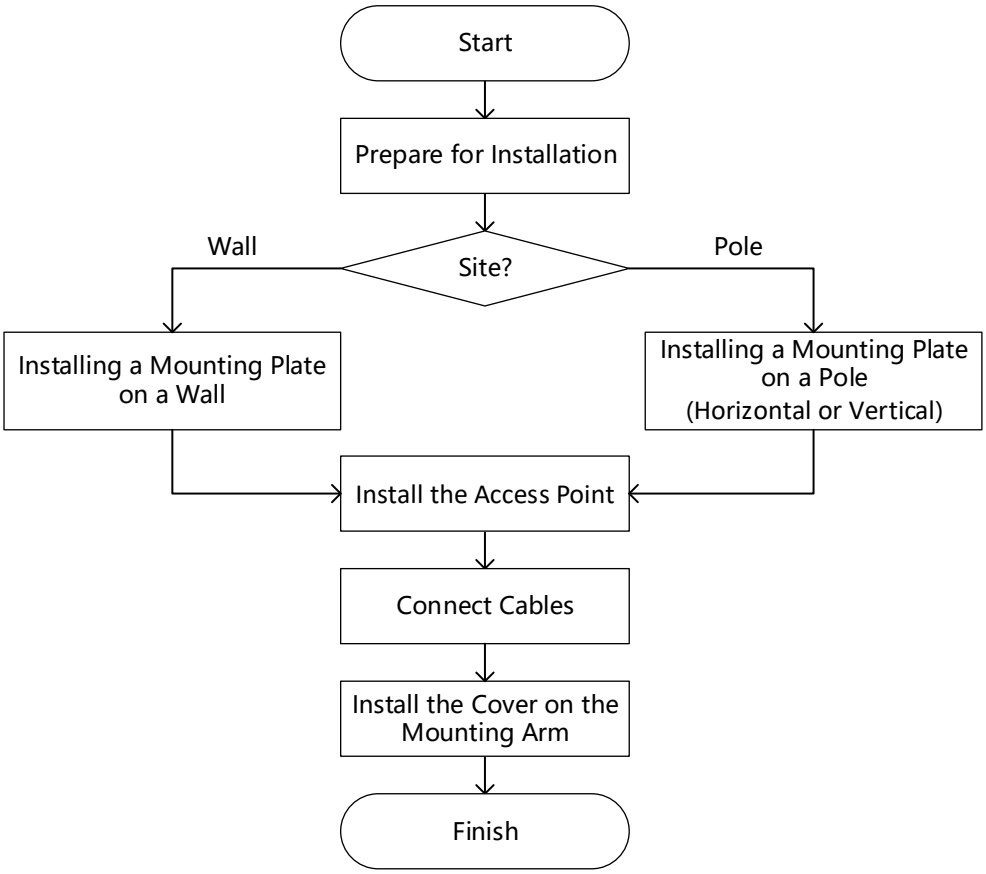
3 Installing the Access Point

The RG-RAP6262 access point must be installed outdoors.

Caution

Please ensure that you have carefully read Chapter 2 and that the requirements in Chapter 2 are all met.

3.1 Installation Procedure



3.2 Before You Begin

Check the accessories based on the package contents and confirm the following requirements before installation:

- The installation site meets the temperature and humidity requirements of the access point.
- The power supply and required current are available in the installation site.
- The Ethernet cables have been routed in the installation site.

3.3 Precautions

The outdoor access point can be mounted on a wall or a pole with a diameter ranging from 50 mm to 70 mm (1.97 in. to 2.76 in.). If the diameter of the pole is out of this range, please prepare a hose clamp that can hold the pole. The thickness of the hose clamp should be at least 2.5 mm (0.10 in.). The access point should be installed by a technical personnel. The installation site is determined by the technical personnel who conducts a site survey.

Please make sure that the installation site meets with the following requirements in Installation Environment Requirements and observe the following precautions:

- The selected power supply modules meet the system power requirements.
- Cut off the power switch before connecting the power cord.

3.4 Installing the Access Point

Caution

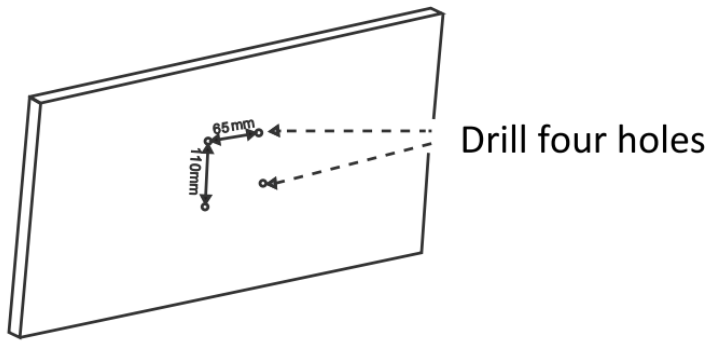
- The installation site should be free from water including possible flooding, seepage, dripping, or condensation.
- You are advised to install the access point in a horizontal orientation.
- If the actual installation scenario does not meet the above requirements, you are advised to use waterproof plaster or tape to keep the access point free from water.

3.4.1 Wall Mount

Use the mounting bracket and expansion anchors (M8 x 60 mm) to install the access point.

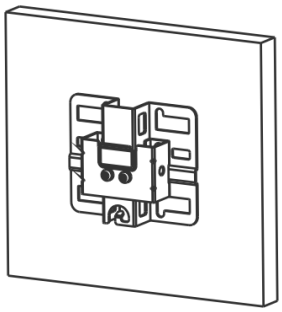
(1) Drill four holes with the hole pattern of 65 mm x 110 mm (2.56 in. x 4.33 in.) on the wall.

Figure 3-1 Drilling Four Holes on the Wall



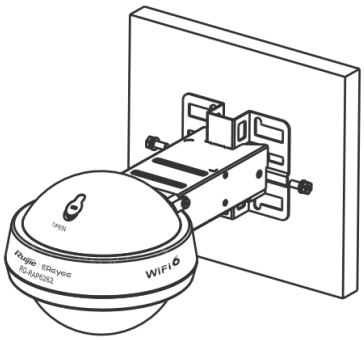
(2) Attach the mounting bracket to the wall with its semicircle opening facing downward. Mark the locations of screw holes. Hammer the expansion anchor into the holes. Secure the mounting bracket on the wall using the expansion anchors.

Figure 3-2 Securing the Mounting Bracket on the Wall



(3) Install the access point and the mounting arm to the mounting bracket and secure them with internal/external hex machine screws (M8 x 20 mm).

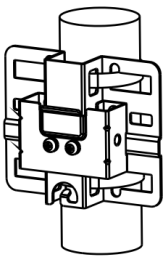
Figure 3-3 Mounting the Access Point



3.4.2 Vertical Pole Mount

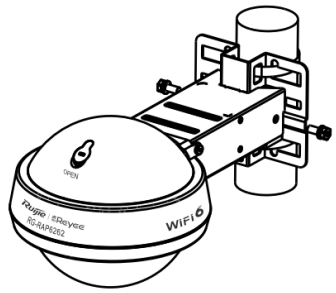
(1) Secure the mounting bracket to a vertical pole by threading two hose clamps through the square holes of the mounting bracket. Tighten the screws using a Philips screwdriver.

Figure 3-4 Securing the Mounting Bracket on a Vertical Pole



(2) Install the access point and the mounting arm to the mounting bracket using internal/external hex machine screws (M8 x 20 mm).

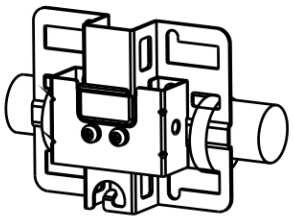
Figure 3-5 Mounting the Access Point



3.4.3 Horizontal Pole Mount

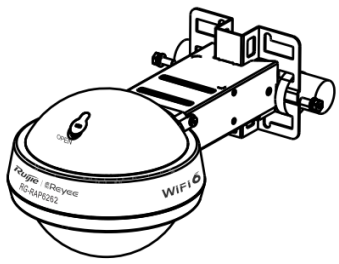
(1) Secure the mounting bracket to a horizontal pole by threading two hose clamps through the square holes of the mounting bracket. Tighten the screws using a Philips screwdriver.

Figure 3-6 Securing the Mounting Bracket on a Horizontal Pole



(2) Install the access point and the mounting arm to the mounting bracket using internal/external hex machine screws (M8 x 20 mm).

Figure 3-7 Mounting the Access Point



3.5 Installing the Cables

3.5.1 Installing the Ethernet Cable

Connect the twisted pairs to the LAN/PoE port on the access point. For details, see Cabling.

Caution

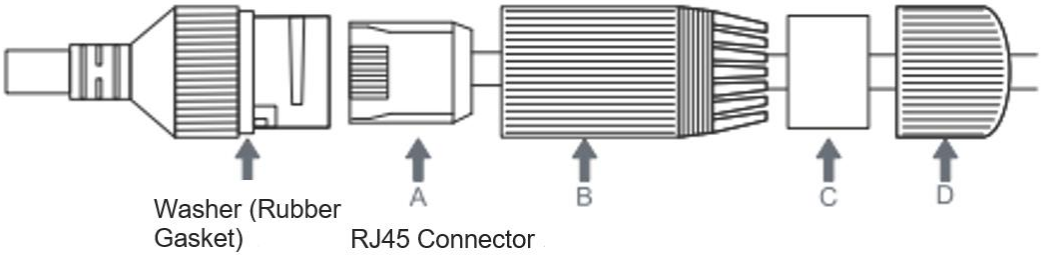
- The waterproof materials are not included in the package contents.
- Avoid a small bend radius at the connector.

- You are not advised to use an Ethernet cable with an RJ45 boot, which may cause inconvenience to the installation of the Ethernet cable.

(1) Trim an Ethernet cable according to the distance between the access point and the power supply.

(2) Insert the unterminated end of the Ethernet cable through part D, C and B in sequence.

Figure 3-8 Exploded View of Cable Gland Assembly



(3) Install an RJ45 connector on the unterminated end of the Ethernet cable using an Ethernet cable installation tool.

(4) Insert the RJ45 connector into the LAN/PoE port of the access point, and tighten part B, C and D in sequence to tighten the cable gland and complete the installation.

Caution

Make sure that the RJ45 connector is inserted into the access point correctly. Otherwise, the RJ45 connector will be damaged when you tighten the cable gland. If you want to remove the Ethernet cable, remove the cable gland first and then the RJ45 connector connecting to the access point.

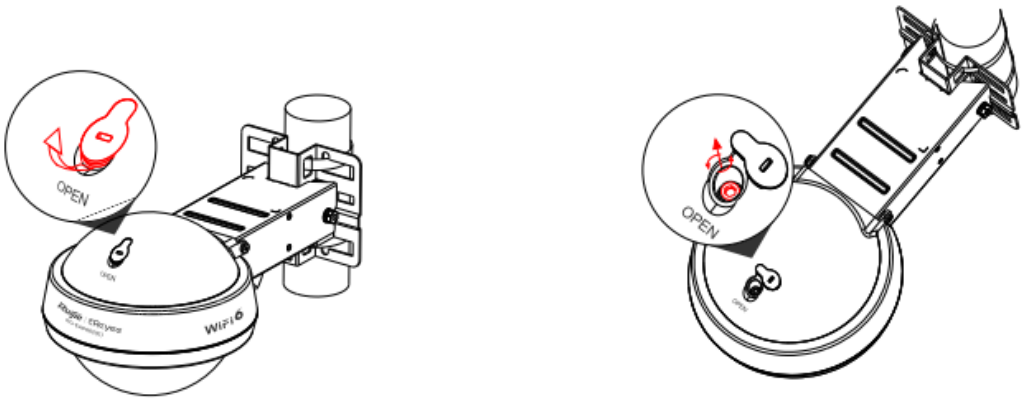
3.5.2 Installing the Fiber-Optic Cable

Caution

- The waterproof materials and SFP transceivers are customer-supplied.
- If you want to use an SFP transceiver (optional accessory), the cable gland can only hold the LC to LC fiber-optic cable with a diameter ranging from 2.8 mm to 3.2 mm (0.11 in. to 0.13 in.).

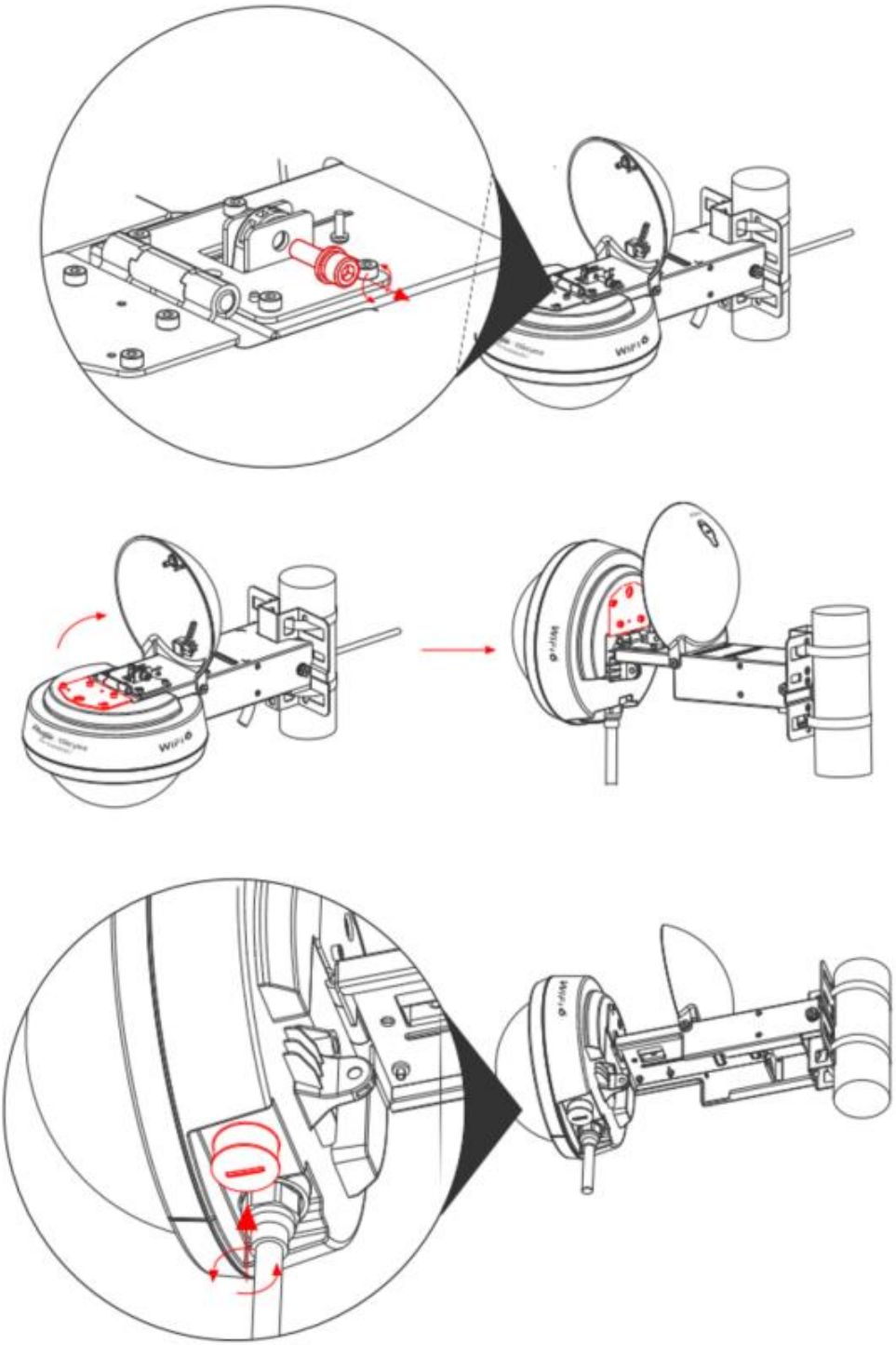
(1) Use a flat-blade screwdriver or a crowbar to remove the rubber plug. Then use a 5 mm Allen key to loosen the screw on the top cover of the access point.

Figure 3-9 Removing the Rubber Plug



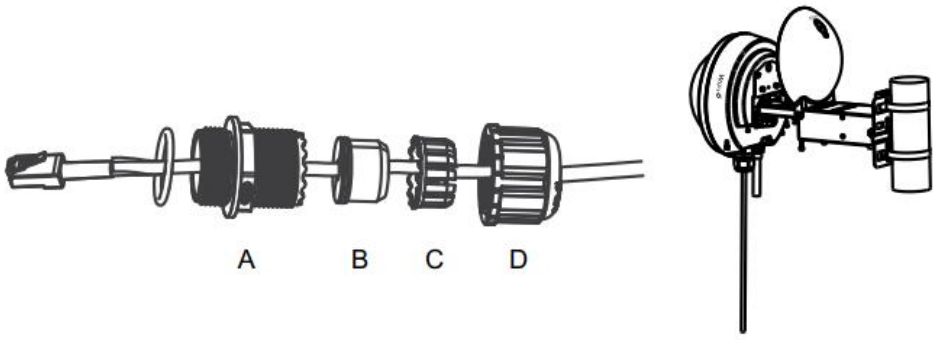
(2) Open the top cover and use the 5 mm Allen key to loosen the screw on the hinge pin. Remove the cables from the trough of the mounting arm and rotate the main unit by 90 degrees clockwise. Use the flat-blade screwdriver to loosen the SFP port plug and insert a SFP transceiver (customer-supplied) into the port.

Figure 3-10 Inserting a SFP Transceiver



(3) A cable gland assembly includes four components: A (adapter base), B (split gasket), C (grommet), and D (compression cap). Insert the connector of an optical cable through parts D, C, B, and A in sequence. Insert the connector of the optical cable into an optical transceiver. Carefully insert the optical transceiver into the SFP port of the access point. Thread A (adapter base) into the SFP port. Slide B (split gasket) and C (grommet) along the cable, pressing firmly to seat B (gasket) completely into C (grommet). Tighten D (compression cap) until C (grommet) and B (gasket) compress on to the cable and provide cable strain relief. Use a waterproof tape to tighten the cable gland.

Figure 3-11 Exploded View of Cable Gland Assembly

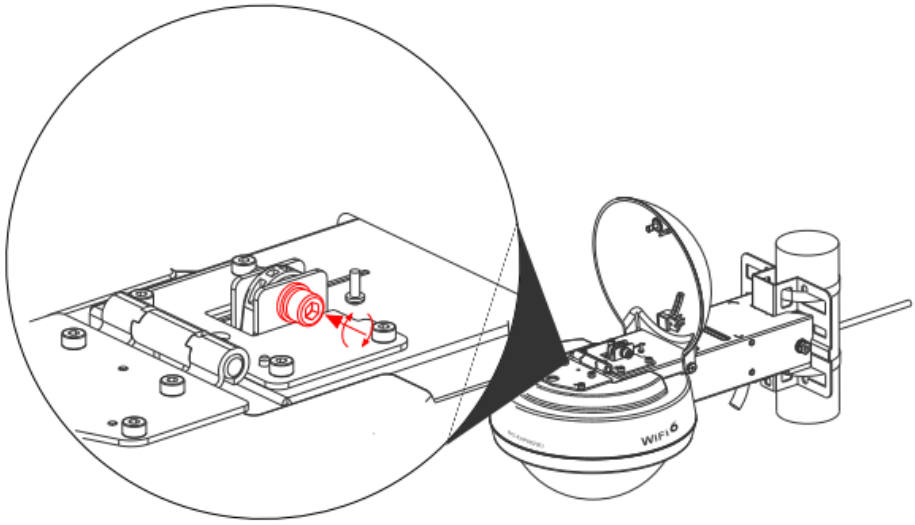


Caution

When removing the cable gland, proceed in the reverse order of the installation. Start by loosening D (compression cap). Otherwise, the Ethernet cable may be damaged.

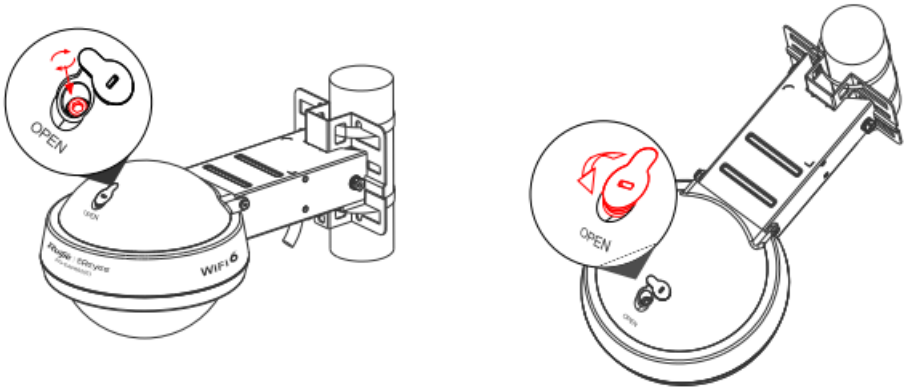
(4) Rotate the main unit by 90 degrees counterclockwise to remain horizontal with the ground. Tighten the screw on the hinge pin with the 5 mm Allen key.

Figure 3-12 Rotating the Access Point



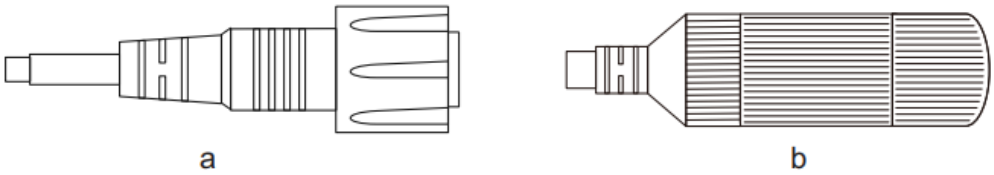
(5) Close the top cover and use the 5 mm Allen key to tighten the screw. Install the rubber plug in the hole.

Figure 3-13 Closing the Top Cover

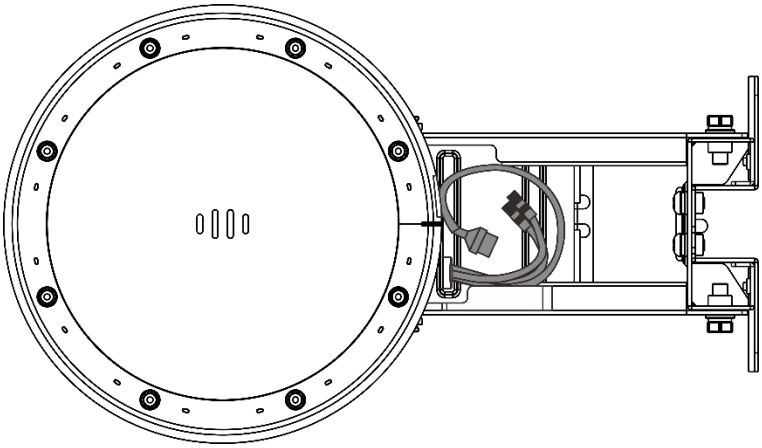


3.6 Installing the Cover on the Mounting Arm

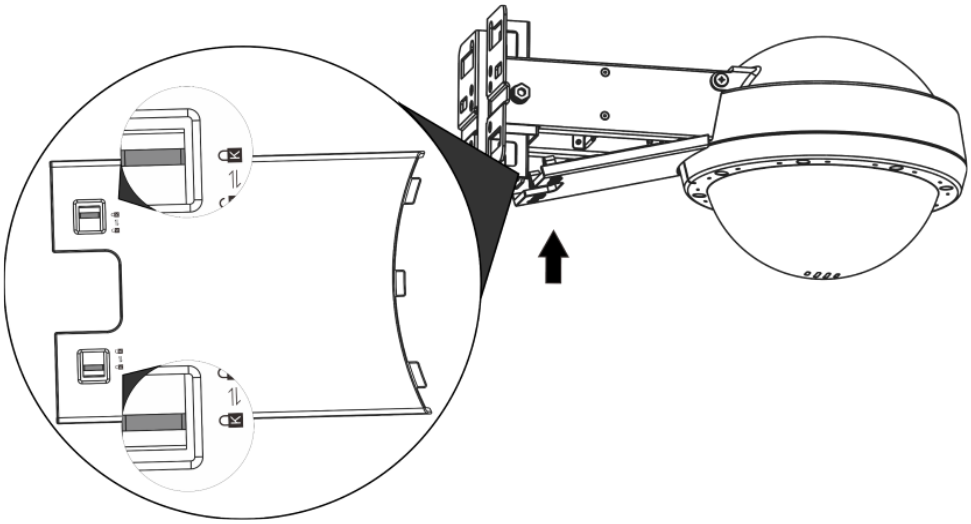
(1) Make sure to seal the DC connector not in use and the reset hole with clean weatherproof caps (a). If you want to install the cable gland without an Ethernet cable threaded through it, insert the waterproof rubber rod (b) into the washer (rubber gasket), and tighten all parts properly.



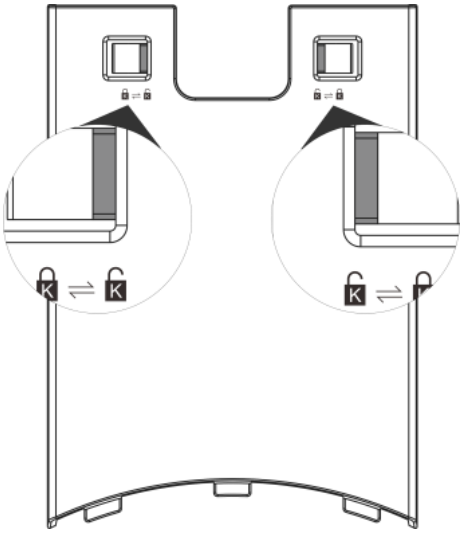
(2) Insert the caps and rubber rod into the trough of the mounting arm.



(3) Keep the cables organized. Press the cover toward the mounting arm until the retention clips on the cover lock over the mounting arm.



Note: To avoid damage to the cover of the mounting arm, hold the retention clips on the cover open to remove the cover.



3.7 Bundling Cables

Caution

- The power cords and other cables should be bound in a visually pleasing way.
- When you bundle cables, make sure that the cables at the connectors have natural bends or bends of large radius.
- Do not over tighten cable bundle as it may press hard the cables and reduce the cable life and transmission performance.

Steps

(1) Bind the drooping part of the cables and lead the cables to the corresponding LAN/PoE ports or SFP ports for convenience.

(2) Fasten the cables inside the cable management trough.

(3) Route the cables under the access point and run in straight line.

3.8 Checking after Installation

(1) Checking the Access Point

- Verify that the external power supply matches with the requirement of the access point.
- Verify that the access point and cables are securely fastened.

(2) Checking Cable Connection

- Verify that the UTP/STP cable or the fiber-optic cable matches with the port type.
- Verify that cables are properly bundled.

(3) Checking Power Supply

- Verify that the power cord is properly connected and compliant with safety requirements.
- Verify that the access point is operational after power-on.

4 Verifying Operating Status

4.1 Setting up Configuration Environment

The access point can be powered by PoE or local power adapter.

- When the access point is powered by a power adapter or PoE, verify that the power supply functions properly and meets safety requirements.
- Connect the access point to an access controller through a twisted pair cable.
- When the serial port of the access point is connected to a PC for debugging, verify that the PC and PoE switch are properly grounded.

4.2 Powering on the Access Point

4.2.1 Checklist before Power-on

- Verify that the power cord is properly connected.
- Verify that the input voltage meets with the requirement of the access point.

4.2.2 Checklist after Power-on (Recommended)

After power-on, check the following items:

- Verify that there are system logs printed on the terminal interface.
- Verify the LED status of the access point.

5 Monitoring and Maintenance

5.1 Monitoring

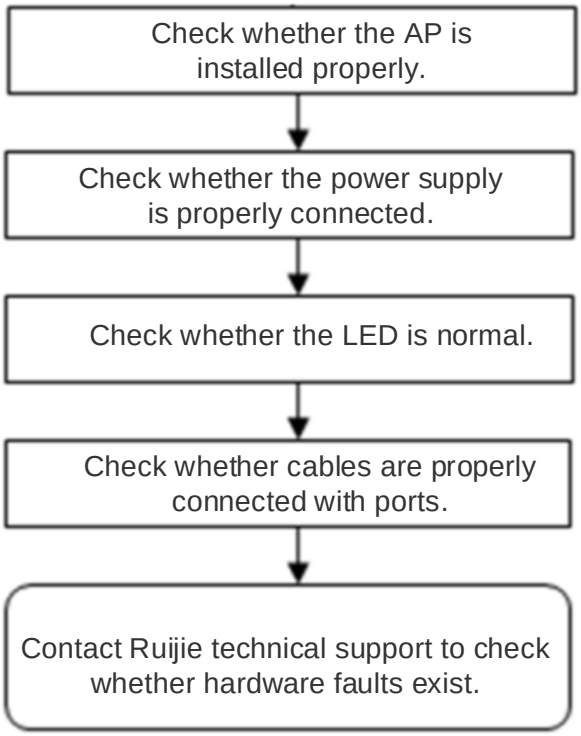
You can observe the LED color to monitor the access point status.

5.2 Hardware Maintenance

If the hardware is faulty, please contact technical support.

6 Common Troubleshooting

6.1 General Troubleshooting Procedure



6.2 Common Faults

- The status LED is still off after the access point is powered on.
  - If the access point is powered by PoE, verify that the power source equipment (PSE) is at least 802.3at-capable, and then verify that the Ethernet cable is properly connected.
  - If the access point is powered by an adapter, verify that the adapter has mains input and works properly.
- The Ethernet port does not work after the Ethernet cable is plugged in.

  Check whether the peer device is working properly. Then verify that the Ethernet cable is capable of providing the required data rate and is properly connected.
- The client cannot find the access point.
  - Verify that the access point is properly powered.
  - Verify that the Ethernet port is correctly connected.
  - Verify that the access point is correctly configured.
  - Move the client endpoint to adjust the distance between the client and the access point.

7 Appendix

7.1 Connectors and Media

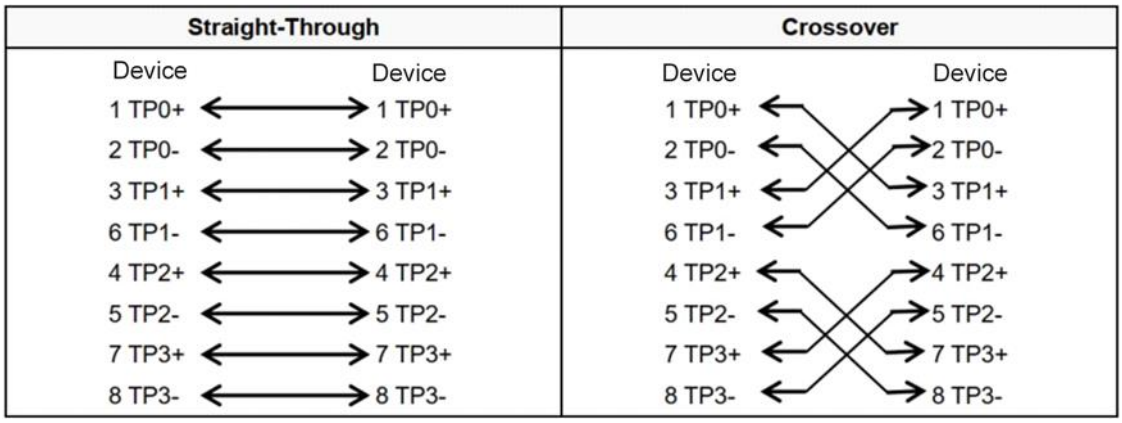
7.1.1 1000BASE-T/100BASE-TX/10BASE-T Port

1000BASE-T/100BASE-TX/10BASE-T is a 10/100/1000 Mbps self-adaptive port that supports auto MDI/MDIX Crossover.

Compliant with IEEE 802.3ab, 1000BASE-T requires Category 5e 100-ohm UTP or STP (STP is recommended) with a maximum distance of 100 meters (328.08 feet).

1000BASE-T port uses four twisted pairs for data transmission, all of which must be connected. Twisted pairs for the 1000BASE-T port are connected as shown in the following figure.

Figure 7-1 1000BASE-T Four Twisted Pairs Connection



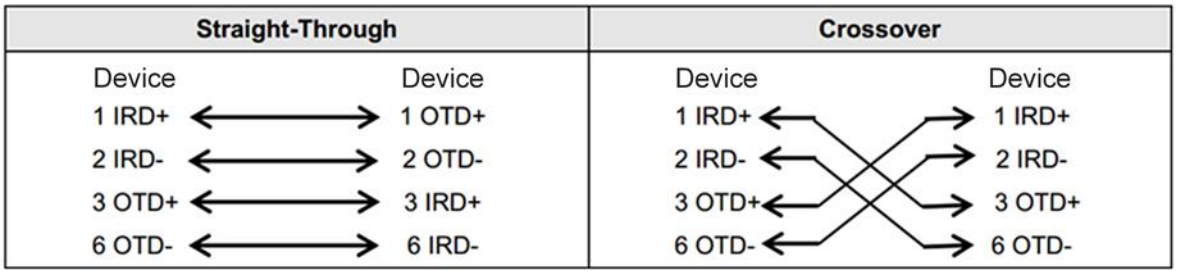
100BASE-TX/10BASE-T port can also be connected by cables of the preceding specifications. Besides, the 10BASE-T port can be connected by 100-ohm Category 3, Category 4, and Category 5 cables with a maximum distance of 100 meters (328.08 feet). 100BASE-TX port can be connected by 100-ohm Category 5 cables with a maximum distance of 100 meters (328.08 feet). The following figure lists pin assignments for the 100BASE-TX/10BASE-T port.

Figure 7-2 100BASE-TX/10BASE-T Pin Assignments

Pin	Socket	Plug
1	Input Receive Data+	Output Transmit Data+
2	Input Receive Data-	Output Transmit Data-
3	Output Transmit Data+	Input Receive Data+
6	Output Transmit Data-	Input Receive Data-
4,5,7,8	Not used	Not used

The following figure shows feasible connections of the straight-through and crossover twisted pairs for a 100BASE-TX/10BASE-T port.

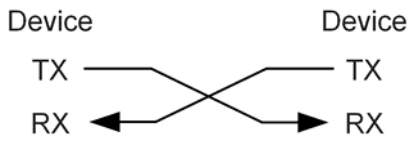
Figure 7-3 100BASE-TX/10BASE-T Connection



7.1.2 Fiber-Optic Cable Connection

You can choose single-mode or multi-mode fiber-optic cables according to the SFP transceiver types. The following figure shows connection of fiber-optic cables.

Figure 7-4 Fiber-Optic Cable Connection



7.2 Mini-GBIC Modules

We provide different GE SFP transceivers (Mini-GBIC modules). You can select a model to suit your specific needs.

Table 7-1 Mini-GBIC Modules

Mini-GBIC	WL (nm)	Fiber Type	Core Size (μm)	MBW (MHz/km)	Cable Distance	Max Tx Intensity (dBm)	Max Rx Sensitivity (dBm)	STD
FE-SFP-LX-MM1310	1310	MMF	62.5/125	N/A	2 km	-14	-14	IEEE 802.3
FE-SFP-LH15-SM1310	1310	SMF	9/125	N/A	15 km	-8	-8	
MINI-GBIC-SX	850	MMF	62.5 62.5 50.0 50.0	160 200 400 500	220 m 275 m 500 m 550 m	-4	-17	
MINI-GBIC-LX	1310	MMF SMF	62.5 50.0 50.0 9/10	500 400 500 N/A	550 m 550 m 550 m 10 km	-3	-20	
MINI-GBIC-LH40	1310	SMF	9/125	N/A	40 km	3	-3	
MINI-GBIC-ZX50	1550	SMF	N/A	N/A	50 km	0	-22	
MINI-GBIC-ZX80					80 km	4.7	-22	
MINI-GBIC-ZX10					100 km	5	-9	

0								
Mini-GBIC-GT	N/A	CAT 5 UTP	N/A	N/A	100 m	N/A	N/A	

Warning

For Mini-GBIC modules with a cabling distance of over 40 km (including 40 km), install an attenuator to avoid overload when using short single-mode fiber-optic cables.

7.3 Cabling

During installation, route cable bundles upward or downward along the sides of the rack depending on the actual situation in the equipment room. All cable connectors used for transit should be placed at the bottom of the cabinet rather than be exposed outside of the cabinet. Power cords are routed beside the cabinet, and top cabling or bottom cabling is adopted according to the actual situation in the equipment room, such as the positions of the DC power distribution box, AC socket, or lightning protection box.

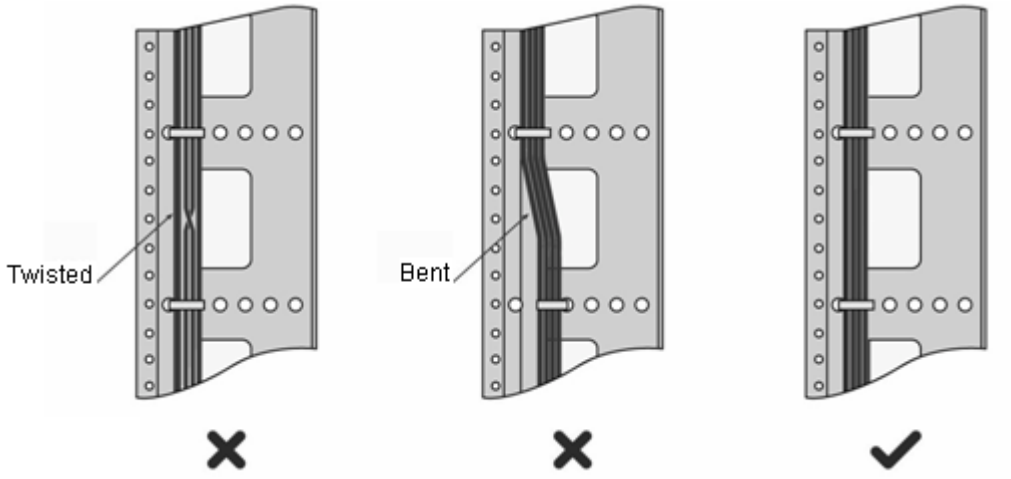
(1) Requirements for Cable Bend Radius

- The bend radius of a fixed power cord, network cable, or flat cable should be over five times greater than their respective diameters. The bend radius of these cables that are often bent or plugged should be over seven times greater than their respective diameters.
- The bend radius of a fixed common coaxial cable should be over seven times greater than its diameter. The bend radius of the common coaxial cable that is often bent or plugged should be over 10 times greater than its diameter.
- The bend radius of a fixed high-speed cable (such as an SFP+ cable) should be over five times greater than its diameter. The bend radius of the fixed high-speed cable that is often bent or plugged should be over 10 times greater than its diameter.

(2) Precautions for Bundling up Cables

- Before cables are bundled, mark labels and stick the labels to cables wherever appropriate.
- Cables should be neatly and properly bundled in the rack without twisting or bending.

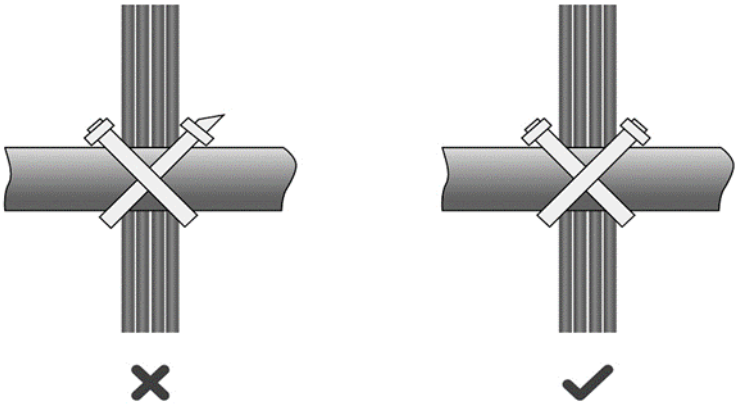
Figure 7-5 Bundling up Cables



- Cables of different types (such as power cords, signal cables, and grounding cables) should be separated in cabling and bundling. Mixed bundling is disallowed. When they are close to each other, you are advised to adopt crossover cabling. In the case of parallel cabling, maintain a minimum distance of 30 mm (1.18 in.) between power cords and signal cables.
- The cable management brackets and cabling troughs inside and outside the cabinet should be smooth without sharp corners.
- The metal hole traversed by cables should have a smooth and fully rounding surface or an insulated lining.
- Use cable ties to bundle up cables properly. Please do not connect two or more cable ties to bundle up cables.

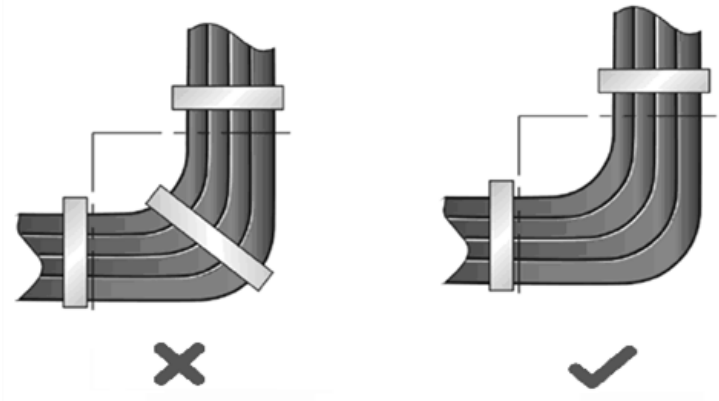
- After bundling up cables with cable ties, cut off the remaining part. The cut should be smooth and trim, without sharp corners.

Figure 7-6 Bundling up Cables



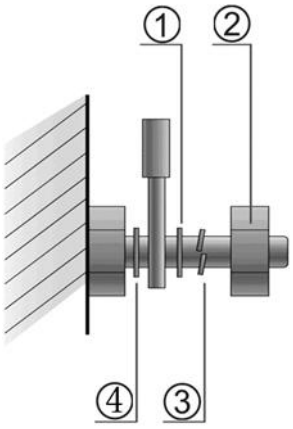
- When cables need to be bent, you should first bundle them up. However, the buckle cannot be bundled within the bend area. Otherwise, considerable stress may be generated in cables, breaking cable cores.

Figure 7-7 Bundling up Cables



- Cables not to be assembled or remaining parts of cables should be folded and placed in a proper position of the rack or cable trough. The proper position refers to a position that does not affect device running or damage the device or cable.
- 220 V and –48 V power cords must not be bundled on the guide rails of moving parts.
- The power cords connecting moving parts such as grounding cables should be reserved with some access after being assembled to avoid suffering tension or stress. After the moving part is installed, the remaining cable part should not touch heat sources, sharp corners, or sharp edges. If heat sources cannot be avoided, high-temperature cables should be used. If heat sources cannot be avoided, high-temperature cables should be used.
- When screw threads are used to fasten cable terminals, the anchor or screw must be tightly fastened.

Figure 7-8 Cable Fastening



1.	Flat Washer	3.	Spring Washer
2.	Nut	4.	Flat Washer

- Hard power cords should be fastened in the terminal connection area to prevent stress on terminal connection and cable.
- Do not use self-tapping screws to fasten terminals.
- Power cords of the same type and in the same cabling direction should be bundled up into cable bunches, with cables in cable bunches clean and straight.
- Binding by using buckles should be performed according to Table 7-2.

Table 7-2 Cable Bunch

Cable Bunch Diameter	Distance between Every Binding Point
10 mm (0.39 in.)	80 mm to 150 mm (3.15 in. to 5.91 in.)
10 mm to 30 mm (0.39 in. to 1.18 in.)	150 mm to 200 mm (5.91 in. to 7.87 in.)
30 mm (1.18 in.)	200 mm to 300 mm (7.87 in. to 11.81 in.)

- No knot is allowed in cabling or bundling.
- For wiring terminal blocks (such as air switches) of the cold pressing terminal type, the metal part of the cord end terminal should not be exposed outside the terminal block when assembled.