

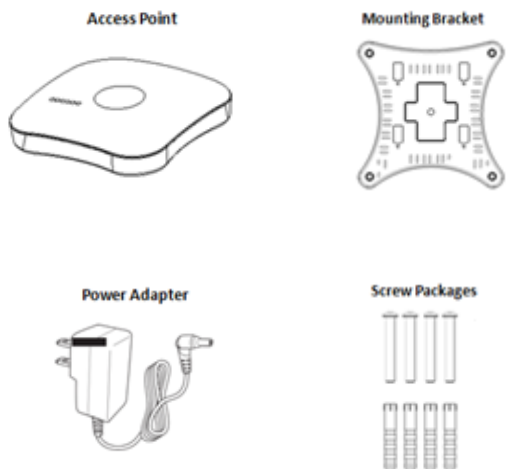


# AC-1027-I 802.11ac Indoor Access Point

## Quick Setup Guide

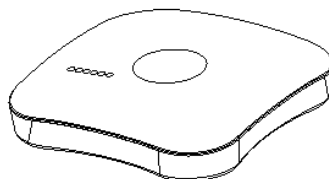
This Quick Setup Guide provides step-by-step instructions on how to set up your AC-1027-I indoor Access Point. After completing the steps described in this Guide, you will be able to place the AP at your site and provide wireless network access to users.

### PACKAGE CONTENTS

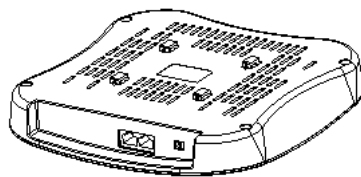


### HARDWARE OVERVIEW

#### Front View

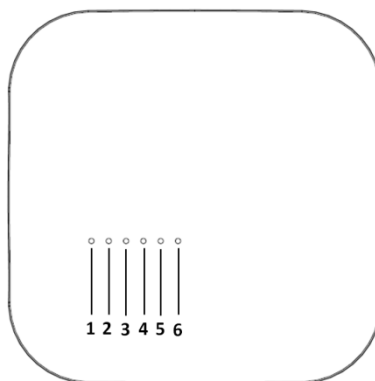


#### Rear View



No.	Item
1	LAN2 port
2	PoE/LAN1 port
3	DC-Jack
4	Reset button

#### LED definitions



1. Power
2. System
3. LAN1
4. LAN2
5. WLAN1
6. WLAN2

No	LED	State	Description
1	Power	On (Green)	Power on, device ready
		Off (Green)	No power to AP
2	System	On (Green)	System on, device ready
		Off (Green)	No connection
3	LAN1 (PoE)	On (Green)	Network connection is established
		Off (Green)	Network disabled or no link
4	LAN2	On (Green)	Network connection is established
		Off (Green)	Network disabled or no link
5	WLAN 1 (2.4G)	Blinking (Green)	Ongoing wireless data transmission
		Off	Wireless is disabled or no link
6	WLAN2 (5G)	Blinking (Green)	Ongoing wireless data transmission
		Off	Wireless is disabled or no link

## SETUP REQUIREMENTS

Before installing your AC-1027-I access point, be sure that you have the following:

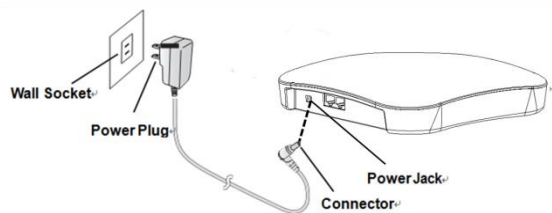
- A computer running Windows 7, Vista, or XP
- A CAT5 UTP cable of required length
- Power adapter came with the package.

### STEP 1: POWER ON THE AP

The AP supports both AC power and PoE. For instructions on completing the power connection that you need to make, refer to the procedures below:

#### Use AC Power

1. Using the shipped power adapter to connect to the AC/DC jack on the rear side of the AP.
2. Connect the power plug to a wall socket.



#### Use Power Over Ethernet

The Wireless Access Point supports power over the Ethernet port. The Wireless Access Point automatically turns on as soon as it is connected to a PoE switch.

1. Insert one end of an Ethernet cable to the **LAN 1/POE** port on the Access Point.
2. Insert the other end to the LAN port on a PoE switch.
3. Perform a spot-check to verify if the PWR LED is lit to make sure the AP is powered up successfully.

### STEP 2: CONNECT THE AP TO YOUR PC

1. Insert one end of an Ethernet cable to the **LAN 1** port on the Access Point.
2. Insert the other end to the assigned LAN port on your PC as figured above.
3. From your computer, go to Start > Settings > Network Connections or Start > Control Panel > Network Connections.
4. When the Network Connections window appears, right-click the icon for Local Area Connection, and then click select Properties.
5. Select Internet Protocol (TCP/IP) from the scrolling list, and then click Properties.
6. Select Use the following IP address option (if it is not already selected), and then make the following entries:
  - IP address: Any address in the 192.168.1.x network
  - Subnet mask: 255.255.255.0

7. Click **OK** to save your changes, and exit the dialog box.

### STEP 3: LOG INTO THE AP

1. On your PC, open a Web browser window.
2. In the browser, type <https://192.168.1.1> and press <Enter> to connect to the AP.
3. When a security alert dialog box appears, click OK/Yes to proceed.
4. When the login page appears, enter the following:
  - Username: admin
  - Password: password
5. Click Login.

### STEP 4: CONFIGURE THE AP

The procedure for completing the Access Point's essential configuration depends on whether you want it to be managed by either AP controller or to operate as a standalone Access Point. Refer to the section that is relevant to your deployment:

- [Configuring for Management by AP Controller](#)
- [Configuring for Standalone Operation](#)

#### Configuring for Management by AP Controller

To configure the Access Point to be managed by the AP controller, you must ensure that the APs will be able to locate and connect to the controller when powered on. Specifically, you need to ensure the following.

- When connected to the network, each AP is assigned a valid IP address
- APs are able to locate and connect the controller

The Access Point requires a unique IP address (fixed IP or DHCP IP) on a network that has connectivity to a controller. The DHCP server can be an existing network server or a ZDC controller configured as a DHCP server.

1. Once login, first assign a fixed IP address or a DHCP IP to the AP under **Current IP Setting**. Under **Wireless Switch Setting**, select Connect With **Wireless Switch Via IP** and input the IP address of the AP access controller. Click Apply to take effect.

The screenshot shows the 'Current IP Settings' section with the following fields highlighted in red:

- IPV4 dropdown menu
- IP Address: 192.168.169.5
- Subnet Mask: 255.255.240.0
- Default Gateway: 192.168.168.253
- Primary DNS Server: 192.168.168.94
- Secondary DNS Server: 0.0.0.0

The 'Wireless Switch Settings' section shows the 'Method of Connect With Wireless Switch' set to 'Connect With Wireless Switch Via IP'. The 'Wireless Switch IP1' field is highlighted in red with the value 192.168.168.98.

2. On the main menu on the left, go to **Connection Info** to check the connection status with the AP controller. If the tunnel has been made successfully, the connection status will show: Connected.

The screenshot shows the 'Connection Information' page with the 'Connection Status' field highlighted in red, displaying 'Connected'. Below it, the 'WS IP Address' is listed as 192.168.168.98. A 'Refresh' button is visible at the bottom.

### Configuring for Standalone Operation

Before configuring fat AP Basic settings, make sure that AP mode is set to **Fat AP**.

1. If currently in Thin AP Mode: On the main menu on the left, click **Advanced Setting**. Select **Fat AP** from the drop-down list. Click Apply to take effect.

The screenshot shows the 'Advanced Setting' page. The 'AP Mode' dropdown menu is highlighted in red and set to 'Fat AP'. The 'Reboot' section has a 'Disable' checkbox. 'Apply' and 'Cancel' buttons are at the bottom.

2. On the main menu on the left, click **Basic Setup**. In the **Basic Setup** page, go to the section Configure AP as. If you want to assign a fixed IP address, select **Static IP**. Enter the parameters in the following fields: IP Address, Subnet Mask, Default Gateway, Primary DNS Server, and Secondary DNS Server. If you want the wireless AP to obtain the address from the DHCP Server automatically, select **DHCP Client**. Click Apply.

The screenshot shows the 'Basic Setup' page. The 'AP Mode' dropdown is set to 'Fat AP'. Under 'Configure AP as', 'Static IP' is selected. The following fields are highlighted in red:

- IP Address: 192.168.1.1
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- Primary DNS Server: 0.0.0.0
- Secondary DNS Server: 0.0.0.0

3. Go to **RF Configure > Wireless Settings**. (For dual band 5G setting, select Card 2 first then go to **RF Configure > Wireless Settings**.)

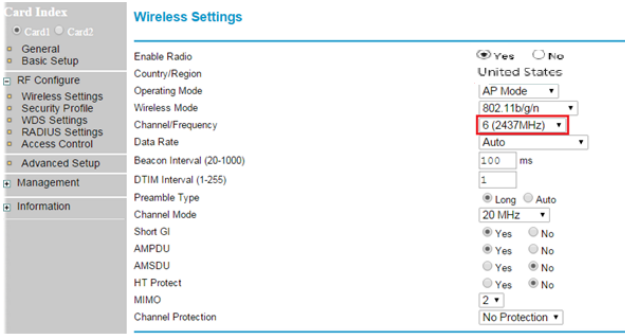
### Note:

For dual band APs, the two radios (2.4GHz and 5GHz) need to be configured separately on the Web interface. The rest of the configuration procedures are the same as for 2.4G and 5G radio.

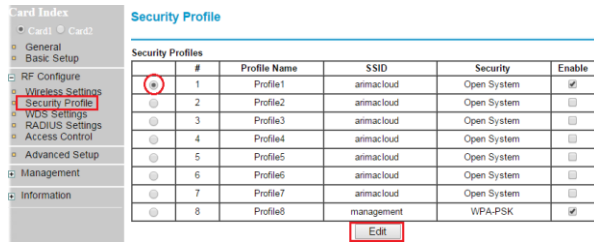
The screenshot shows the 'Wireless Settings' page. The 'Enable Radio' checkbox is checked. The 'Operating Mode' is set to '802.11b/g/n'. The 'Channel / Frequency' is set to '6 / 2.437GHz'. The 'Data Rate' is set to 'Auto'. The 'RTS Threshold (1-2347)' is set to 2347. The 'Beacon Interval (20-1000)' is set to 100. The 'DTIM Interval (1-255)' is set to 1. The 'Preamble Type' is set to 'Long'. The 'Channel Mode' is set to '20 MHz'.

These are the essential wireless settings that will enable wireless devices on the network to associate with the Access Point.

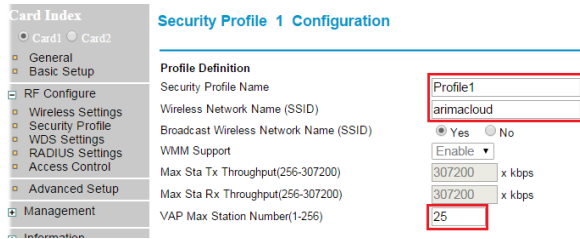
- Configure the common RF setting as **Channel**.
- Click Apply to save the changes.



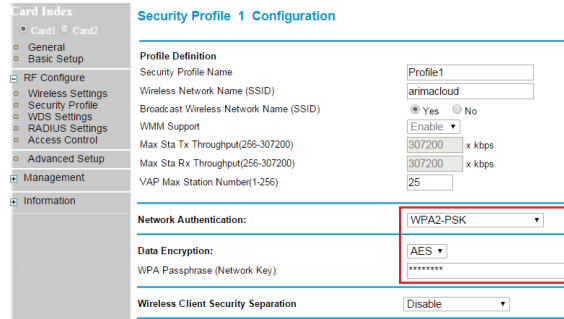
- Go to **RF Configure > Security Profile**.
- Click one of the profiles #, tick the Enable box and press Edit.



- Clear the **Security Profile Name** and **Wireless Network Name (SSID)** box, and then type a unique name that you desire to call this wireless network. This will help users identify this wireless network in their wireless network connection.
- Adjust the maximum connected users if necessary.



- In **Network Authentication**, select the desire authentication method and then enter the encryption phrase accordingly.



- Click Apply to save the changes.
- Click Logout to exit the Web interface.

## STEP 4: VERIFY THE CONNECTION

- Connect the AP to your network.
- Use any wireless-enabled computer or mobile device to search for and select the wireless network you've previously configured.
- If you can connect, open a browser and link to any public website.

## STEP 5: INSTALL THE AP

- Disconnect the AP's power adapter from the power outlet (or disconnect the PoE cable).

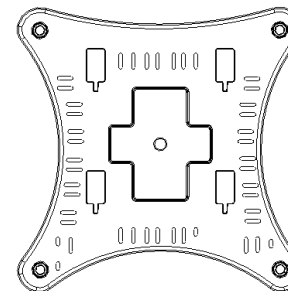
- Move the AP to its permanent location (accessible to both power source and network connections).

### Note:

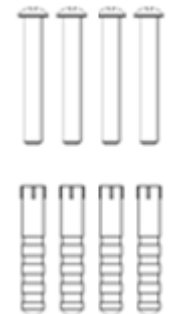
Some placement guidelines you should follow to maximize performance and coverage. The AC-1027-I Access Point 's ideal orientation is pole mount (e.g street light pole) with its **dome pointing straight down**. All APs should be mounted as high and as visible as possible. Try to avoid any obstructions, especially those in close proximity to the AP. The signal strength it will receive depends largely on its position, so make sure that sufficient survey has been made to determine the best placement for maximum range, coverage, and network performance before installing. Nevertheless, as RF can be affected by many variables, your actual performance may vary from the planned design.

The AC-1027-I can be mounted to a hard ceiling or suspended ceiling using the supplied mounting bracket and screws.

### Mounting Bracket

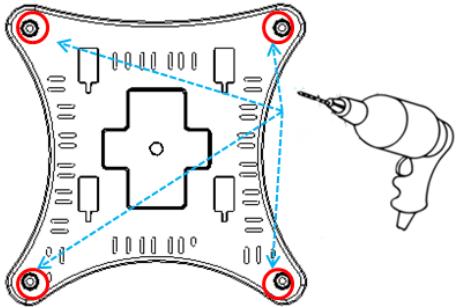


### Screw Packages

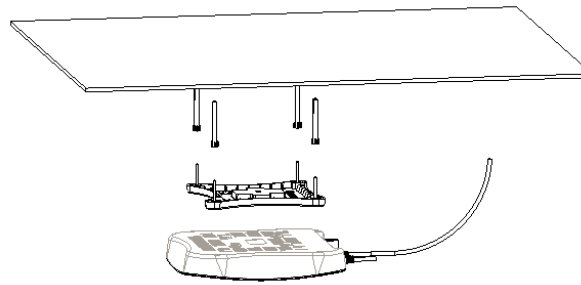


## MOUNTING BELOW A SUSPENDED CEILING

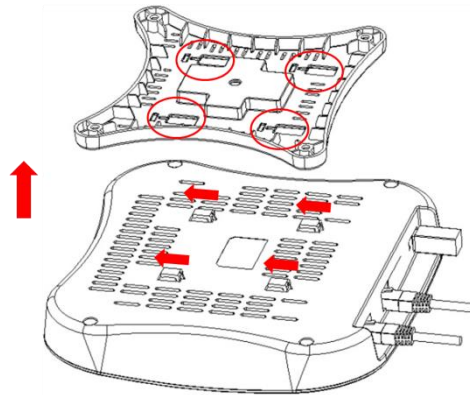
1. Identify the location where you intend to mount the access point.
2. Raise the selected ceiling tile on both sides of the channel to remove the tile.
3. Use the mounting bracket as a template to mark the locations of the mounting holes on the tile.
4. Use a drill to drill a pilot hole at the mounting hole locations you marked.



5. Position the mounting bracket holes (with indents up) over the pilot holes.
6. Insert a fastener into each mounting hole and tighten.
7. If necessary, drill or cut a cable access hole in the ceiling tile large enough for the Ethernet cables. Pull the cable through the access hole until you have about 1 foot of cable protruding from the hole.
8. Connect the Ethernet cable to the access point.



9. Align the access point hook over the keyhole mounting slots on the mounting bracket (see up arrow in the below figure). If you created a hole for the cable, make sure the access point is positioned so that the cable reach their respective port.
10. Gently slide the access point onto the mounting bracket until it clicks into place (See left arrow in the below figure).



Reinstall the ceiling tile.

## MOUNTING ON A HARD CEILING

This procedure describes the steps required to mount the access point on a hard ceiling using the mounting bracket.

1. Use the mounting bracket as a template to mark the locations of the mounting holes on the ceiling.
2. Use a drill to drill a pilot hole at the mounting hole locations you marked and insert the plastic anchors.
3. Position the mounting bracket mounting holes (with indents up) over the pilot holes.
4. Insert a fastener into each mounting hole and tighten.
5. Connect the Ethernet and power cables to the access point.
6. Align the access point hook over the keyhole mounting slots on the mounting bracket. If you created a hole for the cable, make sure the access point is positioned so that the cable reach their respective port.
7. Gently slide the access point onto the mounting bracket until it clicks into place.

## STEP 6: POWER AND CONNECT

1. Insert the other end to the **LAN/PoE** port on the AC-1027-I.
2. Insert the other end of an Ethernet cable to the **P+D/OUT** port on the PoE injector. Make sure the Cat5e cable (outdoor-rated) from the Access Point is long enough to reach the PoE injector.
3. Insert one end of an Ethernet cable to the **DATA/IN** port on the PoE injector as figured above.
4. Connect the other end of the Ethernet cable to the switch or a PC.
5. Connect a power cord to the PoE injector.
6. Connect the power plug to a wall socket.
7. Perform a spot-check to verify if the PWR and LAN LED are lit to make sure the AP is operating normally

## STEP 7: VERIFY THE CONNECTION

1. Use any wireless-enabled computer or mobile device to search for and select the wireless network you've previously configured.
2. If you can connect, open a browser and link to any public Web site.
3. From PC's Network - Wireless Properties page. Observe the wireless signal quality and speed.

## Specifications

Specifications	
Dimensions	250 x 220 x 55 mm
Weight	800 g
Networking Interface	(2) 10/100/1000 Ethernet Ports
Buttons	(1) Reset to Defaults
Antennas	(2) 2GHz 5dBi Antennas (3) 5GHz 5dBi Antennas
Wi-Fi Standards	802.11 a/b/g/n/ac
Power Method	PoE 802.3at
Power Supply	PoE 48V, 0.5A
	DC Jack 12V, 1.5A
Max. Power Consumption	8 W
BSSID	Up to 8 per Radio
Wireless Security	WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)
Certifications	CE, FCC, IC
Mounting	Wall/Ceiling(Kits Included)
Operating Temperature	0 to 55°C
Operating Humidity	10 to 90 % Non-condensing

## Federal Communications Commission

FCC Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Note: 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 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.

Data transmission is always initiated by software, which is then passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure. Frequency Tolerance: 20 ppm

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body.

End Product Labeling this transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users.

15.19

This device complies with Part 15 of the 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 of the device