Quick Start Guide

Outdoor Access Point

OAP101 | OAP101-6E

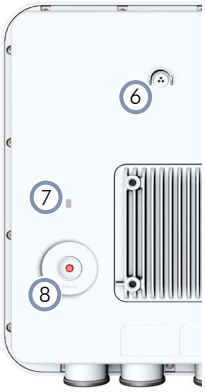
Package Contents



1. OAP101 or OAP101-6E access point
2. Mounting bracket and 4 x M6 screws
3. DC terminal plug
4. 3 x Cable glands
5. 2 x Steel-band clamps for pole mount (2.5 inch diameter max.)
6. Screw kit—4 screws and 4 plugs
7. QR code card

Overview





1. Grounding point
2. DC In port: 48 VDC
3. Uplink (PoE) port: RJ-45 2.5GBASE-T connection to 802.3at PoE
4. LAN port: 1 Gbps LAN connection
5. Console port
6. Moisture protective vent
7. Power/Status LED:
   - Yellow green: On (power OK), Blinking (boot up)
   - Blue: On (cloud managed)
   - Purple: Blinking (uplink activity in cloud managed mode)
   - Orange: Blinking (uplink activity in stand-alone mode)
8. Restart/Reset button:
   - A quick press restarts the system.
   - Press and hold for 5 seconds resets to factory defaults.

Installation

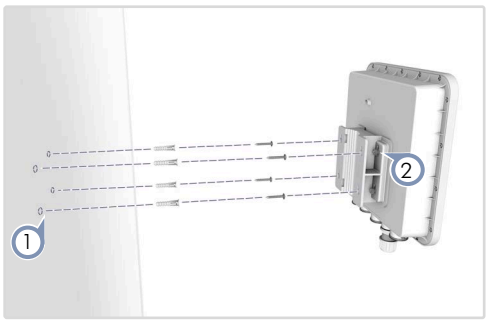
Warning: For a safe and reliable installation, use only the accessories and screws provided with the device. Use of other accessories and screws could result in damage to the unit. Any damages incurred by using unapproved accessories are not covered by the warranty.

Warning: To ensure compliance with IP66 and IP68 standards, maintain a cap or a cable gland on all ports.

Note: The drawings in this document are for illustration only and may not match your particular model.

1 Mount the Device

a. Mounting on a Wall



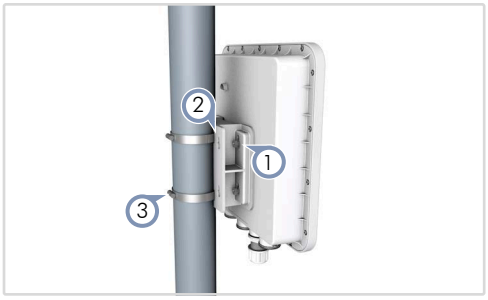
1. At the installation location on the wall, use the mounting bracket to mark four holes for the wall plugs and screws. The bracket must be installed with the marking “UP” at the top.

   Drill four holes for the wall plugs, and then insert the plugs and tap them flush with the wall surface.

   Note: Drill 2.5 mm (±0.2 mm) holes for M3 self-tapping screws, or 4.5 mm (±0.2 mm) holes for nylon wall plugs.

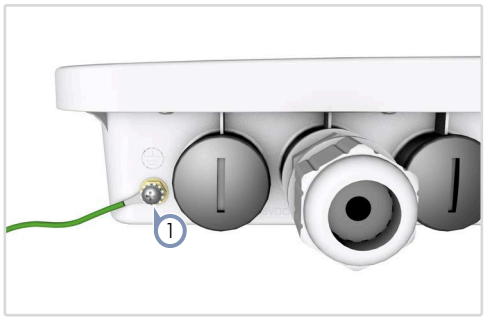
2. Use the included M6 screws to attach the mounting bracket to the device.
3. With its ports facing down, slide the device down onto the pre-installed screws until it snaps into its secured position. Do not let go of the device until you confirm that it is secure.

b. Mounting on a Pole



1. Use the included M6 screws to attach the mounting bracket to the device.
2. Feed the two steel-band clamps through the pole-mount bracket mounting points.
3. Fasten the steel-band clamps around the pole to secure the AP to the pole.

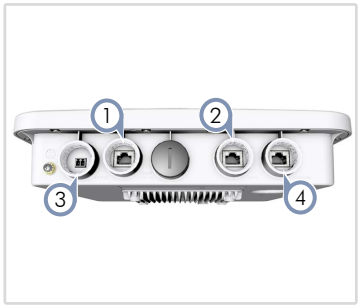
2 Ground the Device



1. Ground the device by connecting a ground wire to the grounding point on the device and to nearby good earth.

3 Connect Cables

a. Connect Ethernet Cables





Note: Port covers and cable glands should be tightened to a torque of 10 kgf.cm.

1. Connect Category 5e or better cable to the Uplink (PoE In) 2.5GBASE-T RJ-45 port. When connected to a PoE source, the Uplink (PoE In) port connection provides power to the unit.
2. (Optional) Connect a local LAN switch or computers to the LAN 1000BASE-T RJ-45 port.

b. (Optional) Connect DC Power



3. Wire the included DC terminal plug to a 48 VDC, 0.5 A source to provide power to the device. Follow the wiring scheme shown on the panel with the negative pole (-) on the left and the positive pole (+) on the right.

c. (Optional) Management Connection

4. Connect an RJ-45 to DB9 straight-through console cable and then configure the serial connection: 115200 bps, 8 characters, no parity, one stop bit, 8 data bits, and no flow control.

4 Check AP LED



1. When operating normally, the Power/Status LED should be on yellow green. Blinking indicates the device is booting up.

5 Initial Setup and AP Registration

There are three options for setting up the AP for your network:

- If your network is already managed by ecCLOUD, you can just register the AP on your network by entering the MAC address and serial number on ecCLOUD.
- Connect to the AP's web interface through a network connection to one of the AP's LAN ports. See section "Connecting to the Web Interface".
- Use QR-Code Onboarding to connect to the AP through a web browser on a phone. See section "QR Code Onboarding".

The first-time you access the AP's web management interface, it automatically runs the Setup Wizard for initial AP configuration. Follow the Setup Wizard steps to configure the AP for management by ecCLOUD or in a stand-alone mode.

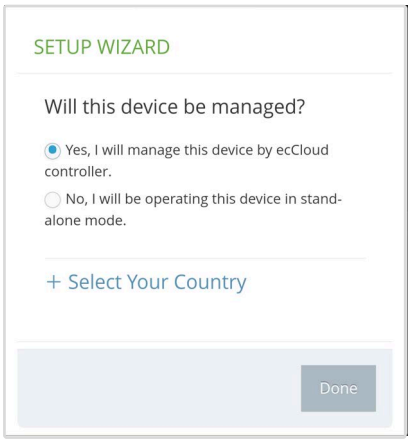
Connecting to the Web Interface

Follow these steps to connect to the AP's web interface through a network connection to one of the AP's LAN ports.

1. Connect a PC directly to one of the AP's LAN ports.
2. Set the PC IP address to be on the same subnet as the AP LAN port default IP address. (The PC address must start 192.168.2.x with subnet mask 255.255.255.0.)
3. Enter the AP's default IP address of 192.168.2.1 into the web browser address bar.

Note: To connect to the web interface using the Uplink (PoE) port, the IP address is automatically assigned through DHCP by default. If a DHCP server is unreachable, the Uplink (PoE) port reverts to a fallback IP address of 192.168.1.10.

4. On first-time log in to the web interface, the Setup Wizard starts and you must select how the AP will be managed using the ecCLOUD controller or in stand-alone mode.



5. Continue with the Setup Wizard to make other settings:
   - **Cloud-Managed Mode:** Select the country of operation.
   - **Stand-Alone Mode:** Use the default wireless network setting or customize the network name, then set a password (the default user name is "admin" with password "admin"), and select the country of operation.
6. Click "Done" to finish the setup wizard.

Note: For more information on the Setup Wizard and AP configuration, refer to the *User Manual*.

QR Code Onboarding

For quick set up and registration of your AP with the ecCLOUD controller, you can scan the QR code on the AP using a phone.

Follow these steps:

1. Make sure the AP is powered on and connected to the Internet.
2. Use the camera or a barcode app on your phone to scan the AP's QR code. The QR code is printed on a label next to the AP's ports.

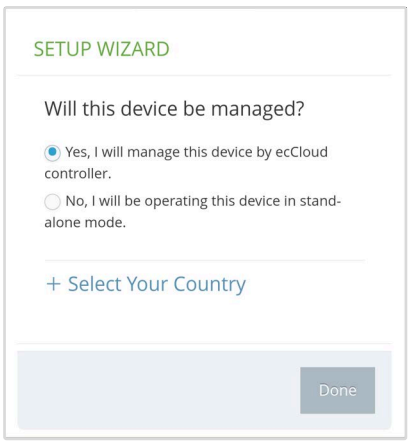


3. When a message pops up, tap "yes" to join the Wi-Fi network (iPhone requires you to go to Settings > Wi-Fi or open the browser for the message to pop up).

   The web browser should open and redirect to the Setup Wizard page.

Note: If the phone cannot connect to the Wi-Fi network, type the SSID (network name) and password manually. The SSID name is the AP serial number (for example, EC0123456789), and the password is the AP MAC address (for example, 903CB3BC1234).

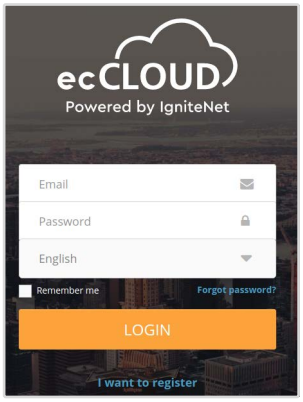
4. After setting a new password and the regulatory country, select to manage the AP using the ecCLOUD controller or to manage the AP in stand-alone mode.



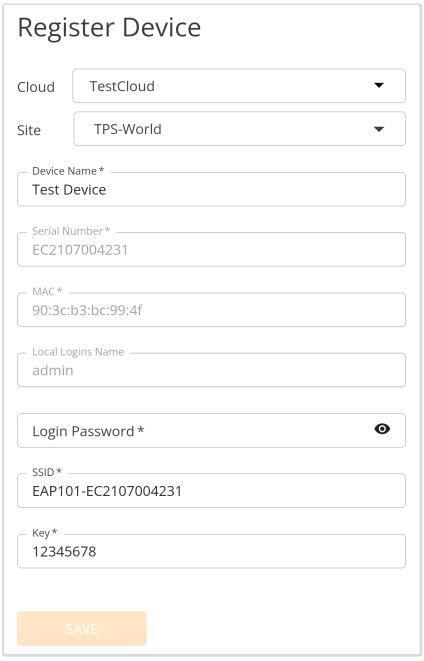
   a. **Stand-Alone Mode:** Use the default wireless network setting or customize the network name and password. Tap "Done" to finish the Setup Wizard.

      Wait about two minutes for the AP configuration to update, and then connect to the wireless network name configured in the setup wizard. The browser is then redirected to the login page of the AP.

   b. **Cloud-Managed Mode:** Tap "Done" to finish the setup wizard and the browser is redirected to the ecCLOUD login page.



If you already have an ecCLOUD account, log in and select a site for the AP. The AP is automatically registered for cloud management. After you tap "Save," wait about two minutes for the cloud controller to configure the AP.



If you do not have an ecCLOUD account, tap "I want to register" and first set up an account. Create a cloud and site before confirming the regulatory country. After tapping "Next," the AP is then automatically registered for cloud management. After you tap "Save," wait about two minutes for the cloud controller to configure the AP.

Note: Refer to the Edgecore *ecCLOUD Controller User Manual* for more information on setting up and configuring APs through ecCLOUD.

Safety and Regulatory Information

FCC Interference Statement

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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

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

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.

For product available in the USA/Canada market, only channel 1–11 can be operated. Selection of other channels is not possible.

The operation of this device is prohibited on oil platforms, cars, trains, boats, and aircraft.

Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or communications with unmanned aircraft systems.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 59 cm between the radiator and your body.

1. Installation personnel

This product is designed for specific applications and should be installed by qualified personnel who have knowledge of RF and its related regulations. A general user shall not attempt to install or modify the equipment configuration.

2. Installation location

To meet regulatory RF exposure requirements, this product shall be installed at a location where, during normal operations, the radiating antenna is at least 59 cm away from any nearby persons.

3. External antenna

Use only the antennas which have been approved by the applicant. Using non-approved antenna(s) is prohibited and may produce unwanted spurious or excessive RF transmitting power which may lead to a violation of FCC limits.

4. Installation procedure

Please refer to this equipment's user manual for the procedure details.

FCC Warning: The installation position must be carefully selected so that the final output power does not exceed the limit set forth in relevant regulations. Violation of output power regulations could lead to serious federal penalties.

CE Statement

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

All operational modes:

2.4 GHz: 802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ax (HE20), 802.11ax (HE40)

5 GHz: 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ac (VHT80), 802.11ax (HE20), 802.11ax (HE40), 802.11ax (HE80), 802.11ax (HE160)

BLE 2.4 GHz: 802.15.1

The frequency and maximum transmitted power limit in EU are listed as below:

2412-2472 MHz: 20 dBm
5470-5725 MHz: 30 dBm



AT	BE	BG	CH	CY	CZ
DE	DK	EE	EL	ES	FI
FR	HR	HU	IE	IS	IT
LI	LT	LU	LV	MT	NL
NO	PL	PT	RO	SE	SI
SK	TR	UK			

The abbreviations of the countries, as prescribed in above table, where any restrictions on putting into service or any requirements for authorization of use exist.

CE Mark Declaration of Conformance for EMI and Safety (EEC)

This information technology equipment is in compliance with the Directive 2014/53/EU and Directive 2014/35/EU.

The Declaration of Conformity (DoC) can be obtained from www.edge-core.com -> support -> download.

Japan - VCCI Statement

この装置は、クラスB機器です。この装置は、住宅環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。 VCCI－B

Applies to OAP101 only.

NCC Statement (Taiwan)

NCC 警語

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通

信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。 應避免影響附近雷達系統之操作。

MPE

本產品電磁波曝露量 (MPE) 標準值 1mW/cm2，送測產品實測值為 0.12152 mW/cm2，建議使用時至少距離人體 51 cm。

BSMI (Taiwan)

電氣方面的安全性

- 為避免可能的電擊造成嚴重損害，搬動產品之前，請先將產品電源線暫時從電源插座中拔掉。
- 當您要加入硬體裝置到系統中或者要移除系統中的硬體裝置時，請務必先連接該裝置的訊號線，然後再連接電源線。可能的話，在安裝硬體裝置之前先拔掉產品的電源供應器電源線。
- 當您要從主機板連接或拔除任何的訊號線之前，請確定所有電源線已事先拔掉。
- 請確定電源供應器的電壓設定已調到本國 / 本區域所使用的電壓標準值。若您不確定您所屬區域的供應電壓值為何，那麼請就近詢問當地的電力公司人員。
- 如果電源供應器已損壞，請不要嘗試自行修復。請將之交給專業技術服務人員或經銷商來處理。

操作方面的安全性

- 在使用產品之前，請確定所有的排線、電源線都已正確地連接好。若您發現有重大的瑕疵，請盡速連絡您的經銷商。
- 為避免發生電氣短路情形，請務必將所有沒用到的螺絲、迴紋針及其他零件收好，不要遺留在主機板上或產品主機中。
- 灰塵、溼氣以及劇烈的溫度變化都會影響主機板的使用壽命，因此請盡量避免放置在這些地方。
- 請勿將產品主機放置在容易搖晃的地方。
- 若在本產品的使用上有任何的技術性問題，請和經過檢定或有經驗的技術人員聯絡。

使用注意事項

- 在您開始操作本系統之前，請務必詳閱以下注意事項，以避免因為人為的疏失造成系統損傷甚至人體本身的安全。
- 使用前，請檢查產品各部份組件是否正常，以及電源線是否有任破損，或是連接不正確的情形發生。
- 如果有任何破損情形，請盡速與您的授權經銷商連絡，更換良好的線路。
- 產品放置的位置請遠離灰塵過多，溫度過高，太陽直射的地方。
- 保持機器在乾燥的環境下使用，雨水、溼氣、液體等含有礦物質將會腐蝕電子線路。
- 使用時，請務必保持周遭散熱空間，以利散熱。
- 使用前，請檢查各項周邊設備是否都已經連接妥當再開機。
- 避免邊吃東西邊使用，以免污染機件造成故障。
- 請避免讓紙張碎片、螺絲及線頭等小東西靠近產品之連接器、插槽、孔位等處，避免短路及接觸不良等情況發生。
- 請勿將任何物品塞入產品內，以避免引起機件短路或電路損毀。
- 產品開機一段時間之後，散熱片及部份IC表面可能會發熱、發燙，請勿用手觸摸，並請檢查系統是否散熱不良。
- 在安裝或移除周邊產品時請先關閉電源。
- 電源供應器如果發生損壞，切勿自行修理，請交由授權經銷商處理。
- 產品的機殼、鐵片大部份都經過防割傷處理，但是您仍必須注意避免被某些細部鐵片尖端及邊緣割傷，拆裝機殼時最好能夠戴上手套。

當你有一陣子不使用產品時，休假或是颱風天，請關閉電源之後將電源線拔掉。

限用物質含有情況標示聲明書
Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：戶外型無線基地台 Equipment Name			型號 (型式) : OAP101 Type Designation (Type)			
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr^{+6})	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
電路板組件 PCBA	–	○	○	○	○	○
組合線 Cable ass'y	–	○	○	○	○	○
天線 Antenna	○	○	○	○	○	○
機殼 Chassis	○	○	○	○	○	○

備　考 1.	" 超出 0.1 wt %" 及 " 超出 0.01 wt %" 係指限用物質之百分比含量超出百分比含量基準值。
Note 1:	"Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.
備　考 2.	" ○ " 係指該項限用物質之百分比含量未超出百分比含量基準值。
Note 2:	" ○ " indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.
備　考 3.	" ー " 係指該項限用物質為排除項目。
Note 3:	The " ー " indicates that the restricted substance corresponds to the exemption.

Warnings and Cautionary Messages

Warning: This product does not contain any serviceable user parts.
Warning: Installation and removal of the unit must be carried out by qualified personnel only.

Caution: Wear an anti-static wrist strap or take other suitable measures to prevent electrostatic discharge when handling this equipment.
Caution: Do not plug a phone jack connector in the RJ-45 port. This may damage this device.
Caution: Use only twisted-pair cables with RJ-45 connectors that conform to FCC standards.

Hardware Specifications

AP Chassis

Size (LxWxH)	293.4 x 283.4 x 71 mm (11.55 x 11.16 x 2.80 in.)
Weight	1725 g (3.80 lb)
Waterproof Rating	IP66 and IP68
Temperature	Operating: -40° C to 60° C (-40° F to 140° F) Storage: -40° C to 70° C (-40° F to 158° F)
Humidity	Operating: 5% to 95% (non-condensing)

Network Interfaces

Ports	Uplink(PoE) RJ-45: 2.5GBASE-T, PoE PD LAN1 RJ-45: 1000BASE-T
2.4 GHz Radio	IEEE 802.11b/g/n/ax
5 GHz Radio	IEEE 802.11a/ac/n/ax
6 GHz Radio	IEEE 802.11a/ac/n/ax (OAP101-6E only)
Bluetooth Radio	IEEE 802.15.1
Radio Frequencies	US and TW: 2.4–2.4835 GHz 5.15–5.85 GHz 5.925-6.425 GHz (OAP101-6E only) 6.525-6.875 GHz (OAP101-6E only) EU: 2.4–2.4835 GHz 5.47–5.725 GHz Japan: 2.4–2.4835 GHz 5.47–5.730 GHz

Power Specifications

PoE Input Power	25.5 W max 802.3at-compliant
DC Power	DC Input: 48 VDC, 0.5 A

Regulatory Compliances

Radio	EN 300 328 V2.2.2 (2.4G/BT-LE) EN 301 893 V2.1.1 (5G) EN 303 413 V1.1.1 (GPS) EN 50385 / EN 62311: 2017 (MPE) 47 CFR FCC Part 15.247 47 CFR FCC Part 15.407 MIC Certification Rule, Article 2 Paragraph 1 Item 19 and 19-3 (OAP101 only) MIC Terminal Equipment Design Certification, Articles 3, 4, 6, 9, and 34 (OAP101 only) NCC LP002 (OAP101 only)
Emissions	EN 301 489-1 V2.1.1 (2017-02) EN 301 489-17 V3.1.1 (2017-02) EN 55032:2015 47 CFR FCC Rules and Regulations Part 15 Subpart B, Class B Digital Device VCCI CISPR 32:2016 Class B ITE (OAP101 only) BSMI CNS 15936 (OAP101 only)
Safety	EN 62368-1: 2014 + A11: 2017 EN 60950-22: 2017 IEC 62368-1: 2014 (Second Edition) IEC 60529: 1989+AMD1: 1999+ AMD2: 2013CSV (IP68) BSMI CNS 15598-1 (OAP101 only)