



AP21 Hardware Installation Guide

Overview

The Mist AP21 is a high value, Enterprise-grade Access Point for 802.11ac Wave 2 Gigabit WiFi Mobility & Assurance Services and Bluetooth Low Energy Location services for delivering BLE Engagement and Asset Visibility Services.

Understanding the Product

Included in the box:

- AP21

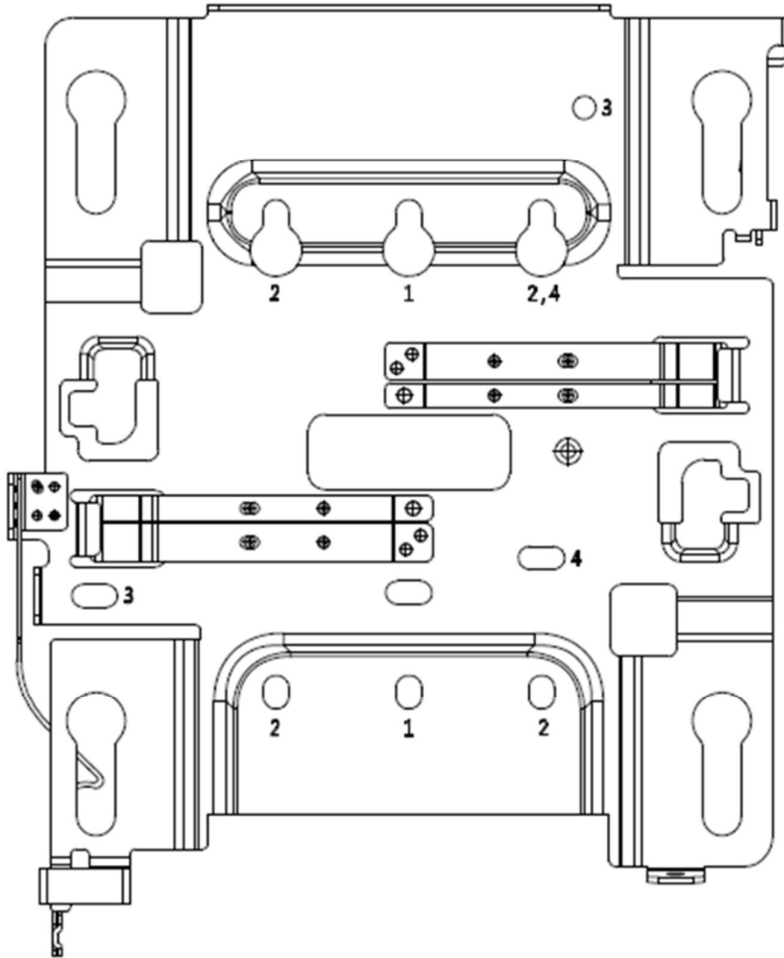
I/O ports and Kensington lock



Reset	Reset to the factory default settings
12VDC	Support for the 12VDC power supply recommended by Mist
Eth1+PoE Out	10/100/1000 BaseT RJ45 interface that can output 48V PoE
Eth0+PoE In	10/100/1000 BaseT RJ45 interface that supports 802.3at PoE PD

AP21 Mounting

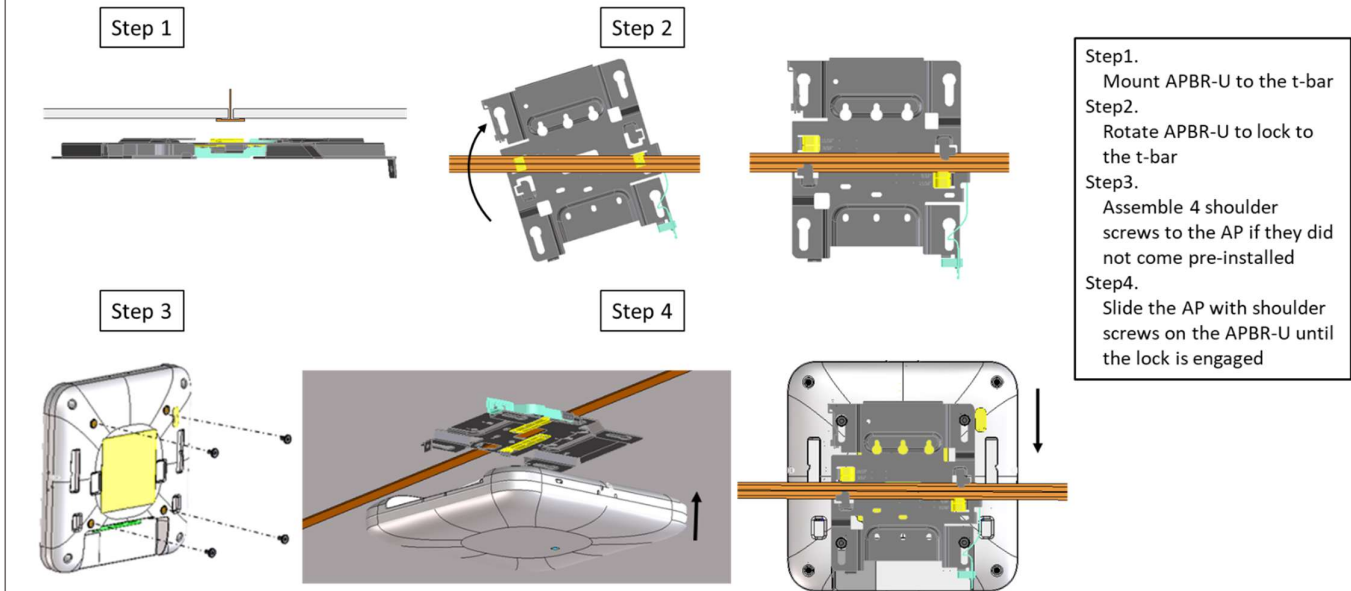
APBR-U Mounting box options



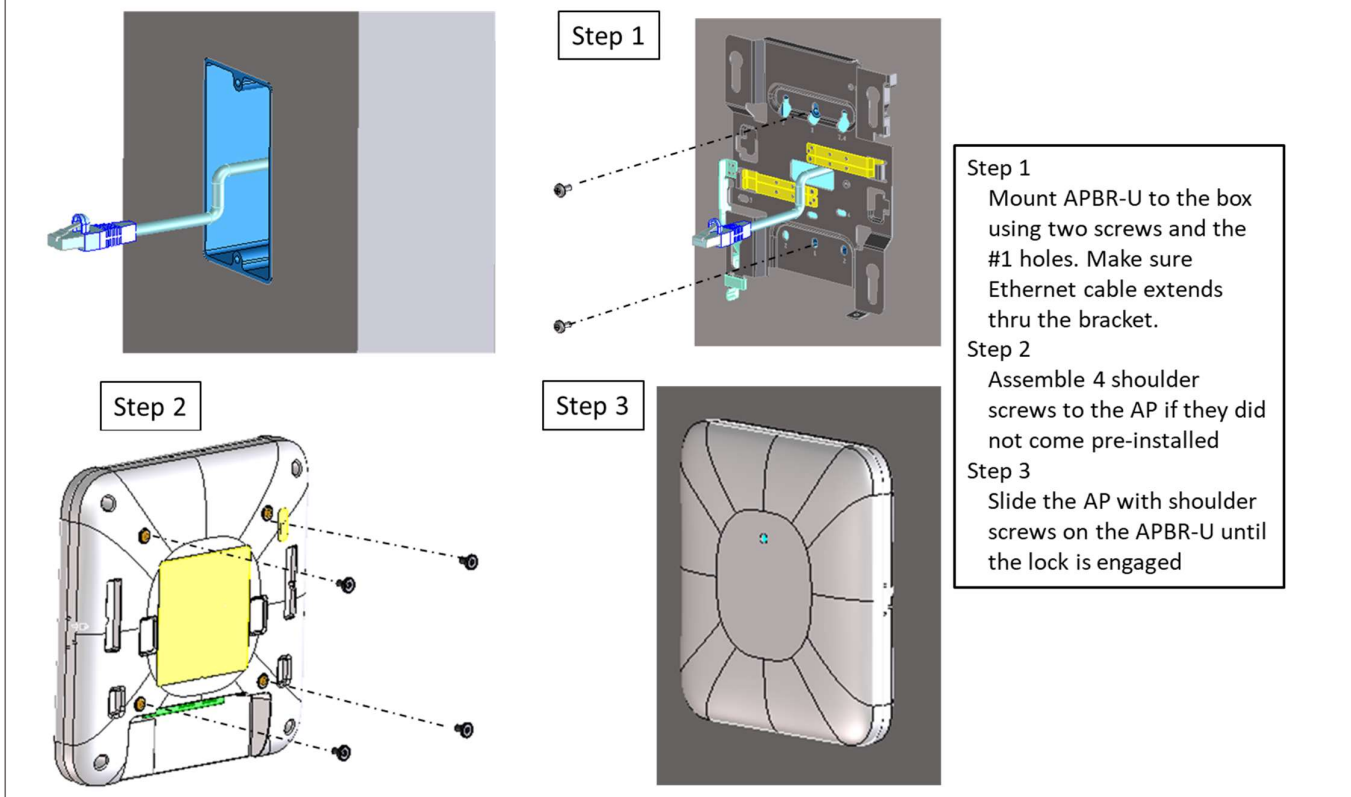
Holes	Mounting options
1	US Single gang, 4 inch round, 3.5 inch round
2	US Double gang, Wall/ceiling mount
3	US 4 inch square
4	EU junction box

In a wall mount installation, please use screws that have a 1/4in. (6.3mm) diameter head with a length at least 2 in. (50.8mm).

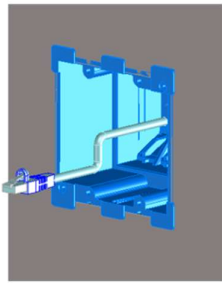
Mounting to a 9/16 inch or 15/16 inch T-bar



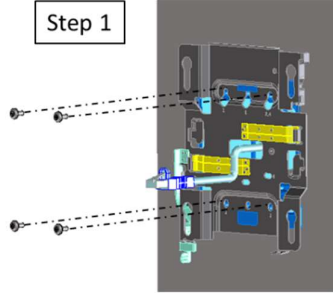
US single gang, 3.5 or 4 inch round junction box



US double gang junction box



Step 1

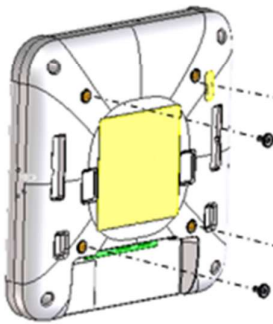


Step 1
Mount APBR-U to the box using two screws and the #2 holes. Make sure Ethernet cable extends thru the bracket.

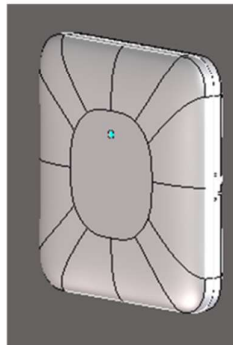
Step 2
Assemble 4 shoulder screws to the AP if they did not come pre-installed

Step 3
Slide the AP with shoulder screws on the APBR-U until the lock is engaged

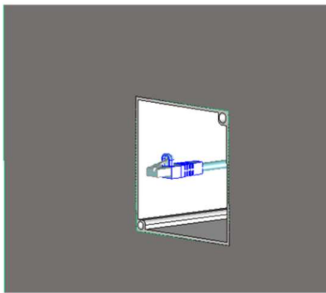
Step 2



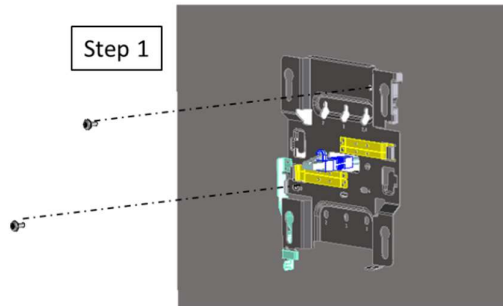
Step 3



US 4 inch square junction box



Step 1

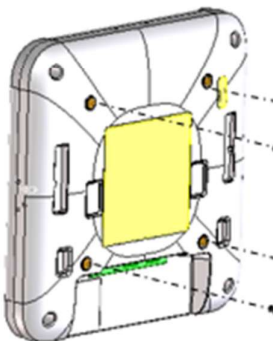


Step 1
Mount APBR-U to the box using two screws and the #3 holes. Make sure Ethernet cable extends thru the bracket.

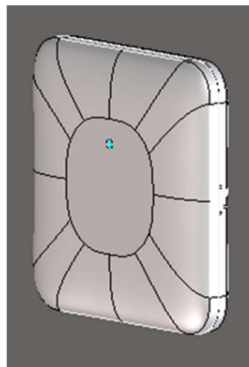
Step 2
Assemble 4 shoulder screws to the AP if they did not come pre-installed

Step 3
Slide the AP with shoulder screws on the APBR-U until the lock is engaged

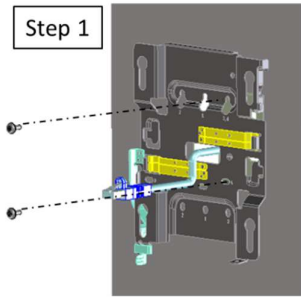
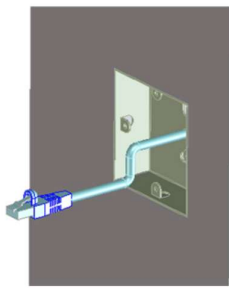
Step 2



Step 3

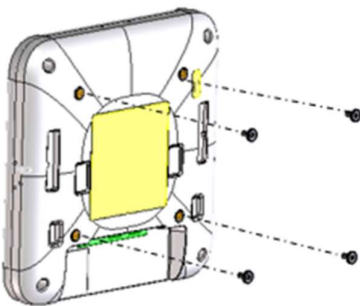


EU junction box



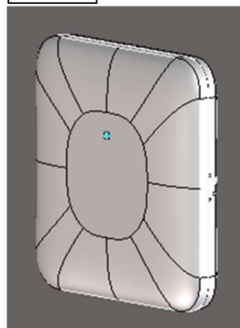
Step 1
Mount APBR-U to the box using two screws and the #4 holes. Make sure Ethernet cable extends thru the bracket.

Step 2



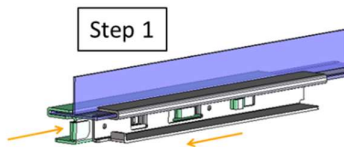
Step 2
Assemble 4 shoulder screws to the AP if they did not come pre-installed

Step 3

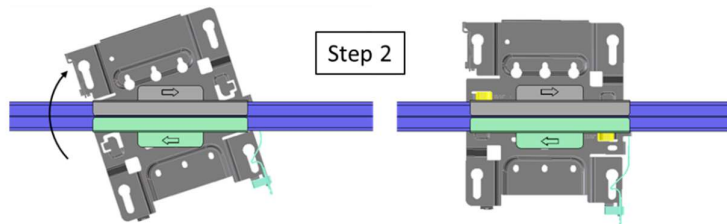


Step 3
Slide the AP with shoulder screws on the APBR-U until the lock is engaged

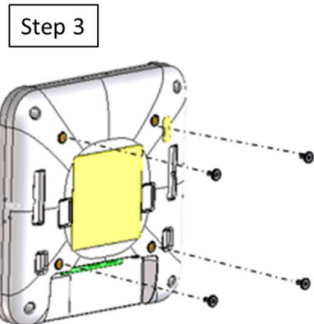
Recessed 15/16 inch T-bar



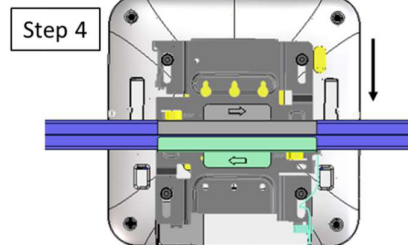
Step 1
Mount the APBR-ADP-RT15 to the t-bar



Step 2
Mount the APBR-U to the APBR-ADP-RT15. Rotate the APBR-U to lock to the APBR-ADP-RT15

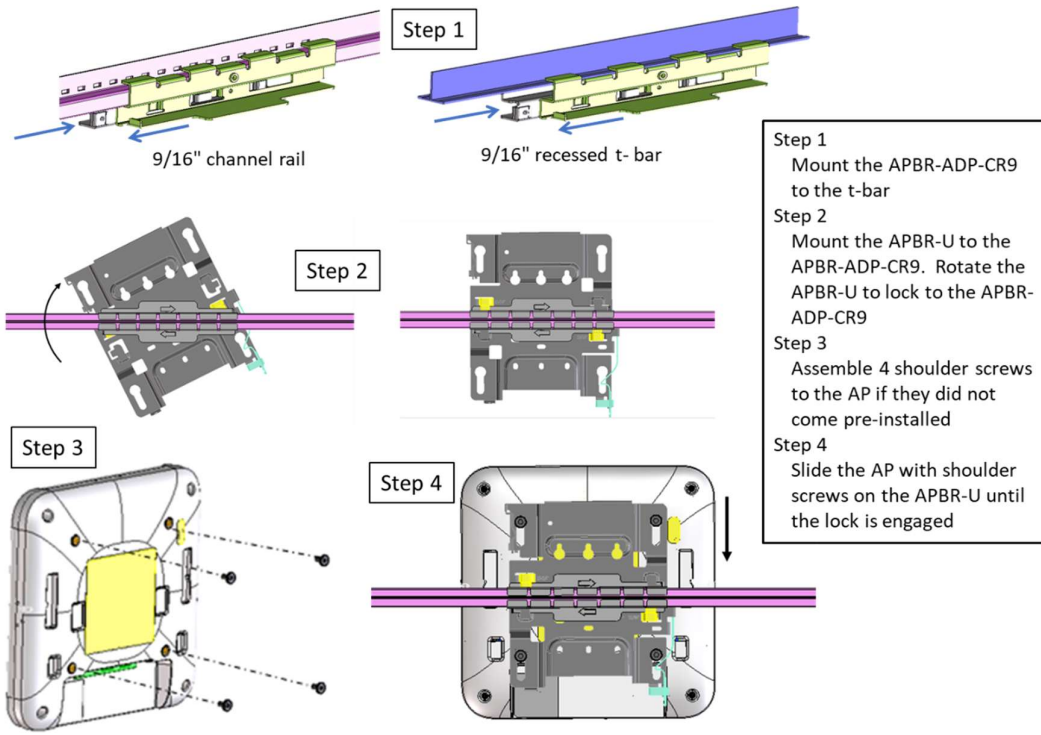


Step 3
Assemble 4 shoulder screws to the AP if they did not come pre-installed

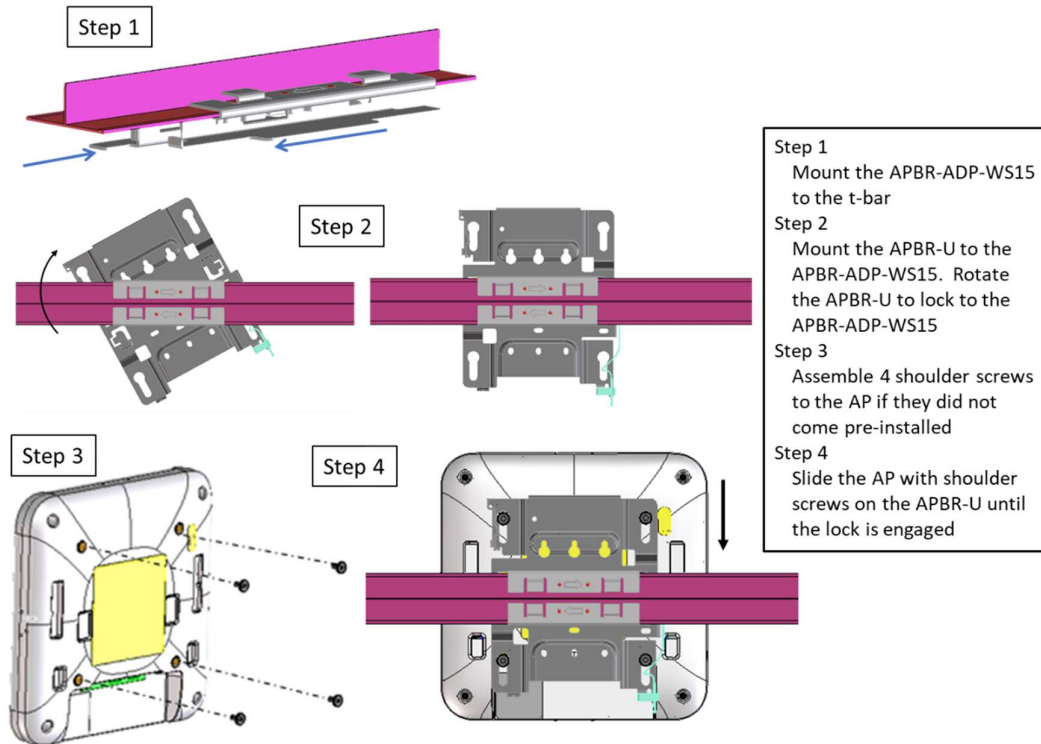


Step 4
Slide the AP with shoulder screws on the APBR-U until the lock is engaged

Recessed 9/16 inch T-bar or channel rail

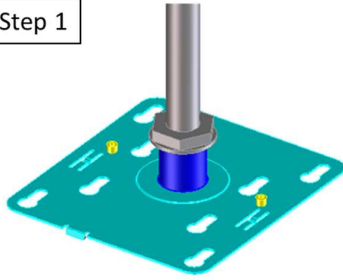


1.5 inch T-bar



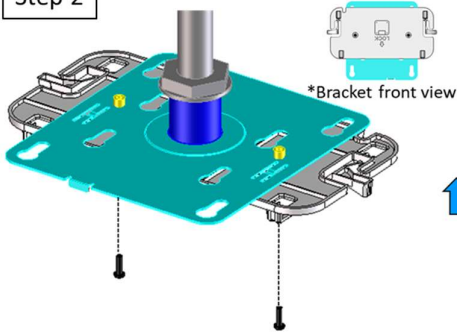
Mounting to a 5/8 inch threaded rod

Step 1

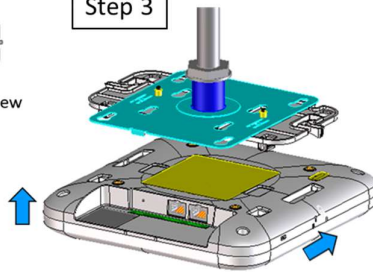


Step1:
Install the APBR-T58 bracket to the 5/8 inch threaded rod, securing it with the provided lock washer and nut.
Step2:
Install the APBR-SW1 on the APBR-T58 with provided screws.
Step3:
Slide the AP on to the APBR-SW1 bracket to lock.

Step 2



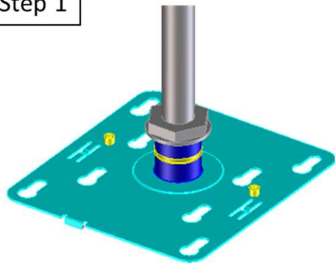
Step 3



The bracket attaches to a rod that is 5/8"-11.

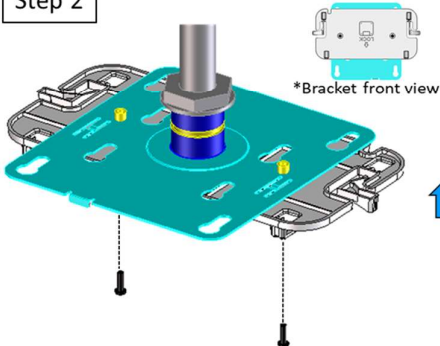
Mounting to a 16mm threaded rod

Step 1

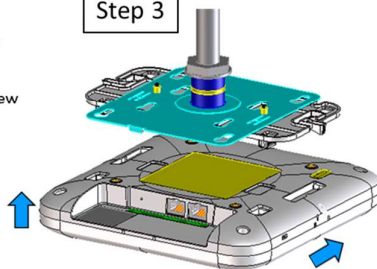


Step1:
Install the APBR-M16 bracket to the 16mm threaded rod, securing it with the provided lock washer and nut.
Step2:
Install the APBR-SW1 on the APBR-M16 with provided screws
Step3:
Slide the AP on to the APBR-SW1 bracket to lock.

Step 2



Step 3



The bracket attaches to a rod that is M16-2.

Technical Specifications:

Feature	Description
Power options	802.3af PoE 12V / 3A DC power supply
Dimensions	203mm x 203mm x 40mm (7.99in x 7.99in x 1.57in)
Weight	0.636 kg (1.4 lbs)
Operating temperature	Internal antenna 0° to 40° C
Operating humidity	10% to 90% maximum relative humidity, non-condensing
Operating altitude	3,048m (10,000 ft)
I/O	1 - 10/100/1000BASE-T auto-sensing RJ-45 with PoE In 1 - 10/100/1000BASE-T auto-sensing RJ-45 with 48Vdc PoE Out
RF	2.4GHz – 2x2:2 spatial streams 802.11ac 5GHz – 2x2:2 spatial streams 802.11ac 2.4GHz BLE with Dynamic Antenna Array
Indicators	Multi-color status LED
Compliance standards	UL 60950-1 CAN/CSA-C22.2 No. 60950-1 UL 2043 FCC Part 15.247, 15.407, 15.107, and 15.109 FCC Part 15 Class B RSS-247 ICES-003 (Canada)

The unit and all interconnected equipment must be installed indoors within the same building, including all PoE-powered network connections as described by Environment A of the IEEE 802.3af standard.

Suitable for use in environmental air space in accordance with Section 300-22(C) of the National Electrical Code, and Sections 2-128, 12-010(3), and 12-100 of the Canadian Electrical Code, Part 1, CSA C22.1.

Warning: The AP must be mounted only horizontally if you mount it into a plenum space.

Warranty Information

The AP21 family of Access Points comes with a limited lifetime warranty.

Ordering Information:

Access Points

AP21-US	WiFi & BLE Array AP with internal antennas for the US domain
AP21-WW	WiFi & BLE Array AP with internal antennas for the Worldwide domain

Mounting brackets

APBR-U	Universal AP Bracket for T-Rail and Drywall mounting for Indoor Access Points
AP41BR1	Premium AP T-bar ceiling mounting bracket kit
APBR-T58	5/8-inch threaded rod bracket
APBR-M16	16mm threaded rod bracket
APBR-ADP-CR9 / AP41BR1-CR	Adapter for channel rail and recessed 9/16" t-rail
APBR-ADP-RT15 / AP41BR1-RT	Adapter for recessed 15/16" t-rail
APBR-ADP-WS15	Adapter for recessed 1.5" t-rail
APBR-SW1 / BT11BR1	Drywall ceiling bracket for AP21/BT11

Power Supply options

12V DC supply	100-240VAC, 50-60 Hz, input All regions (output): 12V/3A DC output
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This product is intended to be supplied by an UL Listed and/or IEC/EN60950-1 approved power adapter suitable for use at maximum ambient temperature 40 degrees C, whose output meets SELV and LPS, and is rated 12 Vdc / 3A with an altitude of operation up to 3048m

This product is intended to be supplied by an UL Listed and/or IEC/EN60950-1 approved PoE DC Power Injector suitable for use at maximum ambient temperature 40 degrees C, whose output meets SELV and LPS, rated 57 Vdc / 0.6A with an altitude of operation up to 3048m

If you need further assistance with purchasing the power source, please contact Mist Systems for further information.

Regulatory Compliance Information:

This product and all interconnected equipment must be installed indoors within the same building, including the associated LAN connections as defined by the 802.3at Standard.

FCC Requirement for Operation in the United States of America:

FCC Guideline for Human Exposure

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

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.

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 transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- Operations in the 5.15GHz – 5.25GHz band are restricted to indoor usage only.

FCC Note

- The country code selection is for non-US model only and is not available to all US models. Per FCC regulation, all WiFi products marketed in the US must be fixed to US operating channels only.

Industry Canada

This device complies with ISED's license-exempt RSS's. 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.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Caution

- The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
- The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
- Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Avertissement

- les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;
- De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Radiation Exposure Statement:

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with

minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.