ExtremeWireless™ AP560i Access Point

Installation Guide

9036165-04 Rev AB
October 2023

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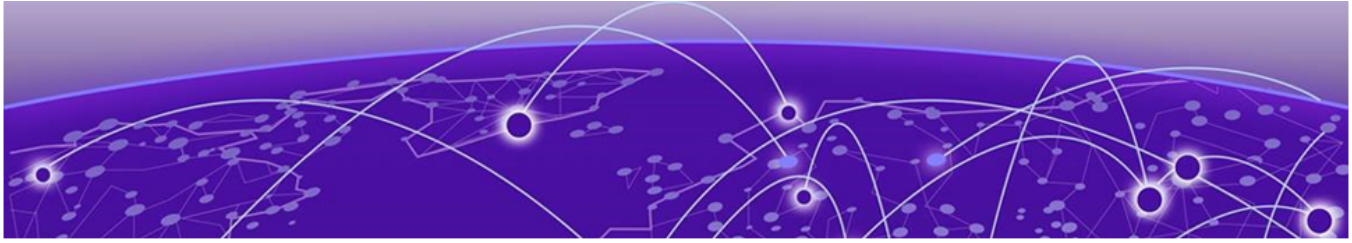

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Preface

Read the following topics to learn about:

- The meanings of text formats used in this document.
- Where you can find additional information and help.
- How to reach us with questions and comments.

Conventions

To help you better understand the information presented in this guide, the following topics describe the formatting conventions used for notes, text, and other elements.

Text Conventions

Unless otherwise noted, information in this document applies to all supported environments for the products in question. Exceptions, like command keywords associated with a specific software version, are identified in the text.

When a feature, function, or operation pertains to a specific hardware product, the product name is used. When features, functions, and operations are the same across an entire product family, such as ExtremeSwitching switches or SLX routers, the product is referred to as *the switch* or *the router*.

Table 1: Notes and warnings

Icon	Notice type	Alerts you to...
	Tip	Helpful tips and notices for using the product
	Note	Useful information or instructions
	Important	Important features or instructions

Table 1: Notes and warnings (continued)

Icon	Notice type	Alerts you to...
	Caution	Risk of personal injury, system damage, or loss of data
	Warning	Risk of severe personal injury

Table 2: Text

Convention	Description
`screen displays`	This typeface indicates command syntax, or represents information as it is displayed on the screen.
The words *enter* and *type*	When you see the word *enter* in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says *type*.
Key names	Key names are written in boldface, for example **Ctrl** or **Esc**. If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press **Ctrl**+**Alt**+**Del**
Words in italicized type	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles.
NEW!	New information. In a PDF, this is searchable text.

Table 3: Command syntax

Convention	Description
bold text	Bold text indicates command names, keywords, and command options.
italic text	Italic text indicates variable content.
`[ ]`	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
`{ x | y | z }`	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
`x | y`	A vertical bar separates mutually exclusive elements.
`< >`	Nonprinting characters, such as passwords, are enclosed in angle brackets.

Table 3: Command syntax (continued)

Convention	Description
...	Repeat the previous element, for example, *member*[*member*...].
\	In command examples, the backslash indicates a “soft” line break. When a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

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The Information Development team at Extreme Networks has made every effort to ensure that this document is accurate, complete, and easy to use. We strive to improve our documentation to help you in your work, so we want to hear from you. We welcome all feedback, but we especially want to know about:

- Content errors, or confusing or conflicting information.
- Improvements that would help you find relevant information.
- Broken links or usability issues.

To send feedback, do either of the following:

- Access the feedback form at https://www.extremenetworks.com/documentation-feedback/.
- Email us at documentation@extremenetworks.com.

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

Help and Support

If you require assistance, contact Extreme Networks using one of the following methods:

Extreme Portal

Search the GTAC (Global Technical Assistance Center) knowledge base; manage support cases and service contracts; download software; and obtain product licensing, training, and certifications.

The Hub

A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

Call GTAC

For immediate support: (800) 998 2408 (toll-free in U.S. and Canada) or 1 (408) 579 2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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1. Go to The Hub.
2. In the list of categories, expand the **Product Announcements** list.
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4. Select **Subscribe**.
5. To select additional products, return to the **Product Announcements** list and repeat steps 3 and 4.

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Current Product Documentation
Release Notes
Hardware and software compatibility for Extreme Networks products
Extreme Optics Compatibility
Other resources such as white papers, data sheets, and case studies

Extreme Networks offers product training courses, both online and in person, as well as specialized certifications. For details, visit www.extremenetworks.com/education/.

New in this Document

The following sections shows the recent documentation revisions for this guide. Use this information to locate the latest updates.

October 2023 Revisions

Table 4: New and Revised Information

Section	Description
AP560i Features	Updated torque specifications for gland caps.
Installation Do's and Don'ts	
MBO-ART03 bracket order information	The MBO-ART02 wall mount bracket is End of Sale (EOS) as of January, 2023. It is replaced by the MBO-ART03 bracket.
Access Point Bracket Usage and Mounting Options	
Install the Access Point on a Wall	
Install the Access Point on a Wall With the MBO-ART03 Bracket	
Install the Access Point on a Pole with the MBO-ART03 and KT-147407-02 Brackets	
Access Point Bracket Usage and Mounting Options	When you mount the AP on a riser with the metal "L" bracket only and not with a large metal sloping bracket, it is recommended that you add a 3mm-thick stainless steel washer between the “L” brackets and the riser on all of the anchors. The washer provides proper drainage during storms.
Access Point Bracket Usage and Mounting Options	
Access Point Bracket Usage and Mounting Options	

AP560i Overview

The AP560i access point is a cloud-ready, stadium-optimized Wi-Fi 6, and 802.11ax/ac/abgn outdoor access point with internal antenna.

The AP560i access point caters to the stadium and outdoor environment by supporting high density of users and devices. The AP560i access point offers flexible deployment options, and can be mounted under a seat, to a pole, or to a wall.

Note
The AP560i requires a minimum base firmware of WiNG 7.1.1.

AP560i Features

Learn about the features of AP560i access point.

- Radios: Three radios
  - Two WiFi radios: 1 dual-band, 2.4 GHz and 5 GHz, and 1 band-locked 5GHz radio
  - 1 IoT Radio (2.4 GHz)
- Two Ethernet ports:
  - 1 × 100/1000/2500/5000 Mbps auto-negotiation Ethernet port, RJ45
  - 1 × 10/100/1000 Mpbs auto-negotiation Ethernet port, RJ45
- Dimensions: 11.3 in. x 10 in. x 2.9 in. (288 mm x 254 mm x 75 mm)
- LEDs: Two top-mounted LEDs – all LEDs will be on during reset
- One security hanger hole
- Power: PoE 802.3at
- Antenna:
  - Eight WiFi internal antennas
  - One BLE internal antenna
- Temperature:
  - Operating temperature: -40°F to +131°F (-40°C to +55°C)
  - Storage temperature: -40°F to +158°F (-40°C to +70°C)
- Enclosure: Top radome is plastic and bottom is metal

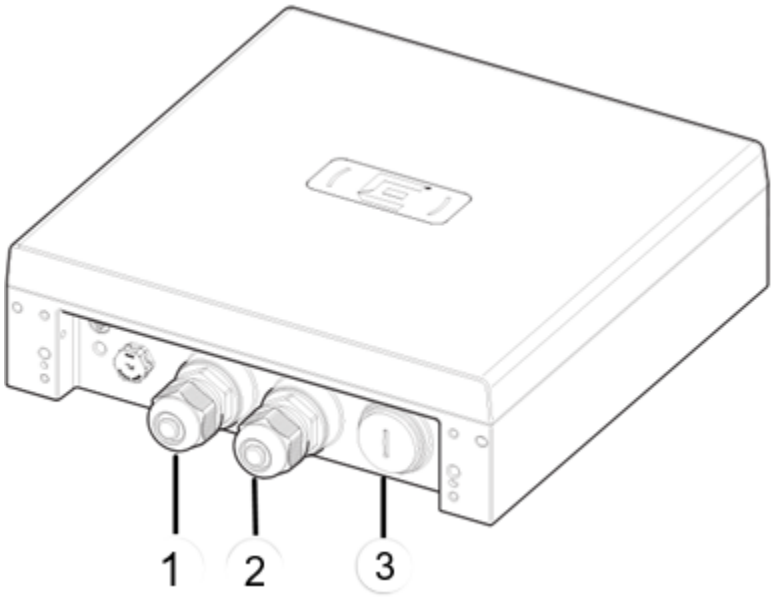


Figure 1: AP560i side ports

Callout	Description
1	GE1 port
2	GE2 port
3	Console port

Note
The console port cap must be tightened to a torque of 5 in-lbs.
If a torque wrench is not available, a flat-bladed screwdriver can be used. The flat blade must be 7/16 in. wide to avoid noticeable cap slot deformation.

Note
The slot deformation will not affect the IP67 console port cap properties.

Turn the console port cap until there is resistance from the access point gasket, and then turn the console port cap to a minimum of ½ turn further.

AP560i Purchase Order Information

AP560i order information

The AP560i access point is sold by itself, and you need to order the mounting brackets and accessories separately for under seat, wall, or pole installations.

Part number	Description
AP560i-FCC	Cloud-ready, dual 5GHz, dual-band, sensor radio, dual radio 802.11ax/ac/abgn, 4x4:4 MIMO outdoor 11ax access point. Internal Antenna. Domain: US and Columbia

EIO-04 under-seat enclosure order information

If you need to install the AP560i access point under a seat, you need to purchase the EIO-04 under-seat enclosure.

Note
When you mount the AP on a riser with the metal "L" bracket only and not with a large metal sloping bracket, it is recommended that you add a 3mm stainless steel washer between the “L” brackets and the riser on all of the anchors. The washer provides proper drainage during storms.

Note
Use the EIO-GASKET kit when you have concerns about dirt getting between the AP560i access point rear and the stadium riser.

You must order the EIO-GASKET silicone rubber kit separately.

The ordering details are described in the following table.

Part number	Box contents
EIO-04	• EIO-04 Quick Reference Guide • Metal sloping bracket • Metal "L" brackets • Plastic service panel base • Plastic service panel top with one captive screw • Conduit covers: ◦ Two blank conduit covers for the metal sloping bracket ◦ Two blank conduit covers for the service panel base ◦ One ½ in. conduit cover each for the metal sloping bracket and the service panel base ◦ One ¾ in. conduit cover each for the metal sloping bracket and the service panel base • A hardware bag containing the following parts: ◦ Six 10 mm M6 screws with integral washer ◦ Four 75 mm service panel shoulder screws ◦ Four anchor posts ◦ Four anchor sleeves ◦ Four flat washers for anchors ◦ Four lock washers for anchors ◦ Anchor assembly instruction sheet

Table 5: EIO-GASKET box contents (ordered separately)

Part number	Box contents
EIO-GASKET	Two silicone rubber gaskets
	Two shoulder screws (security torx, T20 bit-size)
	One URL card

KT-147407-02 bracket order information

You can install the access point to a wall using the KT-147407-02 bracket parts (+/-15 degree, 1-axis) or the MBO-ART02 (20 degree increments +/-80 degrees, 10 inch extension).

You can install the access point to a pole using:

- KT-147407-02 bracket parts (+/-15 degree, 1-axis), or

- MBO-ART02 (20 degree increments +/-80 degree, 10 inch extension) with the WS-MBO-POLE01 (#30520) bracket

Note

The MBO-ART02 wall mount bracket is End of Sale (EOS) as of January, 2023. It is replaced by the MBO-ART03 bracket.

You can attach the access point to a wall using the MBO-ART02 bracket if you have one. However, if you are using the MBO-ART02 bracket to attach the access point to a pole, you must use the WS-MBO-POLE01 bracket along with the MBO-ART02 bracket.

The WS-MBO-POLE01 bracket is End of Sale (EOS) as of January, 2023.

Note

You cannot attach the access point directly to a pole using the WS-MBO-POLE01 bracket.

The ordering details are described in the following tables:

Part number	Box contents
KT-147407-02	The KT-147407-02 bracket comes with three bracket parts: • Flat part with holes on the metal surface • 1-axis tilt part • Boxed pole part with step edges
	Six hex-head M6 stainless-steel screws
	Two hex-head M12 stainless-steel screws
	Two hex-head M12 stainless-steel nuts
	One URL card

The KT-147407-02 bracket kit can be used with KT-150173-01 extension arm for wall or pole installations.

Note

You must purchase the KT-150173-01 extension arm separately.

KT-150173-01 extension arm order information

The contents of the KT-150173-01 extension arm are described in the following table.

Part number	Box contents
KT-150173-01	One KT-150173-01 12 in. extension arm
	Two hex-head M12 stainless-steel screws
	Two hex-head M12 stainless-steel nuts
	One URL card

Note
You must provide the required M6 hex-head screws and nuts for flat surface installation.

MBO-ART03 bracket order information

Part number	Box contents
MBO-ART03	ART03 mounting bracket with +/- 80-degree (in 10-degree increments) and a variable extension of 7.5 inch, 9 inch, or 10.5 inches.
	Four stainless-steel M8 screws
	Two M6 long hex head screws and hex nuts with lock washer.
	One URL card

MBO-ART02 bracket order information

Part number	Box contents
MBO-ART02 The MBO-ART02 wall mount bracket is End of Sale (EOS) as of January, 2023. It is replaced by the MBO-ART03 bracket.	ART02 10 in. 2-axis articulating mounting bracket
	Four concrete anchors with washers and nuts
	Two stainless-steel M6 screws
	One hex-head screw
	One URL card

WS-MBO-POLE01 bracket order information

Part number	Box contents
WS-MBO-POLE01 The WS-MBO-POLE01 bracket is End of Sale (EOS) as of January, 2023.	One WS-MBO-POLE01 bracket
	Four M3 screws with nuts and washers
	One URL card

Install the Access Point

About This Task

The AP560i access point can be installed under a seat, to a wall, or to a pole. The purchase order information gives you more details about choosing the right access point bracket for your installation needs.

Procedure

1. Review the purchase order information.
2. Visually inspect the access point, the bracket, and any other optional accessories you have ordered for physical damage.

   If there is any damage, contact Extreme Networks Support.
3. Review the safety guidelines.

Access Point Bracket Usage and Mounting Options

The AP560i access point can be mounted under a seat, on a wall, or to a pole, which are described in the following table.

Table 6: AP560i mounting bracket usage

Mounting bracket and part number	Wall install	Pole install	Under-seat install	Notes
EIO-04 under-seat housing; also used with EIO-GASKET silicone rubber kit	No	No	Yes	The access point can be installed under a seat on a slope or a flat surface such as stadium floor The EIO-GASKET silicone rubber kit is used when the access point is installed with a small chamfer or no chamfer (90° corner) **Note:** When you mount the AP on a riser with the metal "L" bracket only and not with a large metal sloping bracket, it is recommended that you add a 3mm-thick stainless steel washer between the “L” brackets and the riser on all of the anchors. The washer provides proper drainage during storms.
KT-147407-02 bracket; comes with three bracket parts	Yes	Yes	No	For attaching to a wall or a flat surface, use the bracket part that has two holes. For attaching to a pole, attach the KT-147407-02 pole part on top of the 1-axis tilt part
KT-150173-01; extension arm; used with KT-147407-02 bracket parts	Yes; place the KT-150173-01 extension arm on top of the 1-axis KT-147407-02 tilt part	Yes; attach the KT-147407-02 pole part to the extension arm	No	None
MBO-ART03	Yes	Yes, with the KT-147407-02 bracket.	No	The articulating mounting bracket is paired with the KT-147407-02 bracket. For wall installations, the wall must be strong enough to support the access point during inclement weather.

Table 6: AP560i mounting bracket usage (continued)

Mounting bracket and part number	Wall install	Pole install	Under-seat install	Notes
MBO-ART02 **Note:** The MBO-ART02 wall mount bracket is End of Sale (EOS) as of January, 2023. It is replaced by the MBO-ART03 bracket.	Yes	Yes	No	The articulating mounting bracket is paired with the POLE01 bracket for pole installations. For wall installations, the wall must be strong enough to support the access point during inclement weather
WS-MBO-POLE01 (#30520) bracket The 30520 wireless mounting kit is End of Sale (EOS).	No	Yes (must be used with the MBO-ART02 bracket)	No	If the pole diameter is <= 1.0 in. (25.4 mm), use small cable clamp. If the pole diameter is between 5.0 in. - 7.0 in. (178.0 mm), use large cable clamp. For any other pole diameter, provide your own stainless steel cable clamp. The band must be 0.5 in. (12.7 mm) wide The POLE01 bracket can be used only when paired with the MBO-ART02 bracket

Warning
When installing the access point on a wall or to a pole, the cable glands must face down.

Note
When using the MBO-ART02 articulating mounting bracket with the access point, set the bracket downward tilt to less than 20 degrees to prevent water ingress.

Related Topics

AP560i Purchase Order Information on page 12

Installation Do's and Don'ts

Learn about various do's and don'ts for each installation option before installing the access point.

Ensure that you orient the access point properly for pole or under seat installation. The best practice is to follow the guidelines to ensure water drainage from access point radome and to prevent extreme water damage:

Note
If you do not follow the recommended orientation, ensure that your access point is not installed in a location where there is exposure to precipitation, freezing weather, or pressure washing.

Installation Don'ts

- Do **NOT** install the access point radome side with the user I/O facing upward toward the sky.
- Do **NOT** install an access point or open a console cap, when it is going to precipitate or is precipitating.
- Do **NOT** remove the gland body. If you accidentally loosen the gland body, immediately torque it to 30 in-lbs.
- Do **NOT** remove the vent or its protective cap.
- Do **NOT** allow moisture, dirt, pollen, or any other external debris to enter the glands or console.
- Do **NOT** get a pressure washer nozzle closer than 24 inches to the glands, console cap, or vent.

Installation Do's

Orientation:

- Orient the access point as recommended for wall, pole, girder, under-seat, or under-bench applications.
- The side with the glands can be horizontal facing down, facing to the left or right, or anything in-between.

User input/output:

- Only the gland caps must be removed to install the GE1 or GE2 LAN RJ45. The gland caps must be torqued to 12 in-lbs.
- The LAN cables must have a minimum radius of 1 inch and a 3 inch drip loop using gravity to carry any liquid away from the glands.

- The console cap must be removed to install the console LAN RJ45. When the console cap is replaced, torque it to 5 in-lbs.

  Note
  Ensure that you use a 3/8 inch wide flat head screwdriver to help avoid marks on the console cap screwdriver slot.

- Torque the ground screw to 12 in-lbs.

Power or pressure washer scenario:

- Maintain a minimum distance of 24 inches between the pressure washer nozzle and the access point.
- The maximum pressure is 4,000 psi.
- Do not use pressure washer nozzles narrower than 15°.

Under bench, stadium riser mounted applications only

- If the AP560i access point is mounted with a portion above the riser, ensure that there is a solid backing plate covering the entire access point and service panel (EIO-03-SP) bottoms.
- There must be a minimum of 1 inch of clear space below the mounted access point surface that is closest to the floor.
- Close the hole to the service panel if the access point extends above the stadium riser.
- In areas where the temperature gets to freezing or below, apply a drop of anti-seize material to the threads of the M6 screws (that hold the access point to the bracket) and M4 screws (that hold the EIO-03-SP to the access point) prior to inserting the screw. Tighten the M6 screws to around 30 in-lbs. and the M4 screws to about 10 in-lbs.

Under seat applications only:

- Tighten the EIO-04 M6 screws to around 30 in-lbs. and the EIO-03-SP M4 screws to about 10 in-lbs.

Install the Access Point Under-Seat

About This Task

The AP560i is used with the EIO-04 mounting kit for under-seat installation.

The EIO-04 under-seat mounting kit can be installed on a:

- Slope
- Flat horizontal surface such as a stadium floor
- Slope with EIO-GASKET to seal between the slope bracket and the riser

Note
The best practice is to install the EIO-04 under-seat mounting kit horizontally. The EIO-04 under-seat mounting kit can be installed on a 30-degree slope, a flat surface, or a stadium riser.

Note
If installing the access point on a riser, the open bottom (excluding the conduit or cable entry areas) of the service panel must be covered to minimize debris and water entry. It is especially important to cover any portion of the service panel that extends above the riser.

Procedure

Flat vertical surface such as a stadium riser

Note
Leave approximately 1-inch between the outdoor access point bottom and the floor. The gap will ensure that any water on the access point can drip off.

Install the EIO-04 Under-Seat Slope Bracket and the Access Point

Install the EIO-04 under seat enclosure with the AP560i access point on a stadium slope.

Before You Begin

Table 7: Hardware requirements for slope installation

Item quantity	Description
1	AP560i access point
6	10 mm M6 screws with integral washers
4	75 mm service panel shoulder screws
2	Anchor posts
2	Flat washers for anchors
2	Lock washers for anchors
1	Metal "L" bracket
1	Plastic service panel base
1	Plastic service panel top with captive screw
1	Metal sloping bracket

Attach the metal sloping bracket on a surface:

1. Using the metal sloping bracket as a template, mark and drill two holes in the concrete.
2. Insert the anchors without the nuts and washers.
3. Place the metal sloping bracket, attach the nuts and washers to the exposed threads, and torque them to 60 in-lbs.

About This Task

Attach the conduit cable through the conduit holes on the metal sloping bracket, then attach the metal L bracket to the access point, and install the access point on a slope.

Procedure

1. Attach the conduit couplers to the conduit.
2. Remove the locking nut.

   For the conduit hole that is not used, insert a blank conduit cover over the conduit hole in the slope.

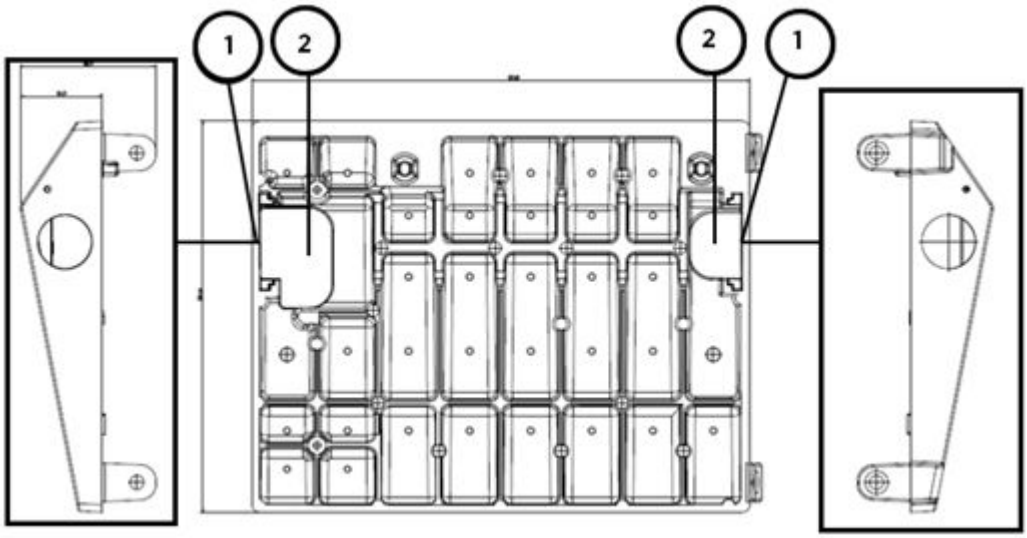


Figure 2: Metal sloping bracket conduit holes

Callout	Description
1	Conduit holes on either sides of the metal sloping bracket
2	Conduit cable holes in the slope

3. If you are using the left side conduit hole on the metal sloping bracket, attach the correct size conduit cover to the conduit hole.

   You can use an 1 in. NPT or a ¾ in. NPT conduit on the EIO-04 conduit holes.

   Note
   If you are using a ¾ in. NPT, use the conduit cover that comes with the unit to cover the conduit hole.

4. Tighten the locking nut.
5. If you are using the conduit hole in the slope, attach the conduit coupler and the locking nut directly to the slope conduit hole.

   Note
   The conduit must be 1 in. in diameter to attach the conduit coupler and the nut directly in the slope.

6. If you are using the right side conduit hole in the slope, repeat step 3.

7. Run the cable through the conduit and add the RJ45 connectors to the wires.

   Note
   The cable should have 1 in. bend radius and be accessible to the glands on AP560i access point.

   For more information about GE1 or GE2 cable, refer to Connect the GE1 or GE2 cable topic.
8. Attach the metal L bracket to the access point:
   a. Attach the metal “L” bracket to the gland side of the AP560i access point using two M6 screws.
   b. Torque the screws to 35 in-lbs.

   Note
   When installing the access point flat against a surface in a location that uses ice melt, the best practice is to apply an anti-seize material to the screws before attaching them to the access point metal base.

9. Install the access point on the slope:
   a. Align and center the alignment holes of the access point and the side tab extension holes, and attach the access point to the tabs using two M6 screws.
   b. Attach the gland side of the access point, that has the “L” bracket to the metal sloping bracket using two M6 screws.
   c. Push the access point to the rear as far as it would go.
   d. Torque the screws to 35 in-lbs.

   Note
   When installing the access point flat against a surface in a location that uses ice melt, the best practice is to apply an anti-seize material to the screws before attaching them to the access point metal base.

Install the Access Point on a Flat Surface Using EIO-04 Brackets

Learn how to install the AP560i access point on a flat surface.

Before You Begin

Table 8: Hardware requirements for flat surface installation

Item quantity	Description
1	AP560i access point
4	M6 screws with integral washers
4	75 mm service panel shoulder screws
2	Metal "L" bracket
1	Plastic service panel base

Table 8: Hardware requirements for flat surface installation (continued)

Item quantity	Description
1	Plastic service panel top with one captive screw
4	Concrete anchors with nuts, washers, anchor posts, and anchor sleeves

Procedure

1. Attach an EIO-04 metal “L” bracket on each side of the AP560i access point using two M6 screws for each bracket.

   Note
   When installing the access point flat against a surface in a location that uses ice melt, the best practice is to apply an anti-seize material to the screws before attaching them to the access point metal base.

2. Torque the M6 screws to 35 in-lbs.
3. Use the metal “L” brackets as a template, mark four hole centers, and drill in the concrete.
4. Insert four concrete anchors into the holes without the washers and nuts.
5. Place the metal “L” bracket over the threaded anchor posts and put on the flat-washer, the spring washer, and the nut on each side.
6. Torque the nuts to 60 in-lbs.

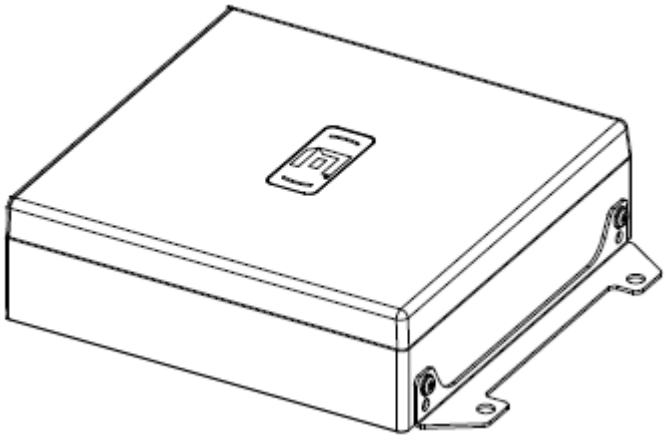


Figure 3: AP560i flat surface installation with metal “L” brackets

What to Do Next

Install the Plastic Service Panel on the Access Point on page 47.

Install the EIO-04 Under-Seat Slope Bracket with the Access Point Against a Stadium Riser Slope Using EIO-GASKET

Learn how to install the EIO-04 under-seat enclosure with the AP560i access point on a flat surface, with EIO-GASKET sealing the space between the slope bracket and the stadium riser.

Before You Begin

Table 9: Hardware requirements for flat surface installation

Item quantity	Description
1	AP560i access point
4	M6 screws with integral washers
4	75 mm service panel shoulder screws
2	Metal "L" bracket
4	3mm stainless steel washers.
1	Plastic service panel base
1	Plastic service panel top with one captive screw
4	Concrete anchors with nuts, washers, anchor posts, and anchor sleeves
	EIO-GASKET silicone rubber kit that ships with the under-seat enclosure:

Table 9: Hardware requirements for flat surface installation

Table 10: EIO-GASKET box contents (ordered separately)

Part number	Box contents
EIO-GASKET	Two silicone rubber gaskets
	Two shoulder screws (security torx, T20 bit-size)
	One URL card

About This Task

The EIO-GASKET keeps the debris from getting between the ramp base and a wall or a stadium riser. The EIO-GASKET supports the EIO-04 ramp bases.

The EIO-GASKET is made of compressible silicone rubber.

The best practice is to use the EIO-GAKET when the ramp base cannot be pressure washed from behind or when debris can be pushed behind the ramp base by

a pressure washer. For information on pressure washing guidelines, see Power or Pressure Washing Guidelines on page 50.

Note
When you mount the AP on a riser with the metal "L" bracket only and not with a large metal sloping bracket, it is recommended that you add a 3mm-thick stainless steel washer between the “L” brackets and the riser on all of the anchors. The washer provides proper drainage during storms.

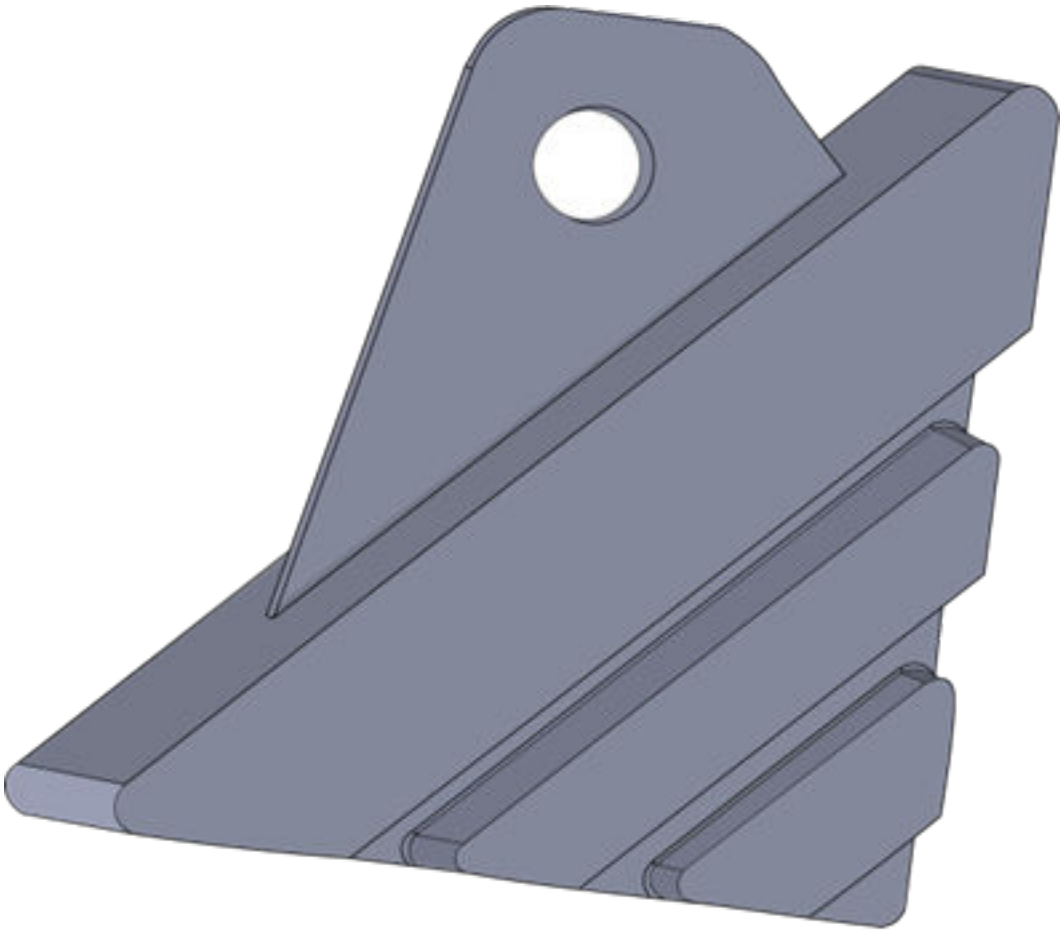


Figure 4: EIO-GASKET

Procedure

1. Attach a metal “L” bracket on each side of the AP560i access point using two M6 screws for each bracket.
2. Torque the M6 screws to 35 in-lbs.
3. Use the metal “L” brackets as a template, mark four hole centers, and drill in the concrete.
4. Insert four concrete anchors into the holes.
5. Add a 3mm stainless steel washer to each anchor.

   The 3mm washers create a dranage channel for storm water and debris.
6. Insert the 2 concrete anchors without the washers or nuts.

7. Using a single security torx screw for each gasket attach a gasket to each side of the metal slope.

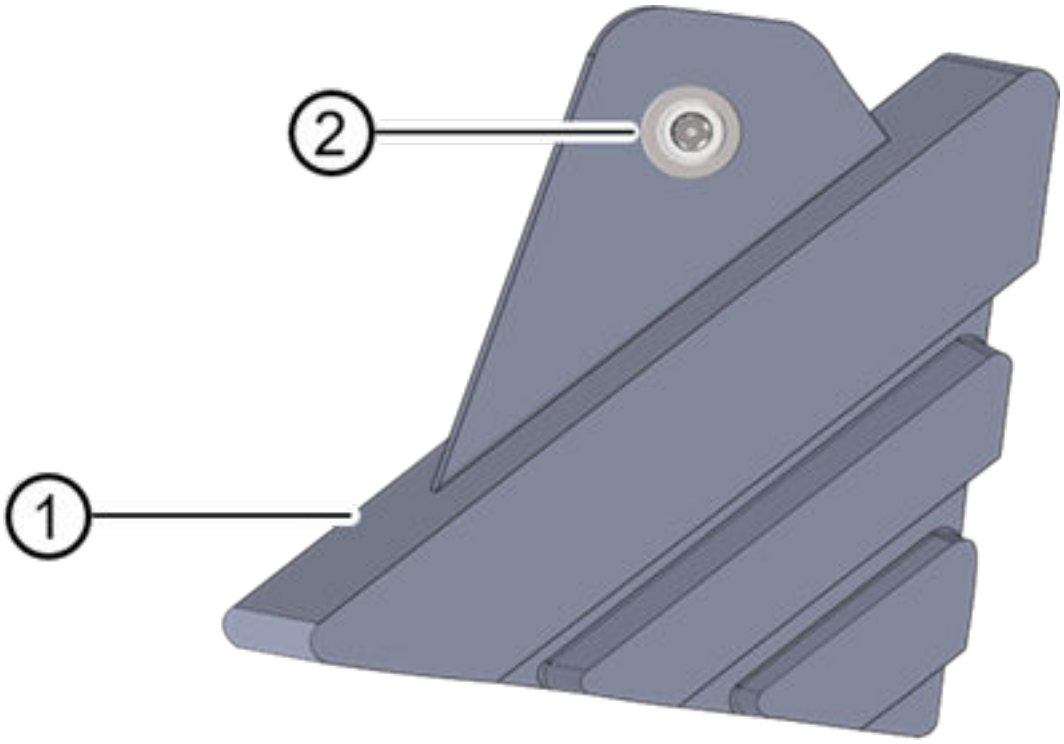


Figure 5: EIO-GASKET screw

Callout	Description
1	EIO-GASKET made of compressible silicone rubber
2	EIO-GASKET screw hole location for attaching the provided screw

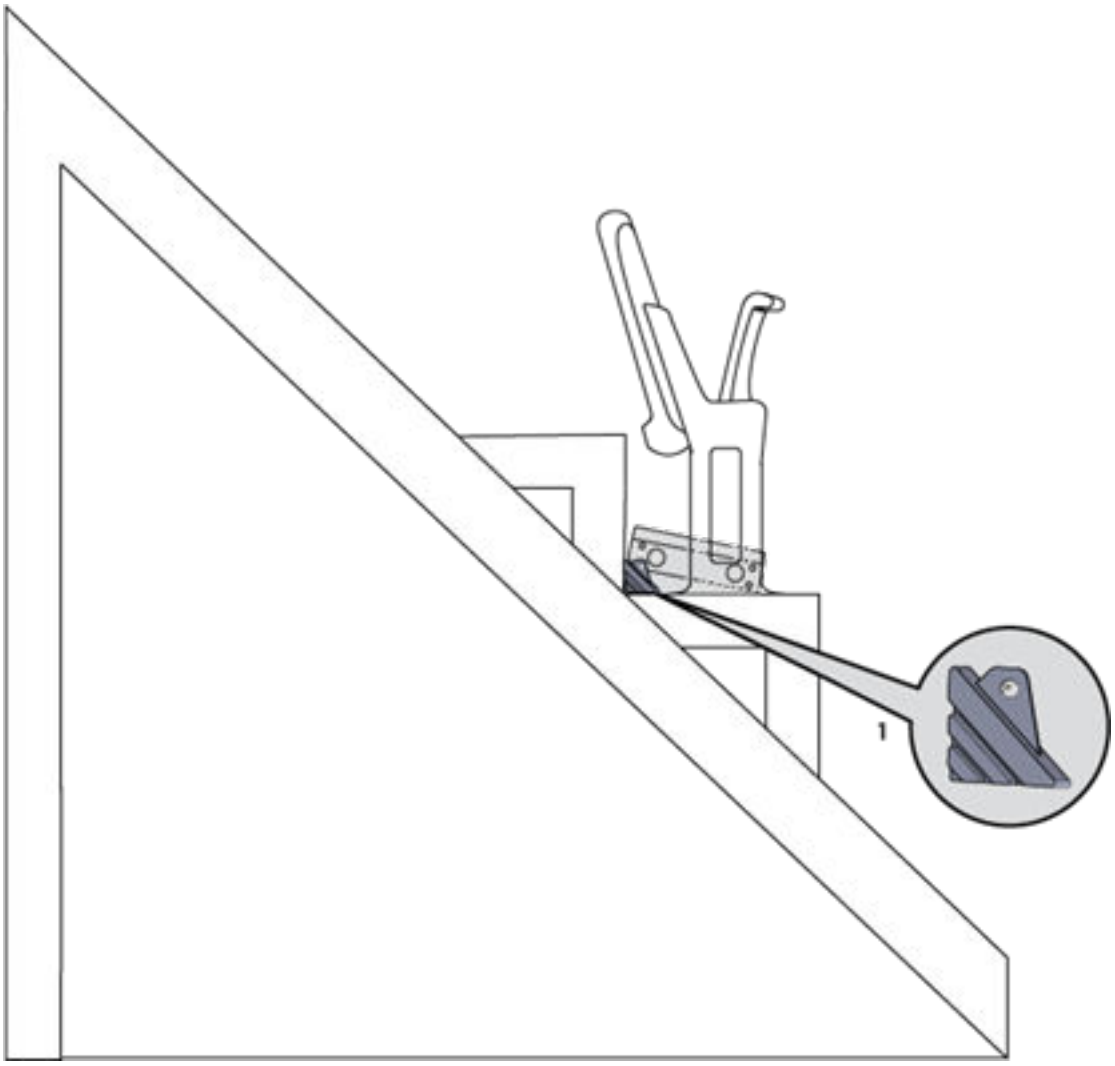


Figure 6: EIO-GASKET on a stadium riser

Callout	Description
1	EIO-GASKET on a 90° stadium riser

8. Place the metal slope over the threaded anchor posts and put on the flat-washer, the spring washer, and the nut on each side.

9. Torque the nuts to 60 in-lbs.

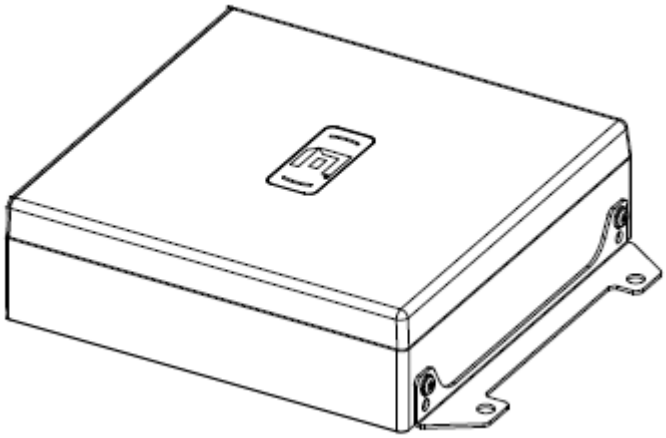


Figure 7: AP560i flat surface installation with metal “L” brackets

10. Install the Plastic Service Panel on the Access Point on page 47.

Install the Access Point on a Wall

Before You Begin

The access point is used with the KT-147407-02 bracket parts for wall installation. The KT-150173-01 extension arm may also be used with the access point and the KT-147407-02 bracket parts for wall and flat surface installation.

Other wall install options include using the:

- MBO-ART03 bracket

Note
You can use the MBO-ART02 bracket if you have one.
The MBO-ART02 wall mount bracket is End of Sale (EOS) as of January, 2023. It is replaced by the MBO-ART03 bracket.

The following hardware is required when installing the access point on a flat surface using the KT-147407-02 bracket:

- One access point
- Flat part of the KT-147407-02 bracket with two holes on the metal surface (see Flat part of the KT-147407-02 bracket).
- 1-axis tilt bracket (see Figure 9 on page 32).
- KT-150173-01 extension arm (see Figure 10 on page 33).
- Six M6 screws

- Four M6 size hex-head screws
- Screw-in anchors if the access point is being mounted on a wood wall or a concrete surface.

Note
The M6 hex-head screws and screw-in anchors must be provided by the installer.

If you install the access point to the wall using the ART03 bracket, use the following hardware:

- One access point
- MBO-ART03 articulating mounting bracket
- Six M6 hex-head screws
  - Two M6 hex-head screws to attach the bracket to the access point
  - Four M6 hex-head screws to attach the bracket to the wall or a flat surface.

Note
The cable glands must face down when you install the access point on a wall.

Install the Access Point on a Wall or Flat Surface Using the KT-147407-02 Bracket Parts

Before You Begin

Hardware requirements for a wall or flat surface installation:

- Flat part of the KT-147407-02 bracket
- 1-axis tilt part of the KT-147407-02 bracket
- One access point
- Six M6 screws
- Four M6 headsize screws

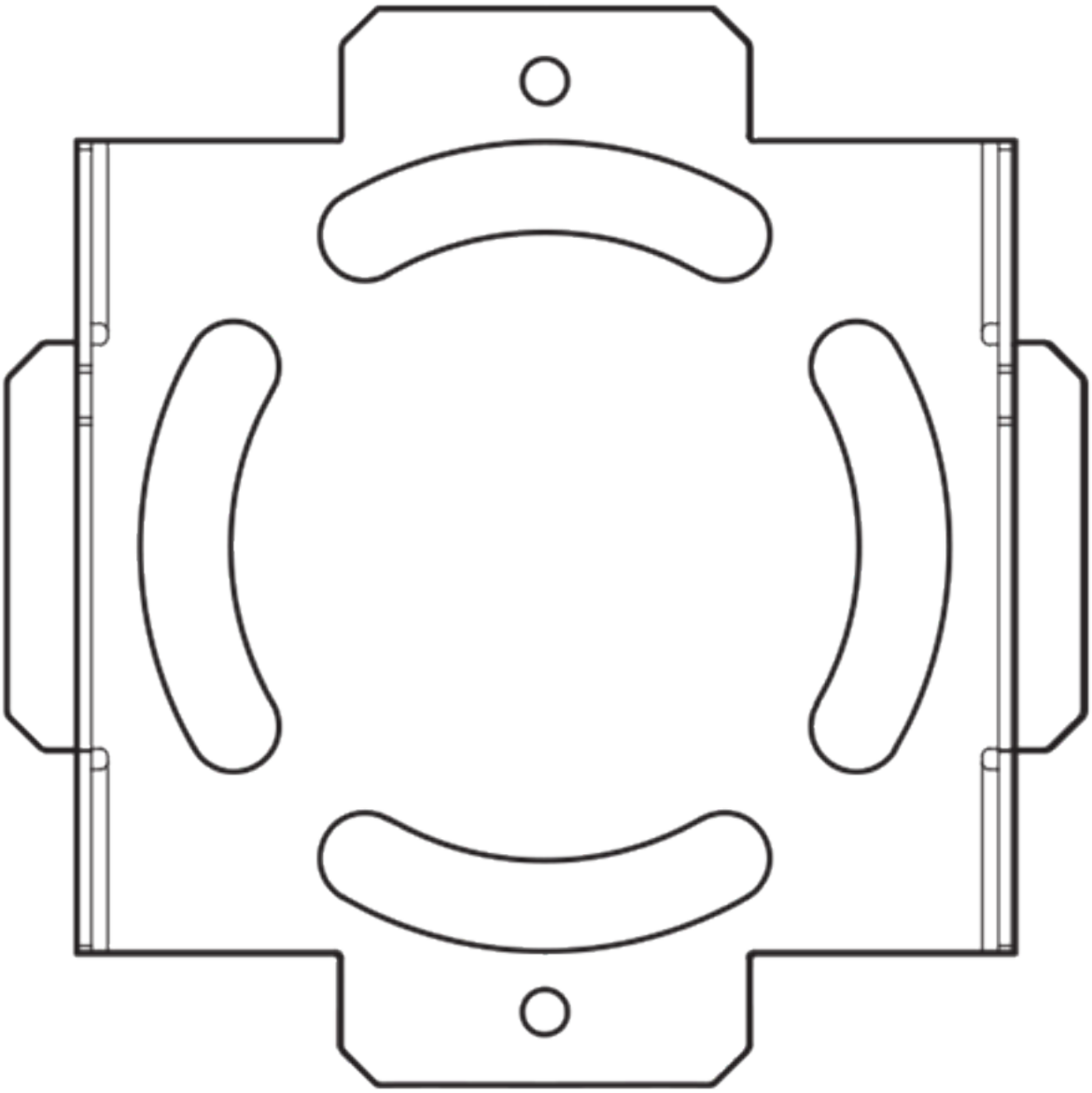


Figure 8: Flat part of the KT-147407-02 bracket

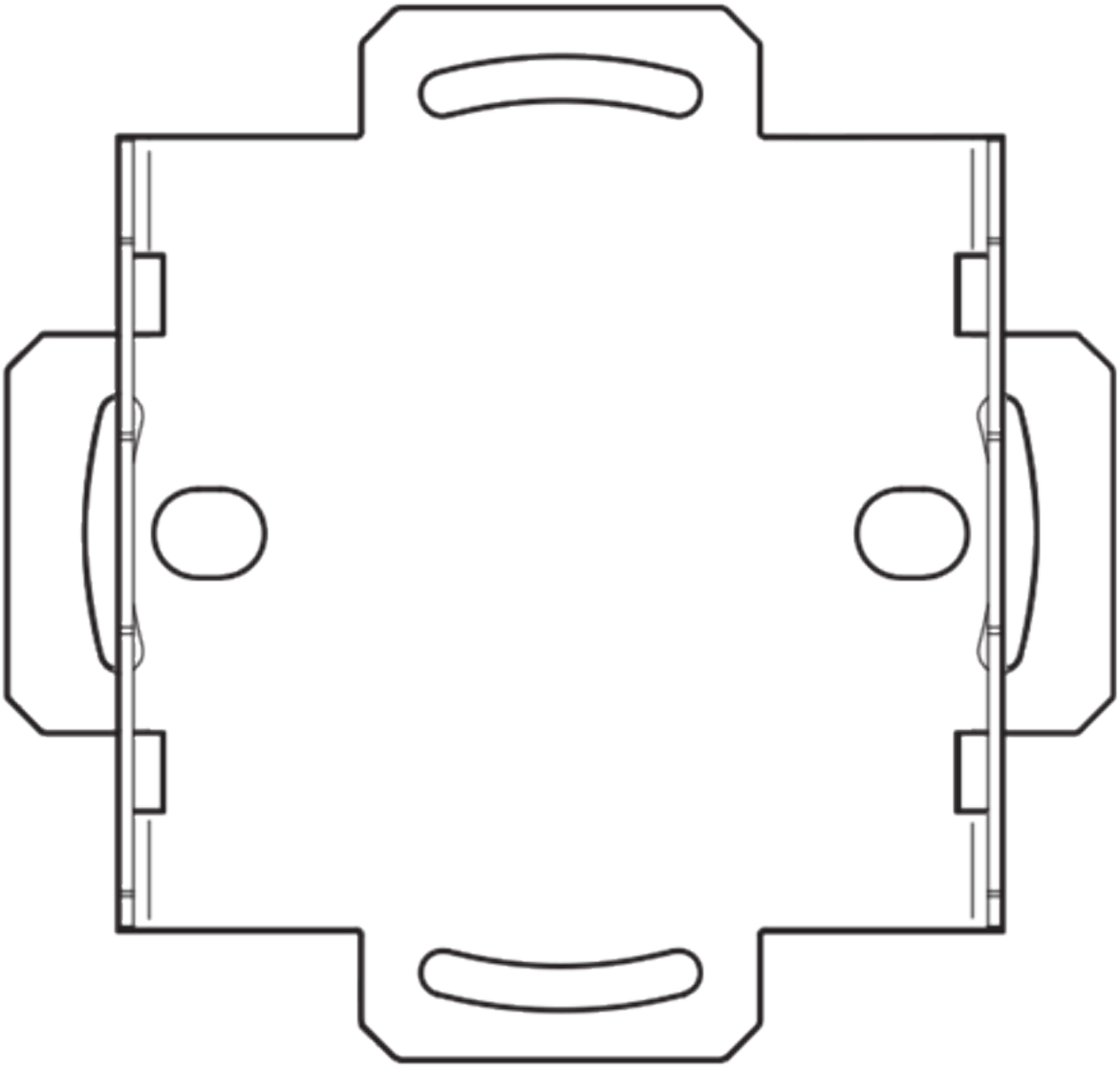


Figure 9: 1-axis tilt bracket

Procedure

1. Attach the flat part of the KT-147407-02 bracket to the access point using two M6 screws.
2. Using the 1-axis tilt bracket as a template, mark and drill four holes on a wall or on a flat surface.
3. Attach the 1-axis tilt bracket to a wall or flat surface using four M6 headsize screws.
4. Align the 1-axis tilt bracket part inside the flat part of the KT-147407-02 bracket, and attach the flat bracket to the 1-axis tilt bracket using four M6 screws.
5. Tilt the access point to a desired angle and tighten the four M6 screws to a torque of 45 in-lbs.

   The tilt bracket has +15 degrees to -15 degrees of tilt.

Install the Access Point Using KT-147407-02 Bracket Parts and KT-150173-01 Extension Arm

Before You Begin

The hardware required for installation:

- Flat part of the KT-147407-02 bracket
- 1-axis tilt part of the KT-147407-02 bracket
- KT-150173-01 extension arm
- One access point

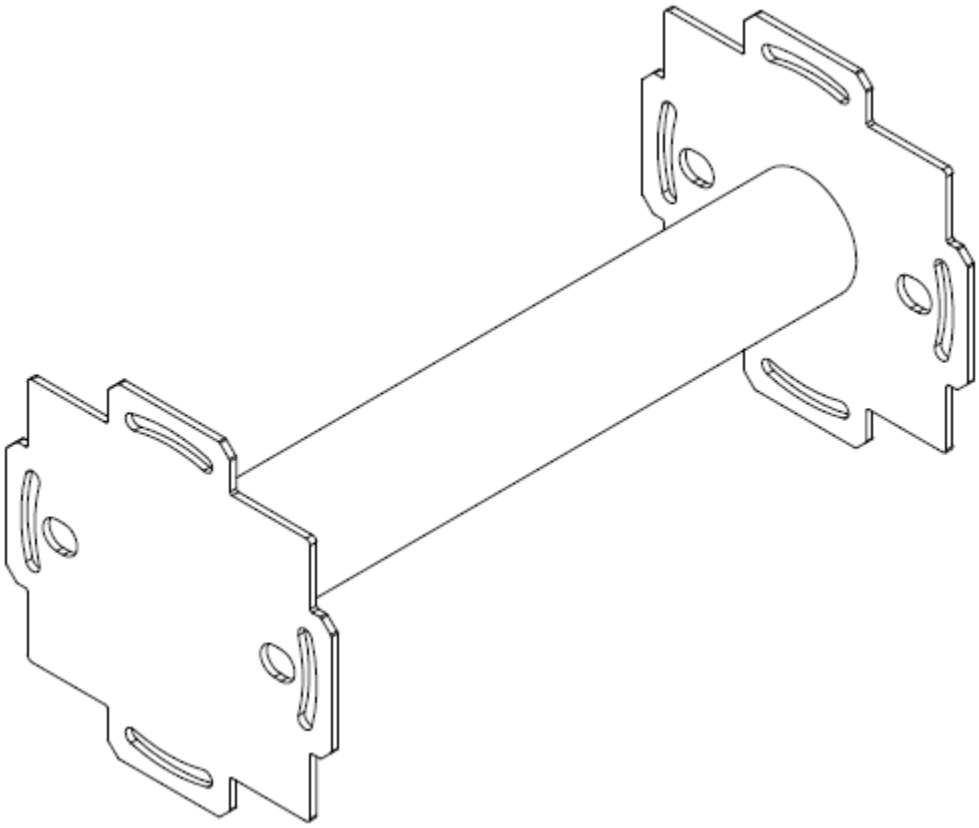


Figure 10: KT-150173-01 extension arm

About This Task

The KT-150173-01 extension arm is used in combination with the wall and pole bracket parts of the KT-147407-02 bracket.

Procedure

1. Attach the flat part of the KT-147407-02 bracket to the access point using two M6 screws.
2. Place the flat part of the KT-147407-02 bracket inside the 1-axis tilt bracket, and attach the 1-axis tilt bracket to the flat bracket using four M6 screws.

3. Using the KT-150173-01 extension arm as a template, mark and drill four hole centers on a flat surface.

   The holes must be within the circular cuts in the end of the flange.
4. Attach one end of the KT-150173-01 extension arm to the 1-axis tilt bracket using two hex-head M12 stainless-steel screws and two hex-head M12 stainless-steel nuts through the two large circular holes on the KT-150173- 01 extension arm.
5. Attach the KT-150173-01 extension arm, that now has the access point mounted on the other end, to a flat surface using four M6 size hex-head screws.

   Use screw-in anchors with the four M6 hex-head screws when you mount the bracket on a wood surface and use concrete anchors for concrete surface.

Install the Access Point Using KT-150173-01 Extension Arm

Before You Begin

Hardware required to install the access point on a wall using the KT-150173-01 extension arm:

- KT-150173-01 extension arm
- Four M6 screws
- Four M6 hex-head screws
- One access point

Procedure

1. Using the KT-150173-01 extension arm as a template, mark and drill four hole centers on a flat surface.

   The holes must be within the circular cuts in the end of the flange.
2. Attach one end of the KT-150173-01 extension arm to the access point using four M6 screws.
3. Attach the other end of the KT-150173-01 extension arm to the wall using four M6 hex-head screws.

   Use screw-in anchors with the four M6 hex-head screws when you mount the bracket on a wood surface and use concrete anchors for concrete surface.

Install the Access Point on a Wall With the MBO-ART03 Bracket

Before You Begin

Obtain the items in the following table.

Table 11: Hardware requirements for MBO-ART03 articulating mounting bracket wall installation

Quantity	Item
1	Access point
1	MBO-ART03 articulating mounting bracket

Table 11: Hardware requirements for MBO-ART03 articulating mounting bracket wall installation (continued)

Quantity	Item
6	M6 hex-head screws Two M6 hex-head screws for attaching the bracket and the access point. Four M6 hex-head screws for attaching the bracket to the wall.
2	Long M6 hex screws and nuts to lock each axis.

You also need a torque wrench and tool that matches the nuts for the M6 hex screws.

About This Task

Install the access point to a wall so it is secure and your customers can easily access your wireless network.

Procedure

1. Mark and drill four holes on the wall.

   It is recommended that you use one of the bracket ends as a template. You can remove the end from the bracket.
2. Adjust the arm length.

   The arm is set to a 7.5-inch extension. To increase it to a 9-inch extension, you move 1 pivot and lock screw to the outside holes on 1 bracket. To increase the extension to 10.5-inches, move both pivot and lock scerw pairs to the outside holes on each bracket
3. Attach the bracket to the access point with the M6 hex-head screws.
4. Align the bracket mounting holes with the holes on the wall.
5. Attach the bracket to the wall with the M6 hex-head screws.
6. Insert the locking bolts into the bracket and arm locking hole.
7. Attach the nuts and torque to 45 inch-pounds.
8. Tighten the pivot screws and nuts to 60 inch-pounds.

Install the Access Point on a Wall Using MBO-ART02 Articulating Mounting Bracket

About This Task

Note

The MBO-ART02 wall mount bracket is End of Sale (EOS) as of January, 2023. It is replaced by the MBO-ART03 bracket.

For more information, see End of Sale and End Service Life.

Table 12: Hardware requirements for MBO-ART02 articulating mounting bracket wall installation

Quantity	Item
1	Access point
1	MBO-ART02 articulating mounting bracket
6	M6 hex-head screws Two M6 hex-head screws to attach the MBO-ART02 to the access point. Four M6 hex-head screws to attach the MBO-ART02 bracket to the wall.

Note

When using the MBO-ART02 articulating mounting bracket, set the minimum downward tilt to less than 20 degrees to prevent water ingress.

To install the access point on a wall:

Procedure

1. Using the MBO-ART02 articulating mounting bracket's shorter bracket end as a template, mark and drill four holes on the wall.

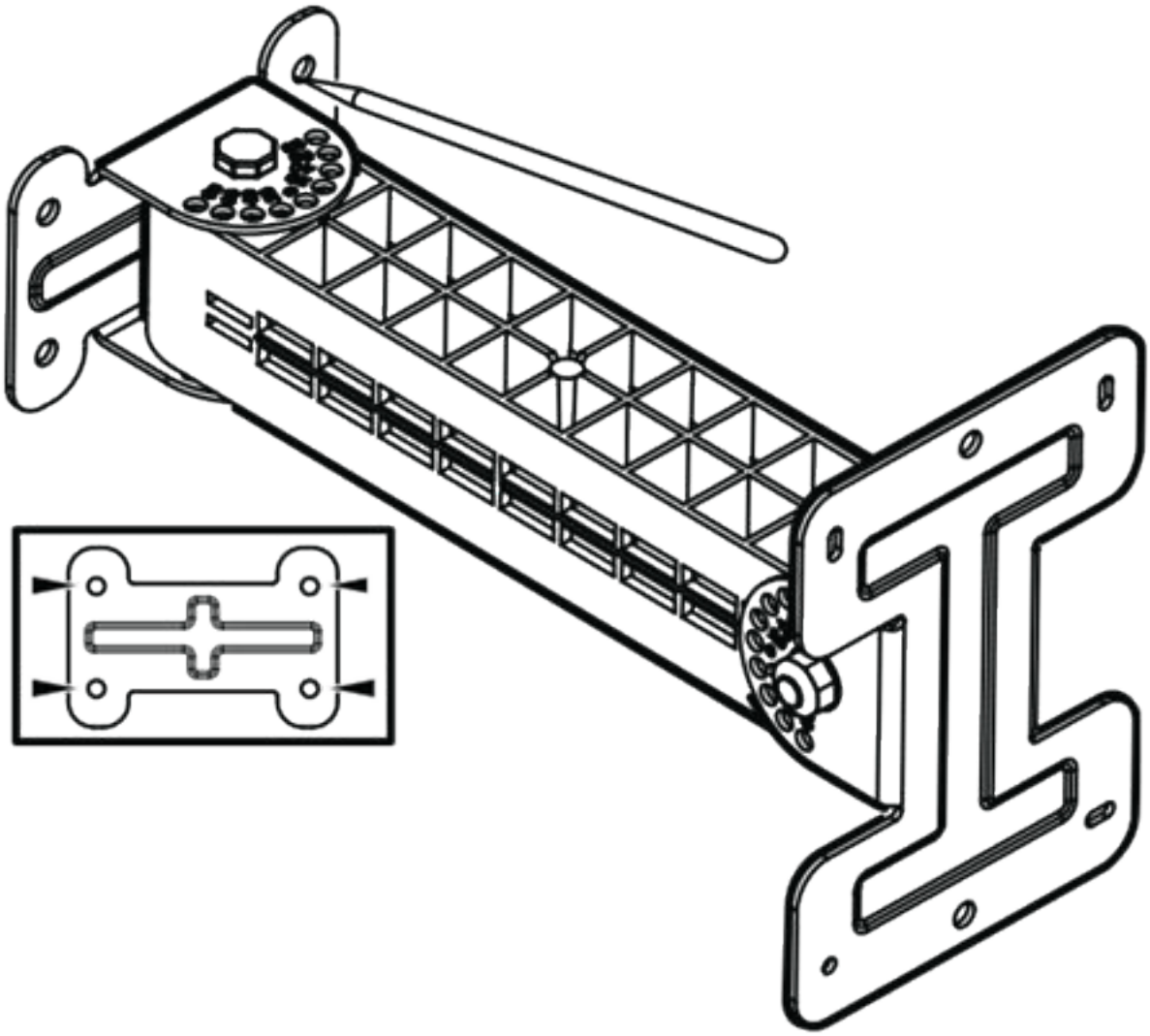


Figure 11: MBO-ART02 bracket template for attachment holes

2. Attach the MBO-ART02 to the access point using two M6 hex-head screws.
3. Align the mounting holes on the MBO-ART02 articulating mounting bracket against the holes on the wall and attach the bracket using four M6 hex-head screws.

Install the Access Point on a Pole

Before You Begin

The access point is used with the KT-147407-02 bracket parts and KT-150173-01 extension arm for pole installation. The access point is mounted on a pole by attaching:

1. All three parts of the KT-147407-02 bracket.
2. The KT-150173-01 extension arm with all the KT-147407-02 bracket parts.
3. The pole bracket part of the KT-147407-02 bracket.
4. The KT-150173-01 extension arm with the pole part of the KT-147407-02 bracket.

The following hardware is required to install the AP560i access point on a pole:

- Flat part of the KT-147407-02 bracket
- Pole part of the KT-147407-02 bracket
- 1-axis tilt bracket
- Six M6 screws
- Two hex-head M12 stainless-steel screws
- Two hex-heads M12 stainless-steel nuts
- Two M12 screws
- Two M12 hex nuts
- 0.5 in. wide stainless-steel cable clamps
- KT-150173-01 extension arm

Note
You must provide M6 hex-head screws and screw-in anchors.

Note
The cable glands must face down when you install the access point on a pole.

Install the Access Point on a Pole Using KT-147407-02 Bracket Parts

Before You Begin

The following hardware is required for pole installation using KT-147407-02 bracket parts:

- Flat part of the KT-147407-02 bracket
- 1-axis tilt part of the KT-147407-02 bracket
- Pole part of the KT-147407-02 bracket
- Four M6 screws
- Two hex-head M12 stainless-steel screws
- Two hex-head M12 stainless-steel nuts
- Two 0.5 in. wide stainless-steel cable clamps
- One access point

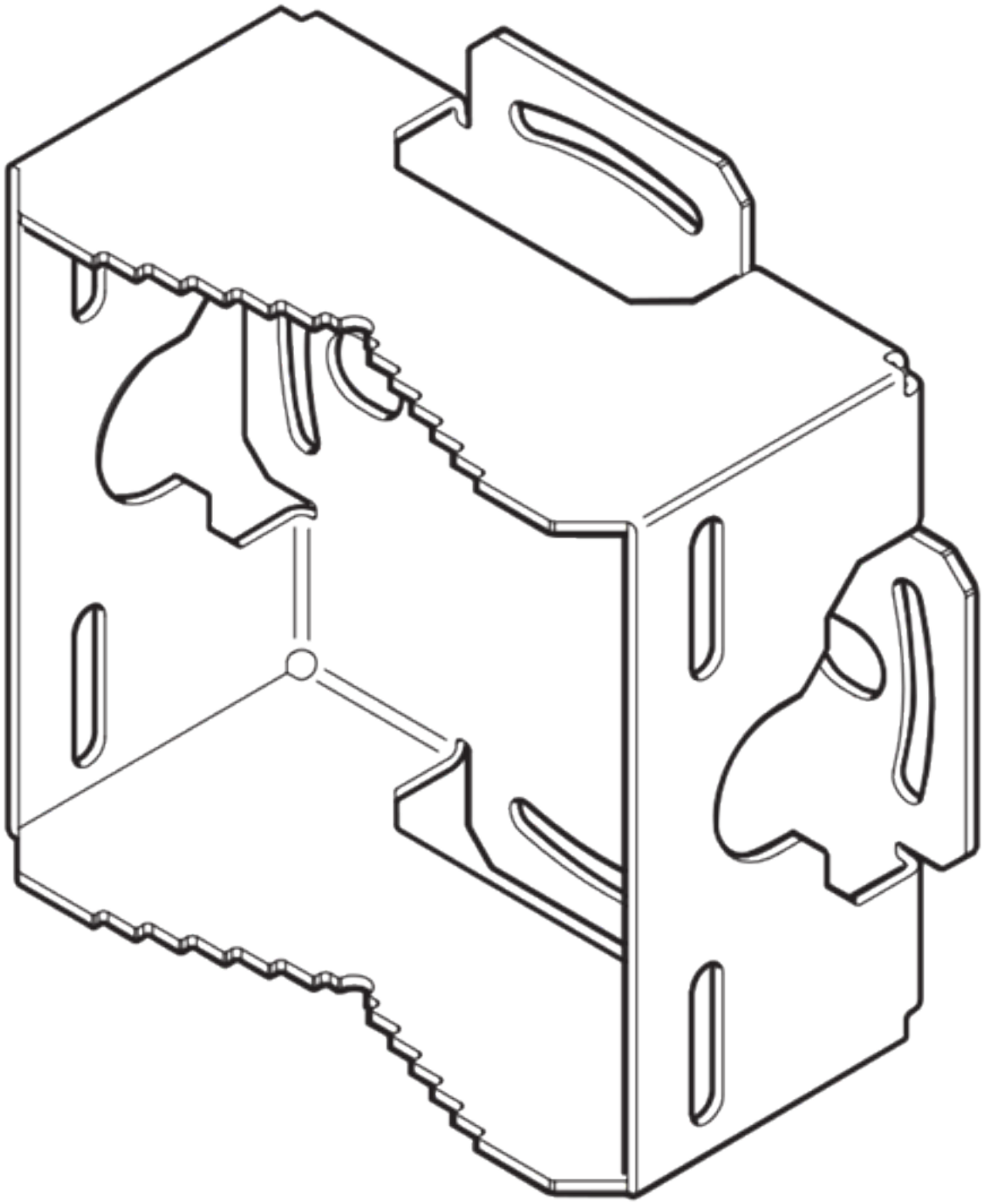


Figure 12: Pole part of the KT-147407-02 bracket

Procedure

1. Attach the KT-147407-02 flat part and 1-axis tilt part to the access point.

   For instructions on how to attach the bracket parts, see Install the flat part and the 1-axis tilt part of the KT-147407-02 bracket to the access point.

2. Attach the KT-147407-02 pole part to the 1-axis tilt bracket using two M12 bolts through the large bracket holes on the 1-axis tilt bracket and the pole bracket.
3. Fasten the bolts using two M12 hex nuts.

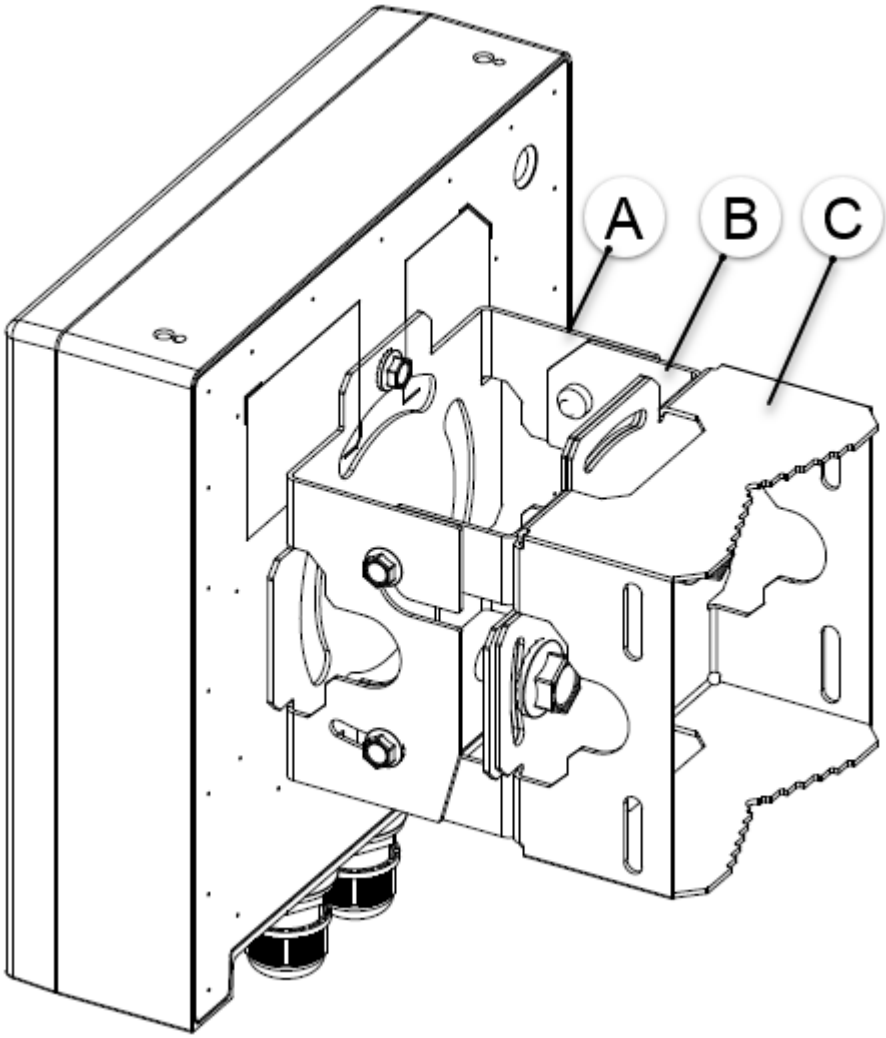


Figure 13: AP560i access point with KT-147407-02 bracket parts

Callout	Description
A	Flat part of the KT-147407-02 bracket, with two holes on the metal surface
B	1-axis tilt bracket, with large holes on the surface
C	Pole bracket

4. Insert 0.5 in. stainless-steel cable clamp through the long slots on the pole bracket.
5. Position the cable clamps on the pole bracket around a pole and attach the pole bracket.
6. Insert the ends of the cable clamps around the pole and tighten the clamp screws to a torque of 11 in-lbs.

Install the Access Point on a Pole Using KT-147407-02 Bracket Parts and KT-150173-01 Extension Arm

Before You Begin

The following hardware is required for pole installation using KT-147407-02 bracket parts and KT-150173-01 extension arm:

- Flat part of the KT-147407-02 bracket
- 1-axis tilt part of the KT-147407-02 bracket
- Pole part of the KT-147407-02 bracket
- KT-150173-01 extension arm
- Six M6 screws
- Four hex-head M12 stainless-steel screws
- Four hex-head M12 stainless-steel nuts
- Two 0.5" wide stainless-steel cable clamps
- One access point

About This Task

Install the access point on a pole with all three KT-147407-02 bracket parts and KT-150173-01 extension arm

Procedure

1. Attach the flat part and the 1-axis tilt part of the KT-147407-02 bracket to the access point.

   For instructions on how to attach the bracket parts, see Attach the flat part and the 1-axis tilt part of the KT-147407-02 bracket to the access point.
2. Align the circular holes on one end of the KT-150173-01 extension arm against the large holes on the 1-axis tilt bracket.
3. Attach the KT-150173-01 extension arm to the 1-axis tilt bracket by using two hex-head M12 stainless-steel screws and two hex-head M12 stainless-steel nuts.

4. Attach the KT-147407-02 pole part to the other end of the KT-150173-01 extension arm using two M12 screws and M12 hex-nuts.

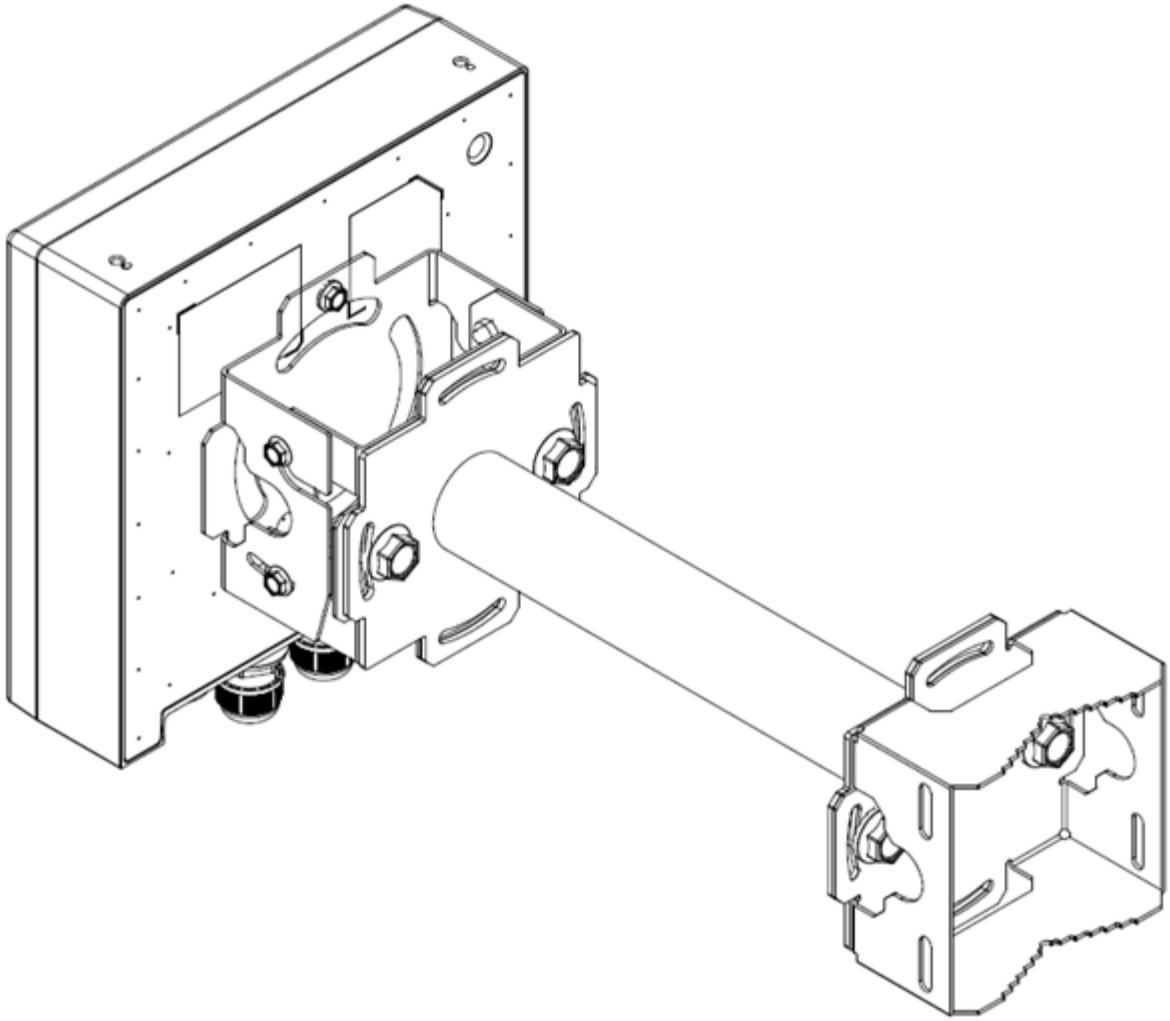


Figure 14: Attaching the KT-150173-01 extension arm to the 1-axis tilt part of the KT-147407-02 bracket

5. Insert 0.5 in. stainless-steel cable clamps through the KT-147407-02 pole part long slots.
6. Position the cable clamps around a pole and attach the pole bracket to a pole.
7. Insert the ends of the cable clamps around the pole and tighten the clamp screws to a torque of 11 in-lbs.

Mount the Access Point to a Pole using the Pole Part of the KT-147407-02 Bracket

Before You Begin

The following hardware is required for pole installation using KT-147407-02 pole bracket part to the access point:

- Pole part of the KT-147407-02 bracket
- Four M6 screws

- Two 0.5 in. wide stainless-steel cable clamps
- One access point

About This Task

The pole part of the KT-147407-02 bracket is attached to the access point for pole installation. To mount the access point to a pole using the KT-147407-02 pole bracket part:

Procedure

1. Attach the pole part of the KT-147407-02 bracket to the access point using four M6 screws.

   Align the four hinges of the pole part of the KT-147407-02 bracket against the holes on the access point to attach the M6 screws.
2. Attach the pole bracket to a pole by following steps 5, 6, and 7.

Mount the Access Point to a Pole using the Pole Part of the KT-147407-02 Bracket and the KT-150173-01 Extension Arm

Before You Begin

The following hardware is required for pole installation using KT-147407-02 pole bracket part and the KT-150173-01 extension arm:

- Pole part of the KT-147407-02 bracket
- KT-150173-01 extension arm
- Four M6 screws
- Two hex-head M12 stainless-steel screws
- Two hex-head M12 stainless-steel nuts
- Two 0.5 in. wide stainless-steel cable clamps
- One access point

About This Task

The extension arm is used with the pole part of the KT-147407-02 bracket on the access point for pole installation. To mount the access point to a pole using the KT-147407-02 pole bracket part and the KT-150173-01 extension arm:

Procedure

1. Attach the KT-150173-01 extension arm to the access point using two M6 screws.
2. Attach the pole bracket part of the KT-147407-02 bracket to the other end of the KT-150173-01 bracket using two hex-head M12 stainless-steel screws and two hex-head M12 stainless-steel nuts.
3. Attach the pole bracket to a pole by following steps 5, 6, and 7.

Install the Access Point on a Pole with the MBO-ART03 and KT-147407-02 Brackets

Before You Begin

The following hardware is required to install your access point to a pole with the MBO-ART03 and KT-147407-02 brackets.

Table 13: Hardware Requirements

Quantity	item
1	Access point.
1	KT-147407-02 bracket.
1	MBO-ART03 articulating mounting bracket.
2	M6 hex-head screws to attach the MBO-ART03 to the access point.
2	M6 screws with nuts and washers to attach KT-147407-02 to the MBO-ART03.
2	Long M6 Hex hex screws and nuts for providing an angular lock for each axis.
2	Cable clamps with a band of 0.5 in. (12.7 mm). Cable clamps must be purchased seperately as they are not included.
1	Torque wrench with sockets.
1	Flat head screwdriver.

About This Task

You can install your access point to a pole if you do not want to drill into a concret wall. With a pole, the access point coverage area can be greater because a pole is often higher than a wall.

Procedure

1. Attach the KT-147407-02 to the MBO-ART03 with two M6 screws, nuts, and washers.
2. Attach both cable clamps to the KT-147407-02 bracket.

   You open the cable clamp by inserting the head of the flathead screwdriver into the retaining screw and turning the screw counterclockwise. Then insert the nonclamp end into the KT-147407-02 through the holes.
3. Attach the two brackets to the pole.
4. Tighten the cable clamp screw around the pole by turning the screws clockwise with a flathead screwdriver.
5. Attach the access point to the MBO-ART03 with two M6 hex-head screws.
6. Adjust the two pivot points until you are satisfied.
7. Insert the locking bolts into the bracket and arm locking hole.
8. Attach the nuts and torque to 45 inch-pounds.
9. Tighten the pivot screws and nuts to 60 inch-pounds.
10. Attach the safety hanger strap as per the local code.

11. Adjust the LAN cable so the access point glands have a drip loop in each cable.

    The LAN cable must be located on the lower side for AP460i/e, AP560i, AP560h, AP5050D and AP5050U

Install the Access Point on a Pole Using MBO-ART02 Articulating Mounting Bracket and POLE01 Bracket

About This Task

Attach the access point to a pole using the WS-MBO-POLE01 bracket on MBO-ART02 articulating mounting bracket.

Note

The MBO-ART02 wall mount bracket is End of Sale (EOS) as of January, 2023. It is replaced by the MBO-ART03 bracket.

The 30520 wireless mounting kit is End of Sale (EOS).

For more information, see End of Sale and End Service Life.

Table 14: Hardware requirements for pole installation

Quantity	Item
1	Access point
1	MBO-ART02 articulating mounting bracket
2	M6 hex-head screws to attach the MBO-ART02 to the access point
1	WS-MBO-POLE01 bracket
4	M3 screws with nuts and washers to attach the WS-MBO-POLE01 bracket to the MBO-ART02 articulating mounting bracket
2	Cable clamps

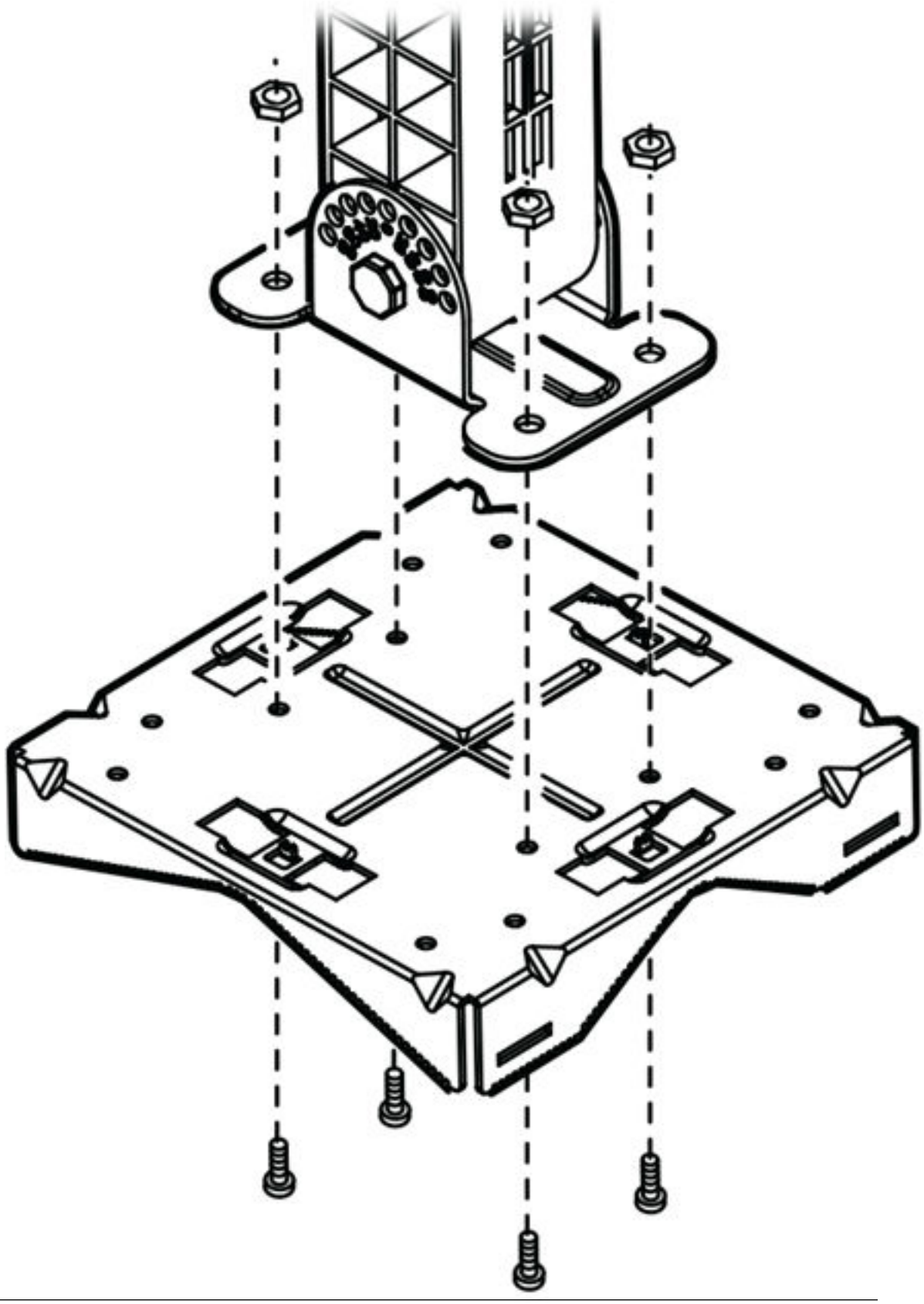
Note

You must provide stainless-steel cable clamps. The band must be 0.5 in. (12.7 mm) wide.

Procedure

1. Attach the MBO-ART02 articulating mounting bracket to the access point using two M6 hex-head screws.

2. Attach the WS-MBO-POLE01 bracket to the MBO-ART02 articulating mounting bracket using four M3 screws, nuts, and washers.



3. Attach both the cable clamps to the WS-MBO-POLE01 bracket.

   Open the cable clamp by turning a flat bladed screwdriver counterclockwise. Then insert the non-clamp end into the pole bracket through the holes.
4. Put the metal band around the pole and attach the WS-MBO-POLE01 bracket to the pole.
5. Tighten the cable clamp screw clockwise, tightening the band around the pole.

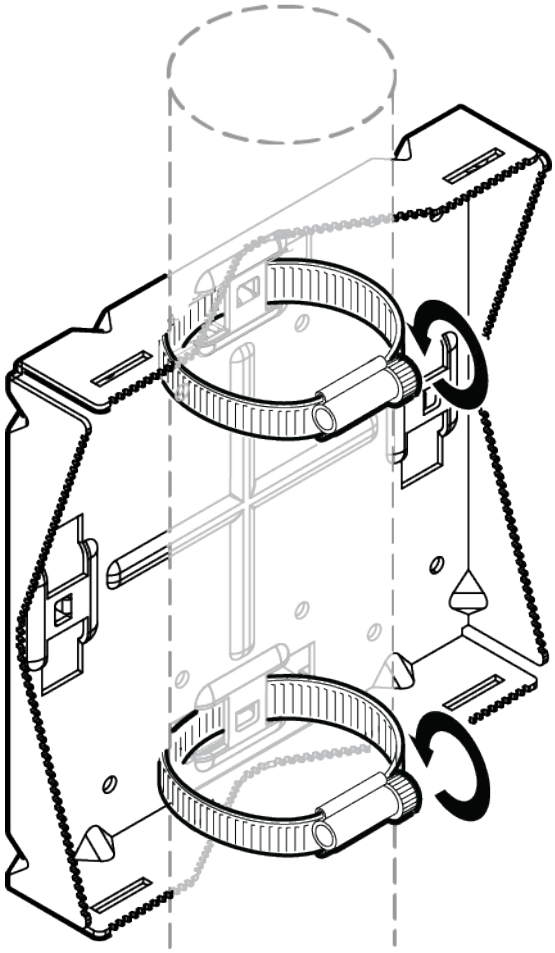


Figure 15: Tightening the cable clamps on the POLE01 bracket

Install the Plastic Service Panel on the Access Point

About This Task

A service panel must be installed when the access point is installed under-bench or on a riser.

When a service panel is installed on an access point that is mounted on a riser, the service panel bottom must be closed. Keeping the service panel bottom open will allow debris to fill up, that can shorten the life of the service panel.

Note
The service panel bottom opening must be closed and glued in place when not needed. The openings can be covered with at least 0.050 inches thick plastic or metal coverings.

Tip
The best practice is to use one part clear super glue and two parts epoxy to hold the service panel cover in place. This helps provide some resistance during pressure washing.

Note
When installing the access point flat against a surface in a location that uses ice melt, the best practice is to apply an anti-seize material to the screws before attaching them to the access point metal base.

Note
When you mount the AP on a riser with the metal "L" bracket only and not with a large metal sloping bracket, it is recommended that you add a 3mm-thick stainless steel washer between the “L” brackets and the riser on all of the anchors. The washer provides proper drainage during storms.

Procedure

1. Attach the plastic service panel base to the access point using four, 75 mm service panel shoulder screws.

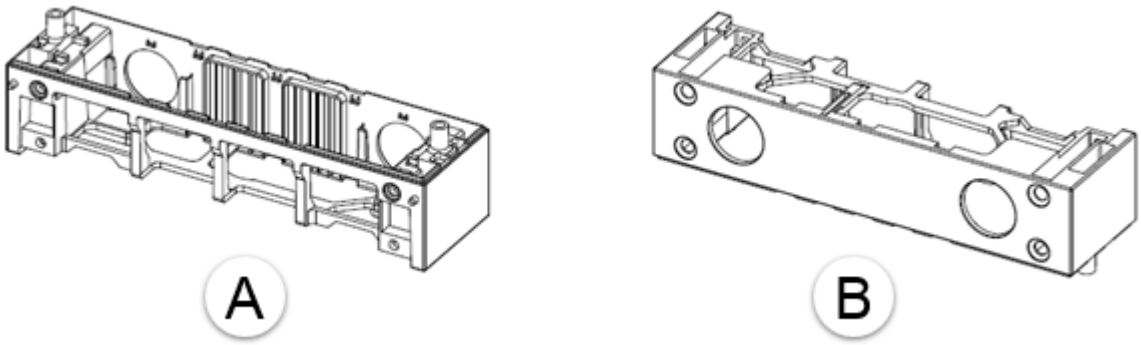


Figure 16: Plastic service panel base views

Callout	Description
A	Plastic service panel base
B	Side view of plastic service panel base

2. Torque the screws to 13 in-lbs.

3. Place the service panel top over the service panel base and lock it into place using the captive screw.

Figure 17: Plastic service panel top captive screw

Callout	Description
A	Plastic service panel top captive screw

4. Tighten the captive screw to 4.5 in-lbs by hand.

Secure the Access Point after Installation

Details about installing a security cable on the access point after installation.

Before You Begin

The following hardware must be supplied by the user for safety cable installation:

- A 3 mm diameter security cable
- Lock to secure the ends of the security cable

About This Task

You can secure the access point to the mounting environment using a 3 mm diameter safety cable. The safety cable is used to enhance the physical security of the access point after installation.

Procedure

1. Insert the safety cable through the security cable hole on the metal base of the access point.

Figure 18: Security cable hole on the access point

Callout	Description
1	Security cable hole

2. Push the cable through the security hole until you see it come out on the other side of the metal base.
3. Insert a lock through the looped ends of the cable and lock it in place.

Power or Pressure Washing Guidelines

Details about how to safely pressure wash the surface around the access point.

Before You Begin

Ensure that your pressure washing equipment fulfills the following specifications:

- Pressure washer Pounds per Square Inch (PSI) must be less than 4000.
- Do not use a nozzle with less than 15-degree washer tip.
- The pressure washing nozzle must be at least 24 in. away from the access point.

Cleaning solution specifications:

- Use only commercially available cleaning agents and solvents to clean the access point.

- Use only commercially available ice-melt products.

Warning
Do not use cleaning agents, solvents, and ice-melt products that are flammable, contain polycarbonate or rubber dissolving ingredients, uses refined petrochemical materials, and any other materials that can damage a concrete surface.

Note
Do not use the power washing equipment near power lines.

Note
Wear safety goggles with complete eye protection when using the power washing equipment.

About This Task

You can pressure wash the access point and the surface under a seat or a slope around the access point to remove dirt and debris.

Tip
The best practice is to follow the pressure washing guidelines for longevity of the access point parts.

Procedure

1. Use a prescribed pressure washing nozzle to wash the access point and the surface around it.

2. Keep the pressure washing nozzle at least 24 in. away from the access point.

Figure 19: Safe pressure washing procedure

Callout	Description
1	Safety goggles with complete eye protection
2	Pressure washing nozzle

3. If the stadium ramp base cannot be pressure washed from behind, the best practice is to use the EIO-GASKET.

   The EIO-GASKET keeps debris from getting between the ramp base and a wall or a riser.

   For more details, see Install the EIO-04 Under-Seat Slope Bracket with the Access Point Against a Stadium Riser Slope Using EIO-GASKET on page 25.

Ground the Access Point

Learn how to safely ground the access point.

About This Task

Ground the outdoor access point for outdoor installations. A ground terminal is provided for lightning protection.

Note
Ground connection is not required for under seat or indoor deployments. The ground connector on the access point is not a protective earth ground.

To add ground connection to the access point:

Procedure

1. Attach the ring terminal to the ground wire.
2. Insert the ring terminal on the ground screw.
3. Thread the ground screw into the access point hole below the ground symbol.

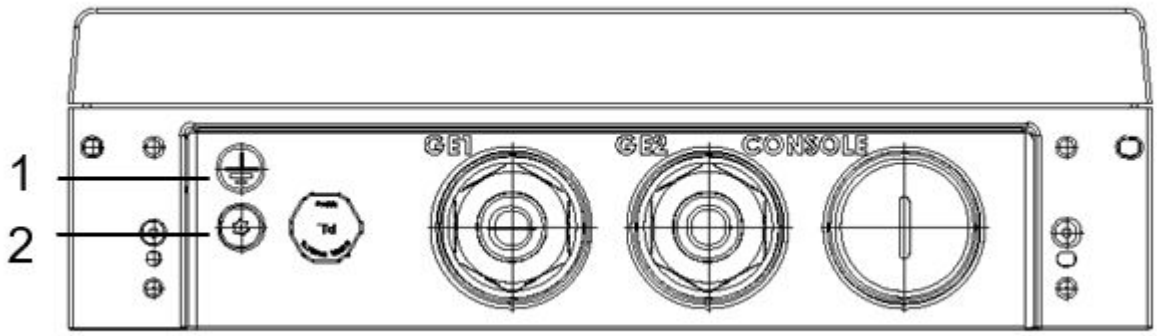


Figure 20: Ground port hole

Callout	Description
1	Ground symbol
2	Ground screw hole

4. Tighten the ground screw to 12 in-lbs.

GE1 or GE2 Cable Connection Through the Service Panel Base

GE1 or GE2 Cable Connection Through the Metal Sloping Bracket on page 55

Learn how to connect the GE1 or GE2 cable using the front or the rear holes on the sides of the service panel base or the large conduit hole on the metal sloping bracket.

About This Task

The GE1 or GE2 cable is connected through the front or the rear holes on the sides of the service panel base.

The following hardware is required to attach the GE1 or GE2 cable through the service panel base hole:

- GE1 or GE2 cable
- One blank conduit cover to cover the front hole on the side of the service panel base
- One 1 in. or ¾ in. conduit cover, depending on the circumference of the GE1 or GE2 cable
- One or two blank conduit covers for the metal sloping bracket
- Service panel base
- Service panel top

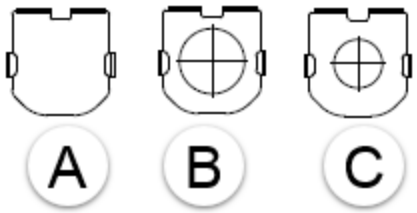


Figure 21: Service panel metal conduit covers

Callout	Description
A	Blank conduit cover to cover the front hole on the side of the service panel base
B	¾ in. conduit cover
C	½ in. conduit cover

Procedure

1. Using the blank conduit cover, cover the front hole of the service panel base.
2. Attach either the ½ in. conduit cover or the ¾ in. conduit cover to the rear hole of the service panel base.
3. Bring in the GE1 or GE2 cable, and the ground wire through the rear side hole of the service panel base.
4. Loosely align the service panel base next to the metal sloping bracket, thereby leaving enough space to attach the GE1 or GE2 cable to the access point.
5. Attach the ground wire to the access point.
6. Remove the gland caps, plastic cage, and the gasket from the GE1 port.

   Note
   Put the removed parts onto the LAN cable to be attached to the access point later.

7. Connect the GE1 LAN cable through the GE1 gland port until it clicks into place in the GE1 port.

   If there is a GE2 connection, insert the cable through the GE2 gland until it locks into place in to the GE2 port.
8. Torque the gland cap to 12-in lbs.
9. Fold and arrange the GE1 cable into the gap of the metal sloping bracket and the service panel base.

   The GE1 cable must not be bent sharply and must have 1 in. bend radius.

GE1 or GE2 Cable Connection Through the Metal Sloping Bracket

About This Task

Connect the GE1 or GE 2 cable through the large conduit hole on the metal sloping bracket.

Note
You must provide the appropriate conduit connector.

The following hardware is required to connect the GE1 or GE2 cable using the large conduit hole on the metal sloping bracket:

- GE1 or GE2 cable
- Two blank conduit covers to cover the front and the rear holes on the side of the service panel base
- One metal sloping bracket

Note
The conduit cover used on the metal sloping bracket can extend above the concrete floor but, cannot extend above the slope.

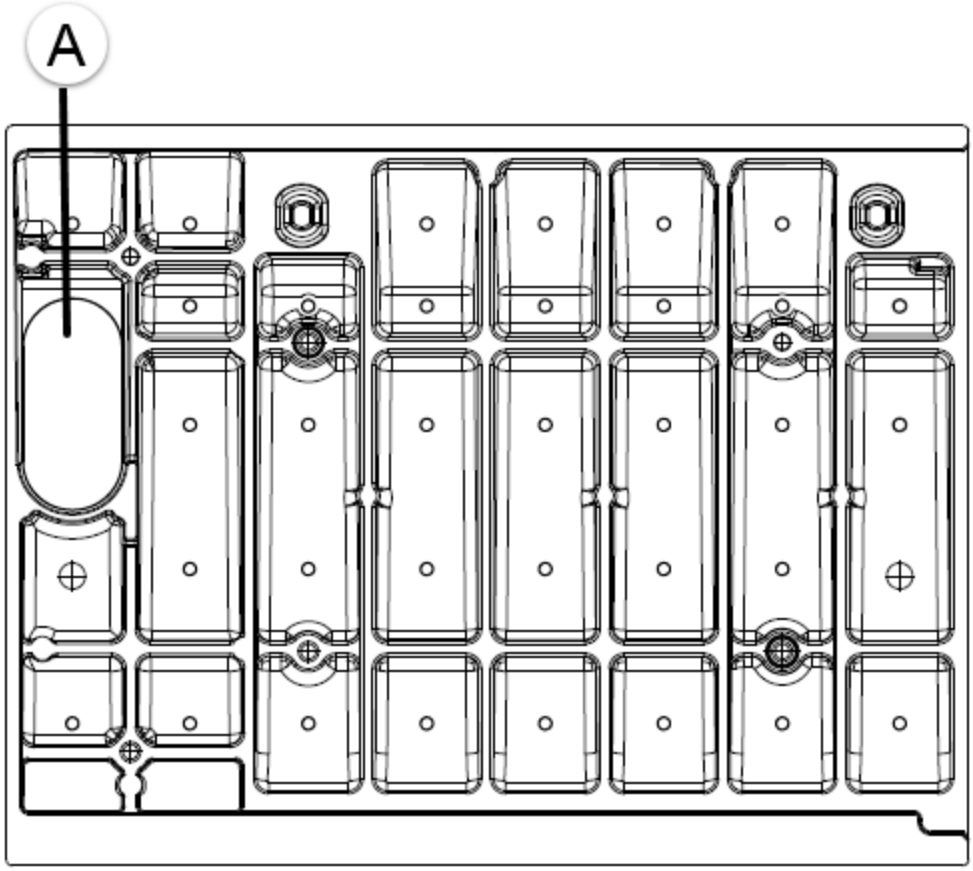


Figure 22: Metal sloping bracket with the large conduit hole

Callout	Description
A	Large conduit hole on the metal sloping bracket

Procedure

1. Using two anchors, nuts, and washers, attach the metal sloping bracket to the concrete floor.
2. Attach the conduit to the metal sloping bracket.

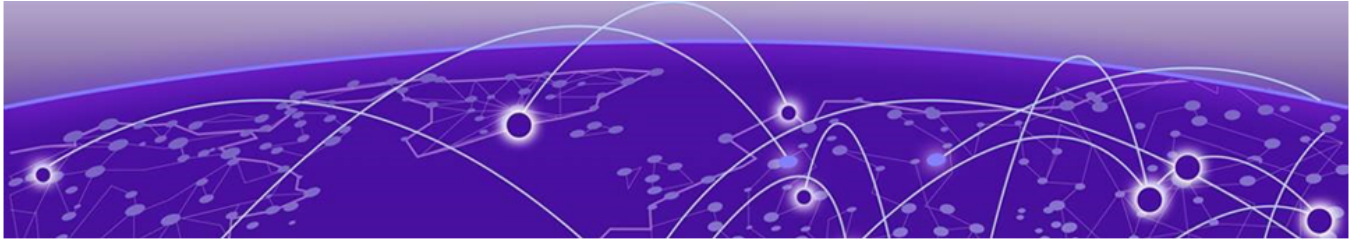
   Note
   The conduit must extend out of the concrete by a minimum of 1/4 in. The maximum length is below the slope surface.

3. Bring in the GE1 or GE2 cable through the conduit hole.
4. Remove the gland cap, plastic cage, and the gasket from the GE1 port.

   Note
   Put the removed parts onto the LAN cable to be attached to the access point later.

5. Connect the GE1 LAN cable through the GE1 port until it clicks into place.

   If there is a GE2 connection, insert the cable through the GE2 gland until it locks into place into the GE2 port.
6. Torque the gland cap to 12-in lbs.
7. Fold and arrange the GE1 cable into the gap of the metal sloping bracket.



Access Point Specifications

Physical specifications

Item	Description
Dimensions	11.3 in. × 10 in. × 2.9 in. (288 mm × 254 mm × 75 mm)
Housing	8.99 lbs. (4.08 kg)
IP rating	IP67
LAN Ethernet	1 × 100/1000/2500/5000 Mbps auto-negotiation Ethernet port, RJ45 1 × 10/100/1000 Mpbs auto-negotiation Ethernet port, RJ45
Console port	RJ45
PoE failover	Redundant PoE capable
LEDs	Two top mounted LEDs and multiple LED radio indicators
Energy efficiency	802.3az energy-efficient Ethernet
Anti-theft locks	Security hanger hole

Environmental specifications

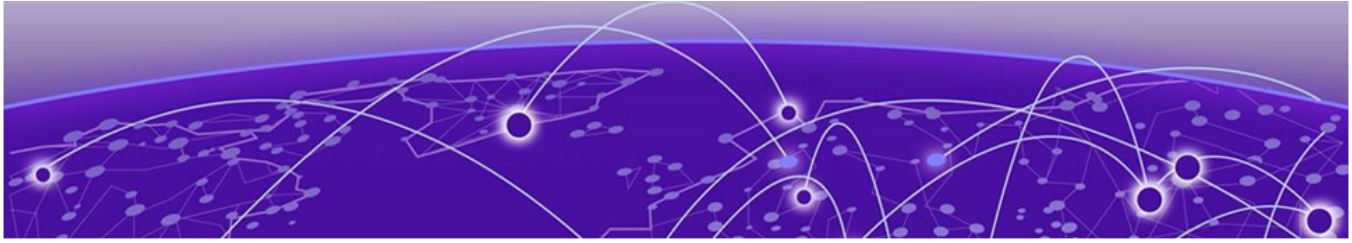
Item	Description
Operating temperature	-40°C to +55°C (-40° F to +131° F)
Humidity	0 – 95% (non-condensing)
Storage and transportation temperature	-40°C to +70°C (-40° F to +158° F)
Electrostatic discharge	15kV air, 8kV contact

Power specifications

Item	Description
Operating voltage	PoE-PD: 48-57VDC
Operating current	PoE-PD: 500mA at 48V

Item	Description
PoE PD class	802.3at
Power consumption	Max: 22 W Idle (radios on) : 9.5 W Typical: 18 W

Note
For detailed product specifications, refer to the AP560i data sheet.



Regulatory and Compliance Information

Learn about safety guidelines, compliance notices, and regulatory information pertaining to various countries in which the device can be used.

Safety Guidelines

The following safety guidelines are intended to protect your personal safety and prevent damage to the equipment.

Important
Only qualified personnel must perform installation procedures. Within the context of the safety notes in this documentation, qualified persons are defined as persons who are authorized to commission grounding, label devices, systems, and circuits in accordance with established safety practices and standards. A qualified person understands the requirements and risks involved with installing outdoor electrical equipment in accordance with national codes.

Professional Installation Instructions

Installation personnel

This product is designed for specific application and needs to be installed by a qualified personnel who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

Installation procedure

Refer to the installation instructions for details.

Warning
Select the installation position and ensure that the final output power does not exceed the limit set forth in relevant rules. The violation of the rule could lead to serious federal penalty.

Instructions d'installation professionnelle

Installation

Ce produit est destine a un usage specifique et doit etre installe par un personnel qualifie maitrisant les radiofrequences et les regles s'y rapportant. L'installation et les reglages ne doivent pas etre modifies par l'utilisateur final.

Procedure d'installation

Consulter le manuel d'utilisation.

Warning
Avertissement: Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne depasse pas les limites en vigueur. La violation de cette regle peut conduire a de serieuses penalites federales.

FCC Declaration of Conformity Statement

Warning
This device is restricted for indoor use.

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:

- This device may not cause harmful interference .
- This device must accept any interference received, including interference that may cause undesired operation.

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

Warning
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 of 23 cm between the radiator and your body.

FCC Radiation Exposure Statement

Warning
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 2.5 cm between the radiator and your body.

Industry Canada (IC) Notice

NCC Statement

「經型式認證合格之低功率射頻電機，非經許可，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」。

「低功率射頻電機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。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機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」。無線資訊傳輸設備避免影響附近雷達系統之操作。

CE Information

CE Information

CE Information

The device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.

This device complies with Conformitè Europëenne (CE) in the following countries.

Table 15: Conformitè Europëenne (CE) compliance

	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK

All Operational Modes

2.4GHz: 802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40), 802.11ax (HEW20), 802.11ax (HEW40), 802.15.4 (Thread), Bluetooth (LE)

5GHz: 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ac (VHT80), 802.11ac (VHT160), 802.11ax (HEW20), 802.11ax (HEW40), 802.11ax (HEW80), 802.11ax (HEW160)

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

- 2412-2472MHz: 19.96 dBm
- 2402-2480MHz (LE): 6.32 dBm
- 5180-5240MHz: 22.93 dBm
- 5260-5320MHz: 22.95 dBm
- 5500-5700MHz: 28.84 dBm
- 2405-2480MHz: 6.45 dBm

BSMI RoHS Table

CX/2020/40060 附件

設備名稱：AP560i OUTDOOR AP，型號：AP560i-WR						
單元	限用物質及其化學符號					
	鉛	汞	鎘	六價鉻	多溴聯苯	多溴二苯醚
1. 機構件	○	○	○	○	○	○
2. 印刷電路板	—	○	○	○	○	○
3. 線材組件	○	○	○	○	○	○
4. 螺絲組件	○	○	○	○	○	○

備考 1. "超出0.1wt%" 及 "超出0.01wt%" 係指限用物質之百分比含量超出百分比含量基準值。
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。
3. "—" 係指該項限用物質為排除項目。

設備名稱：AP560i OUTDOOR AP，型號：AP560i-WR		
排除項目說明		
單元	樣品編號	說明
2	2.19	依據客戶宣稱，"鉛"為CNS 15663附錄D之排除項目D.14

European Waste Electrical and Electronic Equipment (WEEE) Notice

In accordance with Directive 2012/19/EU of the European Parliament on waste electrical and electronic equipment (WEEE):

1. The symbol above indicates that separate collection of electrical and electronic equipment is required.
2. When this product has reached the end of its serviceable life, it cannot be disposed of as unsorted municipal waste. It must be collected and treated separately.
3. It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.
4. It is the user's responsibility to utilize the available collection system to ensure WEEE is properly treated.

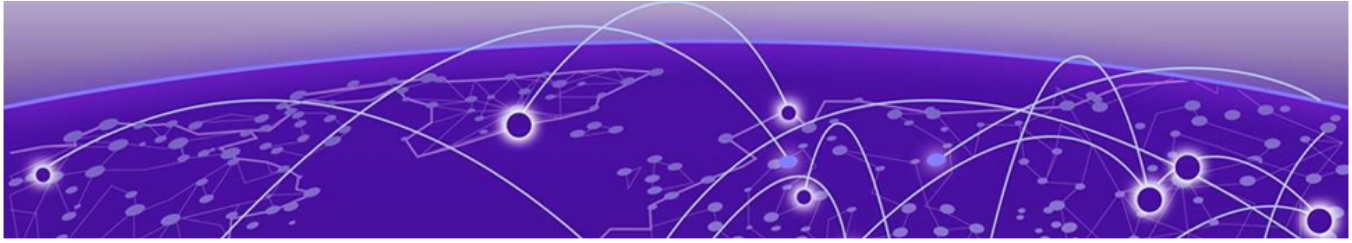
For information about the available collection system, please contact Extreme Environmental Compliance at Green@extremenetworks.com.

Declaration of Conformity in Languages of the European Community

English	Hereby, Extreme Networks declares that the radio equipment type (AP560i) is in compliance with Directive 2014/53/EU. For full text of the EU Declaration of Conformity, contact Extreme Regulatory Compliance at compliancerequest@extremenetworks.com
Finnish	Valmistaja Extreme Networks vakuuttaa täten että Radio LAN device (AP560i) tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. EU-vaatimustenmukaisuusvaatimuksen täydellisestä tekstistä ota yhteyttä äärimmäisiin säädösten noudattamiseen osoitteessa compliancerequest@extremenetworks.com
Dutch	Hierbij verklaart Extreme Networks dat het toestel Radio LAN device (AP560i) in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU. Neem voor de volledige tekst van de EU-conformiteitsverklaring u contact opnemen met extreme regelgeving op compliancerequest@extremenetworks.com
French	Par la présente Extreme Networks déclare que l'appareil Radio LAN device (AP560i) est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU. Pour obtenir le texte intégral du processus de Déclaration de la conformité de l'UE, veuillez contacter la conformité réglementaire extrême à l'adresse suivante: compliancerequest@extremenetworks.com
Swedish	Härmed intygar Extreme Networks att radioutrustningstypen (AP560i) överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/ EU. För fullständig text av EU-försäkran om överensstämmelse, kontakta Extreme regelefterlevnad på compliancerequest@extremenetworks.com

Danish	Undertegnede Extreme Networks erklærer herved, at følgende udstyr Radio LAN device (AP560i) overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU. For den fulde ordlyd af EU-overensstemmelseserklæringen bedes du kontakte Extreme Regulatory Compliance på compliancerequest@extremenetworks.com
German	Hiermit erklärt Extreme Networks die Übereinstimmung des "WLAN Wireless Controller bzw. Access Points" (AP560i) mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 2014/53/EU. Für den vollständigen Wortlaut der EU-Konformitätserklärung wenden Sie sich bitte an extreme Regulatory Compliance unter compliancerequest@extremenetworks.com
Greek	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Extreme Networks ΔΗΛΩΝΕΙ ΟΤΙ Radio LAN device (AP560i) ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU. Για το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ, παρακαλούμε επικοινωνήστε με την ακραία κανονιστική συμμόρφωση στο compliancerequest@extremenetworks.com
Icelandic	Extreme Networks lysir her med yfir að thessi bunadur, Radio LAN device (AP560i), uppfyllir allar grunnkrofur, sem gerdar eru i R&TTE tilskipun ESB nr 2014/53/EU. Fyrir fullan texta í ESB yfirlýsingu um samræmi, vinsamlegast hafðu samband við Extreme Reglufylgni á compliancerequest@extremenetworks.com
Italian	Con la presente Extreme Networks dichiara che questo Radio LAN device (AP560i) è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU. Per il testo integrale della Dichiarazione di conformità dell'UE, contattare Extreme Regulatory Compliance presso compliancerequest@extremenetworks.com

Spanish	Por medio de la presente Extreme Networks declara que el Radio LAN device (AP560i) cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU. Para obtener el texto completo de la Declaración de conformidad de la UE, póngase en contacto con Extreme Regulatory Compliance en compliancerequest@extremenetworks.com
Portuguese	Extreme Networks declara que este Radio LAN device (AP560i) está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU. Para o texto integral da declaração de conformidade da UE, contacte a conformidade regulamentar extrema em compliancerequest@extremenetworks.com
Malti	Hawnhekk, Extreme Networks, jiddikjara li dan Radio LAN device (AP560i) jikkonforma mal-htigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 2014/53/EU. Għat-test sħiħ tad-dikjarazzjoni ta ' konformità tal-UE, jekk jogħġbok ikkuntattja lill-konformità regolatorja compliancerequest@extremenetworks.com



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