



# ExtremeWireless™ AP560h Access Point

## Installation Guide

9036166-04 Rev AB  
October 2023



Copyright © 2023 Extreme Networks, Inc. All rights reserved.

## Legal Notice

Extreme Networks, Inc. reserves the right to make changes in specifications and other information contained in this document and its website without prior notice. The reader should in all cases consult representatives of Extreme Networks to determine whether any such changes have been made.

The hardware, firmware, software or any specifications described or referred to in this document are subject to change without notice.

## Trademarks

Extreme Networks and the Extreme Networks logo are trademarks or registered trademarks of Extreme Networks, Inc. in the United States and/or other countries.

All other names (including any product names) mentioned in this document are the property of their respective owners and may be trademarks or registered trademarks of their respective companies/owners.

For additional information on Extreme Networks trademarks, see: [www.extremenetworks.com/company/legal/trademarks](https://www.extremenetworks.com/company/legal/trademarks)

## Open Source Declarations

Some software files have been licensed under certain open source or third-party licenses.

End-user license agreements and open source declarations can be found at: <https://www.extremenetworks.com/support/policies/open-source-declaration/>



# Table of Contents

---

Preface.....	v
Conventions.....	v
Text Conventions.....	v
Documentation and Training.....	vii
Help and Support.....	vii
Subscribe to Product Announcements.....	viii
Send Feedback.....	viii
<b>AP560h Overview.....</b>	<b>9</b>
New in this Guide.....	9
AP560h Features.....	10
Purchase Order Information.....	11
AP560h purchase order information.....	11
<b>New in this Guide.....</b>	<b>14</b>
<b>Install the Access Point.....</b>	<b>15</b>
Verify the AP560h Box Contents.....	15
Access Point Bracket Usage and Mounting Options.....	16
Install the Access Point on a Wall.....	17
Install the Access Point on a Wall Using MBO-ART02 Articulating Mounting Bracket.....	19
Install the Access Point on a Wall or Flat Surface Using the KT-147407-02 Bracket Parts.....	22
Install the Access Point Using KT-147407-02 Bracket Parts and KT-150173-01 Extension Arm.....	24
Install the Access Point Using KT-150173-01 Extension Arm.....	25
Install the Access Point on a Pole.....	25
Install the Access Point on a Pole Using MBO-ART02 Articulating Mounting Bracket and POLE01 Bracket.....	26
Install the Access Point on a Pole Using KT-147407-02 Bracket Parts.....	30
Install the Access Point on a Pole Using KT-147407-02 Bracket Parts and KT-150173-01 Extension Arm.....	32
Secure the Access Point after Installation.....	34
Power or Pressure Washing Guidelines.....	35
<b>Ground the Access Point.....</b>	<b>37</b>
<b>GE1 or GE2 Cable Connection.....</b>	<b>38</b>
<b>Product Specifications.....</b>	<b>39</b>
<b>Regulatory and Compliance Information.....</b>	<b>40</b>
Professional Installation Instruction.....	40
Installation personnel.....	40

---

Installation location.....	40
External antenna.....	40
Installation procedure.....	41
Instructions d'installation professionnelle.....	41
Safety Guidelines.....	41
FCC Declaration of Conformity Statement.....	42
FCC Caution:.....	42
Federal Communications Commission (FCC) Notice.....	42
Industry Canada (IC) Notice.....	43
Industry Canada (IC) Notice.....	43
CE Information.....	44
CE Information.....	44
All Operational Modes.....	44
European Waste Electrical and Electronic Equipment (WEEE) Notice.....	45
<b>Index.....</b>	<b>46</b>



# 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 <i>enter</i> and <i>type</i>	When you see the word <i>enter</i> 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 <i>type</i> .
<b>Key names</b>	Key names are written in boldface, for example <b>Ctrl</b> or <b>Esc</b> . If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press <b>Ctrl+Alt+Del</b>
<i>Words in italicized type</i>	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.
<b>NEW!</b>	New information. In a PDF, this is searchable text.

**Table 3: Command syntax**

Convention	Description
<b>bold text</b>	Bold text indicates command names, keywords, and command options.
<i>italic text</i>	Italic text indicates variable content.
[ ]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ <b>x</b>   <b>y</b>   <b>z</b> }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
<b>x</b>   <b>y</b>	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, <i>member [member . . .]</i> .
\	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.

## Documentation and Training

---

Find Extreme Networks product information at the following locations:

[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/](http://www.extremenetworks.com/education/).

## 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](http://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

## Subscribe to Product Announcements

You can subscribe to email notifications for product and software release announcements, Field Notices, and Vulnerability Notices.

1. Go to [The Hub](#).
2. In the list of categories, expand the **Product Announcements** list.
3. Select a product for which you would like to receive notifications.
4. Select **Subscribe**.
5. To select additional products, return to the **Product Announcements** list and repeat steps 3 and 4.

You can modify your product selections or unsubscribe at any time.

## Send Feedback

---

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](mailto: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.





# AP560h Overview

---

[New in this Guide](#) on page 9

[AP560h Features](#) on page 10

[Purchase Order Information](#) on page 11

The AP560h is a Wi-Fi 6, 802.11ax/ac/abgn outdoor access point. The access point caters to the stadium environment by supporting high density of users and devices. It offers flexible deployment options and can be mounted to a pole, and to a wall, thereby ensuring exceptional mobile experience throughout the stadium.

The AP560h access point is sold separately, and all brackets and accessories must be purchased separately.



**Note**

The AP560h-FCC access point requires a minimum base firmware of WiNG 7.1.2.



**Note**

AP560h-WR access point requires a minimum base firmware of WiNG 7.2.1.0-015R.

## New in this Guide

---

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

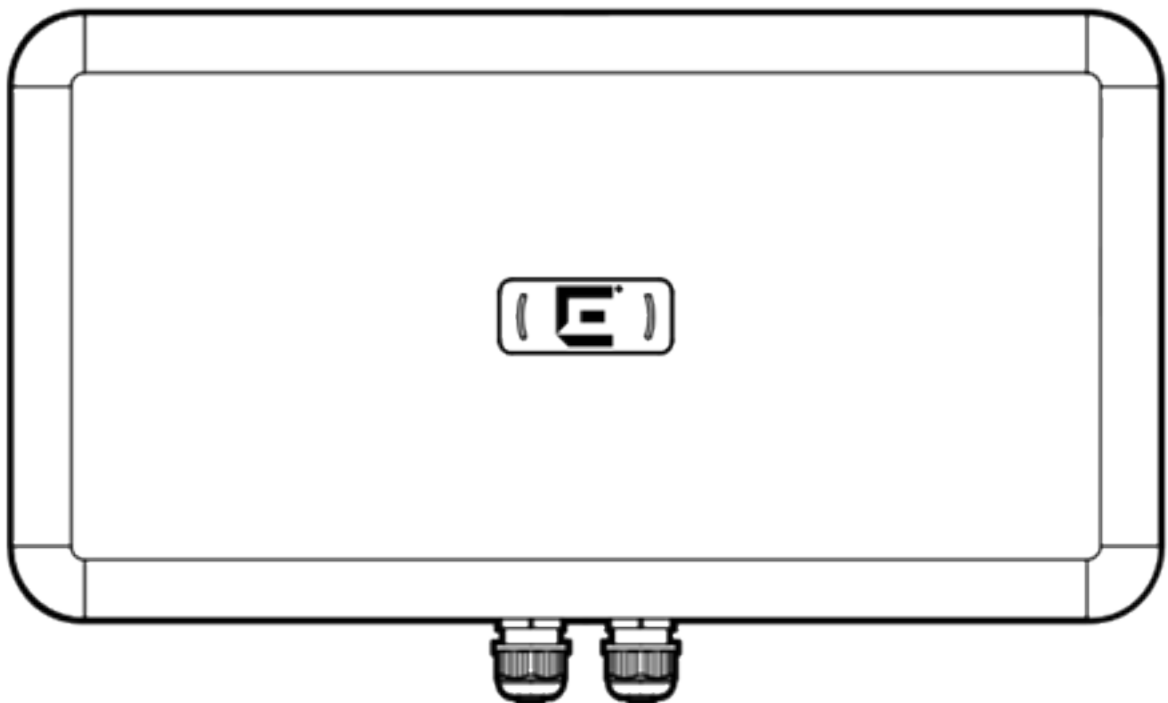
**Table 4: October 2023 Revisions**

Section	Description
<a href="#">AP560h Features</a>	Removed Reset button documentation error.
<a href="#">AP560h Features</a>	Updated torque specifications for gland caps.
<a href="#">GE1 or GE2 Cable Connection</a>	

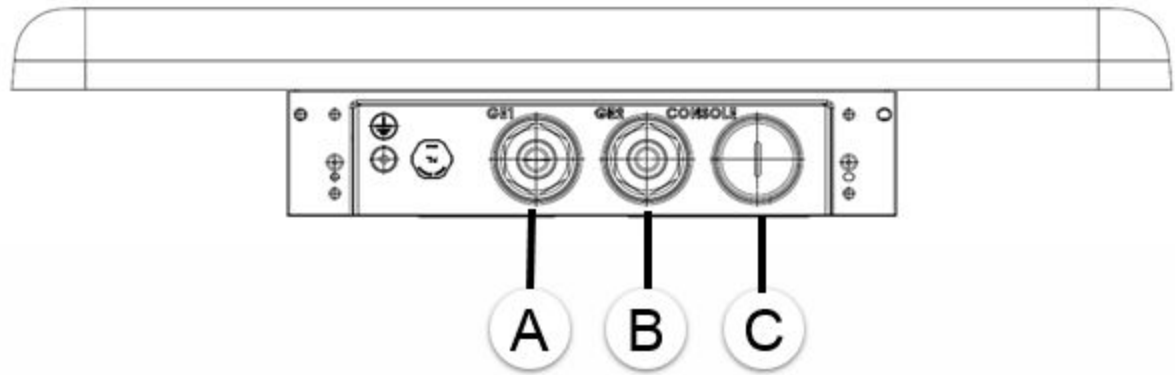
## AP560h Features

The AP560h access point has the following features:

- Radios: Two radios
  - 1 dual-band, 2.4GHz and 5GHz, and 1 band-locked 5GHz
  - 1 IoT Radio (2.4 GHz)
- Two Ethernet ports
  - 1 x 100/1000/2500/5000 Mbps auto-negotiation Ethernet port, RJ45
  - 1 x 10/100/1000 Mpbs auto-negotiation Ethernet port, RJ45
- Dimensions: 11.3 in. × 18.9 in. × 3.5 in. (288 mm × 481 mm × 88 mm)
- LEDs: Two top-mounted LEDs
- One security hanger hole
- Power: PoE 802.3at
- Antennas:
  - Two software selectable internal antennas (30 degree and 70 degree directional antennas)
- Temperature:
  - Operating temperature: -40°C to +55°C (-40°F to +131°F)
  - Storage temperature: -40°C to +70°C (-40°F to +158°F)
- Enclosure: Plastic only



**Figure 1: AP560h front view**



**Figure 2: AP560h access point side ports**

Callout	Description
A	GE1 port
B	GE2 port
C	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.

## Purchase Order Information

Learn how to purchase various brackets and accessories for installing the AP560h access point.

The AP560h access point is sold by itself and cannot be installed without a mounting bracket or an accessory.

## AP560h purchase order information

Part number	Description
AP560h-FCC	Cloud-ready, Dual 5GHz, Dual-band, Sensor radio, Dual Radio 802.11ax/ac/abgn, 4x4:4 MIMO Outdoor 11ax access point. Internal 30deg/70deg Panel Antenna. Domain: US and Columbia

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).

Part number	Box contents
KT-147407-02	The KT-147407-02 bracket comes with three bracket parts: <ul style="list-style-type: none"> <li>• Flat part with holes on the metal surface</li> <li>• 1-axis tilt part</li> <li>• Boxed pole part with step edges</li> </ul>
	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.

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

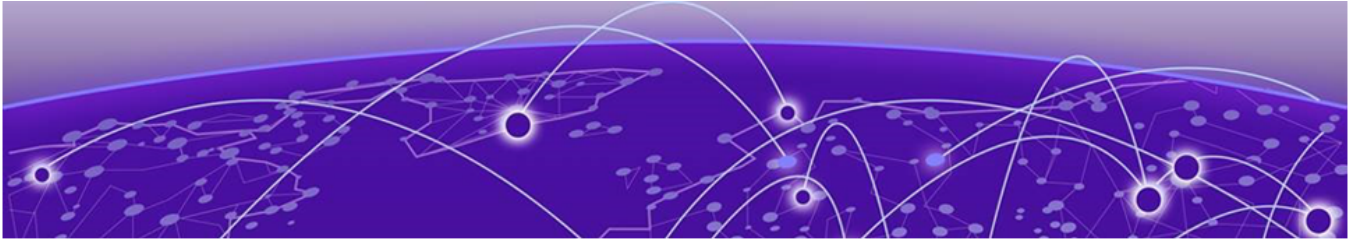


**Note**

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

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

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



## New in this Guide

---

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

**Table 5: October 2023 Revisions**

Section	Description
<a href="#">AP560h Features</a>	Removed Reset button documentation error.
<a href="#">AP560h Features</a>	Updated torque specifications for gland caps.
<a href="#">GE1 or GE2 Cable Connection</a>	



# Install the Access Point

---

- [Verify the AP560h Box Contents](#) on page 15
- [Access Point Bracket Usage and Mounting Options](#) on page 16
- [Install the Access Point on a Wall](#) on page 17
- [Install the Access Point on a Pole](#) on page 25
- [Secure the Access Point after Installation](#) on page 34
- [Power or Pressure Washing Guidelines](#) on page 35

## About This Task

The access point is installed on a flat surface such as a wall and to a pole using brackets and accessories. Refer to the [purchase order information](#) to know more about picking the right access point bundle for your installation needs.



### Note

The access point cannot be installed directly on a wall or to a pole without the mounting bracket.

When you receive the access point bundle, perform a visual inspection of the access point, the bracket, and the accessories for any physical damage.

Contact [Extreme Networks Support](#) in case of any damage.

Before installing the access point:

## Procedure

1. [Verify the box contents](#).
2. Review the [safety guidelines](#).

## Verify the AP560h Box Contents

---

### About This Task

The box contains the access point and a removable label for your documentation. There is another label that mentions the minimum base firmware version that the product needs to have.

## Procedure

1. Verify that the box contains the following items:

Quantity	Item
1	AP560h Quick Reference
1	AP560h access point

2. Verify the [purchase order information](#) of the bracket or accessory you have ordered to install the access point.

## Access Point Bracket Usage and Mounting Options

Details about various mounting brackets and accessories that can be used with the access point during wall or pole installation.

The access point is mounted on a wall or to a pole, the details of which are described in the following table:

**Table 6: AP560h mounting brackets and accessories usage**

Mounting bracket/ accessory and part number	Wall install	Pole install	Notes
KT-147407-02 bracket; comes with three bracket parts	Yes	Yes	For attaching to a wall or a flat surface, use the bracket part that has two holes metal surface. 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	None.



**Table 6: AP560h mounting brackets and accessories usage (continued)**

Mounting bracket/ accessory and part number	Wall install	Pole install	Notes
WS-MBO-POLE01 (#30520); bracket; also known as the pole mounting bracket	No	Yes	If the pole diameter is $\leq 1.0$ in. (25.4 mm), use small cable clamp. If the pole diameter is between 5.0 in. (127.0 mm) – 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. (12.7mm) wide. The POLE01 bracket can be used only when paired with the MBO-ART02 bracket.
MBO-ART02; 10 in. 2-axis articulating mounting bracket	Yes	Yes	The articulating mounting bracket is used with POLE01 bracket for pole install. The wall must be strong enough to support the access point during inclement weather.

**Note**

The access point cannot be installed without the mounting bracket.

## 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 6](#) on page 23).
- KT-150173-01 extension arm (see [Figure 7](#) on page 24).
- 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 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 7: 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.

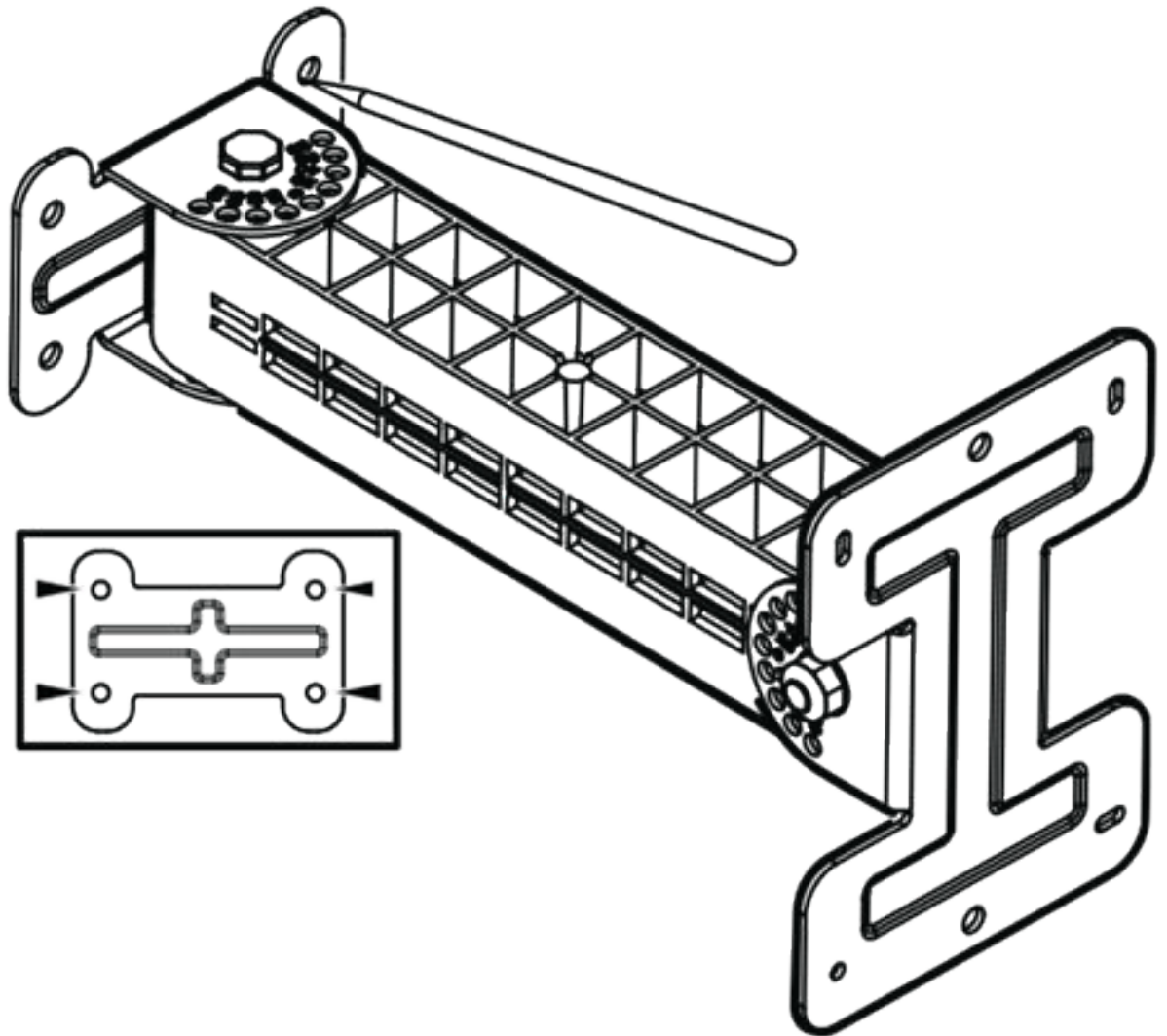
**Note**

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:

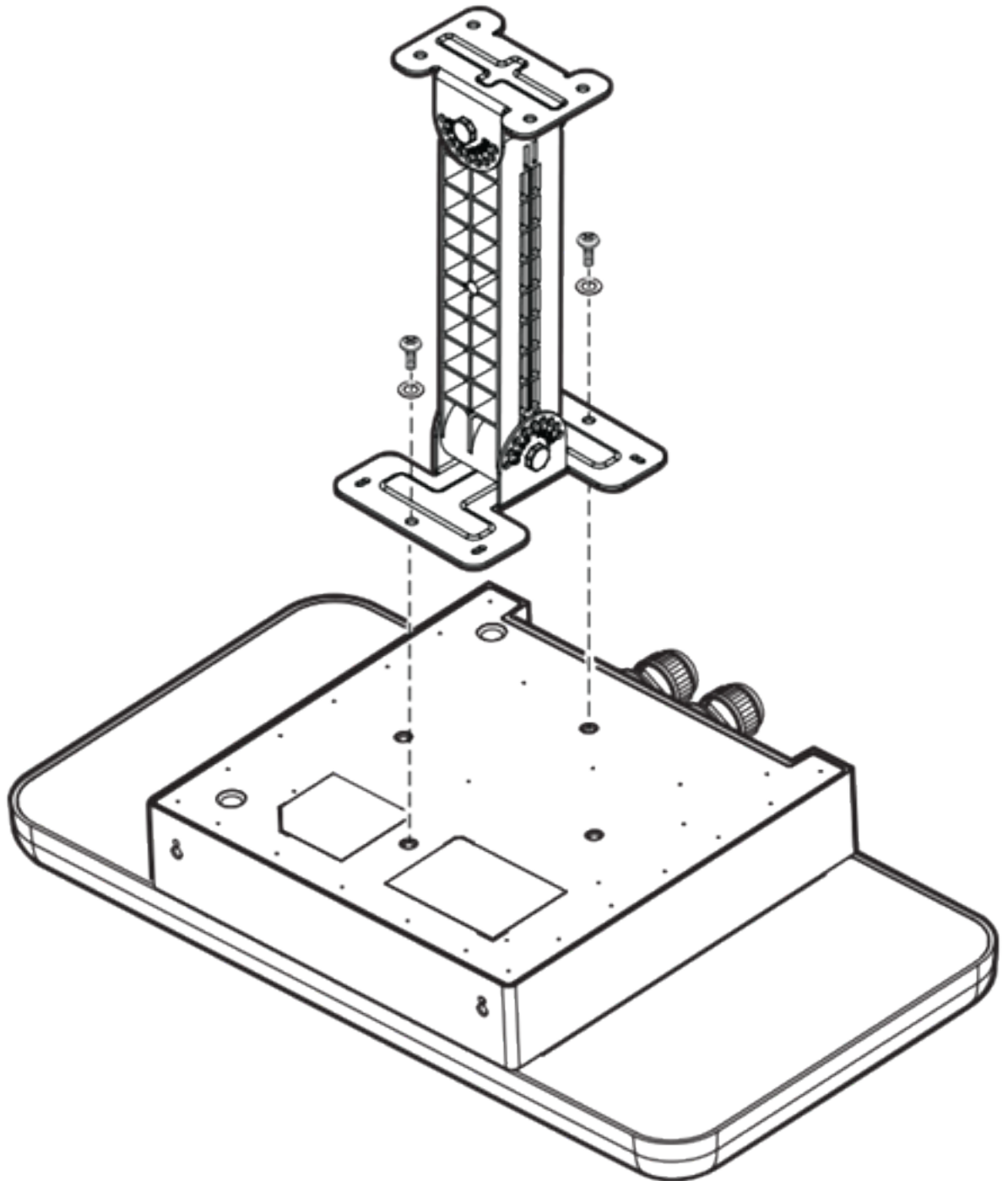
### Procedure

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



**Figure 3: MBO-ART02 bracket template for attachment holes**

2. Attach the MBO-ART02 to the access point using two M6 hex-head screws.  
Use the mounting holes shown in [Figure 4](#) to mount the MBO-ART02 bracket onto the AP560h access point.



**Figure 4: Attach the MBO-ART02 bracket to the AP560h access point**

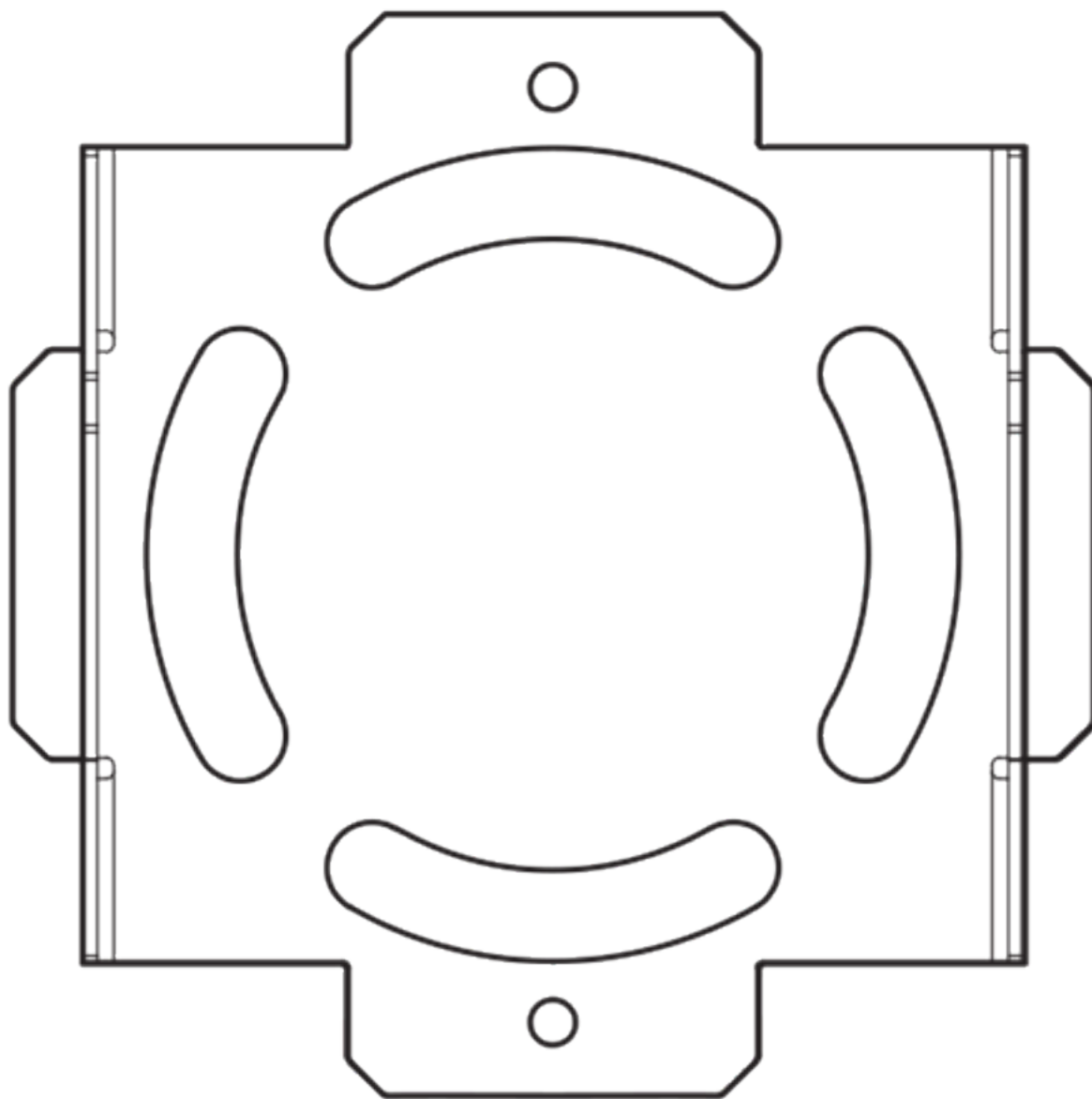
3. Align the mounting holes on the MBO-ART02 articulating mounting bracket against the holes on the wall and attach the bracket using four M6 hex-head screws.

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

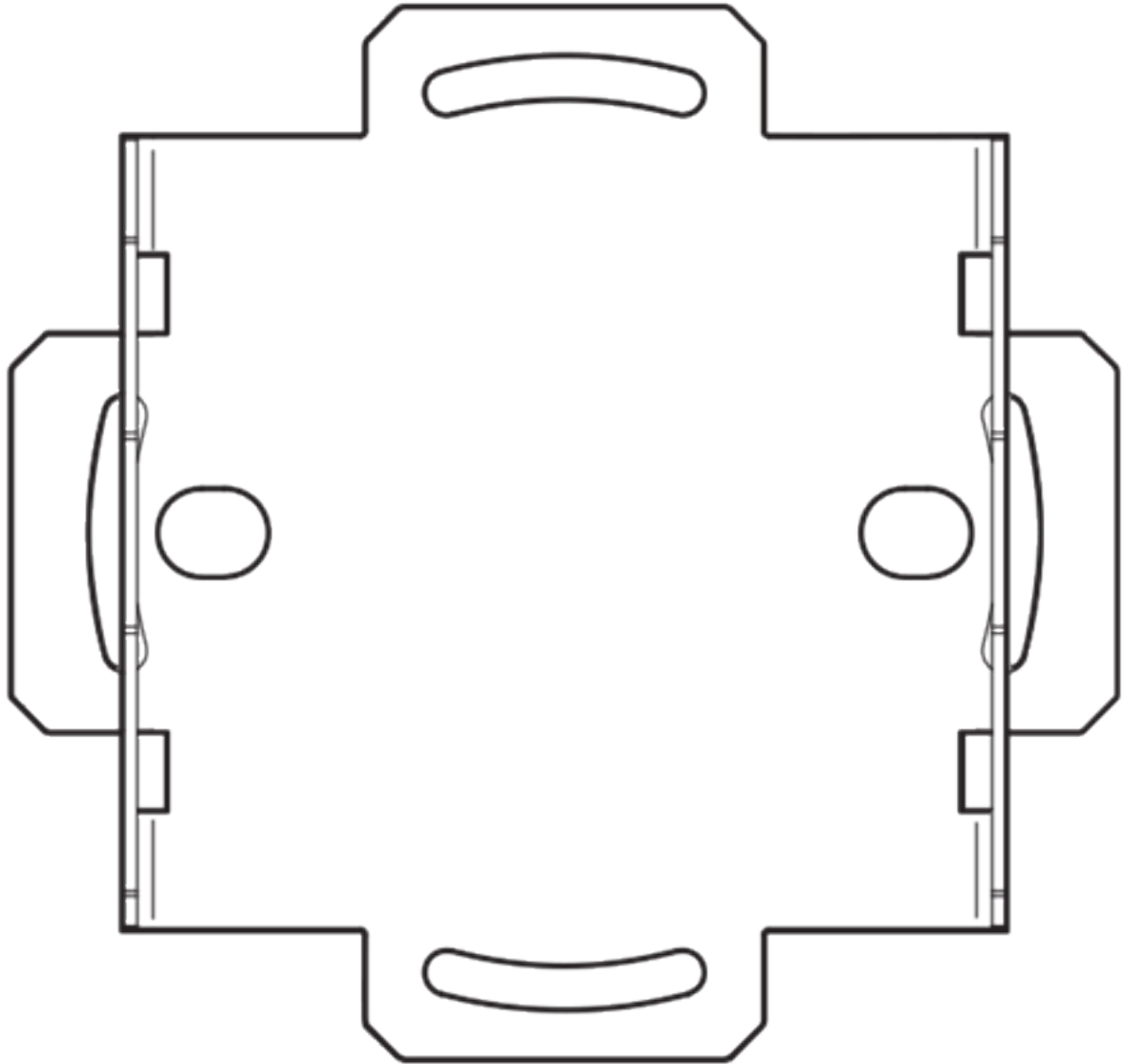
### Before You Begin

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 5: Flat part of the KT-147407-02 bracket**



**Figure 6: 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.

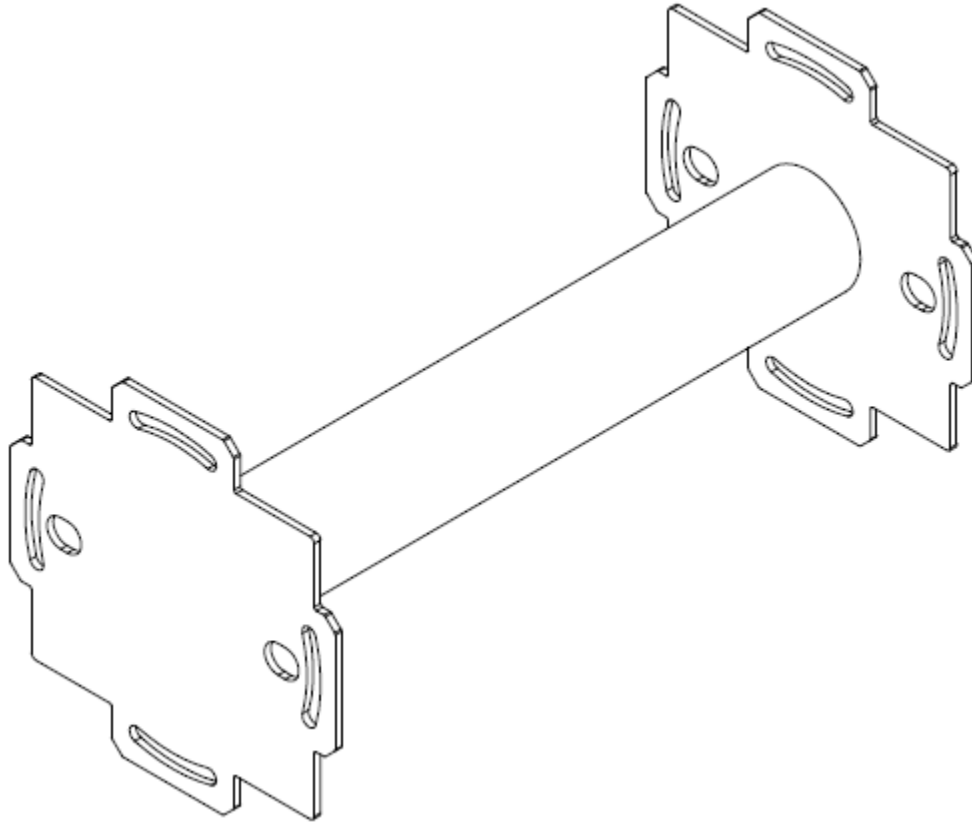
The tilt bracket has +15 degrees to -15 degrees of tilt.

## 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 7: 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 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 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 8: 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

**Table 8: Hardware requirements for pole installation (continued)**

Quantity	Item
4	M3 screws with nuts and washers to attach the WS-MBO-POLE01 bracket to the MBO-ART02 articulating mounting bracket
2	Cable clamps

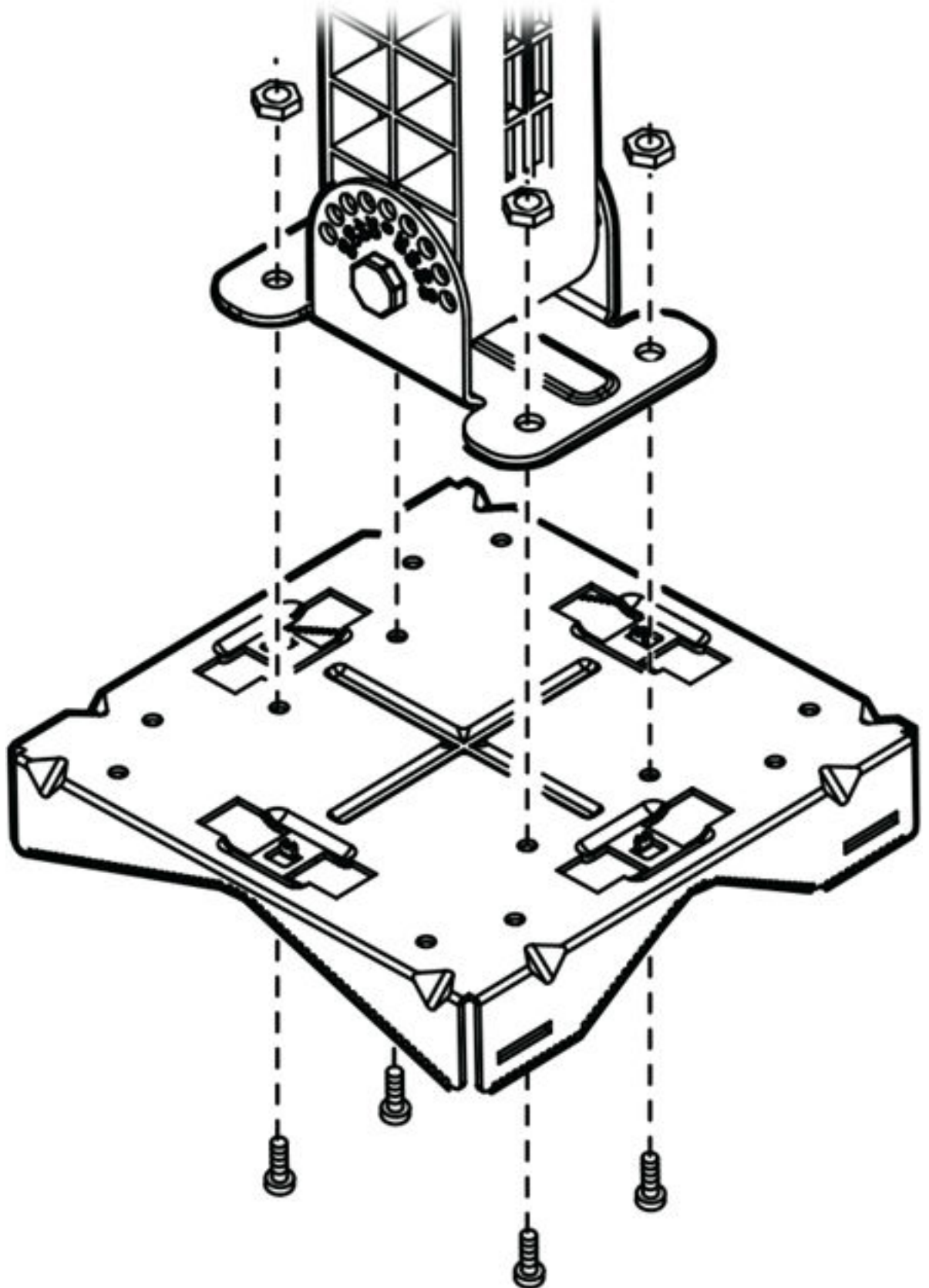
**Note**

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

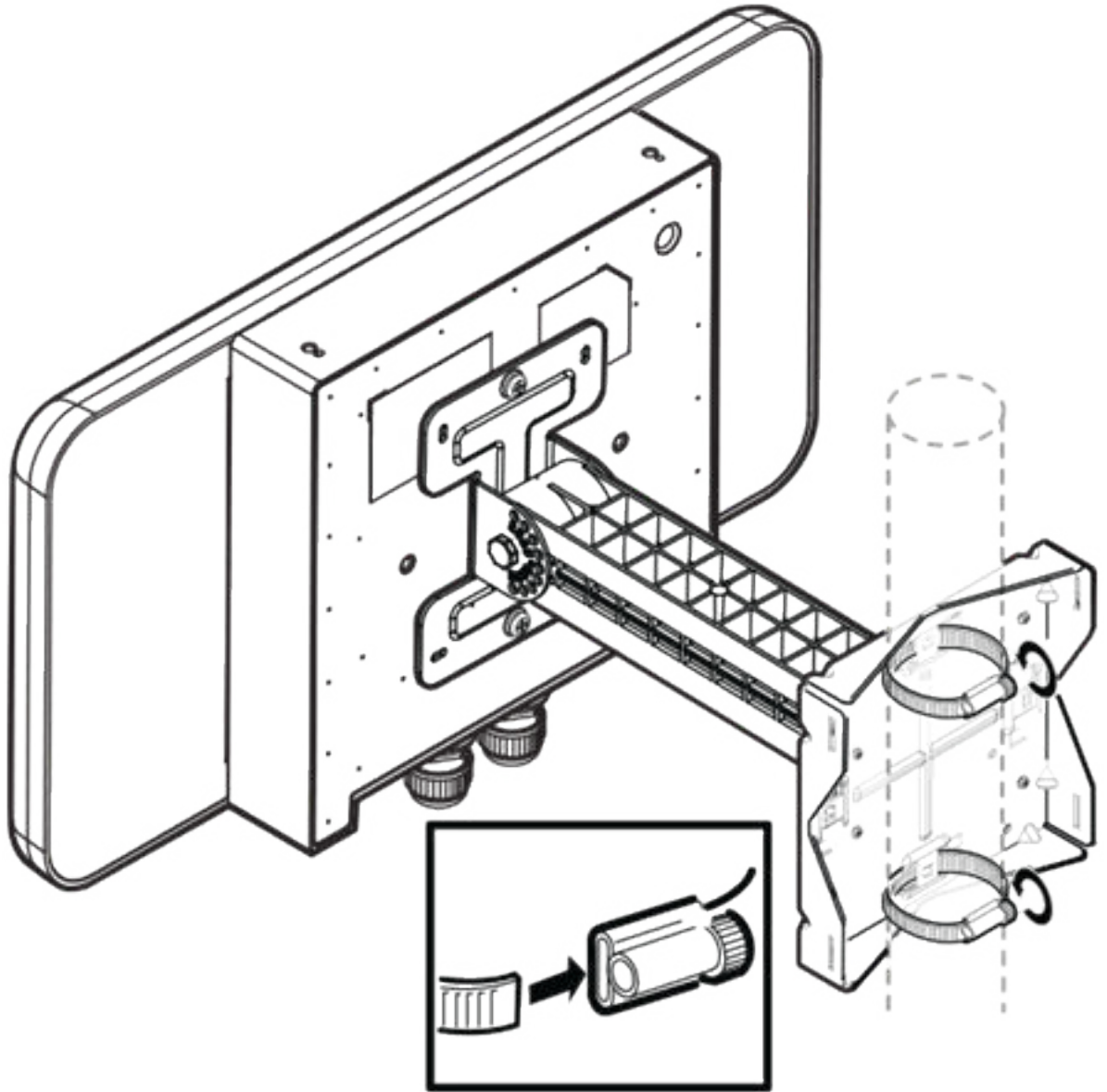
**Procedure**

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.

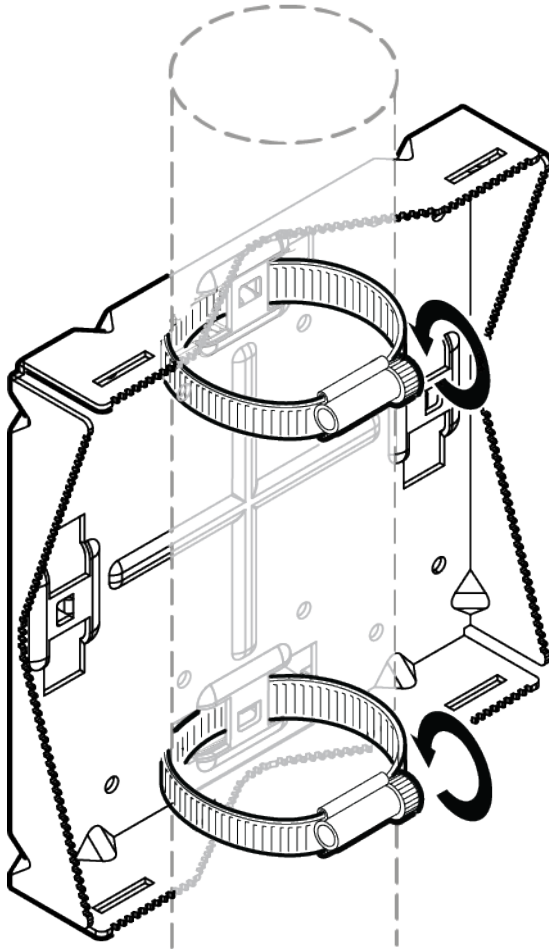


3. Attach both the cable clamps to the WS-MBO-POLE01 bracket.  
Open the cable clamp by turning a flat bladed screwdriver counterclockwise. Then insert the non-clamp end into the pole bracket through the holes.
4. Put the metal band around the pole and attach the WS-MBO-POLE01 bracket to the pole.



**Figure 8: Attaching the cable clamps to the pole**

5. Tighten the cable clamp screw clockwise, tightening the band around the pole.



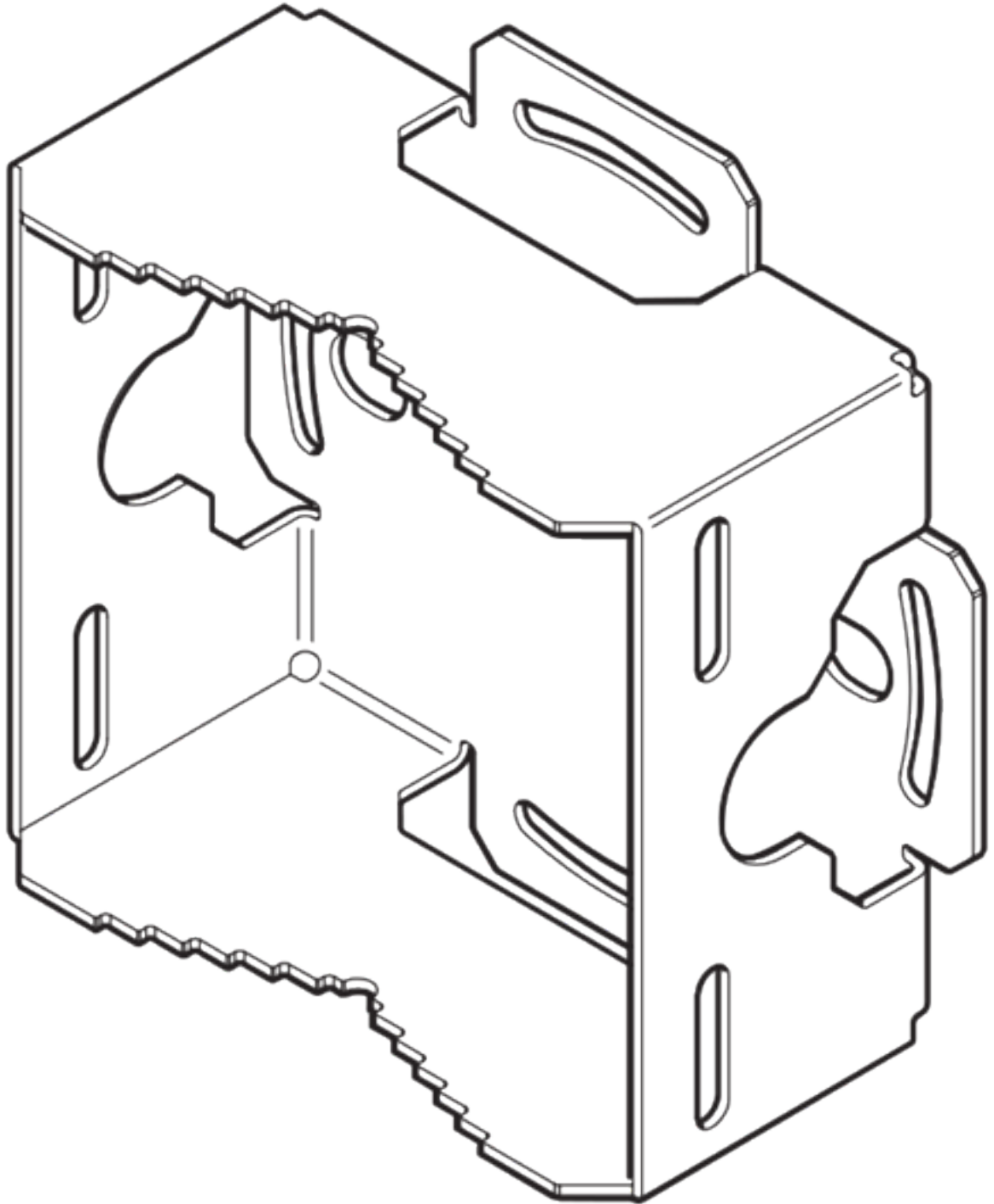
**Figure 9: Tightening the cable clamps on the POLE01 bracket**

## 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 10: 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.
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.
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.](#)

## 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:

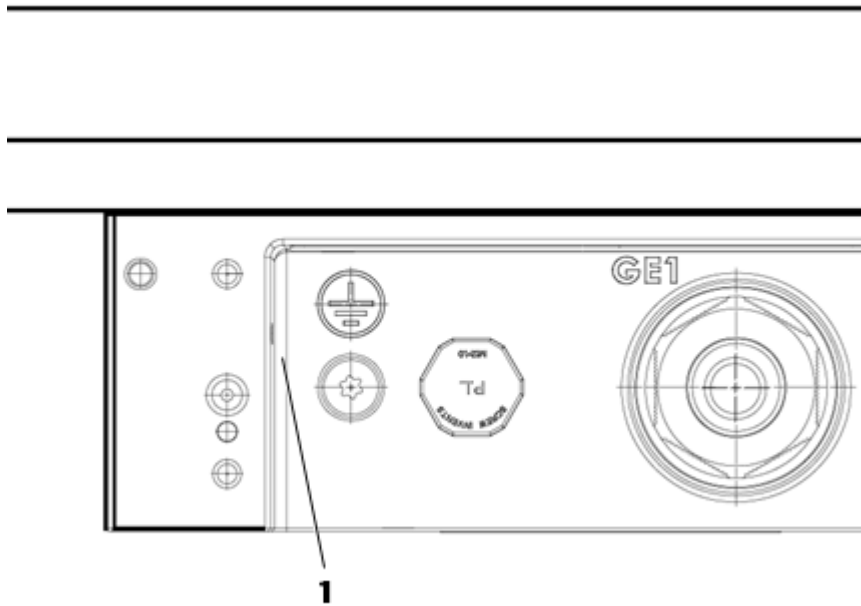
- A 3 mm diameter security cable
- Lock to secure the ends of the security cable

### 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 11: 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 around the access point to remove dirt and debris.

**Note**

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.
- 3.



# 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.



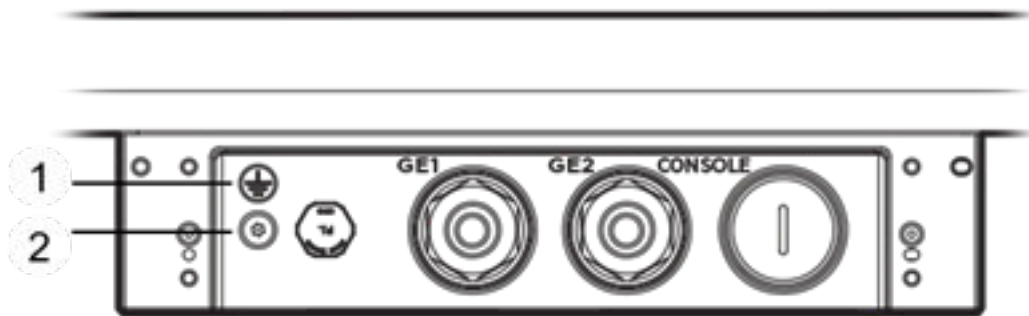
### Note

Ground connection is not required for 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 12: 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

---

## About This Task

The GE1 or GE2 cable is connected through the GE1 or GE2 gland port.

## Procedure

1. Attach the ground wire to the access point.
2. Remove the GE1 port gland cap, plastic cage, and gasket.
3. Connect the GE1 cable through the GE1 gland port until it clicks into place.  
If there is a GE2 connection, insert the cable through the GE2 gland port until it locks into place.
4. Torque the gland cap to 12-in lbs.



# Product Specifications

**Table 9: Physical specifications**

Item	Description
Dimensions	11.3 in. × 18.9 in. × 3.5 in. (288 mm × 481 mm × 88 mm)
Housing	10.5lbs (4.77 kg)
IP rating	IP67
Console port	RJ45
PoE failover	Redundant PoE capable
Anti-theft locks	Security hanger hole
LEDs	Two top-mounted LEDs - multiple LED radio indicators.

**Table 10: 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

**Table 11: Power specifications**

Item	Description
Operating voltage	PoE-PD: 48-57VDC
Operating current	PoE-PD: 500mA at 48V
PoE PD class	802.3at
Power consumption	Max: 22 W Idle (radios ON) : 9.5 W Typical 18 W; Max 22 W



**Note**

For detailed product specifications, refer to the AP560h [data sheet](#).



# Regulatory and Compliance Information

---

[Professional Installation Instruction](#) on page 40

[Safety Guidelines](#) on page 41

[FCC Declaration of Conformity Statement](#) on page 42

[Federal Communications Commission \(FCC\) Notice](#) on page 42

[Industry Canada \(IC\) Notice](#) on page 43

[CE Information](#) on page 44

[European Waste Electrical and Electronic Equipment \(WEEE\) Notice](#) on page 45

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

## Professional Installation Instruction

---

### 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 location

The product shall be installed at a location where the radiating antenna can be kept 36 cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

### External antenna

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



## Installation procedure

Refer to the installation instructions for details.



### Warning

Select the installation position and make sure that the final output power does not exceed the limit set force 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.

### *Emplacement d'installation*

En usage normal, afin de respecter les exigences reglementaires concernant l'exposition aux radiofrequences, ce produit doit etre installe de facon a respecter une distance de 36 cm entre l'antenne emettrice et les personnes.

### *Antenn externe*

Utiliser uniuquement les antennes approuvees par le fabricant. L'utilisation d'autres antennes peut conduire a un niveau de rayonnement essentiel ou non essentiel depassant les niveaux limites definis par FCC/IC, ce qui est interdit.

### *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.

## 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.

## 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.

## Federal Communications Commission (FCC) Notice

---

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.

**Caution**

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

This device is restricted to indoor usage only.

**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 a minimum distance of 26 cm between the radiator and your body.

**Note**

For products available in the USA and Canada markets, only channel 1~11 can be operated. Other channels cannot be selected.

## Industry Canada (IC) Notice

---

### Industry Canada (IC) Notice

This device contains licence-exempt transmitters or receivers that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs / récepteurs exempts de licence qui sont conformes au (x) RSS (s) exemptés de licence d'Innovation, Sciences et Développement

économique Canada. L'opération est soumise aux deux conditions suivantes: (1) Cet appareil ne doit pas provoquer d'interférences. (2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.



### Warning

#### IC 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 20 cm between the radiator and your body.



### Warning

#### 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.

## 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 Conformité Européenne (CE) in the following countries.

**Table 12: Conformité Européenne (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)

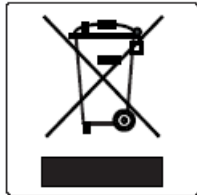
The frequency and the maximum transmitted power in EU are listed below:

- 2412-2472MHz: 19.93 dBm
- 2402-2480MHz (LE): 3.57 dBm

- 5180-5240MHz: 22.96 dBm
- 5260-5320MHz: 22.95 dBm
- 5500-5700MHz: 29.94 dBm
- 2405-2480MHz: 5.51 dBm

## 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](mailto:Green@extremenetworks.com).



# Index

---

## A

announcements vii, viii  
AP560h features 10

## B

Box Contents  
AP560h box contents 15

## C

cable configuration  
GE1 cable configuration 38  
GE2 cable configuration 38  
CE Information, Regulatory 44  
conventions  
notice icons v  
text v

## D

documentation  
feedback viii  
location vii

## F

FCC Notice 42  
feedback viii

## G

ground connection  
ground screw 37  
ground screw hole  
lightning protection 37

## I

Installation Process  
AP560h installation 15

## K

KT-150173-01 extension arm installation 25

## M

mounting options

mounting options (*continued*)  
mounting accessories 16  
mounting bracket 16

## N

New in this guide 9, 14  
notices v

## O

order information  
AP560h order information 11, 12  
bracket order 11, 12  
overview 9

## P

pole installation  
ART02 on POLE01 bracket 26  
KT-147407-02 bracket parts 30  
pole installation using KT-150173-01 extension arm 32  
pressure wash  
nozzle information 35  
safety guidelines 35  
product announcements vii, viii  
product specifications  
AP560h specifications 39  
environmental specifications 39  
physical specifications 39  
power specifications 39

## S

safety guidelines 41  
secure the access point  
safety cable installation 34  
support, *see* technical support

## T

technical support  
contacting vii, viii

## W

wall install  
ART02 articulating mounting bracket install 19  
wall installation

wall installation *(continued)*

wall install using KT-147407-02 and KT-150173-01  
extension arm 24

Wall installation

wall installation using KT-147407-02 bracket 22

warnings v