Extreme™
Customer-Driven Networking

ExtremeMobility AP460i/e Outdoor Access Points

Installation Guide

9036418-00 Rev AA

Published November 2019

Copyright © 2019 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, please see:
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:
www.extremenetworks.com/support/policies/software-licensing

Table of Contents

Preface 4
- Conventions 4
- Providing Feedback to Us 5
- Getting Help 5
- Documentation and Training 6

Chapter 1: AP460i/e Overview 7
- AP460i/e Features 7
- LED Indicators 9
- Access Point Purchase Order Information 11

Chapter 2: Install the Access Point 12
- AP460i/e Box Contents 12
- Access Point Mounting Options, Brackets, and Accessories 12
- Position the Access Point before Installation 14
- Install the Access Point on a Wall or Flat Surface 14
- Install the Access Point on a Pole 20

Chapter 3: Powering method 30

Chapter 4: GE/Console connections 31
- Installing the cable gland adapter assembly 31

Chapter 5: Antenna configuration for external antenna model 34

Chapter 6: Specifications 36

Chapter 7: Regulatory Information 37
- Professional Installation Instruction 37
- Safety Guidelines 38
- Federal Communications Commission (FCC) Notice 38
- Industry Canada Notice 39
- Detachable Antenna Usage 40
- Australia Notice 41
- Brazil Anatel Statement 41
- Hazardous Substances 41
- Supplement to Product Instructions 42
- NCC Statement 42
- CE Information 42
- European Waste Electrical and Electronic Equipment (WEEE) Notice 43
- Declaration of Conformity in Languages of the European Community 44

Index 47

Preface

This section discusses the conventions used in this guide, ways to provide feedback, additional help, and other Extreme Networks® publications.

Conventions

This section discusses the conventions used in this guide.

Text Conventions

The following tables list text conventions that are used throughout this guide.

Table 1: Notice Icons

Icon	Notice Type	Alerts you to...
	General Notice	Helpful tips and notices for using the product.
	Note	Important features or instructions.
	Caution	Risk of personal injury, system damage, or loss of data.
	Warning	Risk of severe personal injury.
New!	New Content	Displayed next to new content. This is searchable text within the PDF.

Table 2: Text Conventions

Convention	Description
`Screen displays`	This typeface indicates command syntax, or represents information as it appears 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 with brackets, such as **[Return]** 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.

Providing Feedback to Us

Quality is our first concern at Extreme Networks, and we have made every effort to ensure the accuracy and completeness of this document. We are always striving to improve our documentation and help you work better, so we want to hear from you! We welcome all feedback but especially want to know about:

- Content errors or confusing or conflicting information.
- Ideas for improvements to our documentation so you can find the information you need faster.
- Broken links or usability issues.

If you would like to provide feedback to the Extreme Networks Information Development team, you can do so in two ways:

- Use our short online feedback form at https://www.extremenetworks.com/documentation-feedback/.
- Email us at documentation@extremenetworks.com.

Please 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.

Getting Help

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: 1-800-998-2408 (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 and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) 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

Subscribing to Service Notifications

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

1 Go to www.extremenetworks.com/support/service-notification-form.
2 Complete the form with your information (all fields are required).
3 Select the products for which you would like to receive notifications.

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

4 Click **Submit**.

Documentation and Training

To find Extreme Networks product guides, visit our documentation pages at:

Current Product Documentation	www.extremenetworks.com/documentation/
Archived Documentation (for earlier versions and legacy products)	www.extremenetworks.com/support/documentation-archives/
Release Notes	www.extremenetworks.com/support/release-notes
Hardware/Software Compatibility Matrices	https://www.extremenetworks.com/support/compatibility-matrices/
White papers, data sheets, case studies, and other product resources	https://www.extremenetworks.com/resources/

Training

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

1 AP460i/e Overview

AP460i/e Features
LED Indicators
Access Point Purchase Order Information

The AP460i/e access points are outdoor model enterprise class 802.11ax access points. The “i” in AP460i indicates that the access point comes with internal antennas and the “e” in AP460e indicates that it comes with external antenna connectors. The access points feature a dual-band radio, two band-locked radios, eight WiFi internal or external antennas, and one Bluetooth Low Energy (BLE) antenna.

The AP460i/e can be mounted on a flat surface such as a wall or to a pole.

Note
The AP460i/e requires a minimum base firmware of WiNG 7.3.0.

In this document, the access point is addressed as AP460i/e wherever the procedure and general information is applicable to both access points.

AP460i/e Features

The AP460i/e access points have the following features:

- Radios:
  - Three 802.11ax radios (one 2X2 2.4GHz radio, one 4X4 5GHz radio, and one 2X2 2.4GHz and 5GHz radio)
  - 1 IoT Radio (2.4 GHz)
- Console port: RJ45
- Two Ethernet ports:
  - 1 x 100/1000/2500 Mbps auto-negotiation Ethernet port, RJ45
  - 1 x 10/100/1000 Mbps auto-negotiation Ethernet port, RJ45
- LEDs: Seven
  - All LEDs will be on during reset and connect to general-purpose input/output (GPIO) pins
- One Reset button
- Power: PoE 802.3at (see powering method)
- Antennas:
  - Eight WiFi internal/external antennas
  - One BLE internal antenna on AP460i
  - One BLE external antenna port on AP460e
- Temperature: -40°C to +60°C (-40°F to +140°F) @ 6000 ft.
- Enclosure: Plastic with metal base

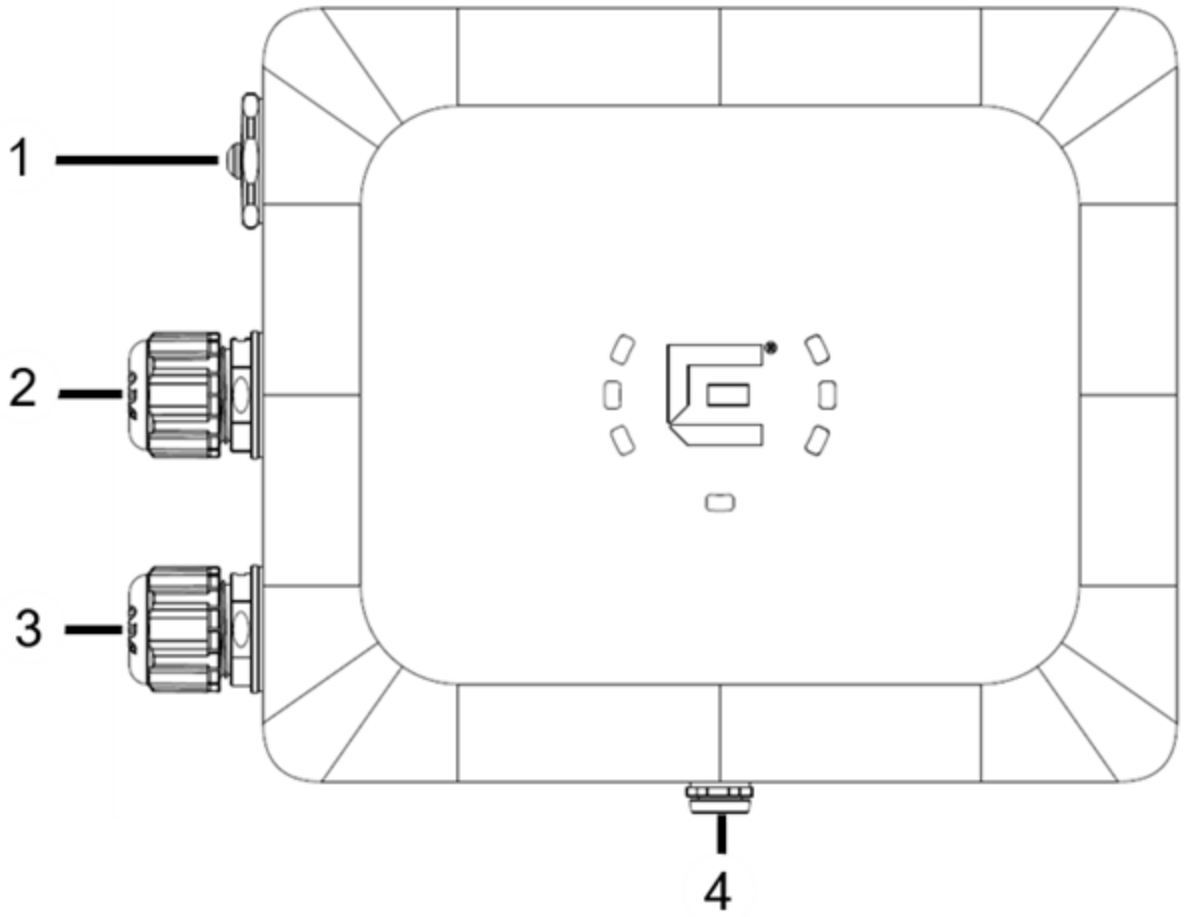


Figure 1: AP460i access point front view

Callout	Description
1	Console port and reset button cap
2	GE2
3	GE1-PoE
4	Gore vent

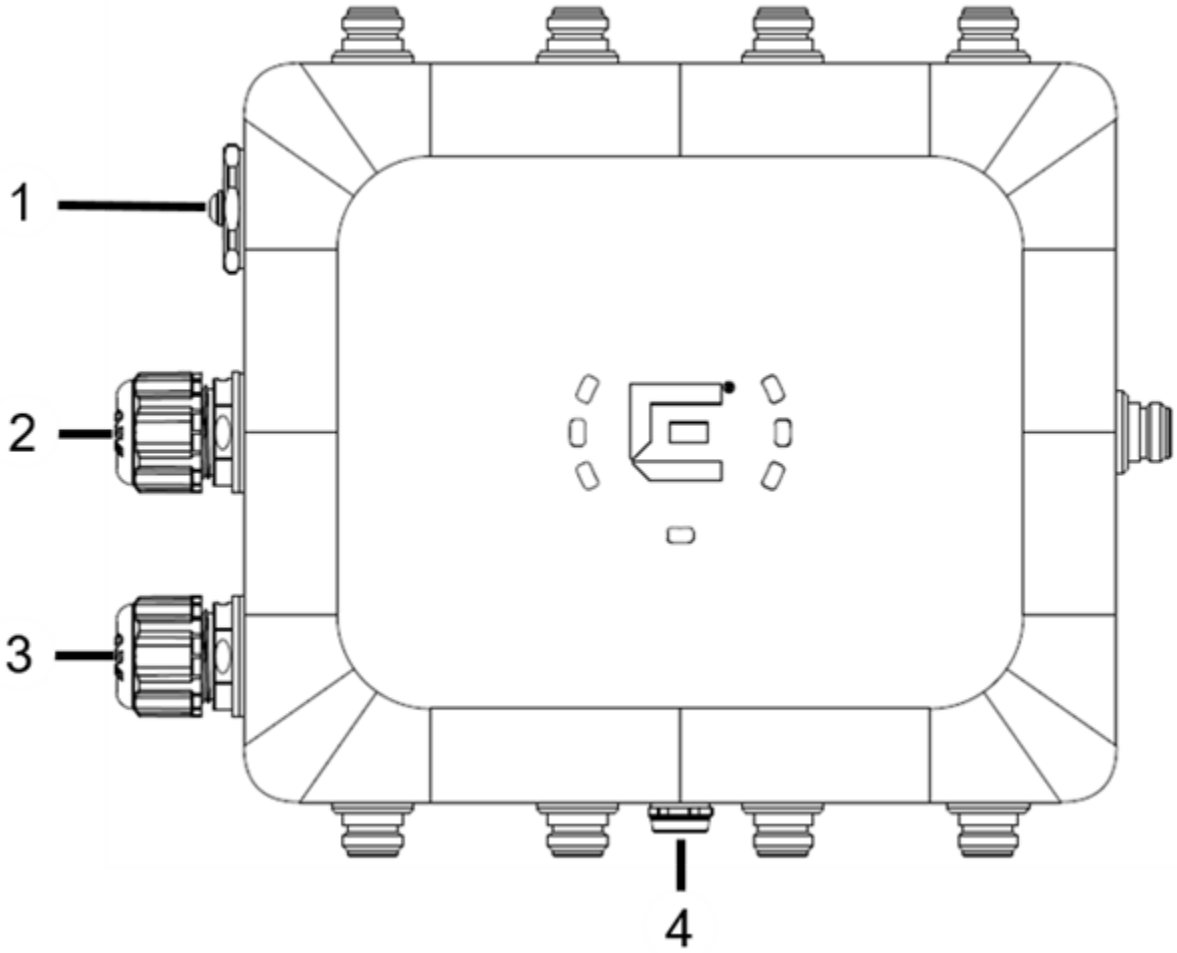


Figure 2: AP460e access point front view

Callout	Description
1	Console port and reset button cap
2	GE2
3	GE1-PoE
4	Gore vent

Note
On the AP460e access point, the sensor and the BLE antennas come with dust caps on them. Do not remove the dust cap until you need to install the antennas.

For information on the AP460e antenna connectors, see antenna configuration for external antenna model access point.

LED Indicators

There are seven LEDs located on the front face of the access point but are not visibly marked.

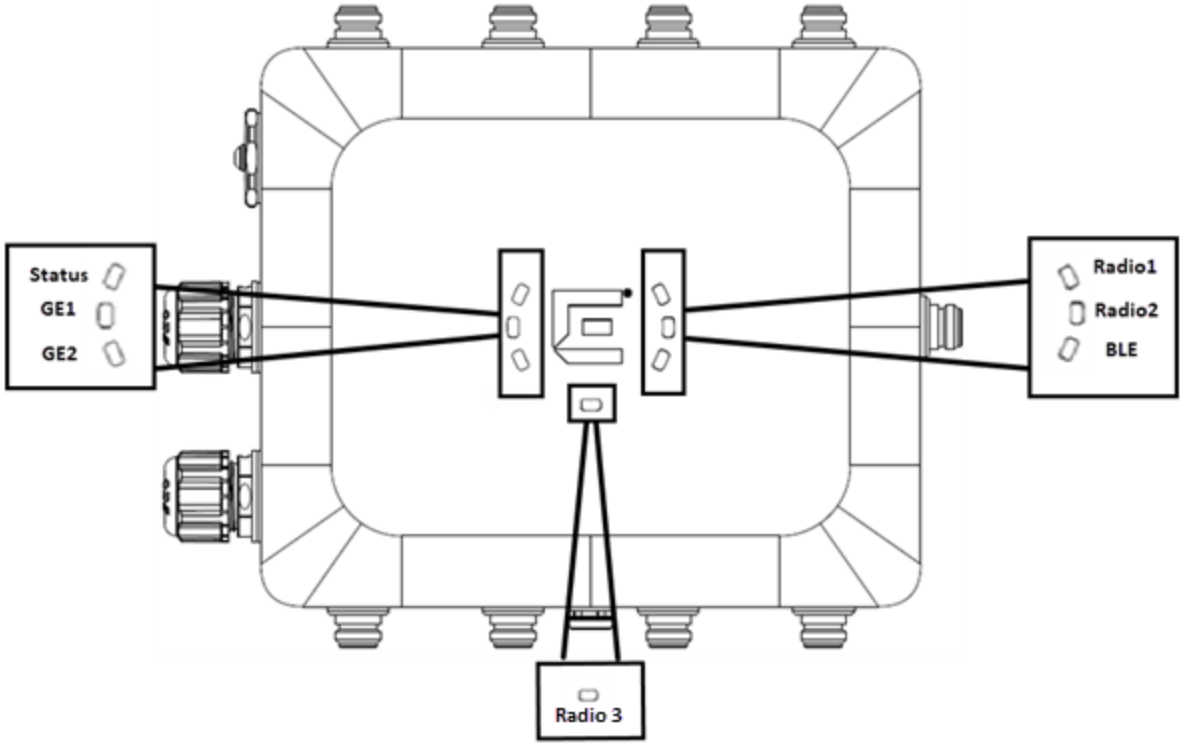


Figure 3: LEDs

Note
The LED icons and the status on AP460i and AP460e are the same.

Table 3: AP460i/e LED status

LED icon	LED color	Description
Status	Green	Normal operational status
	Amber	Non-operational status
GE1	Amber	100Mbps
	Green	1000Mbps
	Purple	2.5G
GE2	Amber	100Mbps
	Green	1000Mbps
Radio 1	Green	2.4G activity
Radio 2	Amber	5G activity
Radio 3	White	Sensor activity
BLE	Blue	BLE is enabled

Access Point Purchase Order Information

The AP460i and AP460e access points must be ordered separately, the ordering details of which are presented in the tables below:

Table 4: AP460i purchase order information

Part number	Description
AP460i-FCC	Dual/Tri radio 802.11ax/ac/abgn, 4x4:4 MIMO outdoor internal antenna access point. Domain: US, Puerto Rico, and Colombia
AP460i-WR	Dual/Tri Radio 802.11ax/ac/abgn, 4x4:4 MIMO outdoor internal antenna access point. Domain: EMEA and Rest Of World
AP460i	Dual/Tri Radio 802.11ax/ac/abgn, 4x4:4 MIMO outdoor internal antenna access point. Domain: Canada

Table 5: AP460e purchase order information

Part number	Description
AP460e-FCC	Dual/Tri Radio 802.11ax/ac/abgn, 4x4:4 MIMO outdoor external antenna access point. Domain: US, Puerto Rico, and Colombia
AP460e-WR	Dual/Tri Radio 802.11ax/ac/abgn, 4x4:4 MIMO outdoor external antenna access point. Domain: EMEA and Rest Of World
AP460e-CAN	Dual/Tri Radio 802.11ax/ac/abgn, 4x4:4 MIMO outdoor external antenna access point. Domain: Canada

2 Install the Access Point

AP460i/e Box Contents
Access Point Mounting Options, Brackets, and Accessories
Position the Access Point before Installation
Install the Access Point on a Wall or Flat Surface
Install the Access Point on a Pole

The AP460i/e access points can be installed to a flat surface such as a wall or to a pole. Refer to the purchase order information to know more about selecting the right access point for your installation needs.

When you receive the access point bundle, perform a visual inspection of the access point, the bracket, and accessories for any physical damage. Contact Extreme Networks Support if there is any damage.

Before installing the access point:

1 Verify the box contents.
2 Read and review the safety guidelines.

AP460i/e Box Contents

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

Table 6: AP460i/e box contents

Quantity	Description
1	AP460i/e Quick Reference
1	Access point (AP460i or AP460e)
1	Hardware bag containing: • One ground screw • One ring terminal • One star washer

Access Point Mounting Options, Brackets, and Accessories

The AP460i/e access points are mounted on a flat surface such as a wall or to a pole, which are described in the following table:

Table 7: AP460i/e mounting brackets and accessories usage

Mounting bracket and part number	Wall install	Pole install	Notes
KT-147407-02; bracket; comes with three parts: • Flat part • 1-axis tilt part • Pole part	Yes	Yes	For attaching to a wall or a flat surface, use the bracket part that has two holes on the surface of the metal portion; also called the flat part. For attaching to a pole, if the 1-axis tilt is not required, attach the pole part of the bracket to the access point. If 1-axis tilt is required, attach the pole part of the KT-147407-02 bracket on top of the second wall part.
KT-150173-01; extension arm; used with KT-147407-02 bracket parts	Yes; use the flat wall mount part of the KT-147407-02 bracket	Yes; use the pole mount bracket part of the KT-147407-02 bracket or use all three KT-147407-02 bracket parts	The KT-150173-01 extension arm can also be used by itself without the other KT-147407-02 bracket parts.
MBO-ART02; 10" 2-Axis articulating mounting bracket	Yes	Yes; attach the MBO-ART02 articulating mounting bracket to the WS-MBO-POLE01 bracket	The wall must be strong enough to support the AP during inclement weather.
WS-MBO-POLE01 bracket	No	Yes; the POLE01 bracket can only be used with the MBO-ART02 articulating mounting bracket	If the pole diameter is <= 1" (25.4mm), use small cable clamp. If the pole diameter is between 5" - 7" (178mm), use large cable clamp. For any other pole diameter, provide your own stainless steel cable clamp. The band must be 1/2" (12.7mm) wide.
WS-MBV-VMM Vehicle Bracket (#32216); comes with fours parts	Yes	No	None

Note
All brackets and accessories are sold separately.

Position the Access Point before Installation

When you install the access point, the gore vent must be on the side closest to the ground, and not above the plastic cover. You must provide a 3-inch drip loop on all cables.

Note
The sensor and BLE antennas come with dust cap on them. Do not remove the dust cap until you need to install the antennas.

Install the Access Point on a Wall or Flat Surface

You can install the access point on a flat surface such as a wall using the following brackets:

- KT-147407-02 bracket
- KT-150173-01 extension arm
- MBO-ART02 10" 2-axis articulating mounting bracket
- WS-MBV-VMM vehicle bracket (#32216)

Note
The wall install options are applicable to both internal and external antenna model outdoor access points.

Install the Access Point to a Flat Surface Using KT-147407-02 Flat Part and 1-Axis Tilt Part

The KT-147407-02 bracket has three bracket parts; flat part, 1-axis tilt part, and the pole part. For this installation, you require the flat part and the 1-axis tilt part.

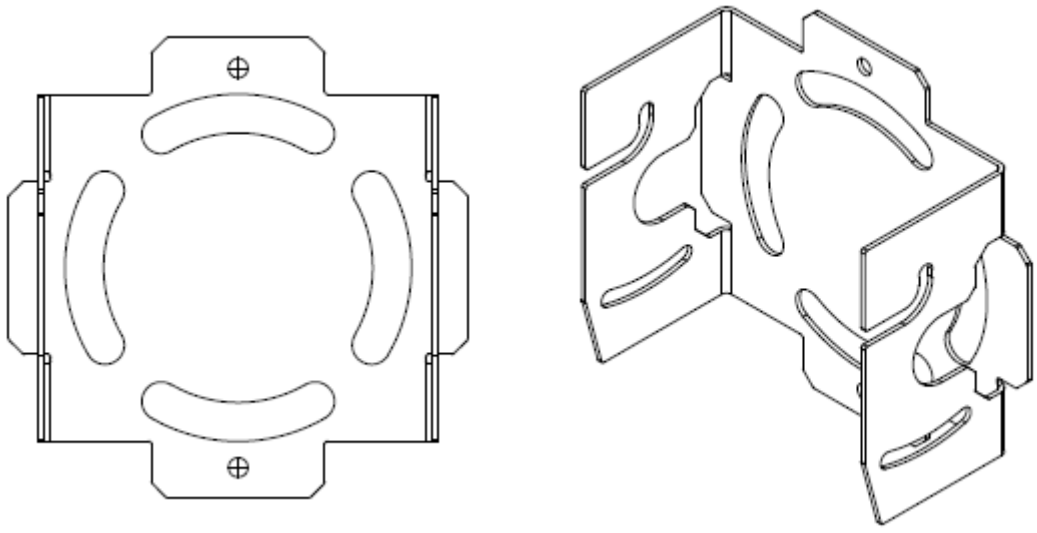


Figure 4: KT-147407-02 bracket flat part

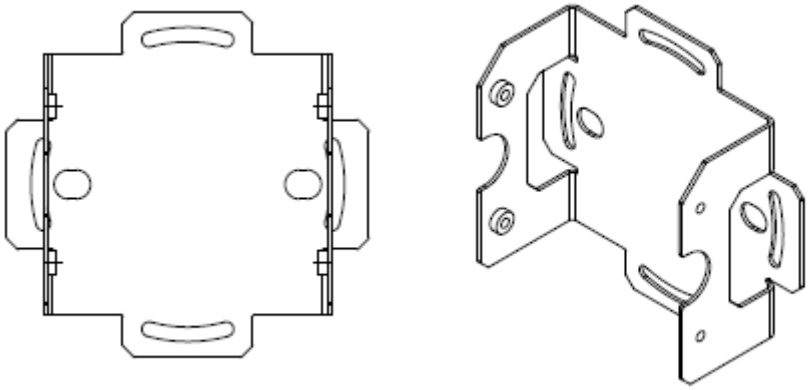


Figure 5: KT-147407-02 bracket 1-axis tilt part

Note

The flat part and the 1-axis tilt part can be used interchangeably with the access points. You can either attach the flat part or the 1-axis tilt part first and the rest of the installation procedure will not be affected by it.

The following hardware is required:

- KT-147407-02 flat part
- KT-147407-02 1-axis tilt part
- Access point
- Ten M6 hex-head screws
  - Two M6 screws to attach the KT-147407-02 flat part to the access point
  - Four M6 screws to attach the KT-147407-02 1-axis tilt part to a flat surface
  - Four M6 screws to attach the KT-147407-02 flat part to the 1-axis tilt part

1 Attach the KT-147407-02 flat part to the access point using two M6 hex-head screws.
2 Using the 1-axis tilt part as a template, mark and drill four holes on a wall or a flat surface.
3 Attach the 1-axis tilt part to a wall or a flat surface using four M6 head-size screws.
4 Align the KT-147407-02 flat part bracket inside the 1-axis tilt part, and attach it 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 can be adjusted from +15 degrees to -15 degrees of tilt.

Install the Access Point to a Flat Surface Using the KT-147407-02 Flat Part, 1-axis Tilt Part, and the KT- 150173-01 Extension Arm

In installations that require an extension arm, the access point is attached to a flat surface using the KT-147407-02 bracket parts and the KT-150173-01 extension arm.

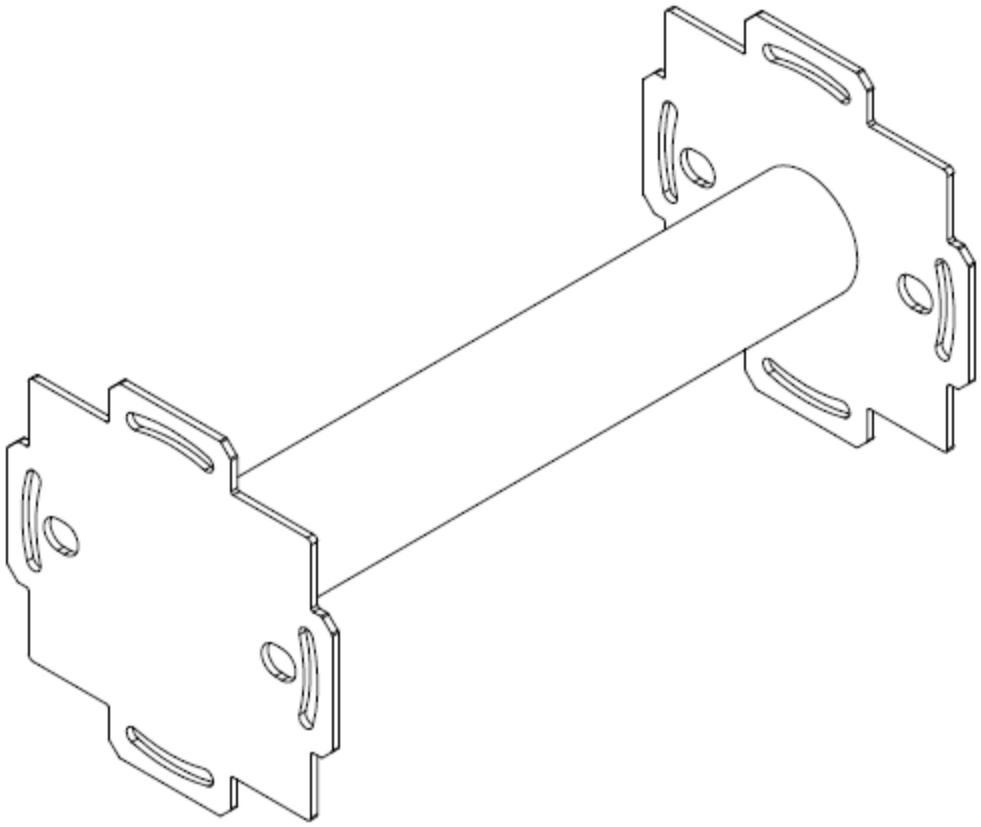


Figure 6: KT-150173-01 extension arm

The following hardware is required for installation:

- KT-147407-02 flat part
- KT-147407-02 1-axis tilt part
- KT-150173-01 extension arm
- Access point
- Ten M6 hex-head screws
  - Two M6 hex-head screws to attach the KT-147407-02 flat part to the access point
  - Four M6 hex-head screws to attach the 1-axis tilt part to the flat bracket
  - Four M6 hex-head screws to attach the KT-150173-01 extension arm to a flat surface
- Two hex-head M12 stainless-steel screws and nuts

1 Attach the KT-147407-02 flat part to the access point using two M6 screws.
2 Place the KT-147407-02 flat part inside the 1-axis tilt part, and attach it using four M6 screws.
3 Using the KT-150173-01 extension arm as a template, mark four hole centers on a flat surface. The holes must be within the semi-circular cuts of the extension arm.
4 Attach one end of the KT-150173-01 extension arm to the 1-axis tilt part 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 to a flat surface using four M6 size hex-head screws.
Use screw-in anchors with the four M6 size hex-head screws on wood surface.

To mount the extension arm on a concrete surface, use concrete anchors.

Install the Access Point On a Flat Surface Using the KT-150173-01 Extension Arm

For installation for which you don't want to use the KT-147407-02 brackets, you can attach the access point to a flat surface using just the KT-150173-01 extension arm.

The following hardware is required:

- KT-150173-01 extension arm
- Eight M6 hex-head screws
  - Four M6 hex-head screws to attach one end of the extension arm to the access point
  - Four M6 hex-head screws to attach the other end of the extension arm to the wall
- Access point

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 semi-circular cuts of the extension arm.

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 size hex-head screws to mount the bracket on a wood surface.

  To mount the bracket on a concrete surface, use concrete anchors.

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

The following hardware is required:

- MBO-ART02 articulating mounting bracket
- Access point
- Six M6 hex-head screws
  - Two M6 hex-head screws is used for attaching the MBO-ART02 articulating mounting bracket to the access point
  - Four M6 hex-head screws are used for attaching the MBO-ART02 articulating mounting bracket to the wall

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

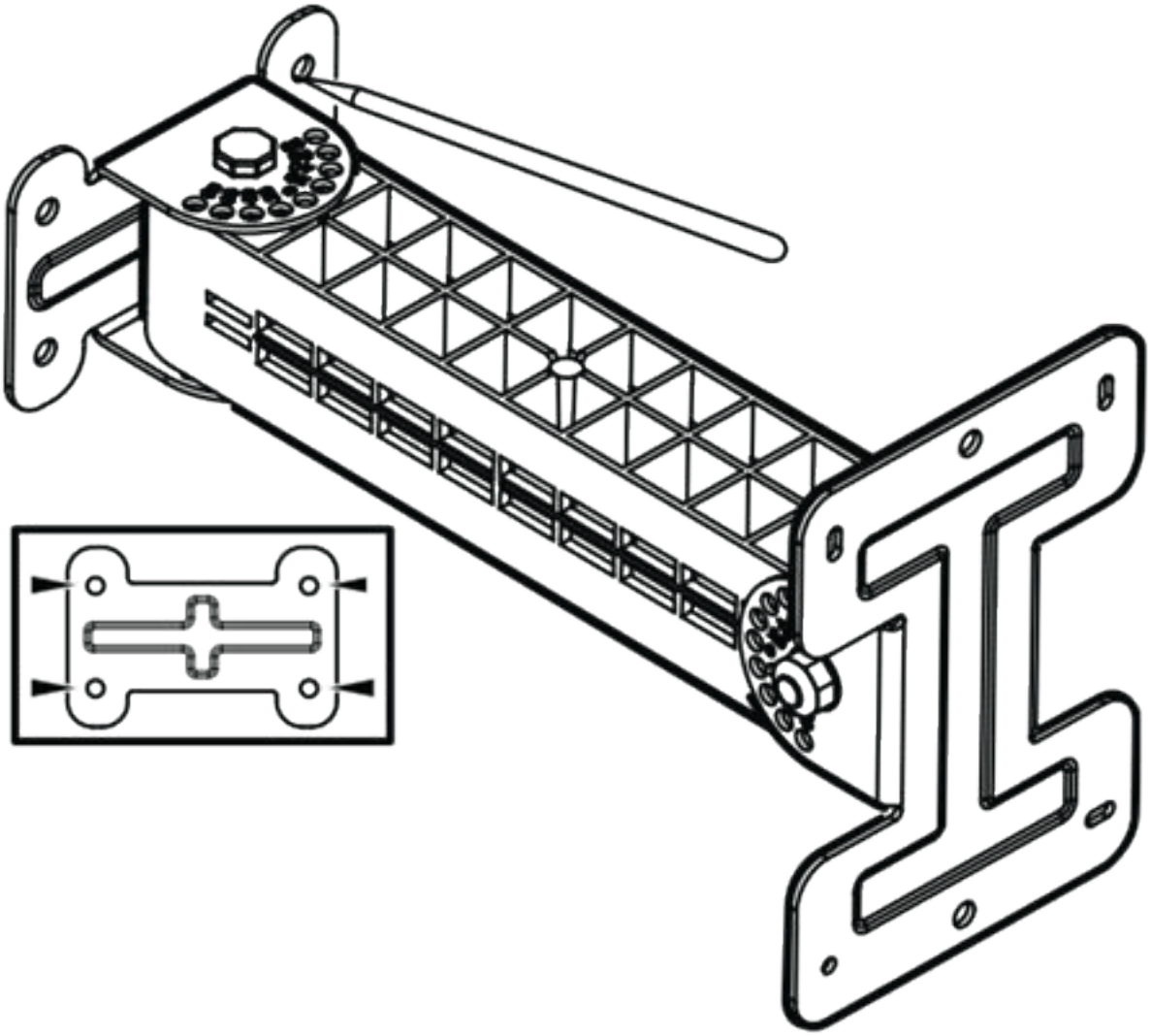


Figure 7: MBO-ART02 articulating mounting bracket template for wall attachment holes

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

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

Install the Access Point on a Flat Surface Using the WS-MBV-VMM Vehicle Bracket (#32216)

To attach the WS-MBV-VMM Vehicle Bracket (#32216) on a flat surface, you can use either the M4 or M6 attachment screws. The bracket has four parts:

- Flat plate with thumbscrews; the AP attach assembly plate
- Stiffener plate #1; used with the AP attach assembly plate

- Stiffener plate #2; used with the AP attach assembly plate
- Vehicle attach assembly plate with PEMS

Table 8: WS-MBV-VMM Vehicle Bracket (#32216) box contents

Item	Quantity
VMM vehicle attach assembly	Vehicle attach plate with PEMS
VMM AP attach assembly	AP attach flat plate with stiffener #1 and stiffener #2
Philips Pan Head M4 (15mm) screws	Four screws to attach the AP attach assembly plate to the access point
The installer must provide the following hardware:	
Access point	The access point that you are using for installation
Screws or bolts to attach the vehicle attach assembly plate	Four screws or bolts required
Torque wrench/screwdriver	Required to attach the screws/bolts and assembly plates

1 Using the vehicle assembly plate long inner X slots as a template, mark and drill the attachment holes on a flat surface.

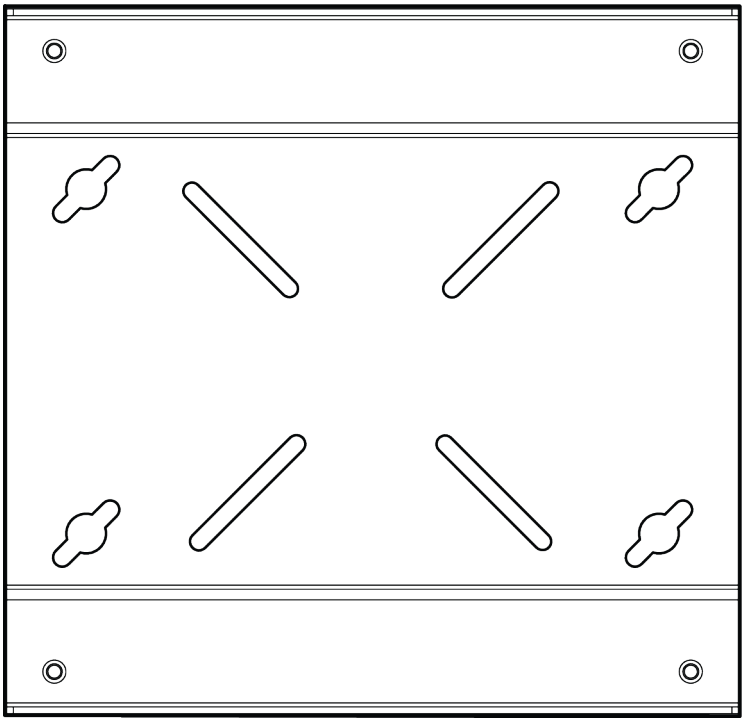


Figure 8: VMM vehicle attach assembly plate

2 Attach the vehicle attach assembly plate using four screws or bolts.

The screws or bolts must be tightened sufficiently to hold the bracket and the access point in all environmental conditions.

3 Align the large holes and assemble both the stiffener plates inside the AP attach assembly plate.

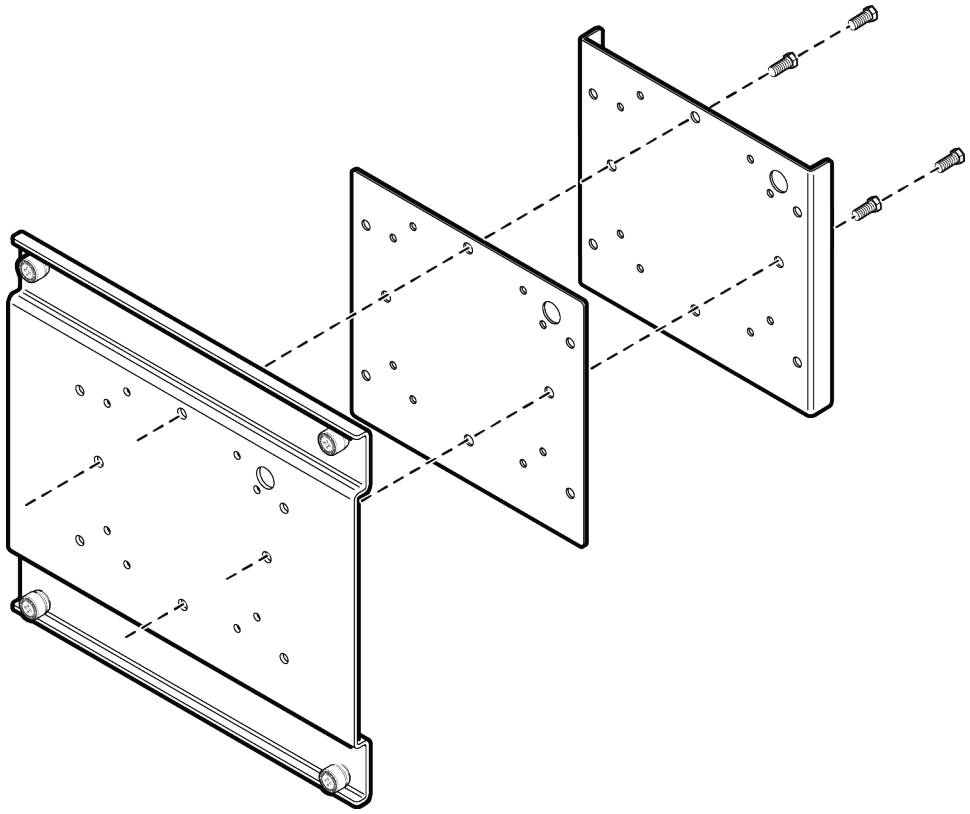


Figure 9: VMM access point attach assembly plate stiffener #1 and stiffener #2

4 Attach four M4 or M6 screws to stiffener plate #2 and align the AP's threaded holes to the AP attach assembly plate.

The screw head goes inside the small bracket with the bent sides.

Note
The bracket comes with four M4 screws.

5 Tighten the screws to 10 in-lbs.

6 Align the AP attach assembly plate to the vehicle attach assembly plate and tighten using four thumbscrews.

Note
The access point will not be centered and some of the attachment holes in the access point attach assembly plate will be visible.

Install the Access Point on a Pole

You can install the access point on a pole using the following mounting brackets:

- KT-147407-02 bracket parts
- KT-147407-02 pole part

- KT-150173-01 extension arm with the KT-147407-02 pole part
- KT-150173-01 extension arm with KT-147407-02 bracket parts
- WS-MBO-POLE01 bracket with the MBO-ART02 articulating mounting bracket

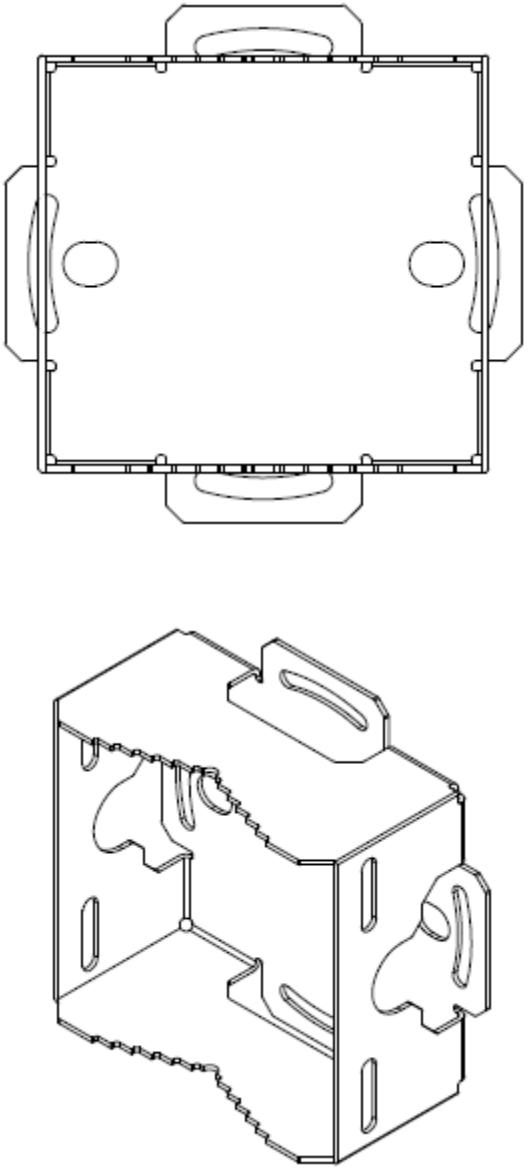


Figure 10: KT-147407-02 pole part

Note
The pole install options are applicable to both internal and external antenna model outdoor access points.

Attaching the access point to a pole using all three KT-147407-02 bracket parts

Attach the access point to a pole using all three bracket parts that comes with the KT-147407-02 bracket.

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

- 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
- Access point
- Four M6 hex-head screws
- Two hex-head M12 stainless-steel screws and nuts
- Two 0.5" wide stainless-steel cable clamps

To attach the access point to a pole:

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

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

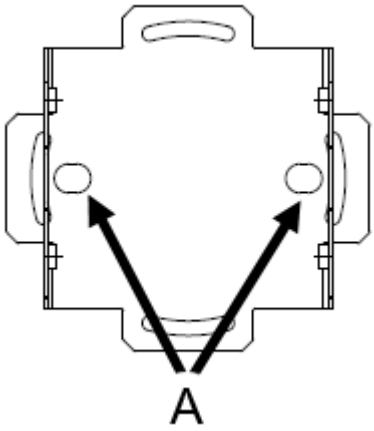


Figure 11: Large bracket holes on the 1-axis tilt part of KT-147407-02 bracket

Label	Description
A	Large bracket holes used for attaching the M12 screws on the 1-axis tilt part of the KT-147407-02 bracket

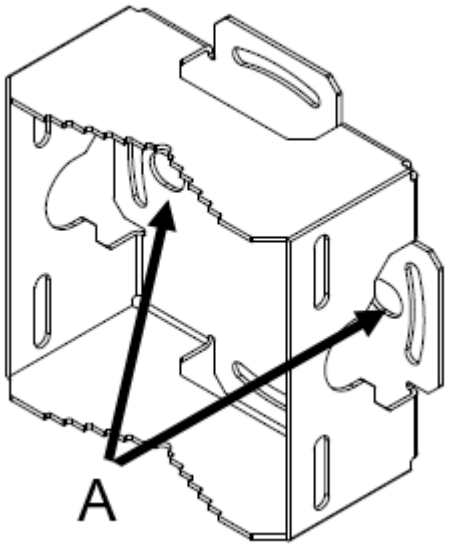


Figure 12: Large bracket holes on the pole part of the KT-147407-02 bracket

Label	Description
A	Large bracket holes used for attaching the M12 screws on the pole part of the KT-147407-02 bracket

3 Fasten the M12 screws using two M12 hex nuts.

4 Insert the 0.5" stainless-steel cable clamp through the long slots on the sides of pole bracket.

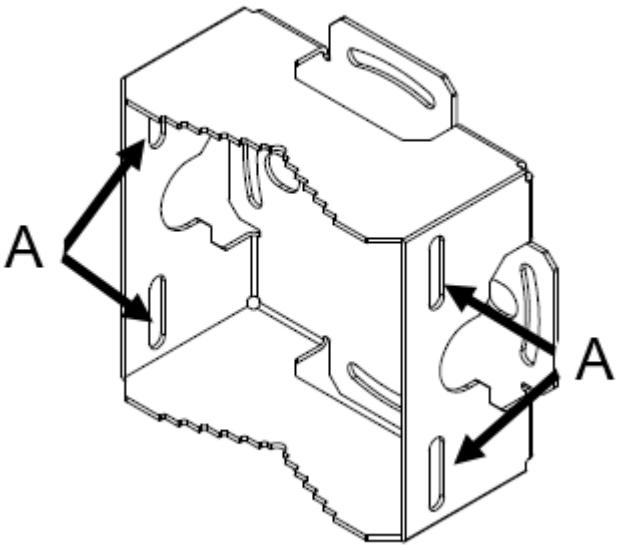


Figure 13: Long slots on the pole part of the KT-147407-02 bracket

Label	Description
A	Long slots on the sides of the pole part of the KT-1474017-02 bracket. These slots are used to insert the 0.5" stainless-steel cable clamps.

5 Attach the pole bracket to a pole by positioning the cable clamps on the pole bracket around a pole.

6 Insert the ends of the cable clamps around the pole and tighten the clamp screws to a torque of 11 in-lbs.

Attaching the access point to a pole using the pole part of the KT-147407-02 bracket

If the 1-axis tilt is not required, you can attach the pole part of the KT-147407-02 bracket to the access point.

The following hardware is required:

- Pole part of the KT-147407-02 access point
- Two 0.5" wide stainless-steel cable clamps
- Access point
- Four M6 hex-head screws

To mount the access point on to a pole using only the pole part of the KT-147407-02 bracket:

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

Use the semi-circular cuts on the pole part of the KT-147407-02 bracket to attach the screws.

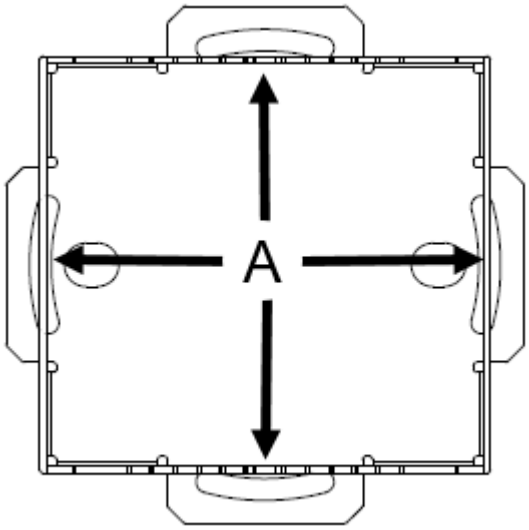


Figure 14: Semi circular cuts on the pole part of the KT-147407-02 bracket

Label	Description
A	Semi-circular cuts on the pole part of the KT-147407-02 bracket, used for attaching the M6 hex-head screws.

2 Insert the 0.5" stainless-steel cable clamp through the long slots on the sides of pole bracket.
3 Attach the pole bracket to a pole by positioning the cable clamps on the pole bracket around a pole.
4 Insert the ends of the cable clamps around the pole and tighten the clamp screws to a torque of 11 in-lbs.

Mounting the access point to a pole using pole part of the KT-147407-02 bracket and the KT-150173-01 extension arm

The access point can be mounted on to a pole using the pole part of the KT-147407-02 bracket and the KT-150173-01 extension arm.

The following hardware is required:

- Pole part of the KT-147407-02 bracket
- KT-150173-01 extension arm
- Four M6 hex-head screws
- Two M12 stainless-steel screws and nuts
- Two 0.5" stainless-steel cable clamps
- Access point

To install the access point on to a pole:

1 Attach one end of the KT-150173-01 extension arm to the access point using two M6 hex-head screws.
2 Attach the pole 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.

Mounting the access point to a pole using the KT-147407-02 bracket parts and the KT-150173-01 extension arm

You can attach the access point to a pole using all the parts of the KT-147407-02 bracket and the KT-150173-01 extension arm.

The following hardware is required:

- 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 hex-head screws
- Four hex-head M12 stainless-steel screws and nuts

- Two 0.5" wide stainless-steel cable clamps
- Access point

To install the access point to a pole:

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

2 Align the circlular holes on one end of the KT-150173-01 extension arm against the large holes on the 1-axis tilt bracket.

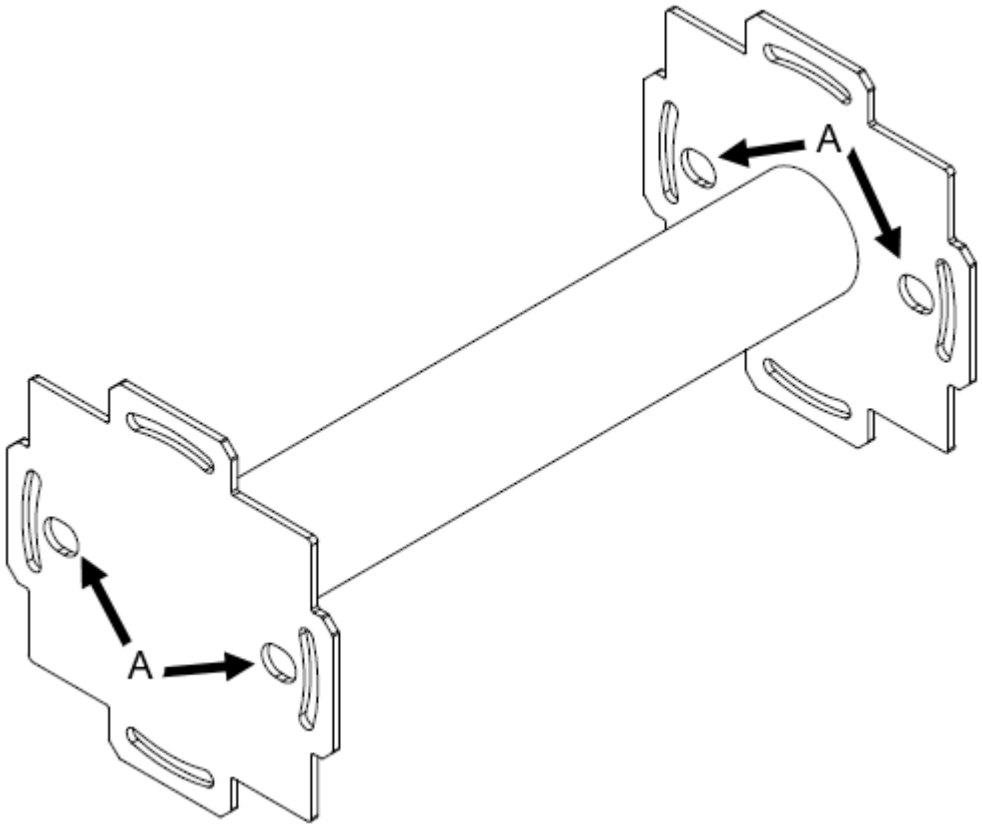


Figure 15: Circular holes on the KT-150173-01 extension arm

Label	Description
A	Circular holes on the KT-150173-01 extension arm that is used to attach to the 1-axis tilt part of the KT-147407-02 bracket, to attach to the wall, and to the pole part of the KT-147407-02 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 pole part of the KT-147407-02 bracket to the other end of the KT-150173-01 extension arm using two M12 screws and M12 hex-nuts.

5 Insert the 0.5" stainless-steel cable clamps through the long slots on the sides of the KT-147407-02 pole bracket part.

6 Attach the pole bracket to a pole by positioning the cable clamps around 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.

Attaching the access point to a pole using the WS-MBO-POLE01 bracket and MBO-ART02 articulating mounting bracket

The following hardware is required to install the access point to a pole using the WS-MBO-POLE01 bracket and the MBO-ART02 bracket.

- WS-MBO-POLE01 bracket
- MBO-ART02 bracket
- Two M6 hex-head screws
- Four M3 screws, nuts, and washers to attach the WS-MBO-POLE01 bracket to the MBO-ART02 articulating mounting bracket
- Two cable clamps

Note
You need to provide your own stainless-steel cable clamps. The band must be 1/2" (12.7 mm) wide.

- Access point

To mount the access point on to a pole using WS-MBO-POLE01 bracket and the MBO-ART02 articulating mounting bracket:

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.

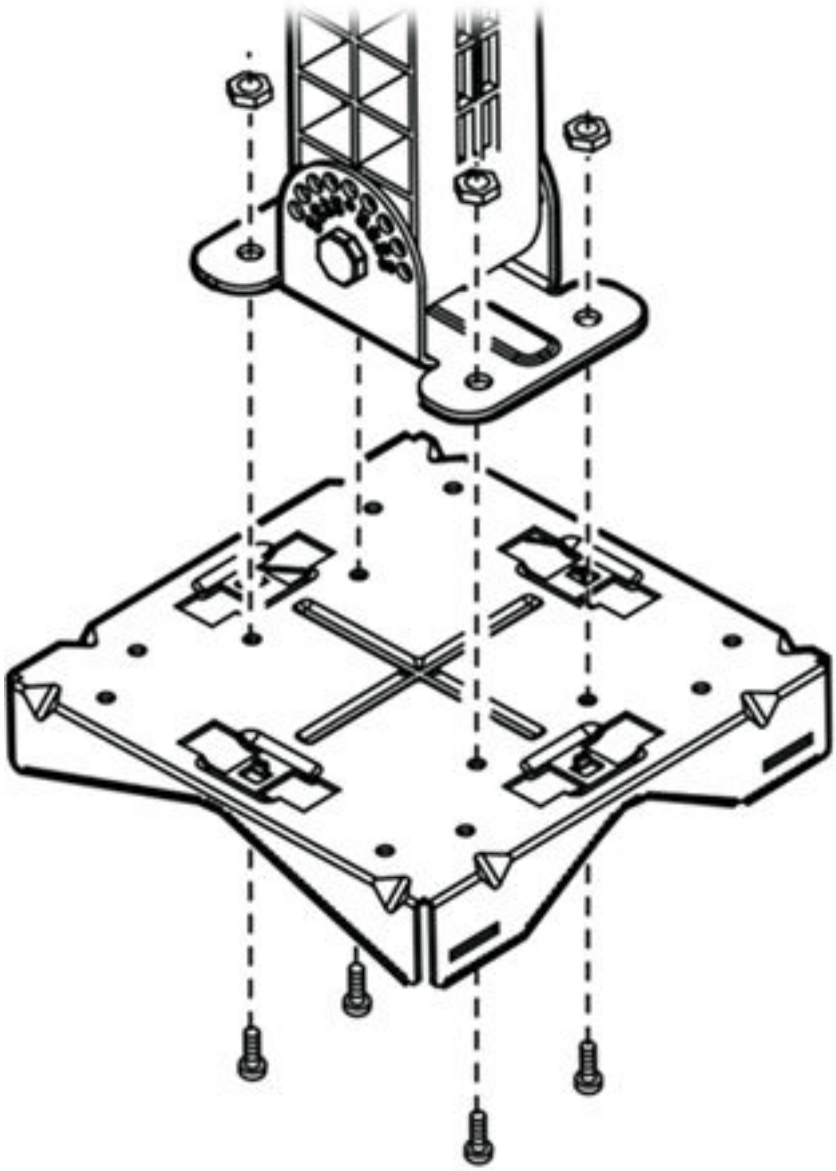


Figure 16: The POLE01 bracket being attached to the ART02 articulating mounting bracket

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.

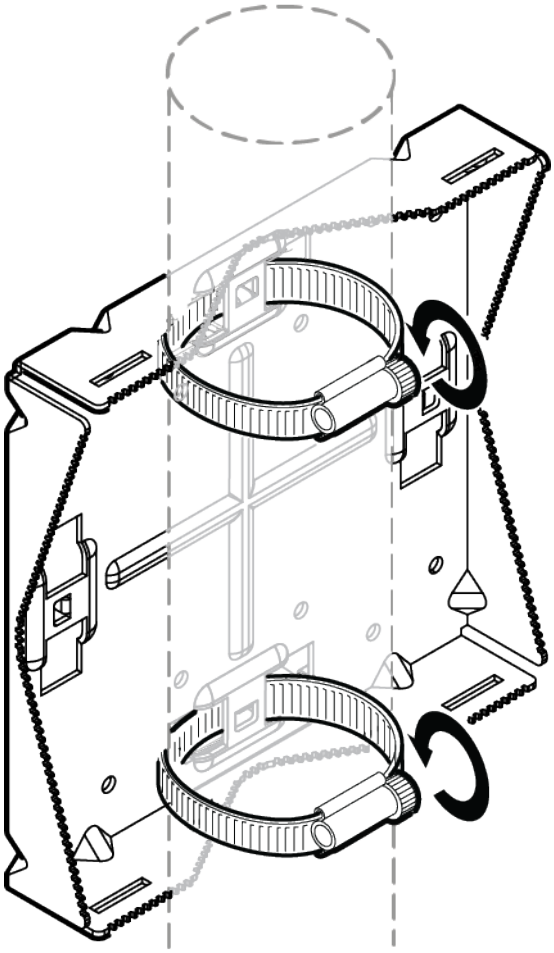


Figure 17: Tightening the cable clamp around the pole

3 Powering method

The AP460i and AP460e access points have one Power over Ethernet (PoE) PD converter that supplies that main powerto all the downstream.

Table 9: AP460i/e powering method

Power source	Description
PoE	Power is provided through the RJ45 Ethernet ports of AP460i/e, compliant to be powered with 802.3at and 802.3bt to provide full functionality. For reduced functionality, use 802.3af.

4 GE/Console connections

Installing the cable gland adapter assembly

The AP460i/e access points have two GE (Ethernet) ports and a Console port. During administration and maintenance through the GE or Console, the access points must still have a power connection through an Ethernet PoE cable.

For information about the location of the GE and console ports, see AP460i/e features.

Installing the cable gland adapter assembly

Before connecting the RJ45 cable, a waterproof cable gland adapter assembly must be installed onto the cable.

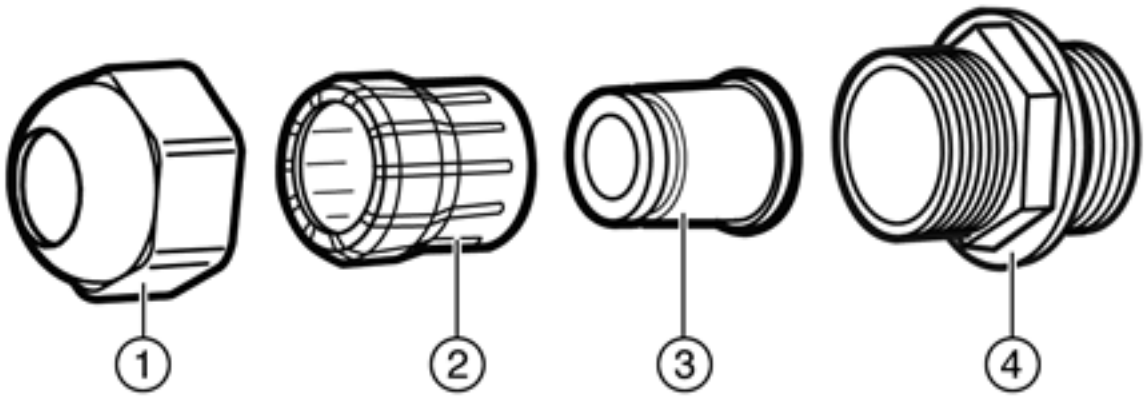
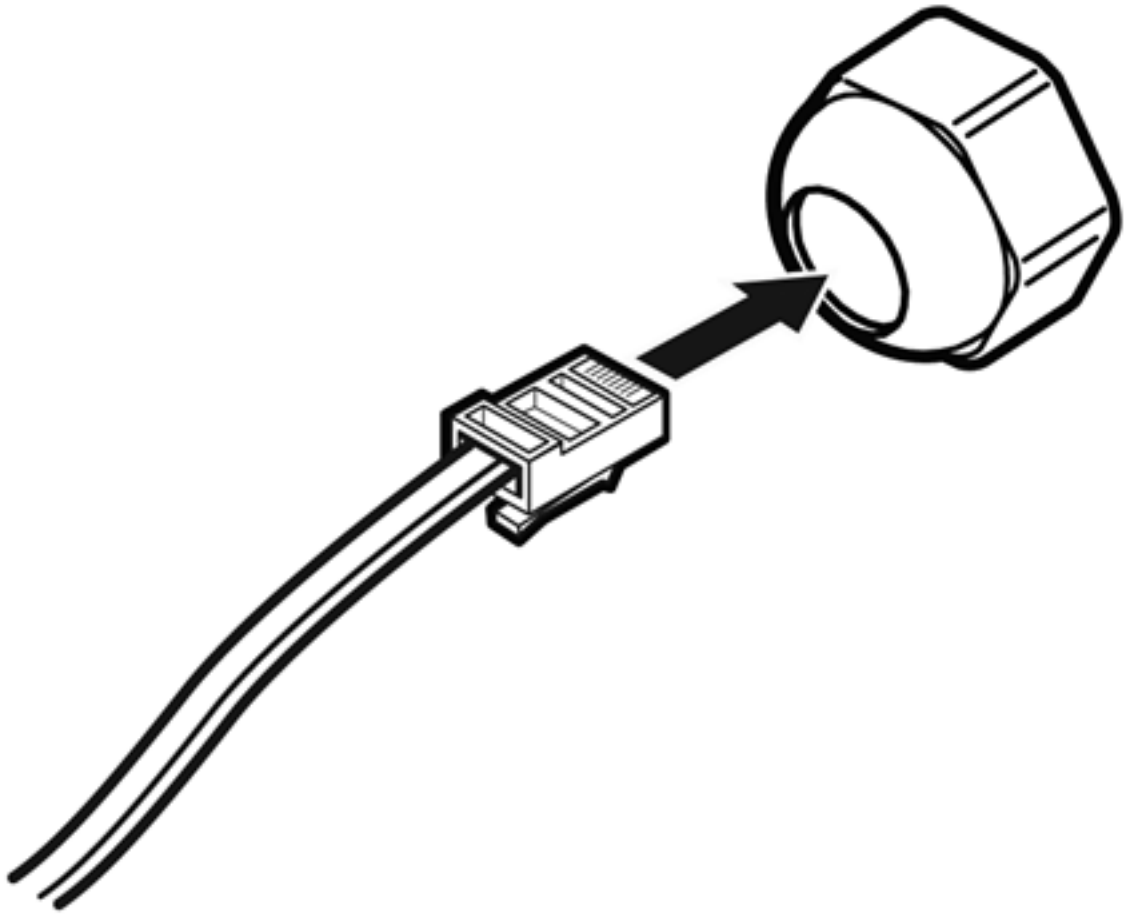


Figure 18: RJ45 cable gland adapter assembly

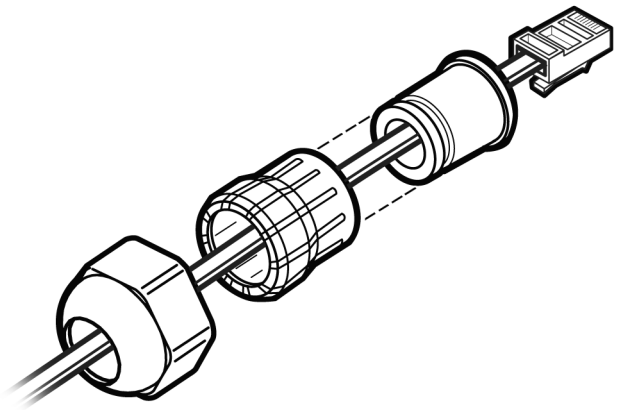
Label	Description
1	Sealing nut
2	Claw
3	Seal
4	Main body

Install the cable gland adapter assember onto GE1 or GE2:

1 Insert the RJ45 cable onto the sealing nut.



2 Slide the claw and seal onto the RJ45 cable.

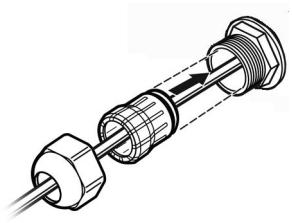


3 Attach the main body into the GE1 or GE2 port of the access point.

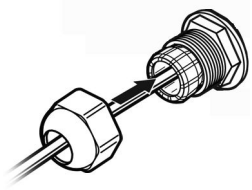
4 Plug the RJ45 cable into the port.

Caution
Do not run the network cable through the cable conduit connector used for connecting the power cables. You must connect the network cable and power cables through separate connectors.

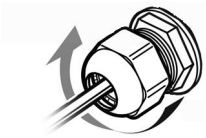
5 Slide the seal and the claw into the main body.



6 Secure the seal nut onto the main body.



7 Tighten the adapter assembly by hand. Tighten the cap to 5 inch lbs.



Note
There should still be some visible threads after you torque in the cap.

5 Antenna configuration for external antenna model

There are extenal antenna connectors on AP460e access point, and it can be configured as described in the following section.

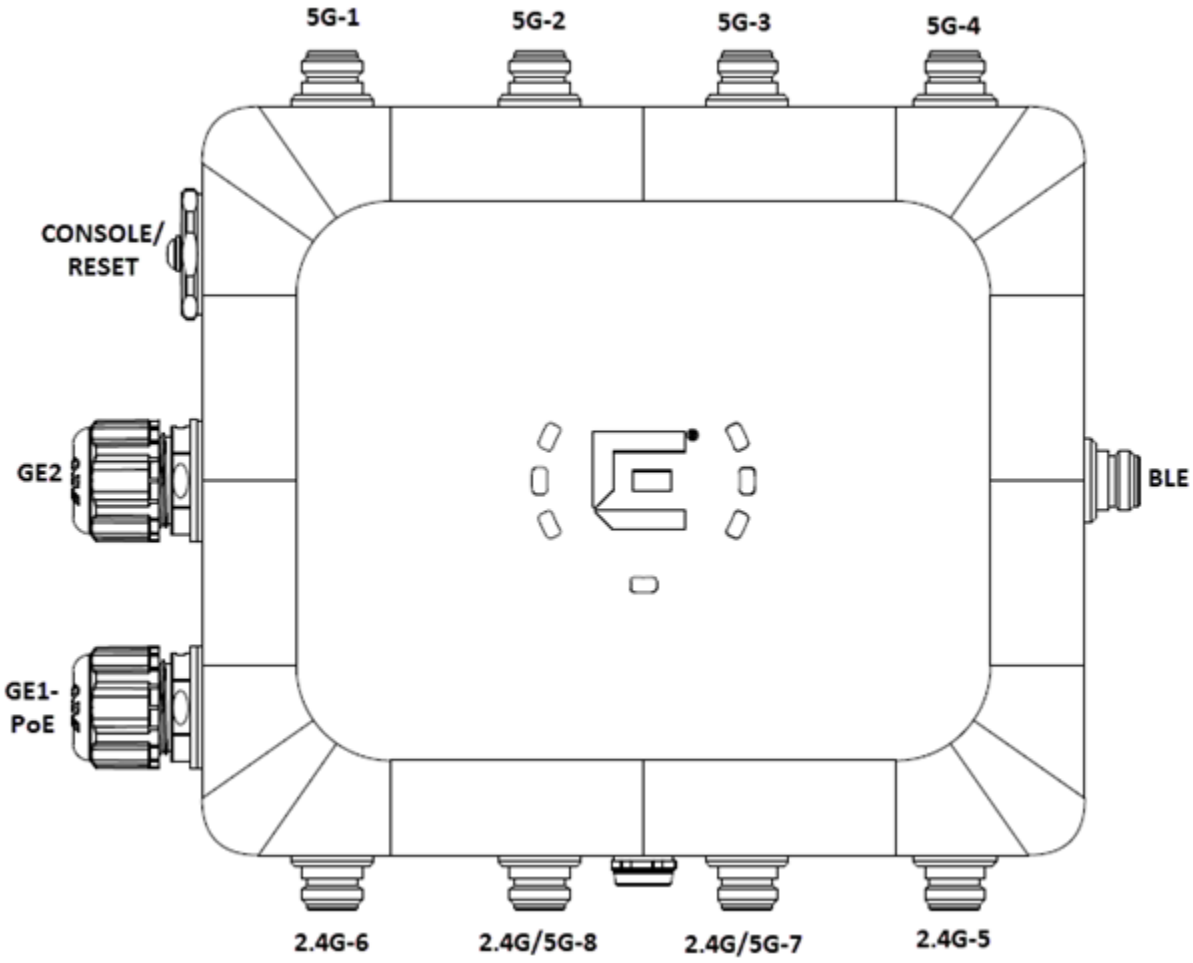


Figure 19: AP460e external antenna connectors

The 2.4G/5G-8 and the 2.4G/5G-7 are sensor antenna ports.

Note
The internal BLE is always used unless you attach an antenna to the BLE antenna connector.

Note

The BLE antenna port and the sensor antenna ports come with dust caps installed on them. Do not remove the dust caps until you need to install the antennas.

6 Specifications

Product specifications

Item	Specification
Dimensions	AP460i - 7.8" x 9.2" x 2.3" (198mm x 234mm x 59mm) AP460e - 7.8" x 10.5" x 2.3" (198mm x 268mm x 59mm)
Housing	IP67 rated outdoor use
Available mounting	See Access Point Mounting Options, Brackets, and Accessories on page 12.
LEDs	Seven
Radios	Tri-radio: 2X2:2 2.4GHz, 4X4:4 5GHz, 2X2 sensor
PoE	802.3at (802.3af reduced functionality)
Console port	RJ45

Environmental specifications

Item	Specifications
Operating temperature	-40°C to +60°C (-40°F to +140°F) @ 6000 ft.
Operating altitude	6000 ft.

7 Regulatory Information

Professional Installation Instruction
Safety Guidelines
Federal Communications Commission (FCC) Notice
Industry Canada Notice
Detachable Antenna Usage
Australia Notice
Brazil Anatel Statement
Hazardous Substances
Supplement to Product Instructions
NCC Statement
CE Information
European Waste Electrical and Electronic Equipment (WEEE) Notice
Declaration of Conformity in Languages of the European Community

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.

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

Personnel d'installation

Ce produit est conçu pour une application spécifique et doit être installé par un personnel qualifié qui possède des connaissances sur les RF et les règles associées. L'utilisateur général ne doit pas tenter d'installer ou de modifier le paramètre.

Antenne externe

Utilisez uniquement les antennes approuvées par le demandeur. Les antennes non approuvées peuvent produire une puissance de transmission RF parasite ou excessive indésirable, ce qui peut entraîner la violation de la limite FCC / IC et est interdite.

Procédure d'installation

Reportez-vous aux instructions d'installation pour plus de détails.

Warning
Sélectionnez la position d'installation et assurez-vous que la puissance de sortie finale ne dépasse pas la force définie dans les règles appropriées. La violation de la règle pourrait entraîner de graves sanctions fédérales.

Safety Guidelines

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

Attention
Only qualified personnel should perform installation procedures. Within the context of the safety notes in this documentation, qualified persons are defined as persons who are authorized to commission, ground and 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.

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 or 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 31 cm between the radiator and your body.

Industry Canada Notice

This device complies with ISED's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

Caution
The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

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 of 39 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 39 cm de distance entre la source de rayonnement et votre corps.

Detachable Antenna Usage

This radio transmitter [4141B-AP460] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio [4141B-AP460] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal d'antenne. Les types d'antennes non inclus dans cette liste qui ont un gain supérieur au gain maximal indiqué pour tout type listé sont strictement interdits pour une utilisation avec cet appareil.

Group	Brand	Model number	Antenna type	Antenna gain (dBi)		
				2.4 GHz	5 GHz	BLE or thread
1	Extreme	ML-2452-APA2-01	Omni	3.17	4.85	-
2	Extreme	ML-2452-APA2-02	Omni	3.17	4.85	-
3	Extreme	ML-2452-HPA5-036	Omni	3.9	5.7	-
4	Extreme	ML-2452-HPAG4A6-01	Omni	4	7.3	-
5	Extreme	ML-2452-PNA5-01R	Panel	4.5	5	-
6	Extreme	ML-2452-PTA4M4-036	Omni	5	6.6	-
7	Extreme	ML-2452-HPAG5A8-01	Omni	5	8	-
8	Extreme	WS-AO-DQ04360N	Omni	5.5	6	-
9	Extreme	AI-DQ04360S	Omni	5.5	6	-
10	Extreme	ML-2452-SEC6M4-036 / WS-AI-DQ05120	Panel	6.92	7.23	-
11	Extreme	WS-AI-DE07025	Panel	7.5	6.5	-

Group	Brand	Model number	Antenna type	Antenna gain (dBi)		
				2.4 GHz	5 GHz	BLE or thread
12	Extreme	ML-2452-PNA7-01R	Panel 1	7.8	10.7	7.8
13	Extreme	WS-AI-DE10055	Panel 2	10.5	7.5	-
14	Extreme	ML-2499-HPA8-01	Dipole	-	-	8

Australia Notice

AU co-location MPE Statement

This equipment complies with AU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 25 cm between the radiator and your body.

Brazil Anatel Statement

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução n°. 242/2000 e atende aos requisitos técnicos aplicados.

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados. Para maiores informações, consulte o site da ANATEL – www.anatel.gov.br

Hazardous Substances

This product complies with the requirements of Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Supplement to Product Instructions

單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
金屬零件 (Metal Parts)	○	○	○	○	○	○
電路模組 (Circuit Modules)	–	○	○	○	○	○
電纜及電纜組件 (Cables & Cable Assemblies)	○	○	○	○	○	○
塑料和聚合物零件 (Plastic and Polymeric parts)	○	○	○	○	○	○

備考1. "超出0.1 wt %" 及 "超出0.01 wt %" 係指限用物質之百分比含量超出百分比含量基準值。
Note 1：“Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2. "○" 係指該項限用物質之百分比含量未超出百分比含量基準值。
Note 2：“○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3. "–" 係指該項限用物質為排除項目。
Note 3：The “–” indicates that the restricted substance corresponds to the exemption.

NCC Statement

低功率電波輻射性電機管理辦法 第十二條 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。 第十四條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。 「本器材須經專業工程人員安裝及設定，始得設置使用，且不得直接販售給一般消費 者」。

CE Information

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

Warning

CE co-location MPE Statement:

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

	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:

Frequency	AP460i	AP460e
2.4GHz	802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40), 802.11ax (HEW20), 802.11ax (HEW40), 802.15.4 (Thread), Bluetooth (LE)	802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), Bluetooth (BR/EDR, 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)	802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ac (VHT80), 802.11ac (VHT160)

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

Frequency	Maximum transmitted power (AP460i)	Maximum transmitted power (AP460e)
2412-2472MHz	19.98 dBm	20 dBm
2402-2480MHz (BR/EDR)	N/A	6 dBm
2402-2480MHz (LE)	6.23 dBm	8 dBm
5180-5240MHz	22.98 dBm	23 dBm
5260-5320MHz	22.98 dBm	23 dBm
5500-5700MHz	29.98 dBm	30 dBm
2405-2480MHz	6.48 dBm	N/A

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 (AP460i/e) is in compliance with Directive 2014/53/EU. For full text of the EU Deceleration of Conformity, please contact Extreme Regulatory Compliance at compliancerequest@extremenetworks.com
Finnish	Valmistaja Extreme Networks vakuuttaa täten että Radio LAN device (AP460i/e) tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. Täydellinen teksti EU: n vaatimustenmukaisuuden hidastumisesta, ota yhteyttä Extreme Regulatory Complianceyn osoitteessa compliancerequest@extremenetworks.com
Dutch	Hierbij verklaart Extreme Networks dat het toestel Radio LAN device (AP460i/e) in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU. Neem voor een volledige tekst van de EU Deceleration of Conformity contact op met Extreme Regulatory Compliance op compliancerequest@extremenetworks.com
French	Par la présente Extreme Networks déclare que l'appareil Radio LAN device (AP460i/e) est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU. Pour obtenir le texte intégral du processus de décélération de la conformité de l'UE, veuillez contacter la conformité réglementaire extrême à l'adresse suivante: compliancerequest@extremenetworks.com
Swedish	Härmed intygar Extreme Networks överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/ EU. För fullständig text om EU-deceleration av överensstämmelse, vänligen kontakta Extreme Regulatory Compliance på compliancerequest@extremenetworks.com

Danish	Undertegnede Extreme Networks erklærer herved, at følgende udstyr Radio LAN device (AP460i/e) overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU. For fuld tekst af EU's deceleration of Conformity, kontakt venligst Extreme Regulatory Compliance på compliancerequest@extremenetworks.com
German	Hiermit erklärt Extreme Networks die Übereinstimmung des "WLAN Wireless Controller bzw. Access Points" (AP460i/e) mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 2014/53/EU. Den vollständigen Text der EU-Konformitätsverzögerung erhalten Sie von Extreme Regulatory Compliance unter compliancerequest@extremenetworks.com
Greek	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Extreme Networks ΔΗΛΩΝΕΙ ΟΤΙ Radio LAN device (AP460i/e) ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU. Για το πλήρες κείμενο της Σταθμιστικής Συμμόρφωσης της ΕΕ, επικοινωνήστε με την Extreme Regulatory Compliance στη διεύθυνση compliancerequest@extremenetworks.com
Icelandic	Extreme Networks lysir her med yfir að thessi bunadur, Radio LAN device (AP460i/e), uppfyllir allar grunnkrofur, sem gerdar eru i R&TTE tilskipun ESB nr 2014/53/EU. Vinsamlegast hafið samband við Extreme Regulatory Compliance í compliancerequest@extremenetworks.com fyrir fullan texta af samruna Evrópusamningsins.
Italian	Con la presente Extreme Networks dichiara che questo Radio LAN device (AP460i/e) è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU. Per il testo completo della Decelerazione di conformità UE, contattare Extreme Compliance Regulatory all'indirizzo compliancerequest@extremenetworks.com
Spanish	Por medio de la presente Extreme Networks declara que el Radio LAN device (AP460i/e) 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 desaceleración de la conformidad de la UE, comuníquese con Extreme Regulatory Compliance en compliancerequest@extremenetworks.com

Portuguese	Extreme Networks declara que este Radio LAN device (AP460i/e) está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU. Para obter o texto completo da desaceleração de conformidade da UE, entre em contato com a Extreme Regulatory Compliance em compliancerequest@extremenetworks.com
Malti	Hawnhekk, Extreme Networks, jiddikjara li dan Radio LAN device (AP460i/e) jikkonforma mal-htigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 2014/53/EU. Għal test sħiħ tad-Deċellerazzjoni tal-Konformità tal-UE, jekk jogħġbok ikkuntattja l-Konformità Regolatorja Estrema fi compliancerequest@extremenetworks.com

Index

A

Antenna Configurations
    AP460e access point antenna connectors 34
AP460i/e mounting options
    accessories 12
    optional brackets 12
    pole install 12
    wall install 12
AP460i/e Power Source 30
Australia notice 41

B

box contents
    AP460e contents 12
    AP460i contents 12

C

conventions
    notice icons 4
    text 4

D

documentation
    feedback 5
    location 6

F

FCC notice 38
features
    AP460e features 7
    AP460i features 7
Flat surface install
    MBO-ART02 mounting bracket 17
Flat surface installation
    KT-147407-02 bracket 15
    KT-150173-01 extension arm 17

G

GE and Console Connections 31
GE1/GE Connection
    Cable gland assembly 31

I

install the access point
    AP460e box contents 12
    AP460e installation 12
    AP460i box contents 12
    AP460i installation 12
installation procedure
    flat Surface install 14
installation procedure *(continued)*
    wall Install 14

K

KT-147407-02 pole mounting
    Pole part of the KT-147407-02 bracket 24

L

LED
    LED indicators 9

M

Mounting option
    Pole Mounting 20
Mounting Option
    VMM bracket installation 18

N

NCC statement 42

O

Open Source Declaration 6
overview
    AP460e 7
    AP460i 7
    firmware use 7

P

Pole Install
    POLE01 bracket and the ART02 bracket 27
Pole mounting
    KT-147407-02 bracket parts 22
    KT-147407-02 pole part 25
    KT-150173-01 extension arm 25
Pole Mounting
    KT-150173-01 extension arm and all KT-147407-02 bracket parts 25
professional installation instruction 37
purchase order information
    AP460e ordering information 11
    AP460i ordering information 11

R

Regulatory Information 42
Regulatory Information, Hazardous Substances 41

S

safety guidelines 38

Specifications
Environmental Specifications 36
Product Specifications 36
support, *see* technical support

T

technical support
contacting 5