



ExtremeWireless™ AP460C, AP460S6C, and AP460S12C Access Points

Installation Guide

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October 2023



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Preface

Read the following topics to learn about:

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

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

Table 3: Command syntax

Convention	Description
bold text	Bold text indicates command names, keywords, and command options.
<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.
{ x y z }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x y	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, such as passwords, are enclosed in angle brackets.
...	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/.

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

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

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

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.

Providing Feedback

The Information Development team at Extreme Networks has 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 we especially want to know about:

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

If you would like to provide feedback, you can do so in three ways:

- In a web browser, select the feedback icon and complete the online feedback form.
- Access the feedback form at <https://www.extremenetworks.com/documentation-feedback/>.
- Email us at documentation@extremenetworks.com.

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



AP460C, AP460S6C, and AP460S12C Overview

[New in this Guide](#) on page 10

[Update the Country Code](#) on page 10

[AP460C, AP460S6C, and AP460S12C Features](#) on page 11

[Power Source](#) on page 14

[Power Profile](#) on page 14

[Status Light Activity](#) on page 15

[Micro USB Console Port](#) on page 16

Learn about the AP460C, AP460S6C, and AP460S12C access points.

AP460C, AP460S6C, and AP460S12C tri-radio 802.11ax access points are based on advanced radio technology and IP67 rated for harsh and extreme outdoor environments, with an extended temperature range from -40°C to $+60^{\circ}\text{C}$. The tri-radio design delivers 802.11ax 2x2:2 and 4x4:4 data rates concurrently on the 2.4 GHz and 5 GHz radios, with a third radio as a dedicated dual-band sensor.

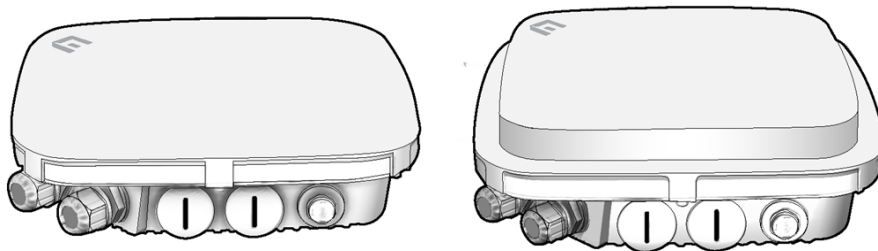


Figure 1: Front views of AP460C and AP460S6C access points

In this document, the access points are collectively addressed as AP460C.

Related Topics

[Update the Country Code](#) on page 10

[AP460C, AP460S6C, and AP460S12C Features](#) on page 11

[Power Source](#) on page 14

[Power Profile](#) on page 14

[Status Light Activity](#) on page 15

New in this Guide

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

October 2023 Revisions

The following table shows the documentation updates for October, 2023.

Table 4: New and revised information

Description	Section
Removed the restriction for freezer use.	Install the Access Point on a Vertical Pole or a Horizontal Pole Using the Built-in Bracket

July 2023 Revisions

The following table shows the documentation updates for July, 2023.

Table 5: New and revised information

Description	Section
Updated for Micro USB support.	Micro USB Console Port on page 16
Updated for LED support.	Status Light Activity on page 15

Update the Country Code

About This Task

If your access point is configured for the World Regulatory domain, it is important to set the country code to the country in which the access point will be deployed to meet regulatory requirements and for optimal wireless operation.



Note

The country code selection is for world models only and is not available to United States (FCC), Canada (CAN), and other country-specific models. Per Federal Communications Commission (FCC) regulations, all Wi-Fi products marketed in the United States must be set to U.S. channels only.

Procedure

1. Power on the access point.

2. Allow the access point to find and connect to ExtremeCloud IQ.
When the access point is connected, it appears in the table of devices in the **Manage > Devices** window.
3. Select the check box next to the access point, and then select **Assign Country Code** from the **Actions** drop-down list.
4. In the dialog box, select the appropriate country from the drop-down list, and then select **Save**.
5. Upload your changes to the device.

AP460C, AP460S6C, and AP460S12C Features

The access points have the following features:

- Radios:
 - Three 802.11a/b/g/n/ac/ax radios (one 4×4 radio, one 2×2 radio, and one 1×1 scanner radio)
 - One Bluetooth Low Energy (BLE) radio
- Two RJ45 Ethernet ports (ETH0 and ETH1):
 - 100/1000/2500 Mbps auto-negotiation RJ45 Ethernet Power over Ethernet (PoE) port
 - 10/100/1000 Mbps auto-negotiation RJ45 Ethernet port
- One micro USB console port
- One reset button

Remove the waterproof screw cap to access the micro USB port and the reset button.

- One standard USB port to connect beacons (iBeacon) and Internet of Things (IoT) devices

Remove the waterproof cap to access the standard USB port.



Note

The hardware components are similar for AP460C, AP460S6C, and AP460S12C access points.

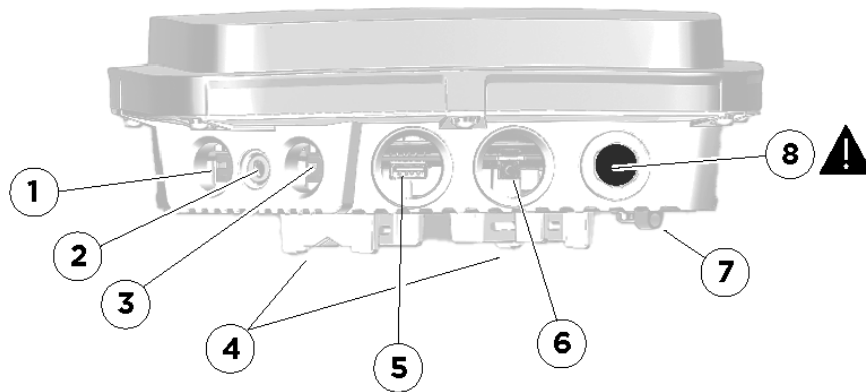


Figure 2: Access point hardware components

Table 6: AP460C access point hardware components

Callout	Description
1	PoE - Ethernet 0
2	Status light
3	Ethernet 1
4	Built-in mounting brackets
5	USB port
6	Micro USB console and reset button
7	Ground
8	Air pressure vent



Note

Do not remove the air pressure vent cap.

Ethernet ports

The access points have two RJ45 Ethernet ports:

- ETH0
- ETH1

The ports automatically negotiate half-duplex and full-duplex connections with the connecting device. The ports are autosensing and adjust to straight-through and crossover standard Cat2, Cat5, Cat5e, or Cat6 Ethernet cables automatically. The access point receives power through an Ethernet connection to the ETH0 port from a power sourcing equipment (PSE) that is compatible with the 802.3at and 802.3at standards.

Micro USB console port

The micro USB console port is located behind a waterproof screw cap in the access point.

Remove the waterproof screw cap to access the micro USB port. Through the micro USB Console port you can make a serial connection between your management system and the access point. When you connect to the device using the micro USB Console port, the management station from which you connect to the device must have a VT100 emulation program, such as Tera Term Pro© (a free terminal emulator) or Hilgraeve HyperTerminal® (provided with Windows® operating systems from XP forward). The serial connection settings are: 9600 bits per second, 8 data bits, no parity, 1stop bit, no flow control.

Refer to the micro USB console [order information](#).

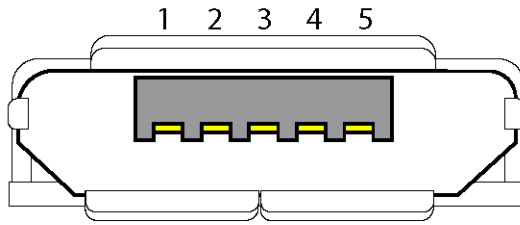


Figure 3: Pin-to-signal mapping on the Console port

Table 7: Pin-to-signal mapping description

Callout	Description
1	NC
2	RxD (input to access point)
3	TxD (output to terminal)
4	Signal (GND)
5	Signal (GND)

USB port

These access points have a standard USB port that you can use to connect USB-based beacons and IoT devices. To access the port, remove the gland cap screw.

Reset button

The Reset button is located behind the same waterproof screw cap as the micro USB console port. Use the Reset button to reset the device or restore the factory default settings.

To prevent the reset button from resetting the configuration, type this command: `no reset-button reset-config-enable`

When the command is enabled, pressing the button for 5 seconds will reboot the access point, but pressing it for more than 10 seconds will not reset its configuration.

Power Source

Power specification:

- IEEE 802.3at PoE

Power option:

- Power draw w/o USB: typical 19.2 W, maximum 20.8 W
- 802.3at PoE capable Gigabit Ethernet port (RJ45 power input pins: wires 4, 5, 7, 8 or 1, 2, 3, 6)
- 802.3af and 802.3at PoE injector
- Outdoor installation power supply using PD-9001GO-ENT outdoor PoE injector.

PoE input:

- Typical:
 - 54.0VDC, 0.40A, 21.7W Max, PoE with USB 2.5W (IEEE 802.3at only 42.5VDC–57.0VDC, USB 0.5A)
- 54.0VDC, 0.36A, 19.2W Max, PoE without USB 2.5W (IEEE 802.3at only 42.5VDC–57.0VDC)
- Maximum:
 - 54.0VDC, 0.43A 23.3W Max, PoE with USB 2.5W (IEEE 802.3at only 42.5VDC–57.0VDC, USB 0.5A)
 - 54.0VDC, 0.39A 20.8W Max, PoE without USB 2.5W (IEEE 802.3at only 42.5VDC–57.0VDC)
- **ESD protection:**8 kV contact discharge/15 kV air discharge

Power Profile

Table 8: Power profile

AP460C, AP460S6C, AP460S12C	802.3af	802.3at
2.4G radio	2×2 (14 dBm)	2×2 (18 dbm)
5G Radio	2×2 (17 dBm)	4×4 (18 dBm)
Sensor Radio	2.4G and 5G (15 dBm)	2.4G and 5G (18 dBm)
BLE	Enabled	Enabled
USB	No	Yes
2.5G Ethernet	Yes	Yes
1G Ethernet	No	Yes

Status Light Activity

The status light, located between the two Ethernet ports, conveys operational states for system power, firmware updates, Ethernet and wireless interface activity, and major alarms.

Table 9: IQ Engine Status LED Activity

Status	Activity
Dark	Power is off
Solid white	The device power is on and the access point is ready to use. The device has successfully established a Control And Provisioning of Wireless Access Points (CAPWAP) connection to ExtremeCloud IQ and is operating normally
Slow-blinking white	The device has a CAPWAP connection to ExtremeCloud IQ, but is operating on 802.3at power instead of 802.3bt power
Solid amber	The device power is on and the access point is in boot up mode, or is running without a CAPWAP connection
Slow-blinking amber	The device has no CAPWAP connection to ExtremeCloud IQ, and is operating on 802.3at power instead of 802.3bt power
Fast-blinking amber	The device is updating its IQ Engine firmware

Table 10: ExtremeWireless WiNG Status LED Activity

Status	Activity
Dark	Power is off or Access point is taken over by the controller. Configuration pushes down to access point from controller to turn off the LED completely
Solid white	The device is booting or already taken over by the controller
Slow-blinking white	The device is in the process of being taken over by the controller or has failed to be taken over by the controller
Flashing fading white	Configuration pushes down to access point from controller helping an user to locate the access point location using visual inspection
Solid amber	The access point is upgrading its firmware
Fast-blinking amber	The access point is acquiring DHCP IP

Micro USB Console Port

Use the console port to make a serial connection between your management system and the access point. You can order a micro USB console adapter for your access point using the part number ACC-WIFI-MICRO-USB.



Note

When you connect to the Micro USB console port, the management station from which you connect to the device must have a VT100 emulation program, such as Tera Term Pro (a free terminal emulator) or Hilgraeve HyperTerminal® (provided with Windows operating systems from XP forward).

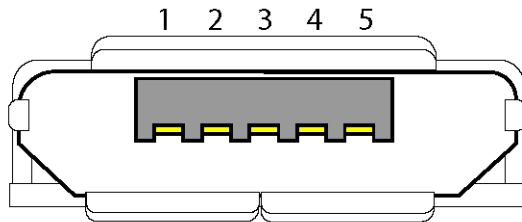


Figure 4: Micro-B model Console Port Pin Information

Table 11: Micro-B USB Pin Information

Pin number	Pin name and description
1	NC
2	RxD (input to access point)
3	TxD (output to terminal)
4	Signal (GND)
5	Signal (GND)



Install the Access Point

[Access Point and Accessory Box Contents and Order Information](#) on page 18

[Access Point Mounting Options and Accessory Usage](#) on page 20

[Install the Access Point on a Vertical Pole or a Horizontal Pole Using the Built-in Bracket](#) on page 21

[Outdoor Pole Installation Using ACC-MBO-KT-AX Adapter](#) on page 23

[Install the Access Point on a Flat Surface Using the AH-ACC-BKT-ASM Accessory](#) on page 27

[Outdoor Wall Installation Using ACC-MBO-KT-AX Adapter](#) on page 29

About This Task

The access point can be installed on an outdoor environment on a vertical or horizontal pole, or to a flat surface. For more information about selecting the right access point for your installation needs, see [Access Point and Accessory Box Contents and Order Information](#) on page 18.



Note

The installation procedure for AP460C, AP460S6C, and AP460S12C access points are similar. The installation procedures covered in this document is applicable to all these access points.

Procedure

1. Verify the [access point and accessory box contents](#) based on your order information.
2. Visually inspect the access point, the bracket, and any other optional accessories you have ordered for physical damage.
If there is any damage, contact [Extreme Networks Support](#).
3. Read and review the [safety guidelines](#).

4. Select an [access point and accessory mounting option](#):

- To install the access point on a vertical or horizontal pole, see [Install the Access Point on a Vertical Pole or a Horizontal Pole Using the Built-in Bracket](#) on page 21.
- To install the access point on a flat surface, see [Install the Access Point on a Flat Surface Using the AH-ACC-BKT-ASM Accessory](#) on page 27.



Tip

For best performance, deploy devices in open areas at least 100.0 ft. (30.5 m) apart from each other.

5. After installation, safely [ground](#) the access point.

6. [Weatherproof the Ethernet cable](#).

What to Do Next

To troubleshoot or uninstall the access point, [remove the RJ45 cable](#) before you remove the access point from the installation location.

Access Point and Accessory Box Contents and Order Information

Access point box contents

When you purchase the access point, ensure that the following items are available in the box:

- An access point you have ordered (AP460C, or AP460S6C, or AP460S12C) with two installed M20 cable gland assemblies and plugs, and two installed M25 seal caps
- Hardware bag containing grounding hardware:
 - M4 ground screw
 - Split washer
 - Lock washer
- Read Me card

AH-ACC-BKT-ASM accessory bag contents



Note

All accessory must be purchased separately.



Important

The AP460C, AP460S6C, and AP460S12C use different mounting accessories than the AP460i/e series access points.

The AH-ACC-BKT-ASM accessory is an outdoor stainless-steel accessory for wall installations. The bag is labeled 'Wall Mount' and contains the following items:

- One AH-ACC-BKT-ASM stainless-steel wall bracket assembly
- Four M5 bolts

AH-ACC-STRP-MRN accessory bag contents

The AH-ACC-STRP-MRN accessory is an outdoor stainless-steel pole cable clamp for 3 in. to 7 in. diameter poles. The accessory bag contains the following item:

- One AH-ACC-STRP-MRN stainless-steel cable clamp

Outdoor PoE

The PD-9001GO-ENT PoE single-port midspan unit is used to power the access point for outdoor installations.

The PoE unit is fully IEEE 802.3af/802.3at compliant and offers surge and lightning protection.

Micro USB order information

You can order a micro USB console adapter for your access point using the part number ACC-WIFI-MICRO-USB.

Related Topics

[Access Point Mounting Options and Accessory Usage](#) on page 20

Access Point Mounting Options and Accessory Usage

Mount the AP460C, AP460S6C, or AP460S12C horizontally or vertically on a pole using the built-in brackets on the hardware, or on a solid flat surface using an accessory bracket, as described in the following table:

Table 12: Mounting accessory usage

Mounting accessory part number	Wall install	Pole install	Notes
AH-ACC-STRP-MRN	No	Yes	Outdoor access point stainless steel pole cable clamps for 3 in. to 7 in. diameter pole (larger poles)
AH-ACC-BKT-ASM	Yes	No	Provide four mounting screws and screw-in anchors
ACC-MBO-KT-AX	Yes	Yes	The adapter is used in combination with the KT-147407-02 bracket parts and the KT-150173-01 extension arm Note: The KT-147407-02 and the KT-150173-01 extension arm must be purchased separately

Table 13: Power cable accessory information

Part number	Details
AH-ACC-PW-CBL-US	6 ft. 18 AWG universal power cord with United States plug
AH-ACC-PW-CBL-UK	6 ft. universal power cord with United Kingdom plug
AH-ACC-PW-CBL-EU	6 ft. universal power cord with European Union plug
AH-ACC-PW-CBL-AU	6 ft. universal power cord with Australia plug
AH-ACC-PW-CBL-JP	6 ft. universal power cord with Japan plug
AH-ACC-PW-CBL-KR	6 ft. universal power cord with Korea plug

Lan cable specification

The LAN cable outer diameter must be 5.0 mm to 7.0 mm.

Related Topics

[Access Point and Accessory Box Contents and Order Information](#) on page 18

Install the Access Point on a Vertical Pole or a Horizontal Pole Using the Built-in Bracket

Install the access point on a vertical pole using the built-in access point bracket.

Before You Begin

The following hardware is required for installing the access point on a vertical pole or a horizontal pole:

- An access point (AP460C, or AP460S6C, or AP460S12C)
- Two AH-ACC-STRP-MRN accessory, which is an outdoor access point stainless steel hose strap for 3 in. to 7 in. diameter poles



Tip

The best practice is to mount the access point to a pole with a minimum circumference of 3 in.



Important

You must provide your own cable clamps if you are mounting the access point to a pole that is less than 3 in. or more than 7 in. in diameter.



Tip

The best practice is to use a stainless-steel cable clamp that is 0.5 in. (12.7 mm) wide.

- A flat-head slotted screwdriver to tighten the clamp screws

About This Task

Install the access point on a vertical pole at outdoor environments. If you are resting the access point under a horizontal pole, use this installation method only during indoor warehouse or distribution center installations.

Procedure

1. Thread the cable clamp straps through the access point rear slots.
2. Position and insert the cable clamp straps around the pole.



Note

Ensure that the access point top slots are nearest to the sky and the bottom slots are nearest to the ground.

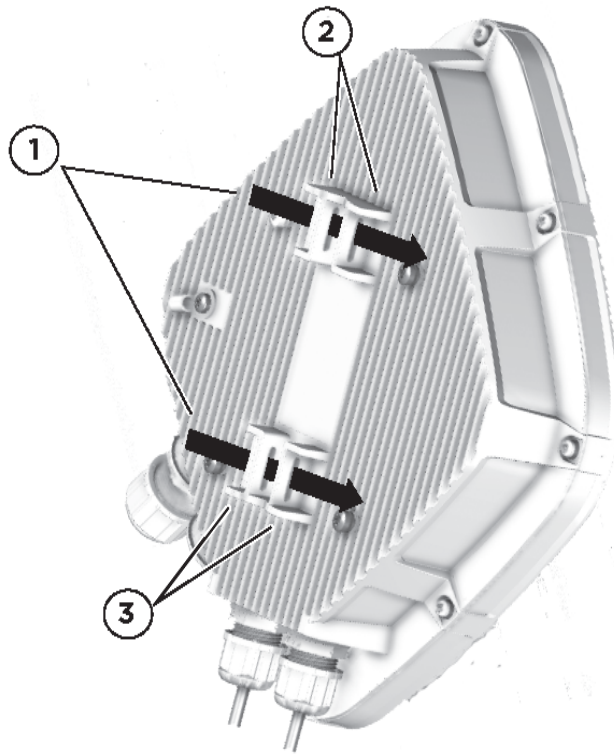


Figure 5: Pole mount strap slots on the back of the access point

Callout	Description
1	Pole mount cable clamp strap insert holes in the back of the access point
2	Top slots on the rear of the access point facing the sky
3	Bottom slots on the rear of the access point facing the ground

- Using a slotted screwdriver, tighten the clamp screws to a minimum torque of 14 in-lbs. until the access point is securely mounted onto the pole.

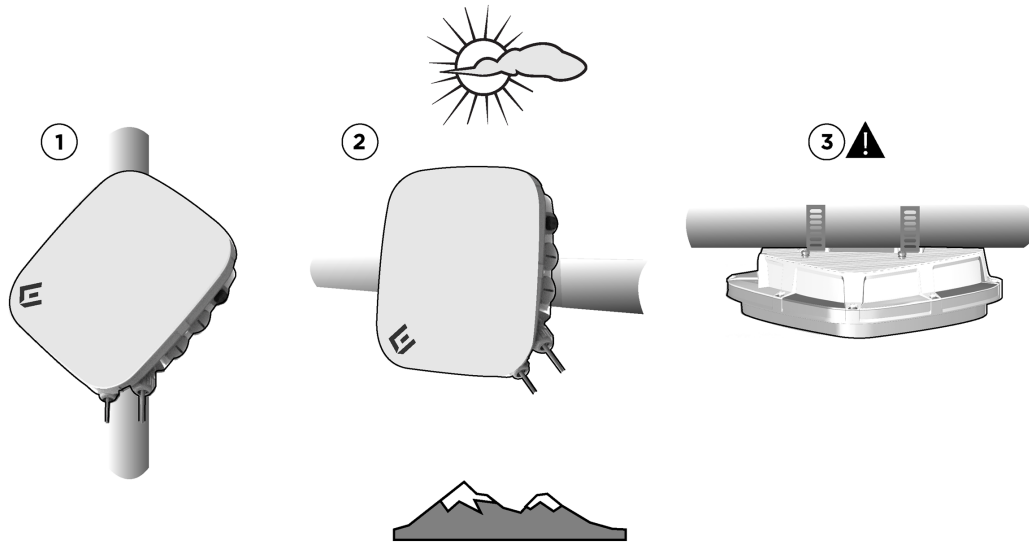


Figure 6: Access point pole mount positions

Callout	Description
1	Vertically oriented access point mounted onto a pole
2	Horizontally oriented access point mounted onto a pole
3	Access point mounted onto a horizontal pole (indoor warehouse installation)

As an added security measure, you can thread a safety strap through one of the cable clamp slots in addition to the cable clamps. Connect the other end of the strap to a secure object.



Important

The access point LAN glands must face down to eliminate water from entering the chassis.

Outdoor Pole Installation Using ACC-MBO-KT-AX Adapter

Details about ACC-MBO-KT-AX adapter and pole brackets that can be used with the adapter for outdoor pole installation.

You can install the AP460C, AP460S6C, or AP460S12C outdoor access points to an outdoor pole using the ACC-MBO-KT-AX adapter. The adapter is used in combination with the KT-147407-02 bracket parts and the KT-150173-01 extension arm.



Note

The KT-147407-02 and the KT-1501730-01 extension arm must be purchased separately.

For detailed installation instructions, refer to the following procedures:

- [Install the Access Point on a Pole Using ACC-MBO-KT-AX Adapter and KT-147407-02 Bracket Parts](#) on page 24
- [Install the Access Point on a Pole Using ACC-MBO-KT-AX Adapter, KT-147407-02 Bracket Parts, and KT-150173-01 Extension Arm](#) on page 26

Related Topics

[Outdoor Wall Installation Using ACC-MBO-KT-AX Adapter](#) on page 29

Install the Access Point on a Pole Using ACC-MBO-KT-AX Adapter and KT-147407-02 Bracket Parts

Learn how to install an outdoor access point on a pole using the -MBO adapter with the KT-147407-02 bracket parts.

Before You Begin

The following hardware is required for outdoor access point pole installation using the -MBO adapter and KT-147407-02 bracket parts:

- One outdoor access point
- One ACC-MBO-KT-AX adapter
- Four M5 hex bolts
- 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 with split washers and nuts
- Four M6 screws
- Two hex-head M12 stainless-steel bolts
- Two hex-head M12 stainless-steel nuts
- Two 0.5 in. wide stainless-steel cable clamps for pole mounting

About This Task

The ACC-MBO-KT-AX adapter is used with outdoor access points to add a tilt to the access point after installation. For pole installations, the -MBO adapter is used in combination with all three KT-147407-02 bracket parts.



Note

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

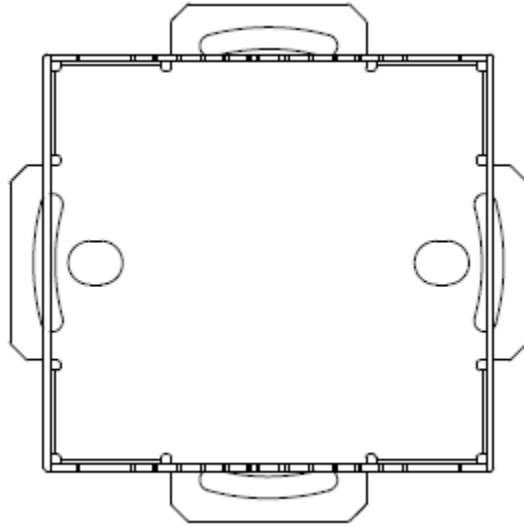


Figure 7: KT-147407-02 bracket pole part front view

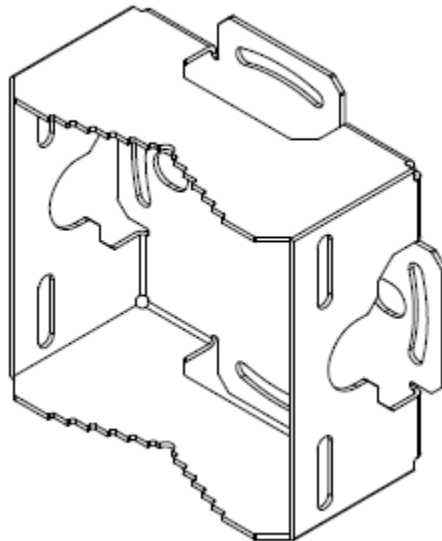


Figure 8: KT-147407-02 bracket pole part side view

Procedure

1. Attach the ACC-MBO-KT-AX adapter to the access point using four M5 bolts.
2. Torque the M5 bolts to 25 in-lbs.
3. Attach the flat part of the KT-147402-02 bracket to the ACC-MBO-KT-AX adapter using four M6 screws, split washers, and hex nuts.
4. Torque the bolts and nuts to 32 in-lbs.
5. 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.

6. Adjust the tilt and tighten the screws to a torque of 32 in-lbs.
7. Attach the KT-147407-02 pole part to the 1-axis tilt part using two M12 bolts through the large bracket holes on 1-axis tilt part and the pole part.
8. Fasten the bolts using two M12 hex nuts and torque it to 22 ft-lbs..
9. Insert the 0.5 in. stainless-steel cable clamp through the large slots on the pole bracket.
10. Position the cable clamps on the bracket around a pole.
11. Insert the ends of the cable clamps around the pole and tighten the clamp screws to a torque of 14 in-lbs.

Install the Access Point on a Pole Using ACC-MBO-KT-AX Adapter, KT-147407-02 Bracket Parts, and KT-150173-01 Extension Arm

Learn how to install an outdoor access point on a pole using the -MBO adapter with KT-147407-02 bracket parts and the KT-150173-01 extension arm.

Before You Begin

The following hardware is required for outdoor access point pole installation using the -MBO adapter, KT-147407-02 bracket parts, and KT-150173-01 extension arm:

- One outdoor access point
- One ACC-MBO-KT-AX adapter
- Four M5 hex bolts
- 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
- One KT-150173-01 extension arm
- Six M6 screws
- Four hex-head M12 stainless-steel bolts
- Four hex-head M12 stainless-steel nuts
- Two 0.5 in. wide stainless-steel cable clamps for pole mounting

About This Task

Use the -MBO adapter in combination with the KT-147407-02 bracket parts and the KT-150173-01 extension arm for pole installations.



Note

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

Procedure

1. Attach the ACC-MBO-KT-AX adapter to the access point using four M5 bolts.
2. Tighten the bolts to a torque of 25 in-lbs.

3. Attach the KT-147407-02 flat part and the 1-axis tilt part.
For instructions on how to attach the bracket parts, see Steps 2 and 3 in the [Install the Access Point on a Wall Using ACC-MBO-KT-AX Adapter, KT-147407-02 Bracket Wall Parts, and KT-150173-01 Extension Arm](#) on page 35 procedure.
4. Tighten the screws and nuts to a torque of 32 in-lbs.
5. Align the circular holes on one end of the KT-150173-01 extension arm against the large holes on the 1-axis tilt bracket part.
6. Attach 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.
7. 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.
8. Tighten the M12 bolts and nuts to a torque of 22 ft-lbs.
9. Insert 0.5 in. stainless-steel cable clamps through the KT-147407-02 pole part long slots.
10. Position the cable clamps around a pole.
11. Insert the ends of the cable clamps around the pole and tighten the clamp screws to a torque of 14 in-lbs.

Install the Access Point on a Flat Surface Using the AH-ACC-BKT-ASM Accessory

Install the access point on a vertical or horizontal flat surface using the AH-ACC-BKT-ASM accessory.

Before You Begin

The following hardware is required to install the access point to a flat surface:

- An access point (AP460C, or AP460S6C, or AP460S12C)
- AH-ACC-BKT-ASM wall accessory (must be purchased separately)
- Four shoulder M5 bolts
- Four M5 mount screws and screw-in anchors (must be provided by the installer)

Callout	Description
1	M5 bolt attachment holes



Note

If you are mounting the access point horizontally, ensure that the ports are facing down to reduce the chance of water entering the chassis.

Procedure

1. Using the ASM wall accessory as a template, mark and drill four mounting holes on a flat surface.



Note

The printed arrows on the accessory must be pointing up.

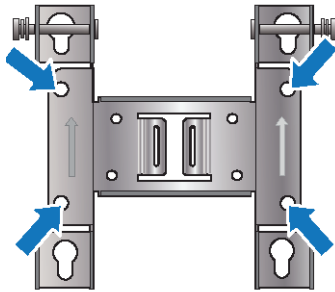


Figure 9: ASM accessory wall mounting hole markings

2. Attach the ASM accessory to the wall by using four M5 shoulder mounting screws.



Tip

The best practice is to use screw-in anchors with the mounting screws on a wood surface, and concrete anchors on a concrete surface.

3. Insert the M5 shoulder mounting screws into the access point mounting holes.

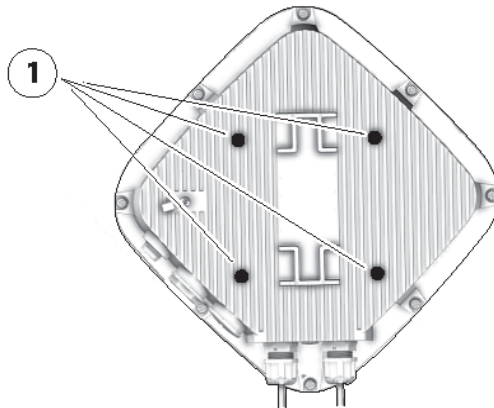


Figure 10: Wall mounting accessory M5 bolt holes

4. Torque the M5 shoulder mounting screws to 25 in-lbs.

5. Remove the two locking screws on the accessory.

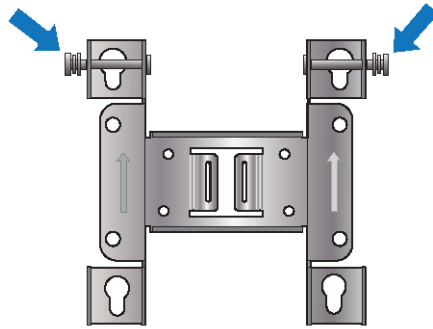


Figure 11: ASM accessory locking screws



Note

The access point will not go onto the accessory if the locking screws are not removed.

6. Insert the M5 bolt heads on the access point into the large end of the accessory keyholes and slide the access point down until the bolts rest in the narrow end of the keyholes.
7. Tighten the locking screws on the ASM accessory to secure the access point.
8. [Ground the access point.](#)

Outdoor Wall Installation Using ACC-MBO-KT-AX Adapter

Details about ACC-MBO-KT-AX adapter and wall brackets that can be used with the adapter for wall installation.

You can install the AP460C, AP460S6C, or AP460S12C outdoor access points to an outdoor wall or a flat surface using the ACC-MBO-KT-AX adapter. The adapter is used in combination with the KT-147407-02 bracket parts and the KT-150173-01 extension arm.



Note

The KT-147407-02 bracket parts and the KT-1501730-01 extension arm must be purchased separately.

For detailed installation instructions, refer to the following procedures:

- [Install the Access Point on a Wall Using ACC-MBO-KT-AX Adapter and KT-147407-02 Bracket Parts](#) on page 30
- [Install the Access Point on a Wall Using ACC-MBO-KT-AX Adapter, KT-147407-02 Bracket Wall Parts, and KT-150173-01 Extension Arm](#) on page 35
- [Install the Access Point on a Wall Using ACC-MBO-KT-AX Adapter and MBO-ART02 Articulating Mounting Bracket](#) on page 38
- [Install the Access Point on a Wall Using ACC-MBO-KT-AX Adapter and MBO-ART03 Articulating Mounting Bracket](#) on page 37

Related Topics

[Outdoor Pole Installation Using ACC-MBO-KT-AX Adapter](#) on page 23

Install the Access Point on a Wall Using ACC-MBO-KT-AX Adapter and KT-147407-02 Bracket Parts

Learn how to install an outdoor access point using the ACC-MBO-KT-AX adapter with the KT-147407-02 bracket wall parts.

Before You Begin

The following hardware is required for outdoor access point wall installation using the -MBO adapter and the KT-147407-02 bracket parts:

- One outdoor access point
- One ACC-MBO-KT-AX adapter
- Four M5 hex bolts
- Flat part of the KT-147407-02 bracket
- 1-axis tilt part of the KT-147407-02 bracket
- Four M6 hex screws with split washer and hex nut
- Four M6 headsized screws
- Four M6 screws



Note

All accessories must be purchased separately.

About This Task

The ACC-MBO-KT-AX adapter is used with outdoor access points to add a tilt to the access point after installation. For wall installations, the -MBO adapter is used in combination with the KT-147407-02 bracket wall parts. The KT-147407-02 has three bracket parts, two parts for wall installation and one part for pole installation.

For pole installations, the ACC-MBO-KT-AX adapter is used in combination with the KT-147407-02 bracket wall and pole parts.

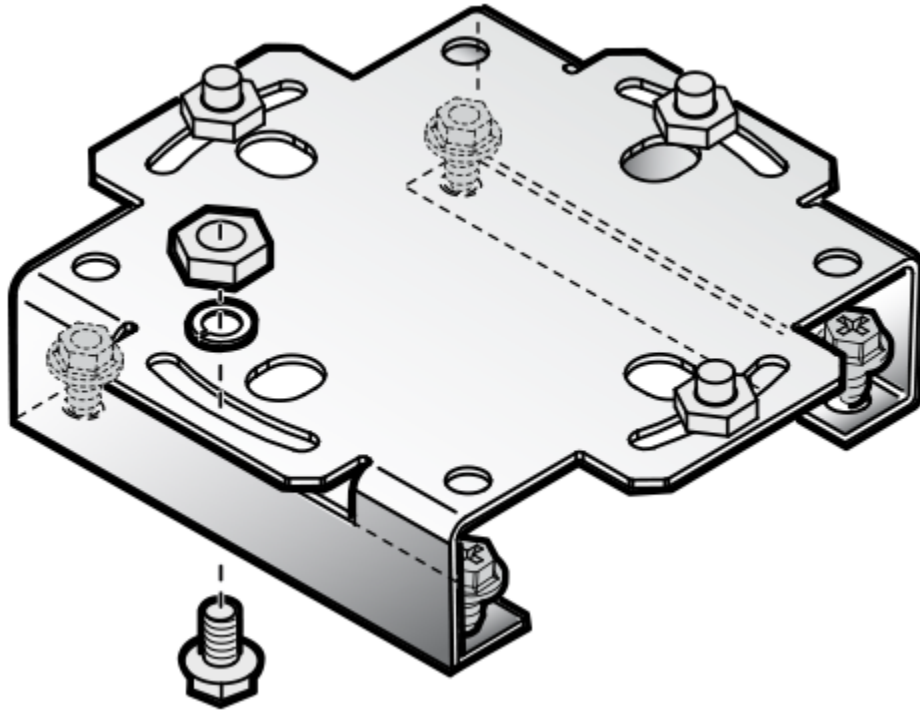


Figure 12: ACC-MBO-KT-AX adapter bracket for outdoor access point tilt

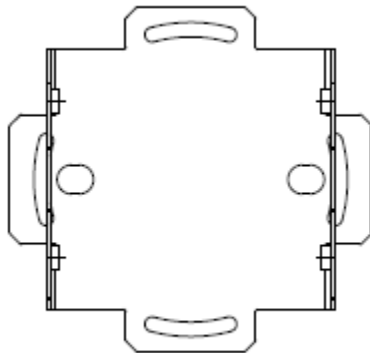


Figure 13: KT-147407-02 bracket flat part front view

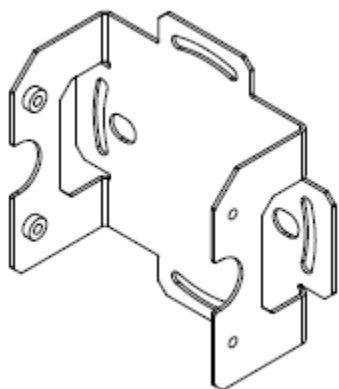


Figure 14: KT-147407-02 bracket flat part side view

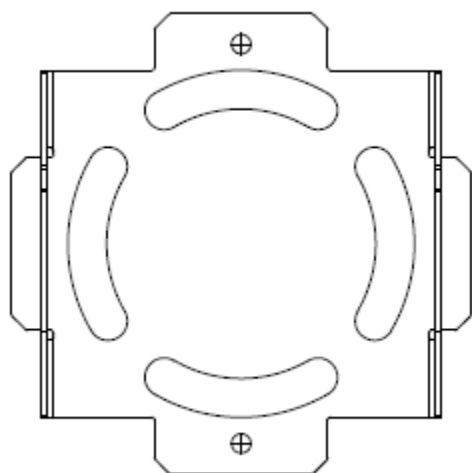


Figure 15: KT-147407-02 bracket 1-axis tilt part front view

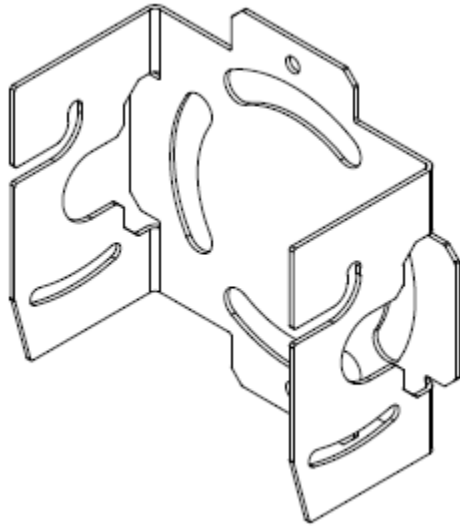


Figure 16: KT-147407-02 bracket 1-axis tilt part side view

Procedure

1. Attach the ACC-MBO-KT-AX adapter to the access point using four M5 bolts.

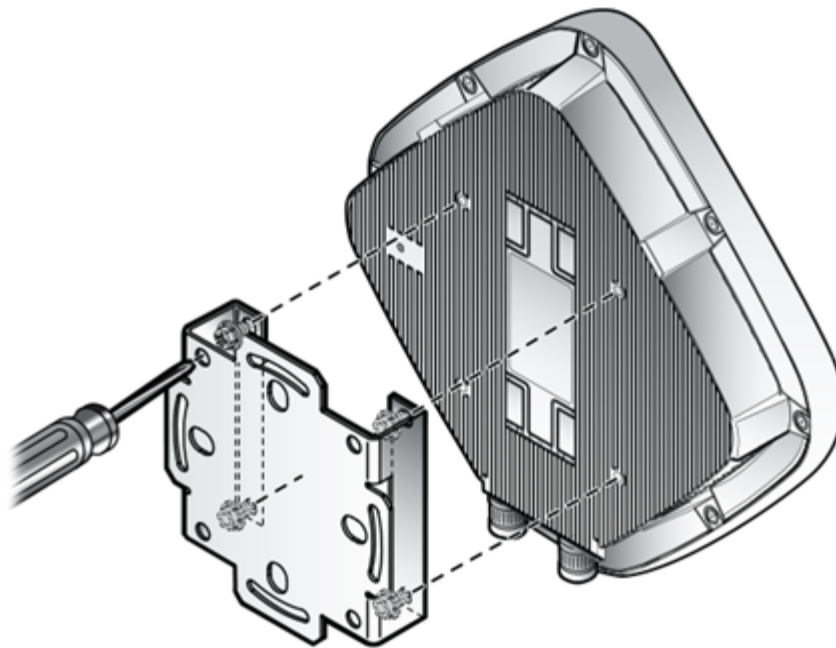


Figure 17: ACC-MBO-KT-AX adapter bracket attachment to an outdoor access point

2. Torque the M5 bolts to 25 in-lbs.

3. Attach the flat part of the KT-147402-02 bracket to the ACC-MBO-KT-AX adapter using four M6 screws, split washers, and hex nuts.

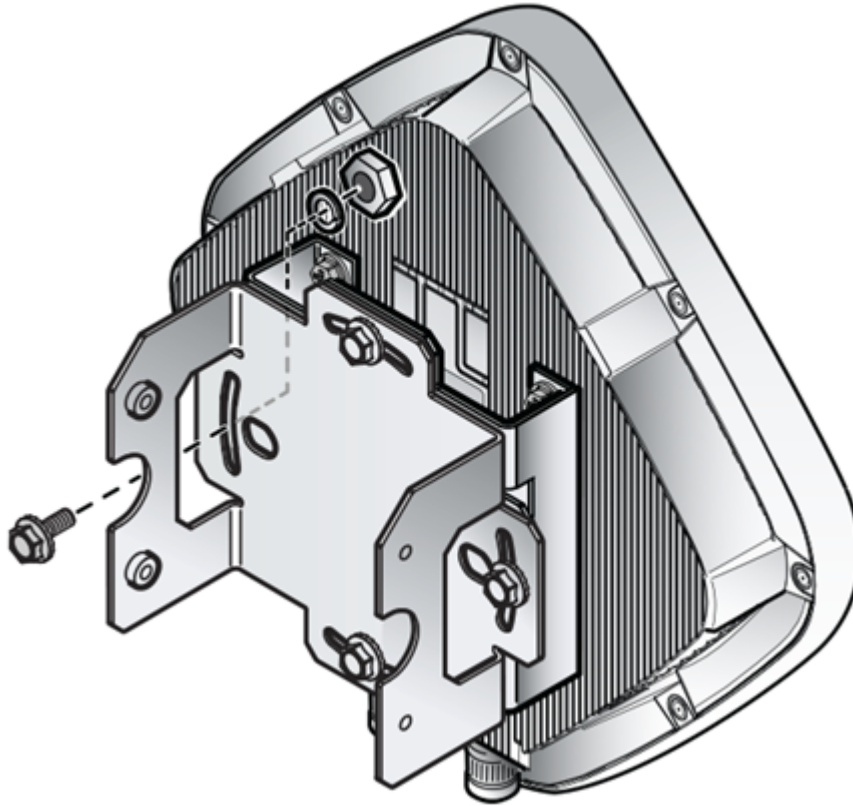


Figure 18: KT-147407-02 flat part attachment to -AX adapter bracket

4. Torque the bolts to 45 in-lbs.
5. Using the 1-axis tilt bracket as a template, mark and drill four holes on a wall or on a flat surface.
6. Attach the 1-axis tilt bracket to a wall or a flat surface using four M6 headsized screws.
7. 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.
8. 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 on a Wall Using ACC-MBO-KT-AX Adapter, KT-147407-02 Bracket Wall Parts, and KT-150173-01 Extension Arm

Learn how to install an outdoor access point on a wall using ACC-MBO-KT-AX adapter, KT-147407-02 bracket wall parts, and KT-150173-01 extension arm.

Before You Begin

The following hardware is required for outdoor access point wall installation using the -MBO adapter, KT-147407-02 bracket parts, and the KT-150173-01 extension arm:

- One outdoor access point
- One ACC-MBO-KT-AX adapter
- Four M5 hex bolts
- Flat part of the KT-147407-02 bracket
- 1-axis tilt part of the KT-147407-02 bracket
- Four M6 hex screws with split washer and hex nut
- Four M6 head size screws
- Four M6 screws
- One KT-150173-01 extension arm
- Two hex-head M12 stainless-steel screws and nuts
- Four M6 hex-head screws and optional screw-in anchors

About This Task

The ACC-MBO-KT-AX adapter is used with outdoor access points to add a tilt to the access point after installation. For wall installations, the -MBO adapter is used in combination with the KT-147407-02 bracket wall parts. To add extension to your wall installations, use the KT-150173-01 extension arm in combination with the KT-147407-02 bracket parts.

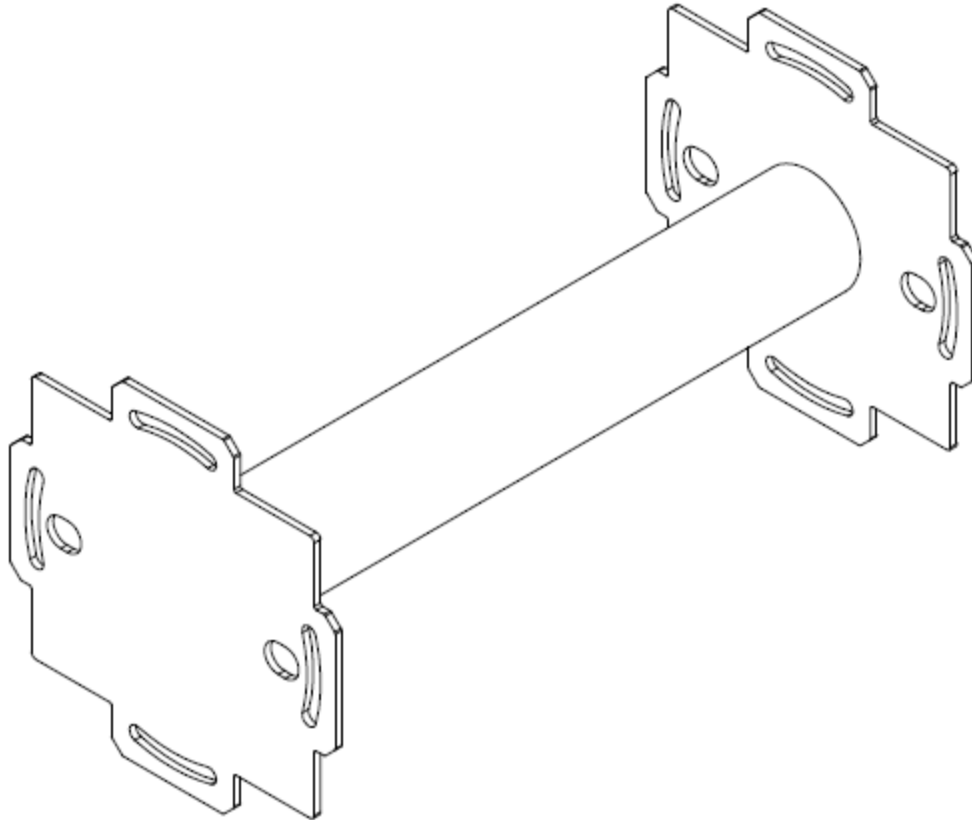


Figure 19: KT-150173-01 extension arm

Procedure

1. Attach the ACC-MBO-KT-AX adapter to the access point using four M5 bolts.
2. Torque the M5 bolts to 25 in-lbs.
3. Attach the flat part of the KT-147402-02 bracket to the ACC-MBO-KT-AX adapter using four M6 hex screws, split washers, and hex nuts.
4. Torque the M6 screws and nuts to 45 in-lbs.
5. 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.
6. Set the desired angle on the tilt bracket and tighten the screws to a torque of 45 in-lbs.
7. 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.
8. 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.
9. Torque the M12 bolts and nuts to 22 ft-lbs.
10. 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 on a Wall Using ACC-MBO-KT-AX Adapter and MBO-ART03 Articulating Mounting Bracket

Use the MBO-ART03 articulating mounting bracket with the ACC-MBO-KT-AX Adapter for wall installations.

Before You Begin

About This Task



Note

This task only applies to the AP460C, AP460C, AP460S6C and AP460S12C.

The following hardware is required for outdoor access point wall installation using the -MBO adapter and MBO-ART03 articulating mounting bracket:

- One outdoor access point
- One ACC-MBO-KT-AX adapter
- Two M5 hex bolts
- One MBO-ART03 articulating mounting bracket
- Four M6 hex-head screws

In addition, you need a torque wrench, a drill and a carpenter's pencil or a pen.

Attach the access point to a wall using the -MBO adapter with the MBO-ART03 articulating mounting bracket.



Note

When using the MBO-ART03 articulating mounting bracket, set the maximum downward tilt to less than 20 degrees to prevent water ingress.

Procedure

1. Attach the ACC-MBO-KT-AX adapter to the access point using the two M5 bolts.
2. Torque the M5 bolts to 25 in-lbs.
3. Use the MBO-ART03 articulating mounting bracket as a template, mark and drill two holes on the wall.
4. Attach the larger face plate end of the MBO-ART03 mounting bracket to the ACC-MBO-KT-AX adapter using two M6 hex-head screws.
5. Align the mounting holes on the ART03 bracket against the holes on the wall.
6. Attach the ART03 bracket to the wall using two M6 hex-head screws.

Install the Access Point on a Wall Using ACC-MBO-KT-AX Adapter and MBO-ART02 Articulating Mounting Bracket

Learn how to install an outdoor access point using the -MBO adapter and the MBO-ART02 articulating mounting bracket.

Before You Begin



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](#).

The following hardware is required for outdoor access point wall installation using the -MBO adapter and MBO-ART02 articulating mounting bracket:

- One outdoor access point
- One ACC-MBO-KT-AX adapter
- Four M5 hex bolts
- One MBO-ART02 articulating mounting bracket
- Six M6 hex-head screws

About This Task

Attach the access point to a wall using the -MBO adapter with the MBO-ART02 articulating mounting bracket.



Note

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

Procedure

1. Attach the ACC-MBO-KT-AX adapter to the access point using four M5 bolts.
2. Torque the M5 bolts to 25 in-lbs.

3. Use the MBO-ART02 articulating mounting bracket as a template, mark and drill four holes on the wall.

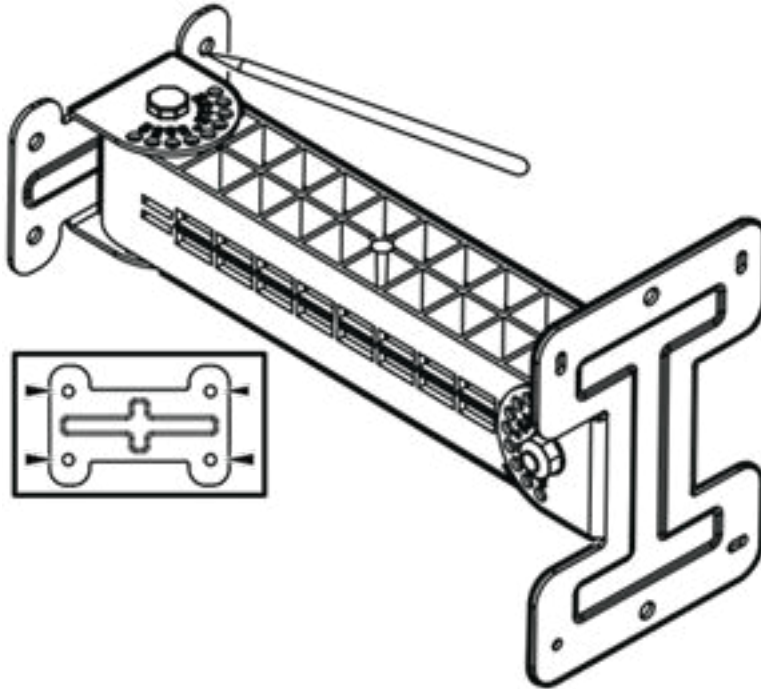


Figure 20: MBO-ART02 articulating mounting bracket wall holes template

4. Attach the larger face plate end of the MBO-ART02 mounting bracket to the ACC-MBO-KT-AX adapter using two M6 hex-head screws.
5. Align the mounting holes on the ART02 bracket against the holes on the wall.
6. Attach the ART02 bracket to the wall using four M6 hex-head screws.



Ground Connection

Learn how to safely ground the access point using the grounding hardware.

Before You Begin



Note

The ground connection procedure is applicable only for AP460C, AP460S6C, and AP460S12C outdoor access points.

The following hardware is required for ground connection:

- An access point
- One M4 ground screw
- One star washer
- One ground terminal
- One ground wire



Note

The installer must provide the ground wire.

About This Task

When you install the access point on an outdoor environment, you must provide protective grounding to prevent the access point from damages and failures.

Procedure

1. Strip the insulation off one end of the ground wire and attach the stripped wire to the ring terminal.



Note

The best practice is to use a 10 AWG electrical wire.

2. Attach the ground wire ring terminal to the access point using the M4 ground screw assembly with the star washer.



Note

The star washer must be in contact with both the ring terminal and the access point.

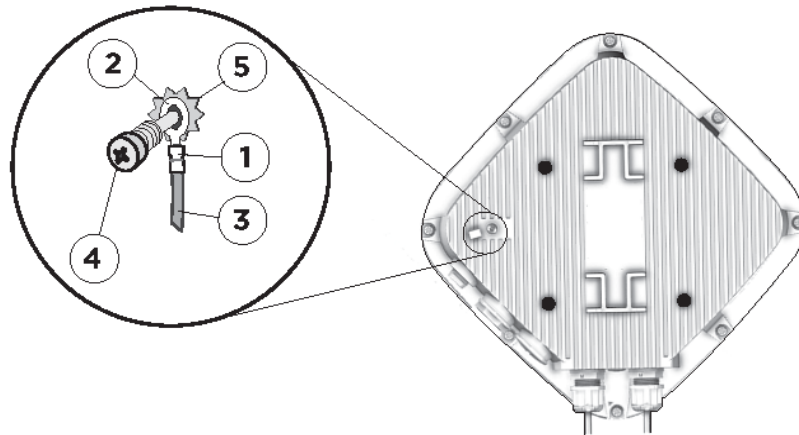


Figure 21: Ground connection on the access point

Callout	Description
1	Ground terminal edge area
2	Ground terminal
3	10 AWG ground wire
4	M4 screw
5	Star washer

3. Tighten the screw to a torque of 12 in-lbs.
4. Connect the other end of the ground wire to an appropriate earthing location.



Install the Waterproof Ethernet Cable Housing

Use the waterproof Ethernet cable housing to ensure a weatherproof seal for the Ethernet cable.

About This Task

Before connecting the RJ45 cable, install a waterproof Ethernet cable housing on the cable.



Note

Torque the cable glands properly to protect the access point from water intrusion.

Procedure

1. Remove the sealing nut, claw, and the 2-part seal from the main body of the waterproof housing.

Assemble the pieces around the Ethernet cable as shown in [Figure 22](#).

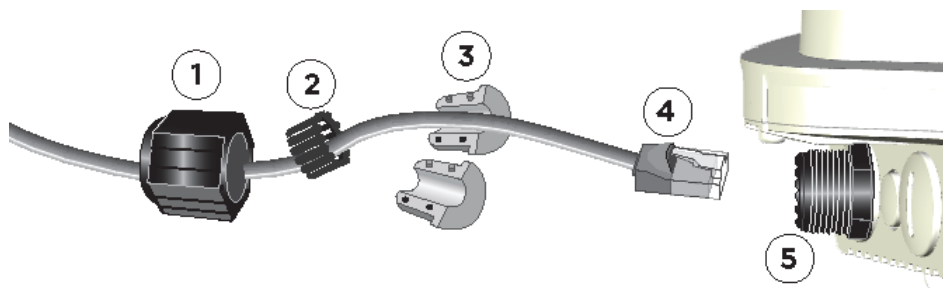


Figure 22: Weatherproof Ethernet cable housing

Callout	Description
1	Sealing nut
2	Claw
3	Seal
4	Ethernet connector
5	Main body

2. Insert the Ethernet cable through the sealing nut and the claw.
3. Take the seal apart, insert the cable between the two halves, and reassemble the seal.
4. Insert the seal into the claw.
5. Insert the Ethernet connector to the main access point body and into the connector until the locking tab clicks into place.



Note

Ensure that the small tabs on the claw fit into their counterparts on the main body.

6. Insert the seal and the claw into the main body.
7. Screw the sealing nut onto the threaded main body.
8. Tighten it to a torque of 12 in-lbs.
9. Connect the other end of the Ethernet cable to a PoE injector or a PoE-enabled switch.



Remove the RJ45 Cable Safely

Details about how to safely remove the RJ45 cable when you need to uninstall the access point.

About This Task

If you need to uninstall the access point for troubleshooting, you will need to remove the RJ45 cable.

Procedure

1. Loosen the gland sealing nut on ETH0 or ETH1.
2. Move the gland cap, gland cage, and the gland gasket at least 6 in. away from the LAN cable and the gland area.



Note

The LAN cable outer diameter must be 5.0 mm to 7.0 mm.

3. Use a thin, strong, and non-conductive tool like a flat-bladed orange stick to reach into the gland, and press down the plastic locking latch of the RJ45 connector.



Warning

Ensure that you do not touch any components on the Power Circuit Board Assembly (PCBA) board near the gland area.

4. While pressing down the plastic locking latch on the RJ45 connector, gently pull the wire to take the connector out of the access point.
5. Remove the sealing nut, claw, and seal from the cable.



Antenna Information

Learn about the antennas on the access points.

AP460C, AP460S6C, and AP460S12C antennas

- Three integrated single-band 5.1 GHz – 5.8 GHz omnidirectional antennas
- Four integrated dual band 2.4 GHz – 2.5 GHz and 5.1 GHz – 5.8 GHz omnidirectional antennas

AP460S6C, AP460S6C, and AP460S12C radio mapping information

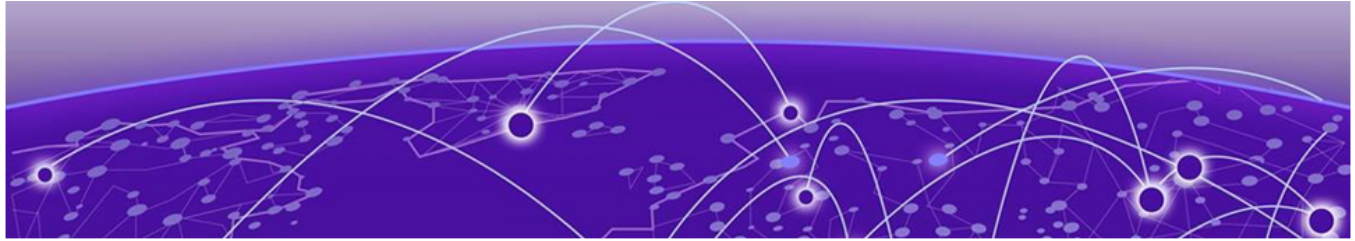
- Sensor radio (2.4G/5G) – antenna 4
- 5G radio (4x4) – antennas 3, 5, 6, and 7
- IoT radio – antenna 3 (IoT or BLE antenna)
- 2.4G radio – antenna 1 and 2

Dual-band operation

- 2.4G radio – antennas 1 and 2
- 5G radio – antennas 3, 5, 6, and 7

Dual 5G operation

- 5G-low band radio – antennas 1 and 2
- 5G-high band radio – antennas 3, 5, 6, and 7



Antenna Gain Information

Information about the dual-band and dual 5G antenna gain information on AP460C, AP460S6C, and AP460S12C access points.

Table 14: AP460C access point antenna gain

Software mode		2x2 radio WiFi0	4x4 radio WiFi1	Scanner WiFi2	IoT radio	Azimuth beamwidth	Elevation beamwidth
Dual-band	2.4 GHz	3.24 dBi	-	3.74 dBi	3.2 dBi	360°	150°
	5 GHz	-	4.21 dBi	3.42 dBi			
Dual 5G	2.4 GHz	-	-	3.74 dBi	3.2 dBi	360°	150°
	5 GHz	3.56 dBi	4.21 dBi	3.42 dBi			

Table 15: AP460S6C access point antenna gain

Software mode		WiFi0	WiFi1	WiFi2	IoT radio	Azimuth beamwidth	Elevation beamwidth
Dual-band	2.4 GHz	7.88 dBi	-	7.83 dBi	7.9 dBi	60°	60°
	5 GHz	-	8.06 dBi	6.46 dBi			
Dual 5G	2.4 GHz	-	-	7.83 dBi	7.9 dBi	60°	60°
	5 GHz	7.79 dBi	8.06 dBi	6.46 dBi			

Table 16: AP460S12C access point antenna gain

Software mode		WiFi0	WiFi1	WiFi2	IoT radios	Azimuth beamwidth	Elevation beamwidth
Dual-band	2.4 GHz	7.12 dBi	-	5.53 dBi	6.63 dBi	120°	70°
	5 GHz	-	6.25 dBi	5.54 dBi			
Dual 5G	2.4 GHz	-	-	5.53 dBi	6.63 dBi	120°	70°
	5 GHz	6.36 dBi	6.25 dBi	5.54 dBi			

For antenna plot information, refer to the [Wi-Fi6 802.11ax Antennas Specifications Guide](#).



Product Specifications

[Hardware Specifications](#) on page 47

[Radio Specifications](#) on page 48

Learn about AP460C, AP460S6C, and AP460S12C hardware specifications and radio specifications.

- [Hardware specifications](#)
- [Radio specifications](#)

For detailed product specifications, refer to the [AP460C Access Point Data Sheet](#).

Hardware Specifications

Learn about environmental specifications, device specifications, and device interfaces.

Environmental specifications

- Operating temperature: -40 °C to +60 °C (-40 °F to +140 °F)
- Storage temperature: -40 °C to +70 °C (-40 °F to +158 °F)
- Relative Humidity: 0 to 95% RH (non-condensing)
- Environmental discharge: ±8KV contact and ±15KV air
- Housing: IP67 rated outdoor use

Device specifications

- Chassis dimensions when mounted diagonally: 11.375 in. × 11.375 in. × 2.900 in. (289.000 mm x 289.000 mm x 74.000 mm)
- Weight: 4 lbs. (1.8 kilograms)
- Four dual-band internal WiFi antennas and one BLE internal antenna
- One micro USB Console serial port: (9600 bits per second, 8 data bits, parity: none, 1 stop bit, no flow control)
- One Eth0 Ethernet port: auto sensing 100/1000/2500 Base×T/TX Mbps, with 802.3at-compliant PoE
- One Eth1 Ethernet port: auto sensing 10/100/1000 Base–T/TX Mbps

Interfaces

- 100/1000/2500 Mbps auto-negotiation RJ45 Ethernet PoE port

- 10/100/1000 Mbps auto-negotiation RJ45 Ethernet port

Radio Specifications

Learn about the 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac, and 802.11ax radio specifications for the access points.

Radios

- Bluetooth Low Energy (BLE) radio
- IEEE 802.11a/n/ac/ax 4×4
- IEEE 802.11a/b/g/n/ac/ax 2×2
- IEEE 802.11a/b/g/n/ac/ax 1×1scanner

Table 17: Radio specifications for access point radios

Radio	Operating frequency	Modulation	Rates (Mbps)	Support	Frame aggregation
802.11a	5.150–5.350 GHz, 5.470–5.850 GHz	Orthogonal Frequency Division Multiplexing (OFDM)	54, 48, 36, 24, 18, 12, 9, 6 with auto fallback	N/A	N/A
802.11b	2.4–2.5 GHz	Direct-Sequence Spread-Spectrum (DSSS)	11, 5.5, 2,1 with auto fallback	N/A	N/A
802.11g	2.4–2.5 GHz	OFDM	54, 48, 36, 24, 18, 12, 9, 6 with auto fallback	N/A	N/A
802.11n	2.4–2.48 GHz and 5.150–5.350 GHz, 5.470–5.850 GHz	802.11n	MCS0 - MCS7 (6.5 Mbps-600.0 Mbps)	<ul style="list-style-type: none"> • HT20 • HT40 (only for 5 GHz) 	A-MPDU and A-MSDU
802.11ac	5.150–5.350 GHz, 5.470–5.850 GHz	802.11ac (256-QAM)	VHT_MCS0 - MCS9 6.5-3467 Mbps NSS = 1-4	<ul style="list-style-type: none"> • VHT20 • VHT40 • VHT80 	T×BF (transmit beamforming)

Table 17: Radio specifications for access point radios (continued)

Radio	Operating frequency	Modulation	Rates (Mbps)	Support	Frame aggregation
802.11ax	5.150–5.350 GHz, 5.470–5.850 GHz	802.11ax (1024-QAM) Dual-band OFDMA	HE0-HE1 8 Mbps – 1200 Mbps NSS = 1–2	1×1, 2×2, 4×4 MIMO radio <ul style="list-style-type: none"> • VHT20 • VHT40 • VHT80 • VHT160 	T×BF
802.11ax (for 5 GHz sensor)	2.4–2.48 GHz, 5.150–5.350 GHz, and 5.470–5.850 GHz	802.11ax modulation (1024-QAM) Dual-band OFDMA	HE_MCS0-11 8 Mbps–1200 Mbps NSS = 1–4	1×1, 2×2, 4×4 MIMO radio <ul style="list-style-type: none"> • VHT20 • VHT40 • VHT80 • VHT160 	T×BF

**Note**

HT40 High-Throughput (HT) support only for 5 GHz.



Regulatory and Compliance Information

[Safety Guidelines](#) on page 50

[Japan Indoor Use](#) on page 50

[Japan Equipment Voluntary Control Council for Interference \(VCCI\) Class-B Statement](#) on page 51

[Declaration of Conformity in Languages of the European Community](#) on page 51

[European Union \(EU\) Radiation Warning Statement](#) on page 53

[FCC Radiation Exposure Statement](#) on page 56

[Brazil Agência Nacional De Telecomunicações \(Anatel\) Statement](#) on page 57

[Mexico Compliance Statement](#) on page 57

[Industry Canada \(IC\) Notice](#) on page 57

[Taiwan Regulatory Statement](#) on page 58

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

Safety Guidelines

Learn about the safety guidelines that 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, 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 the electrical equipment in accordance with national codes.

Japan Indoor Use

Access point compliance guidelines for Japan.

For Japan, the AP460C is restricted for indoor use in the 5150-5350 MHz band only.

Japan Equipment Voluntary Control Council for Interference (VCCI) Class-B Statement

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

Declaration of Conformity in Languages of the European Community

Safety standards applicable to the access points presented in European languages.

English	Hereby, Extreme Networks declares that the radio equipment type (AP460C, AP460S6C, AP460S12C) is in compliance with Directive 2014/53/EU. For full text of the EU Declaration of Conformity, contact Extreme Regulatory Compliance at compliancerequest@extremenetworks.com
Bulgarian (български)	С настоящото Extreme Networks декларира, че този тип радиосъоръжение (AP460C, AP460S6C, AP460S12C) е в съответствие с Директива 2014/53/EU.
Croatian (hrvatski)	Extreme Networks ovime izjavljuje da je radijska oprema tipa (AP460C, AP460S6C, AP460S12C) u skladu s Direktivom 2014/53/EU.
Czech (Česky)	Tímto Extreme Networks prohlašuje, že typ rádiového zařízení (AP460C, AP460S6C, AP460S12C) je v souladu se směrnicí 2014/53/EU.
Danish (Dansk)	Undertegnede Extreme Networks erklærer herved, at følgende udstyr Radio LAN devices (AP460C, AP460S6C, AP460S12C) overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU. For den fulde ordlyd af EU-overensstemmelseserklæringen bedes du kontakte Extreme Regulatory Compliance på compliancerequest@extremenetworks.com
Dutch (Nederland)	Hierbij verklaart Extreme Networks dat het toestel Radio LAN devices (AP460C, AP460S6C, AP460S12C) in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU. Neem voor de volledige tekst van de EU-conformiteitsverklaring u contact opnemen met extreme regelgeving op compliancerequest@extremenetworks.com
Estonian (Eesti)	Käesolevaga deklareerib Extreme Networks, et käesolev radioseadme tüüp (AP460C, AP460S6C, AP460S12C) vastab direktiivi 2014/53/EL nõuetele.


Finnish (Suomi)	Valmistaja Extreme Networks vakuuttaa täten että Radio LAN devices (AP460C, AP460S6C, AP460S12C) tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. EU-vaatimusten mukaisuusvaatimuksen täydellisestä tekstistä ota yhteyttä äärimmäisiin säädösten noudattamiseen osoitteessa compliancerequest@extremenetworks.com
French (Français)	Par la présente Extreme Networks déclare que l'appareil Radio LAN devices (AP460C, AP460S6C, AP460S12C) est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU. Pour obtenir le texte intégral du processus de Déclaration de la conformité de l'UE, veuillez contacter la conformité réglementaire extrême à l'adresse suivante: compliancerequest@extremenetworks.com
German (Deutsch)	Hiermit erklärt Extreme Networks die Übereinstimmung des "WLAN Wireless Controller bzw. Access Points" (AP460C, AP460S6C, AP460S12C) mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 2014/53/EU. Für den vollständigen Wortlaut der EU-Konformitätserklärung wenden Sie sich bitte an extreme Regulatory Compliance unter compliancerequest@extremenetworks.com
Greek (Ελληνική)	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Extreme Networks ΔΗΛΩΝΕΙ ΟΤΙ Radio LAN devices (AP460C, AP460S6C, AP460S12C) ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU. Για το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ, παρακαλούμε επικοινωνήστε με την ακραία κανονιστική συμμόρφωση στο compliancerequest@extremenetworks.com
Hungarian (Magyar)	Extreme Networks igazolja, hogy a (AP460C, AP460S6C, AP460S12C) típusú rádióberendezés megfelel a 2014/53/EU iránylevnek.
Icelandic	Extreme Networks lýsir her með yfir að þessi bunadur, Radio LAN devices (AP460C, AP460S6C, AP460S12C), uppfyllir allar grunnkröfur, sem gerðar eru í R&TTE tilskipun ESB nr 2014/53/EU. Fyrir fullan texta í ESB yfirlýsingu um samræmi, vinsamlegast hafðu samband við Extreme Reglufylgni á compliancerequest@extremenetworks.com
Italian (Italiano)	Con la presente Extreme Networks dichiara che questo Radio LAN devices (AP460C, AP460S6C, AP460S12C) è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU. Per il testo integrale della Dichiarazione di conformità dell'UE, contattare Extreme Regulatory Compliance presso compliancerequest@extremenetworks.com
Latvian (Latviski)	Ar šo Extreme Networks deklarē, ka radioiekārta (AP460C, AP460S6C, AP460S12C) atbilst Direktīvai 2014/53/ES.

Lithuanian (Lietuvių)	Aš, Extreme Networks, patvirtinu, kad radijo įrenginių tipas (AP460C, AP460S6C, AP460S12C) atitinka Direktyvą 2014/53/ES.
Maltese (Malti)	Hawnhekk, Extreme Networks, jiddikjara li dan Radio LAN devices (AP460C, AP460S6C, AP460S12C) jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2014/53/EU. Għat-test sħiħ tad-dikjarazzjoni ta ' konformità tal-UE, jekk jogħġbok ikkuntattja lill-konformità regolatorja compliancerequest@extremenetworks.com
Polish (Polski)	Extreme Networks niniejszym oświadcza, że typ urządzenia radiowego (AP460C, AP460S6C, AP460S12C) jest zgodny z dyrektywą 2014/53/UE.
Portuguese	Extreme Networks declara que este Radio LAN devices (AP460C, AP460S6C, AP460S12C) está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU. Para o texto integral da declaração de conformidade da UE, contacte a conformidade regulamentar extrema em compliancerequest@extremenetworks.com
Romanian (Romania)	Prin prezenta, (Extreme Networks) declară că tipul de echipamente radio (AP460C, AP460S6C, AP460S12C) este în conformitate cu Directiva 2014/53/UE.
Slovak (Slovensky)	Extreme Networks týmto vyhlasuje, že rádiové zariadenie typu (AP460C, AP460S6C, AP460S12C) je v súlade so smernicou 2014/53/EÚ.
Slovenian (Slovenija)	Extreme Networks potrjuje, da je tip radijske opreme (AP460C, AP460S6C, AP460S12C) skladen z Direktivo 2014/53/EU.
Spanish (Español)	Por medio de la presente Extreme Networks declara que el Radio LAN devices (AP460C, AP460S6C, AP460S12C) cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU. Para obtener el texto completo de la Declaración de conformidad de la UE, póngase en contacto con Extreme Regulatory Compliance en compliancerequest@extremenetworks.com
Swedish	Härmed intygar Extreme Networks att radioutrustningstypen (AP460C, AP460S6C, AP460S12C) överensstämmer med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/ EU. För fullständig text av EU-försäkran om överensstämmelse, kontakta Extreme regelefterlevnad på compliancerequest@extremenetworks.com

European Union (EU) Radiation Warning Statement

Radiation warning compliance statements in European languages.

	AT	BE	BG	CH	CY	DE	DK
	EE	EL	ES	FI	FR	HR	HU

	IE	IS	IT	LI	LT	LU	LV
	MT	NL	NO	PL	PT	RO	SE
	SI	SK	TR	UK			

To meet radiation exposure requirements, the devices must be installed and operated at a minimum distance of 20 cm from people or animals.

Restrictions: 5150-5350 MHz for indoor use only.

- **Bulgarian (български):** За да отговарят на изискванията за излагане на радиация, тези устройства трябва да бъдат инсталирани на минимално разстояние от 20 cm от хората или животните.

Ограничения: 5150-5350 MHz само за вътрешна употреба.

- **Croatian (hrvatski):** Da bi zadovoljili zahtjeve izloženosti zračenju, ti uređaji trebaju biti instalirani na minimalnoj udaljenosti od 20 cm od ljudi ili životinja.

Ograničenja: 5150-5350 MHz samo za unutarnju uporabu.

- **Czech (Česky):** Aby byly splněny požadavky na ozáření, měly by být tato zařízení instalována v minimální vzdálenosti 20 cm od lidí nebo zvířat.

Omezení: 5150-5350 MHz pouze pro vnitřní použití.

- **Danish (Dansk):** For at opfylde kravene til strålingseksposering skal disse enheder installeres i mindst 7.87 in. (20 cm) afstand fra mennesker eller dyr.

Restriktioner: 5150-5350 MHz kun til indendørs brug.

- **Dutch (Nederland):** Om aan stralingsblootstelling te voldoen, dienen deze apparaten op een minimumafstand van 7.87 in. (20 cm) van mensen of dieren te worden geïnstalleerd.

Beperkingen: 5150-5350 MHz alleen voor gebruik binnenshuis.

- **English:** To meet radiation exposure requirements, these devices should be installed at a minimum distance of 7.87 in. (20 cm) from people or animals.

Restrictions: 5150-5350 MHz for indoor use only.

- **Estonian (Eesti):** Et rahuldada kiirituse nõuetele, need seadmed tuleb paigaldada minimaalselt 7.87 in. (20 cm) inimestelt või loomadelt. Piirangud: 5150-5350 MHz sisetingimustele.

- **Finnish (Suomi):** Säteiläytysvaatimusten täyttämiseksi nämä laitteet on asennettava vähintään 7.87 in. (20 cm) etäisyydelle ihmisistä tai eläimistä. Rajoitukset: 5150-5350 MHz vain sisäkäyttöön.

- **French (Français):** Pour répondre aux exigences d'exposition aux rayonnements, ces appareils devraient être installés à une distance minimale de 7.87 in. (20 cm) des personnes ou des animaux.

Restrictions: 5150-5350 MHz pour usage intérieur seulement.

- **German (Deutsch):** Um die Anforderungen an die Strahlenbelastung zu erfüllen, sollten diese Geräte in einem Abstand von 7.87 in. (20 cm) von Personen oder Tieren installiert werden.

Einschränkungen: 5150-5350 MHz nur für den Innenbereich.

- **Greek (Ελληνική):** Για την κάλυψη των απαιτήσεων έκθεσης σε ακτινοβολία, οι συσκευές αυτές πρέπει να τοποθετούνται σε απόσταση τουλάχιστον 20 cm από ανθρώπους ή ζώα.

Περιορισμοί: 5150-5350 MHz μόνο για εσωτερική χρήση.

- **Hungarian (Magyar):** A sugárterhelési követelmények teljesítése érdekében ezeket az eszközöket legalább 7.87 in. (20 cm) távolságra kell felszerelni az emberek vagy az állatoktól.

Korlátozások: 5150-5350 MHz csak beltéri használatra.

- **Italian (Italiano):** Per soddisfare i requisiti di esposizione alle radiazioni, questi dispositivi devono essere installati ad una distanza minima di 20 cm da persone o animali.

Restrizioni: 5150-5350 MHz solo per uso interno.

- **Latvian (Latviski):** Lai apmierinātu starojuma iedarbības prasībām, šīs ierīces ir uzstādītas pie minimālo attālumu 7.87 in. (20 cm) no cilvēkiem vai dzīvniekiem.

Ierobežojumi: 5150-53250 MHz izmantot tikai telpās.

- **Lithuanian (Lietuvių):** Siekiant patenkinti SPINDULIAVIMĄ reikalavimus, šie įtaisai turi būti įrengiami ne arčiau kaip 7.87 in (20 cm) nuo žmonių ar gyvūnų.

Apribojimai: 5150-5350 MHz naudoti tik patalpose.

- **Maltese (Malti):** Biex jiġhqu l-ħtiġiet ta 'espożizzjoni tar-radżazzjoni, dawn il-mezzi għandhom jiġu installati f'distanza minima ta' 7.87 in. (20 cm) minn nies jew annimali.

Restriżżjonijiet: MHz 5150-5350 għall-użu fuq ġewwa biss.

- **Polish (Polski):** Aby spełnić wymagania dotyczące narażenia na promieniowanie, urządzenia te powinny być instalowane w odległości minimum 7.87 in. (20 cm) od ludzi lub zwierząt.

Ograniczenia: 5150-5350 MHz tylko do użytku wewnętrznego.

- **Portuguese (Português):** Para atender aos requisitos de exposição à radiação, esses dispositivos devem ser instalados a uma distância mínima de 7.87 in. (20 cm) de pessoas ou animais.

Restrições: 5150-5350 MHz para uso interno apenas.

- **Romanian (Romania):** Pentru a îndeplini cerințele de expunere la radiații, aceste dispozitive ar trebui instalate la o distanță minimă de 20 cm de la oameni sau animale.

Restricții: 5150-5350 MHz numai pentru uz intern.

- **Slovak (Slovensky):** Ak chcete splniť požiadavky na vystavenie žiareniu, mali by byť tieto zariadenia inštalované v minimálnej vzdialenosti od ľudí alebo zvierat od minimálnej vzdialenosti 20 cm.

Obmedzenia: 5150-5350 MHz iba pre vnútorné použitie.

FCC Radiation Exposure Statement

Details about FCC Class B rules and guidelines to correct access point radio interference.

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, can 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 30 cm between the radiator and your body.

Country Code selection feature to be disabled for products marketed to the US/CANADA.



Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Brazil Agência Nacional De Telecomunicações (Anatel) Statement

Details about certification from Brazil's local authority Agência Nacional De Telecomunicações (Anatel) for access point usage in Brazil.

Este produto está homologado pela Anatel, de acordo com os procedimentos regulamentados 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

Mexico Compliance Statement

Details about compliance conditions for device use in Mexico.

La operación de este equipo está sujeta a las siguientes dos condiciones

1. es posible que este equipo o dispositivo no cause interferencia perjudicial y
2. este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

The operation of this equipment is subject to the following two conditions:

1. it is possible that this equipment or device does not cause disruptive interference and
2. this equipment or device must accept any interference, including interference that may cause undesired operation.

Industry Canada (IC) Notice

Details about device compliance and exposure guidelines for access point use in Canada.

This device complies with Innovation, Science and Economic Development (ISED) Canada'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.



Warning

IC Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 35 cm between the radiator and people or animals.

**Warning****Déclaration d'exposition aux radiations:**

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 35 cm de distance entre la source de rayonnement et des personnes ou des animaux.

Taiwan Regulatory Statement

Details about regulatory and compliance information for Taiwan.

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Taiwan Maximum Permissible Exposure (MPE) warning

AP460C

電磁波曝露量 MPE 標準 $1\text{mW}/\text{cm}^2$ ，本品使用時建議應距離人體 20 公分。送測品實為 $0.6262\text{ mW}/\text{cm}^2$ 。

AP460S6C and AP460S12C (AP460SC series)

電磁波曝露量 MPE 標準 $1\text{mW}/\text{cm}^2$ ，本品使用時建議應距離人體 21 公分。送測品實為 $0.9484\text{ mW}/\text{cm}^2$ 。

Avoid affecting the operation of nearby radar systems. 應避免影響附近雷達系統之操作。

High-gain directional antennas can only be used in stationary point-to-point systems. 高增益指向性天線只得應用於固定式點對點系統。



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