



Overview

This publication explains the steps for installing the Cisco Catalyst IW6300 Heavy Duty Series Access Point.

- [Audience](#) , on page 1
- [Conventions](#), on page 1
- [About the Access Point](#), on page 2
- [Hardware Upgrade](#), on page 3
- [Hardware Models](#), on page 4
- [Hardware Features](#), on page 6
- [Finding the Product Serial Number](#), on page 12
- [Related Documentation](#), on page 13

Audience

This publication is for the person installing and configuring an access point for the first time. The installer should be familiar with network structures, terms, and concepts.

For installations in a hazardous locations environment, please refer to Getting Started and Product Document of Compliance for the Cisco Catalyst IW6300 Heavy Duty Series Access Points for additional installation information.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030

Conventions

This publication uses the following conventions:

Convention	Description
boldface font	Commands, command options, and keywords are in boldface.
<i>italic font</i>	Arguments for which you supply values are in italics.
[]	Elements in square brackets are optional.

Convention	Description
screen font	Terminal sessions and information the system displays are in screen font.
boldface screen font	Information you must enter is in boldface screen font.
<i>italic screen font</i>	Arguments for which you supply values are in italic screen font.
^	The symbol ^ represents the key labeled Control. For example, the key combination ^D in a screen display means hold down the Control key while you press the D key.
<>	Nonprinting characters, such as passwords, are in angle brackets.

This document uses the following conventions and symbols for notes, cautions, and warnings.



Note Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.



Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.



Warning **IMPORTANT SAFETY INSTRUCTIONS** This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071 SAVE THESE INSTRUCTIONS

About the Access Point

Designed for the most hazardous industrial locations, Cisco Catalyst IW6300 Heavy Duty Access Points deliver wireless connectivity, IoT control, and robust data collection to dangerous environments.

With 802.11ac Wave 2 connectivity, dual Power over Ethernet Plus (PoE+) out for IoT sensors or peripherals, multiple power-in sources, and a variety of uplink options, the IW6300 provides a flexible wireless solution.

The IW6300 carries an IP66/IP67 rating and Class 1 Division 2 certification, as well as a temperature rating of -40°C to +75°C, making it an ideal mesh network component for heavy industry use. Additional customization beyond antenna and mounting options include WirelessHART, ISA100.11a, GPS, Bluetooth Low-Energy, and Zigbee modules, as well as customer or partner-built modules for specific use cases.

The detailed up-to-date technical specifications for the Cisco Catalyst IW6300 Heavy Duty Series Access Points are available in the Data Sheet:

<https://www.cisco.com/c/en/us/products/collateral/wireless/industrial-wireless-6300-series/datasheet-c78-742907.html>

Hardware Upgrade

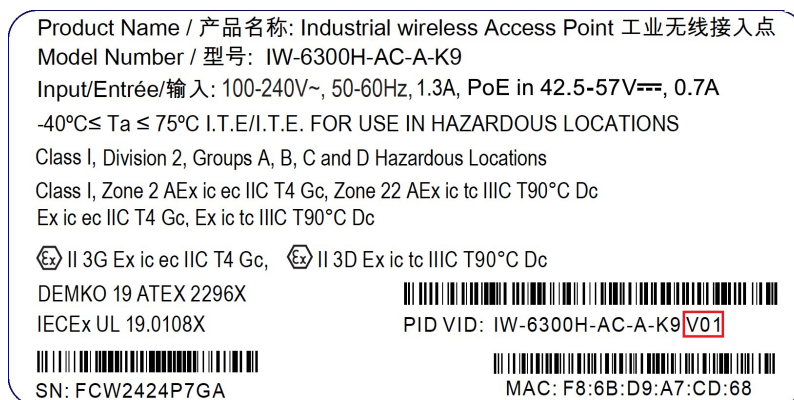
The IW6300 access point is upgraded from 1024 MB DDR4 memory and 256 MB NAND flash to 2048 MB DDR4 memory and 1024 MB NAND flash.

The new hardware is supported only on the following software versions and later releases:

- Cisco Wireless AireOS Release 8.10.151.0
- Cisco IOS XE Release Bengaluru 17.5.1
- Cisco IOS XE Release Amsterdam 17.3.3

You can check the label on your device to find out whether your device is equipped with upgraded memory and NAND flash. On the label, the VID field "1" means your device has 1024 MB DDR4 memory and 256 MB NAND flash. The VID field "2" means your device has the new hardware of 2048 MB DDR4 memory and 1024 MB NAND flash. See the following figure for the location of VID on the label. See the following figure for the location of VID on the access point label.

Figure 1: Location of VID on the Access Point Label



You can check VID by using the following Command Line Interfaces:

- From the AP, execute the **show inventory** command

```
6300-DEMO#show inventory
NAME: IW6300, DESCR: Cisco Catalyst IW6300 Heavy Duty Series Access Points
PID: IW-6300H-DCW-B-K9, VID: V02, SN: ABC12345678
```

- From IOS-XE controller, execute the **show ap name <ap_name> inventory** command.

```
eWLC#show ap name 6300-DEMO inventory
NAME: IW6300, DESCR: Cisco Catalyst IW6300 Heavy Duty Series Access Points
PID: IW-6300H-DCW-B-K9, VID: 02, SN: ABC12345678
```

- From AireOS controller, execute the **show ap inventory <ap_name>** command.

```
(Cisco Controller) >show ap inventory 6300-DEMO
NAME: "IW6300", DESCR: "Cisco Catalyst IW6300 Heavy Duty Series Access Points"
PID: IW-6300H-DCW-B-K9, VID: V02, SN: ABC12345678
```

You can also check VID from the controller GUI:

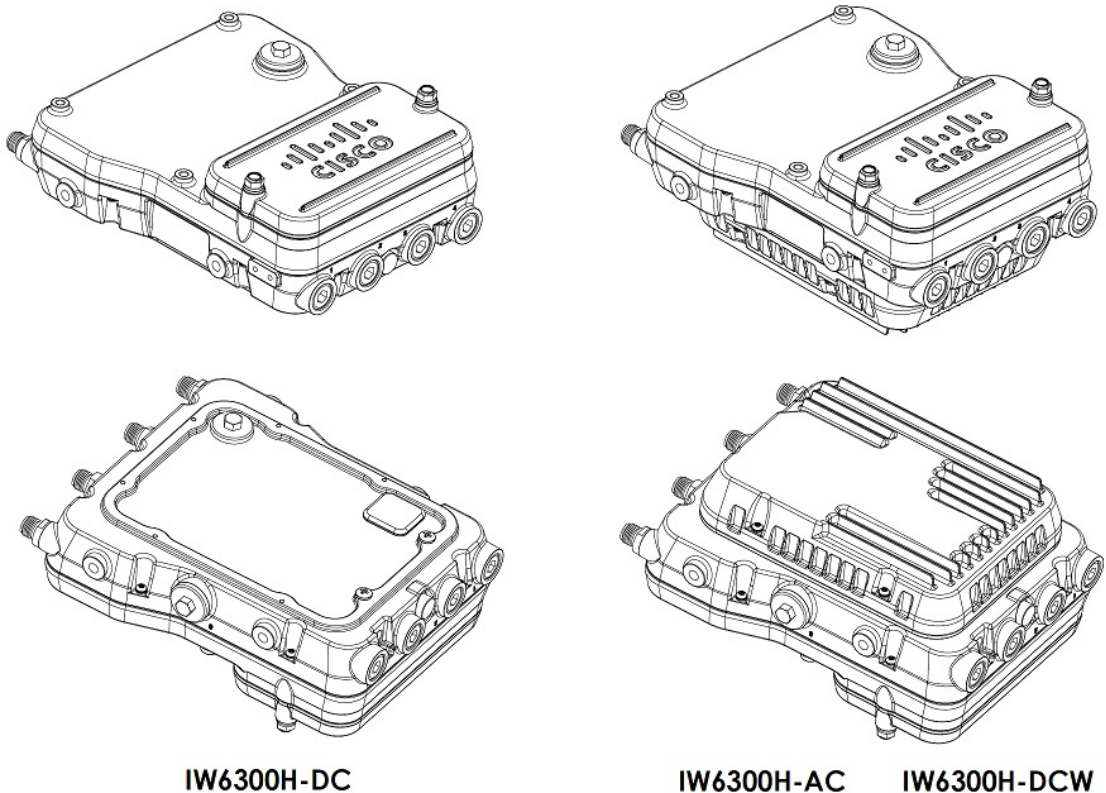
- From IOS-XE controller GUI, go to **Configuration** → **Wireless** → **Access Points** → choose AP → **Inventory** tab.
- From AireOS controller GUI, go to **WIRELESS** → **ACCESS POINTS** → choose AP → **Inventory** tab.



Note When your AP is equipped with the new hardware and you want to downgrade the controller software version, the software image will perform version check before the installation. Downgrade will be rejected if the target release does not support the new hardware. The rejection log is only available on AP's console, which may cause the administrator not able to figure out the reason of AP failing to join the network (unsupported release) from wireless controller. The upgraded hardware is not backward compatible, so it's important to make sure the wireless controller is running the proper software version.

Hardware Models

Figure 2: IW-6300H Access Points



The model numbers (or part numbers) and configuration for the Cisco Catalyst IW6300 Heavy Duty Series Access Points are described in the following table.

Table 1: Cisco Industrial Wireless 6300 Series Access Point Model Numbers and Descriptions

Model (or part number)	Configuration
IW-6300H-AC-x-K9	IP66 and IP67 rated, hazardous location certified, AC power version. This model has 4 external antenna ports and contains a 2.4 GHz and 5 GHz radio with an option to configure in centralized, Flexconnect, or mesh mode and supports AC power source.
IW-6300H-DCW-x-K9	IP66 and IP67 rated, hazardous location certified, DC wide range power version. This model has 4 external antenna ports and contains a 2.4 GHz and 5 GHz radio with an option to configure in centralized, Flexconnect, or mesh mode, and supports 10.8 VDC to 36 VDC power source. Note The marked DC input range is an absolute range. Do not apply tolerances.
IW-6300H-DC-x-K9	IP66 and IP67 rated, hazardous location certified, DC power version. This model has 4 external antenna ports and contains a 2.4 GHz and 5 GHz radio with an option to configure in centralized, Flexconnect, or mesh mode and supports 44 VDC to 57 VDC power source. Note The marked DC input range is an absolute range. Do not apply tolerances.



Note The “-x” in the model number represents a regulatory domain for a specific country.

A detailed list of components supported by each access point model is shown in the following table.

Table 2: Components of Each Access Point Model

Product/PID	Power Input Option	Antenna Ports	Ethernet Ports	PoE Out Port	I/O Ports
IW-6300H-AC-x-K9	UPoE, PoE+, AC (100V to 240V)	Four Type N Connectors	One 100/1000Mbps SFP for WAN	35.3W	Four 1/2” NPT Ports
IW-6300H-DCW-x-K9	UPoE, PoE+, DC (10.8V to 36V)		One 100/1000Mbps RJ45 for WAN (UPoE or PoE+ in)		
IW-6300H-DC-x-K9	UPoE, PoE+, DC (44V to 57V)		Two 100/1000Mbps RJ45 for LAN (802.3at or 802.3af out)		



Note For IW-6300H-DC-x-K9, when you use DC as input power option, if you want to output 802.3at type 2 PoE out power, DC input must $\geq 51V$. If you want to output 802.3af (802.3at type 1) PoE out power, DC input must $\geq 45V$.



Note When powered with PoE+ or UPoE, the PoE Out power is not available, The PoE-Out port data link can still be active.

Hardware Features

This section describes the hardware features of the IW-6300H access point models.

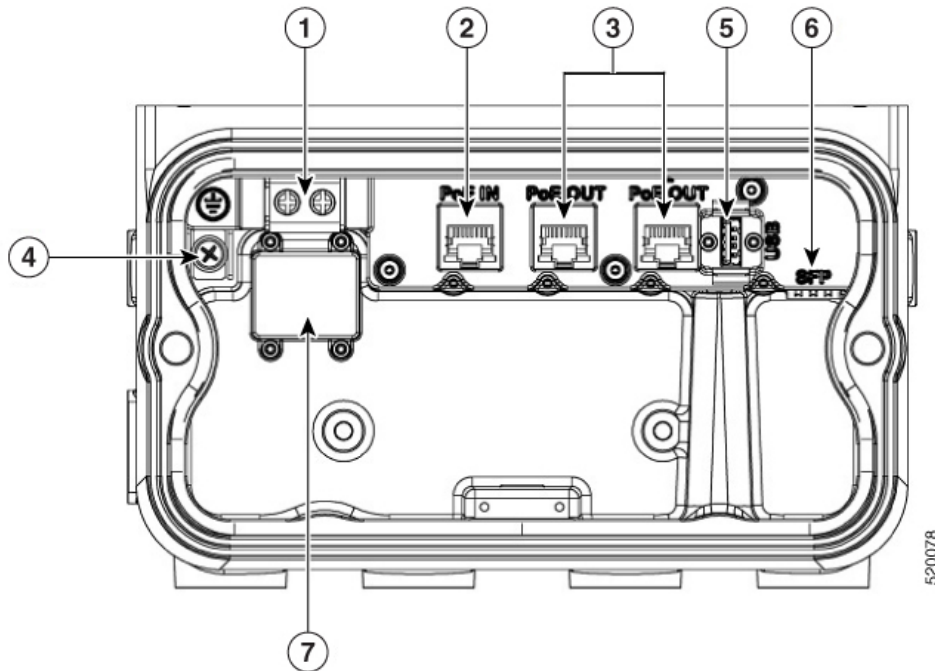


Note The illustrations in this document show all available connections for the access point. Unused connections are capped with a connector plug to ensure the dust/watertight integrity of the access point. See the "Working with the Access Cover" section for further details.

Internal Connectors

The following figure shows the IW-6300H Access Point Internal Connectors.

Figure 3: IW-6300H Access Point Internal Connectors



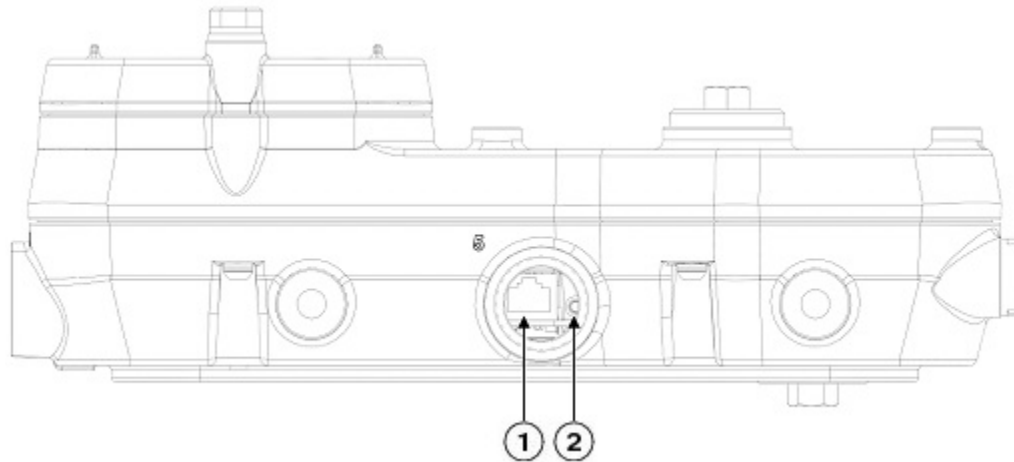
1	Power-IN (IW-6300H-DC-X-K9)	5	USB port
2	PoE In port	6	SFP port

3	PoE Out port	7	Terminal block location of IW-6300H-AC-X-K9 and IW-6300H-DCW-X-K9
4	Internal ground		

Console Port and Reset Button

The console port and reset button are under a covering M25 plug located on the side of the access point, as shown in the following figure.

Figure 4: W-6300H Access Point Console Port and Reset Button



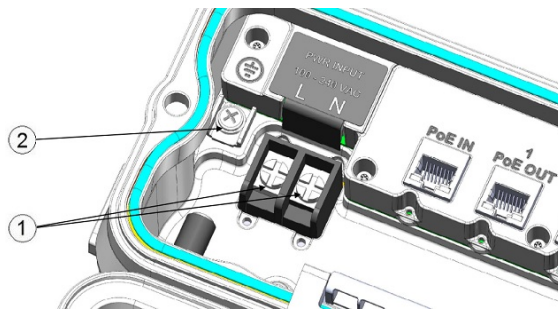
1	Console port	2	Reset button
---	--------------	---	--------------

Inspect the seal of the plug and properly tighten it at the time of installation, and also every time the plug is removed and replaced. Tighten the plug to 5-6 lb-ft. If you do not tighten the plug properly, it will not meet IP66/67 criteria, and may lead to water leaking into the unit.

Power Connector

The following figure shows the power connector of access point model IW-6300H-AC-x-K9.

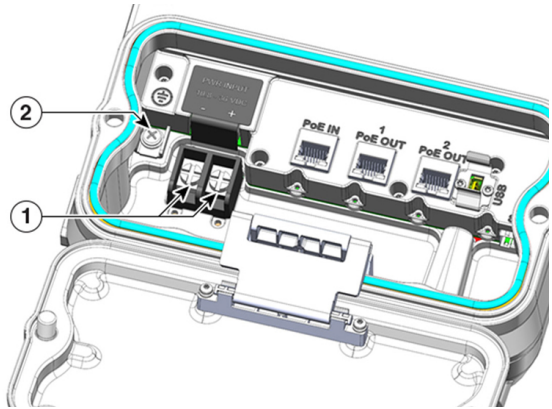
Figure 5: Power Connector of Access Point Model IW-6300H-AC-x-K9



1	AC Power-IN	2	Internal ground
---	-------------	---	-----------------

The following figure shows the power connector of access point model IW-6300H-DCW-x-K9.

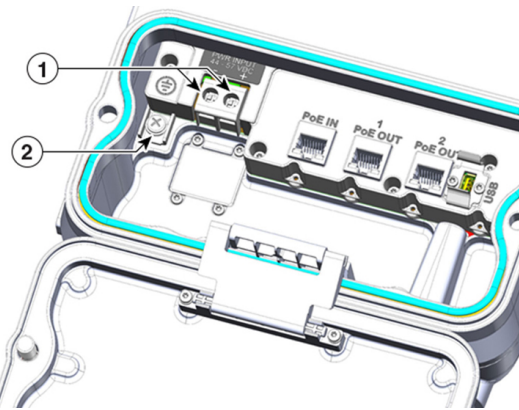
Figure 6: Power Connector of Access Point Model IW-6300H-DCW-x-K9



1	DC Power-IN	2	Internal ground
---	-------------	---	-----------------

The following figure shows the power connector of access point model IW-6300H-DC-x-K9.

Figure 7: Power Connector of Access Point Model IW-6300H-DC-x-K9



1	DC Power-IN	2	Internal ground
---	-------------	---	-----------------

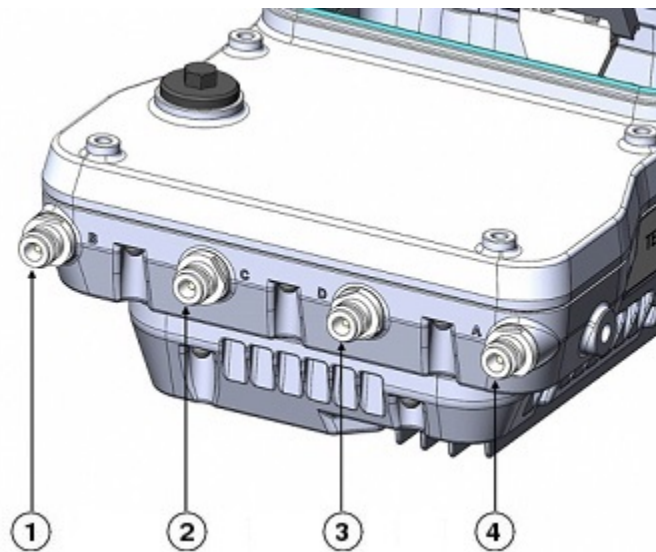
Antenna Ports

The access point antenna N-type connectors are located on the top of each model (see the following figure). The supported antennas can be directly attached to the access point or remotely located. When used in a Class 1, Zone 2, Division 2 hazardous location, this equipment must be mounted with proper RF cables (if required) and electrical wiring methods that comply with the governing electrical codes.



Note Antenna caps must be installed when an antenna is not in use (maximum torque range: 6.2-9.7 in-lbs).

Figure 8: Antenna Ports of IW-6300H Access Points



1	Antenna port B - Type N connector Wi-Fi 2.4/5 GHz TX/RX	3	Antenna port D - Type N connector Wi-Fi 5 GHz TX/RX
2	Antenna port C - Type N connector Wi-Fi 5 GHz TX/RX	4	Antenna port A - Type N connector Wi-Fi 2.4/5 GHz TX/RX

The IW-6300H access point can be configured via software to support dual band or single band antennas. When configured for dual band antennas, antenna ports A and B are used to support multiple input/output (MIMO) operation on both 2.4 and 5 GHz radios. When using Cisco Aironet omnidirectional antennas with Type N male connectors, the antennas can be connected directly to the access point. If the antennas are remotely located, an appropriate low loss RF cable should be used.



Note Ensure that the antenna band mode is configured before the access point is installed.

When configured for single band antennas, antenna ports A and B support MIMO operation on the 2.4 GHz radio and antenna ports C and D support MIMO operation on the 5 GHz radio. See the *Cisco Catalyst IW6300 Heavy Duty Series Access Point Software Configuration Guide*.

Use of four omnidirectional antennas attached directly to the Type N connectors is not recommended. To provide omnidirectional coverage with both 2.4 and 5 GHz radios using directly attached antennas, it is recommended to configure the IW-6300H in dual band mode, connect two dual band antennas such as AIR-ANT2547V-N, AIR-ANT2547V-N-HZ, or AIR-ANT2568VG-N to ports A and B, and cap ports C and D.

The 2 GHz b/g/n radio operates in 2.4 GHz ISM band. It supports channels 1-11 in the US, 1-13 in Europe, and 1-13 in Japan. It has 2 transmitters with a maximum total output power of 27 dBm for 802.11b/g/n operation. Output power is configurable for 8 levels in 3 dB steps. It has two receivers that enable maximum-ratio combining (MRC).

The 5 GHz a/n radio operates in the UNII-1 band (5.15-5.25 GHz), UNII-2 band (5.25 - 5.35 GHz), UNII-2 Extended/ETSI band (5.47 - 5.725 GHz), and the upper ISM band (5.725 - 5.850 GHz). It has two transmitters with a maximum total output power of 27 dBm depending on the regulatory domain. Tx power settings will change depending on the regulatory domain. Output power is configurable in 3 dB steps. Its two receivers enable maximum-ratio combining (MRC).

Power Sources

The Cisco Catalyst IW6300 Heavy Duty Series Access Points support the following power input options:

- Power over Ethernet
 - Power injector, AIR-PWRINJ-60RGD1= and AIR-PWRINJ-60RGD2=
 - Power over Ethernet Plus (PoE+) or Cisco Universal Power over Ethernet (UPOE) switch
- AC or DC power
 - IW-6300H-AC-x-K9: 85-264V~ maximum, marked 100-240V~, 50-60Hz, 1.3A
 - IW-6300H-DC-x-K9: 44 to 57Vdc, 1.2A
 - IW-6300H-DCW-x-K9: 10.8 to 36Vdc, 5.9A



Note The marked DC input range is an absolute range. Do not apply tolerances.



Warning Connect the unit only to DC power source that complies with the safety extra-low voltage (SELV) requirements in IEC 60950 based safety standards. Statement 1033

Power Injectors

The IW6300 series access points support the following power injectors:

- AIR-PWRINJ-60RGD1=
- AIR-PWRINJ-60RGD2=



Caution Power injector AIR-PWRINJ-60RGDx= is not certified for installation within hazardous locations environments.

For more information about installing the AIR-PWRINJ-60RGDx= power injectors, see [Cisco Aironet Series Power Injectors AIR-PWRINJ-60RGD1= and AIR-PWRINJ-60RGD2= Installation Instructions](#).

Ethernet (PoE) Ports

The access point supports two Ethernet uplink port (one PoE-In port and one SFP fiber port), and two PoE-Out ports. The access point Ethernet uplink port uses an RJ-45 connector (with weatherproofing) to link the access

point to the 10BASE-T, 100BASE-T or 1000BASE-T network. The Ethernet cable is used to send and receive Ethernet data and to optionally supply inline power from the power injector or a suitably powered switch port.



Tip The access point senses the Ethernet and power signals and automatically switches internal circuitry to match the cable connections.

The Ethernet cable must be a shielded outdoor rated Category 5e (CAT5e) or better cable. The access point senses the Ethernet and power signals and automatically switches internal circuitry to match the cable connections.

Fiber Option



Warning Class 1 laser product. Statement 1008

The factory-orderable fiber option provides a fiber input and output capability. Fiber data is transmitted and received over a single or dual-strand fiber cable, depending on the SFP, which is connected to the access point using these SFP modules:

- 1000BASE-LX single-mode rugged SFP (GLC-LX-SM-RGD=)
- 1000BASE-SX multi-mode rugged SFP (GLC-SX-MM-RGD=)
- 100BaseBX10-U rugged SFP (GLC-FE-100BX-URGD=)
- 100BASE-FX rugged SFP (GLC-FE-100FX-RGD=)
- 100BASE-LX10 rugged SFP (GLC-FE-100LX-RGD=)
- 1000BASE-T rugged SFP (GLC-T-RGD=)



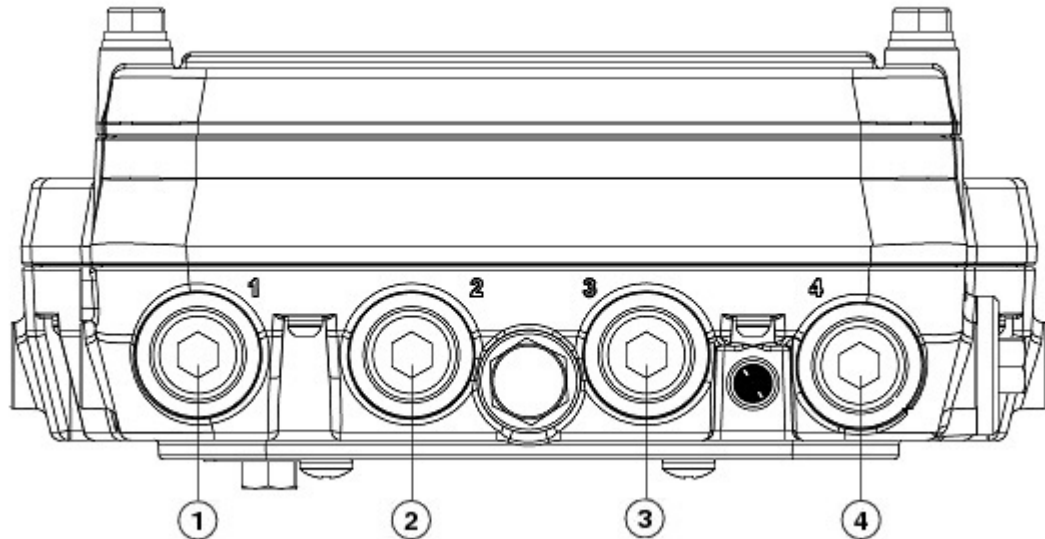
Note SFP modules are not hot-swappable. Plug and unplug the SFP module, the AP will reboot.

Client data is passed to the network controller through the fiber connection via a fiber-capable switch or controller. Configuration information can be found in the controller configuration guide of the switch or controller you are using.

I/O Ports

The four 1/2-NPT I/O ports are located at the bottom of the access point. These ports are tapered pipe threads. It is recommended that you use a 3/8" Allen wrench with 13-18" long wrench handle to remove the port plug.

Figure 9: 1/2-NPT I/O Ports



1	AC or DC input	3	PoE port
2	PoE port	4	Fiber port

Optional Hardware

Depending on the order configuration, the following optional access point hardware may be part of the shipment:

- Cisco Aironet Antennas
- Pole mount kits (IOT-ACCPMK=)
- Band installation tool for pole mount kit (AIR-BAND-INST-TL=)
- Power injector (AIR-PWRINJ-60RGDx=)
- SFP module

Finding the Product Serial Number

The access point serial number is on the side of the access point. The access point serial number label contains the following information:

- Serial number
- Access point MAC address, for example 68BDABF54600 (12 hexadecimal digits). It is located under the serial number.

You need your product serial number when requesting support from the Cisco Technical Assistance Center.

Related Documentation

To view all support information for the Cisco Catalyst IW6300 Heavy Duty Series Access Point, see:

<https://www.cisco.com/c/en/us/support/wireless/industrial-wireless-6300-series/tsd-products-support-series-home.html>

In addition to the documentation available on the support page, you will need to refer to the following guides:

- [Cisco Wireless LAN Controller Configuration Guide](#)
- [Release Notes for Cisco Wireless LAN Controllers and Lightweight Access Points](#)
- [Cisco Mobility Express Configuration and User Guide](#)

Click this link to browse to the Cisco Wireless documentation home page:

<http://www.cisco.com/en/US/products/hw/wireless/index.html>

To browse to the access point documentation, click **Cisco Catalyst IW6300 Heavy Duty Series Access Point** listed under “Outdoor and Industrial Wireless.” The documentation can be accessed from the Support box.

To browse to the Cisco Wireless LAN Controller documentation, click **Standalone Controllers** listed under “Wireless LAN Controllers.” The documentation can be accessed from the Support box.

