

Aruba IAP-205H Access Point

Installation Guide

The Aruba IAP-205H access point is a high-performance dual-radio wired and wireless access point for hospitality and branch deployments.

This device combines high-performance wireless mobility with Gigabit wired local access to deliver secure network access to dormitories, hotel rooms, classrooms, medical clinics, and multi-tenant environments. MIMO (Multiple-Input, Multiple-Output) technology enables the IAP-205H access point to provide wireless 2.4 GHz 802.11n and 5 GHz 802.11 n/ac functionality, while simultaneously supporting existing 802.11a/b/g wireless services.

The IAP-205H access point can be attached to a wall box using the mounting bracket provided, or converted into a desk-mounted remote access point for branch office deployments using the AP-205H-MNTR desk mount kit (sold separately).

The IAP-205H access point works in conjunction with a built-in virtual controller and provides the following capabilities:

- Dual wireless transceivers
- IEEE 802.11a/b/g/n/ac operation as a wireless access point
- IEEE 802.11a/b/g/n/ac operation as a wireless air monitor, spectrum analyzer
- Central management configuration and upgrades through an Aruba Instant virtual controller
- Supports PoE-in on E0 port (only), and PoE-out on E3 port (only)
- Compatibility with IEEE 802.3af/at PoE
- Support for selected USB peripherals

NOTE The Aruba IAP-205H access point requires Aruba Instant 4.2 or later.

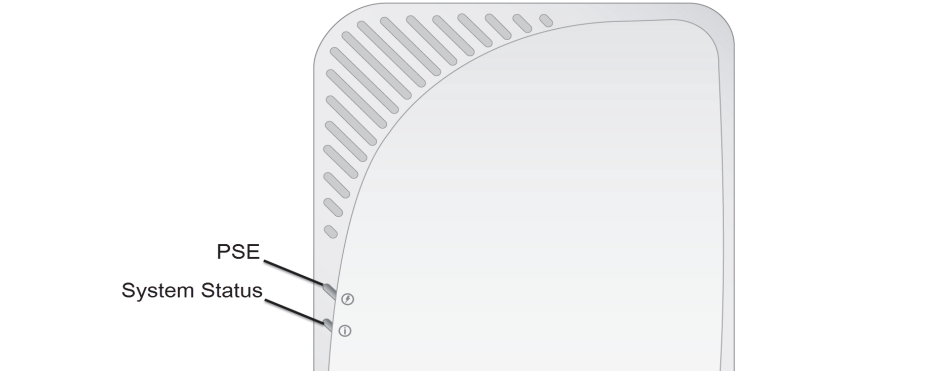
Package Contents

- IAP-205H Access Point
- Single Gang Wall-box Mounting Bracket
- 2x #6-32 Machine Screw
- T8H Torx Security Screw
- Aruba Instant Quick Start Guide*
- Regulatory Compliance and Safety Information Guide*
- Installation Guide (this document)

NOTE Inform your supplier if there are any incorrect, missing, or damaged parts. If possible, retain the carton, including the original packing materials. Use these materials to repack and return the unit to the supplier if needed.

Hardware Overview

Figure 1 Front View



LED

The IAP-205H access point is equipped with two LEDs indicating System Status and Power Sourcing Equipment (PSE).

Table 1: LED Status

LED	Color/State	Meaning
System Status ⓘ	Off	AP powered off, or LED switched to 'off mode'
	Amber- Solid	AP ready, restricted mode: 10/100Mbps uplink negotiated - Either radio in non-HT mode - Virtual AP not enabled
	Amber- Flashing	AP in Air Monitor or Spectrum Analyzer mode
	Red	Error condition
	Green - Flashing	AP booting, not ready
	Green - Solid	AP ready

Table 1: LED Status

LED	Color/State	Meaning
PSE ⓘ	Off	AP powered off, or PoE capability disabled
	Green - Solid	PoE power enabled
	Red	PoE power sourcing error or overload condition

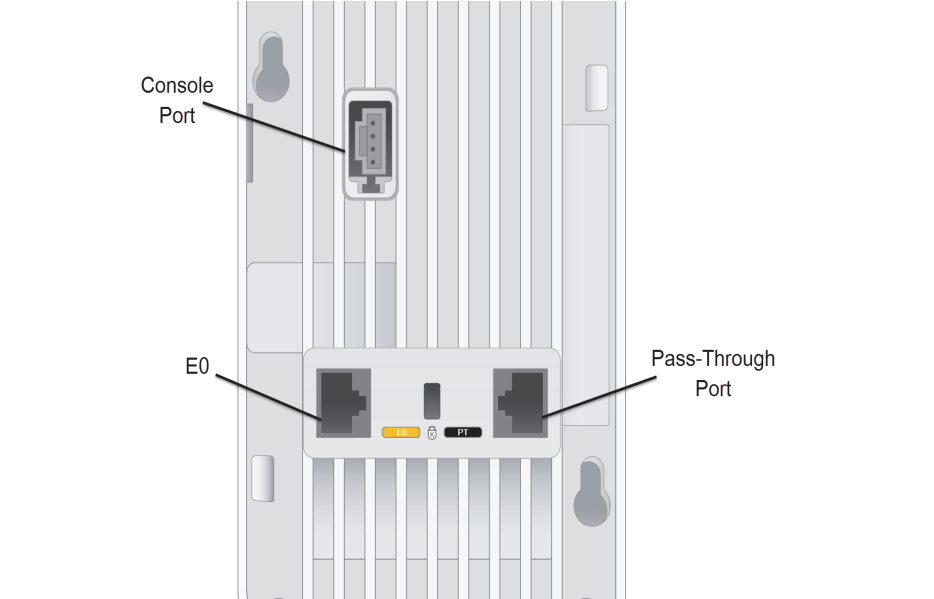
Console Port

The IAP-205H access point is equipped with a serial console port at the back (Figure 2). The port allows connecting the AP to a serial terminal or a laptop for direct local management. The 4-pin connector with removable dust cover is located on the back of the access point. An optional serial adapter cable (AP-CBL-SER) compatible with the IAP-205H can be purchased separately.

CAUTION The back panel of this device may become hot after extended use.

Le panneau arrière du point d'accès AP peut chauffer après une utilisation prolongée.

Figure 2 Back View



NOTE Hot-plug operation is not recommended for the console port.

Ethernet Ports

IAP-205H access point is equipped with a total of four active Ethernet ports (E0-E3).

The E0 port, located at the back of the AP (Figure 2) is 10/100/1000 Base-T (RJ-45) auto-sensing, MDI/MDX wired-network uplink connectivity port. It supports IEEE 802.3af/802.3at Power over Ethernet (PoE), accepting 48VDC (nomial) as a standard defined Powered Device (PD) from Power Sourcing Equipment (PSE), such as a midspan injector or network infrastructure that supports PoE.

The E1-E3 ports, located at the bottom of the AP (Figure 3), are 10/100/1000 NBase-T (RJ-45) auto-sensing, MDI/MDX wired-network downlink connectivity ports. They are used to provide secure network connectivity to wired devices. Only the E3 port supports PoE-out functionality, supplying a maximum power of 10W when the AP is operating in 802.3at PoE mode.

Additionally, the IAP-205H access point has a Pass-Through (PT) port at the back (Figure 2) and an E0/PT port at the bottom (Figure 3). The E0/PT port acts primarily as a Pass-Through (PT) port. Alternatively, the E0/PT port can serve as an E0 uplink port and accepts 802.3af/802.3at PoE power when the E0 and PT ports at the back of the AP are physically bridged by an Ethernet cable.

AP-CBL-ETH10 sold separately with the 205H-MNTR desk mount kit.

Figure 3 Bottom View

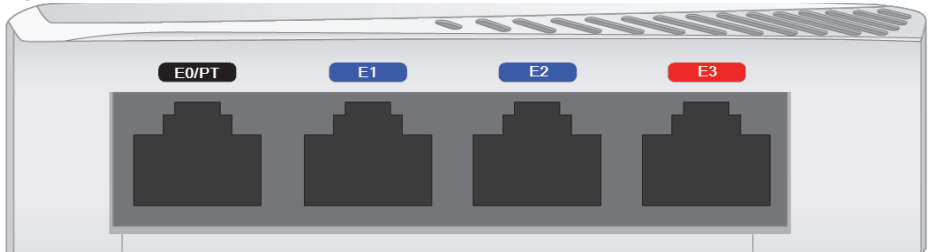
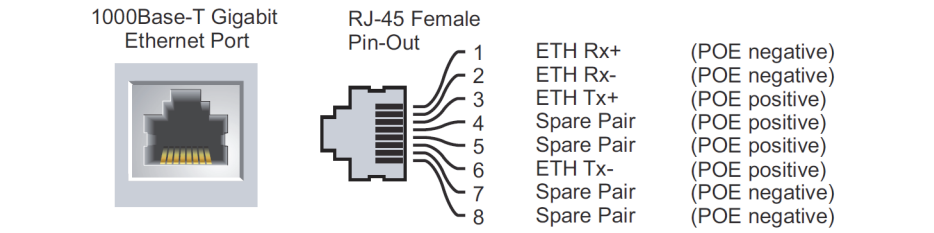


Figure 4 Gigabit Ethernet Port Pin-Out



USB Port

The IAP-205H access point is equipped with a USB port that is compatible with cellular modems and Bluetooth Low Energy (BLE) dongles. When powered by an 802.3af source the USB port on the IAP-205H is enabled, allowing for an output of up to 5W.

NOTE PSE is disabled on the USB port when the AP is powered by an 802.3af source.

Push Button

The push button located on the side of the IAP-205H access point can be used to reset the AP to factory default settings or turn off/on the LED display.

- To reset the AP to factory default settings:
 - Power off the AP.
 - Press and hold the push button using a small, narrow object, such as a paperclip.
 - Power-on the AP without releasing the push button. The system status LED will flash within 5 seconds.
 - Release the push button.

The system status LED will flash again within 15 seconds indicating that the reset is completed. The AP will now continue to boot with the factory default settings.

- To turn off/on the system status LED:

During the normal operation of the AP, press the push button using a small, narrow object, such as a paperclip. The system status LED will be turned off/on immediately.

Power

The IAP-205H access point has a single 48VDC power connector to support powering through an AC-to-DC power adapter. AP-AC-48V36 adapter sold separately.

The IAP-205H access point supports both PoE-in and PoE-out functionality. The PoE-in (PoE-PD) allows the E0 port to draw power from an 802.3at (preferred) or 802.3af (optional) sources.

When operating in 802.3at mode, the PoE-out (PoE-PSE) functionality is enabled on the port 3, allowing a maximum output of 10W. If a device attempts to exceed the 10W power limit, the E3 port is temporarily disabled. The port will automatically reactivates after being disabled.

When powered by an 802.3af source, power for PoE-PSE and USB is disabled.

Table 2 Maximum Power Outputs

Power Source	Restrictions	USB	PoE-PSE
DC (AP-AC-48V36)	None (USB and PoE-PSE enabled)	5W	15.4W
802.3at	None (USB and PoE-PSE enabled)	5W	10W
802.3af	USB and PoE-PSE disabled	N/A	N/A

NOTE If both POE and DC power are available, the AP will default to using DC power.

Before You Begin

FCC Statement: Improper termination of access points installed in the United States (non-US Regulatory Domain model) will be in violation of the FCC grant of equipment authorization. Any such willful or intentional violation may result in a requirement by the FCC for immediate termination of operation and may be subject to forfeiture (47 CFR 1.80).

CAUTION **Déclaration FCC:** l'arrêt incorrect des points d'accès installés aux États-unis qui sont configurés sur des contrôleurs autres que le modèle agréé aux États-unis est considéré comme contrevenant à l'homologation fcc. toute violation délibérée ou intentionnelle de cette condition peut entraîner une injonction d'arrêt immédiat de son utilisation par la fcc et peut déboucher sur la confiscation de l'équipement (47 cfr 1.80).

EU Statement: Lower power radio LAN product operating in 2.4 GHz and 5 GHz bands. Please refer to the *Aruba Instant User Guide* for details on restrictions.

CAUTION Produit réseau local radio basse puissance operant dans la bande fréquence 2.4 GHz et 5 GHz. Merci de vous référer au *Aruba Instant User Guide* pour les details des restrictions.

CAUTION Low Power FunkLAN Produkt, das im 2.4 GHz und im 5 GHz Band arbeitet. Weitere Informationen bezüglich Einschränkungen finden Sie im *Aruba Instant User Guide*.

Apparati Radio LAN a bassa Potenza, operanti a 2.4 GHz e 5 GHz. Fare riferimento alla *Aruba Instant User Guide* per avere informazioni dettagliate sulle restrizioni.

Pre-Installation Network Requirements

Pre-Installation Checklist

Before installing your AP-205H access point, be sure that you have the following:

- Pre-installed wall box
- Cat5E UTP cable with network access installed in the wall box
- One of the following power sources:
 - IEEE 802.3af-compliant Power over Ethernet (PoE) source
 - Aruba AP AC-DC adapter kit (sold separately)

Summary of the Setup Process

Complete each of tasks below in the order listed to setup your IAP-205H access point.

- Identify the specific installation location for each AP.
- Install each AP.
- Verify post-installation connectivity.
- Configure the virtual controller. Refer to the *Aruba Instant Quick Start Guide*.

NOTE Aruba Networks, Inc., in compliance with governmental requirements, has designed the IAP-205H access point so that only authorized network administrators can change the settings. For more information about AP configuration, refer to the *Aruba Instant Quick Start Guide* and *Aruba Instant User Guide*.

Access points are radio transmission devices and as such are subject to governmental regulation. Network administrators responsible for the configuration and operation of access points must comply with local broadcast regulations. Specifically, access points must use channel assignments appropriate to the location in which the access point will be used.

CAUTION Les points d'accès sont des périphériques de transmission radio et sont, en tant que tels, soumis aux réglementations nationales. Les administrateurs réseau responsables de la configuration et de l'exploitation des points d'accès doivent se conformer aux règlements locaux de diffusion. De façon plus précise, les points d'accès doivent employer des canaux adaptés à leur emplacement physique

Identifying Specific Installation Locations

When installing the IAP-205H access point must be secured to an Aruba approved wall or to a desk mount kit, which can be purchased separately. The

AP should be oriented vertically, with Ethernet ports facing downward to facilitate maximum antenna gain.

Use the AP placement map generated by Aruba's RF Plan software application to determine the proper installation location(s). Each location should be as close as possible to the center of the intended coverage area and should be free from obstructions or obvious sources of interference. These RF absorbers/reflectors/interference sources will impact RF propagation and should be accounted for during the planning phase and adjusted for in RF plan.

Identifying Known RF Absorbers/Reflectors/Interference Sources

Identifying known RF absorbers, reflectors, and interference sources while in the field during the installation phase is critical. Make sure that these sources are taken into consideration when you attach an AP to its fixed location.

- RF absorbers include:
- Cement/concrete—Old concrete has high levels of water dissipation, which dries out the concrete, allowing for potential RF propagation. New concrete has high levels of water concentration in the concrete, blocking RF signals.
 - Natural Items—Fish tanks, water fountains, ponds, and trees
 - Brick
- RF reflectors include:
- Metal Objects—Metal pans between floors, rebar, fire doors, air conditioning/heating ducts, mesh windows, blinds, chain link fences (depending on aperture size), refrigerators, racks, shelves, and filing cabinets.
 - Do not place an AP between two air conditioning/heating ducts. Make sure that APs are placed below ducts to avoid RF disturbances.
- RF interference sources include:
- Microwave ovens and other 2.4 or 5 GHz objects (such as cordless phones)
 - Cordless headset such as those used in call centers or lunch rooms

Installing the AP

- The IAP-205H is designed to mount into a variety of electrical gang boxes.
1. Remove the existing data wall plate (if applicable).
 2. Remove any existing RJ-45 connectors (typically snap-in) or cut/remove the UTP cable.

Figure 5 Removing Wall Plate (US Single Gang Outlet Box Shown)

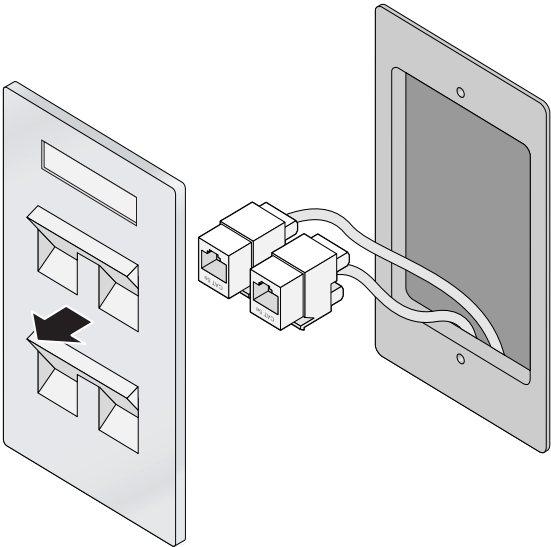
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3. Use a short Ethernet cable (sold separately) to connect the E0 port to an RJ45 connector or crimp an RJ-45 plug (not supplied) on the cable and insert in the E0 port. Do the same for the PT port, if used.
 4. Align the mounting holes of the IAP-205H mounting bracket with mounting holes in the gang box, as shown in Figure 6 and Figure 7. For worldwide single gang outlet box, the mounting bracket has two sets of mounting holes to meet the individual installation position requirement. See Figure 7 for details.
- The applicable standards for the wall boxes are:
- IEC 60670-1, GB17466, BS4662 and DIN49073 for Worldwide
 - ANSI/NEMA OS 1 and OS 2 for US
5. Insert the two included machine screws and tighten them to secure the mounting bracket.

Figure 6 Bracket to Gang Box (US Single Gang Outlet Box Shown)

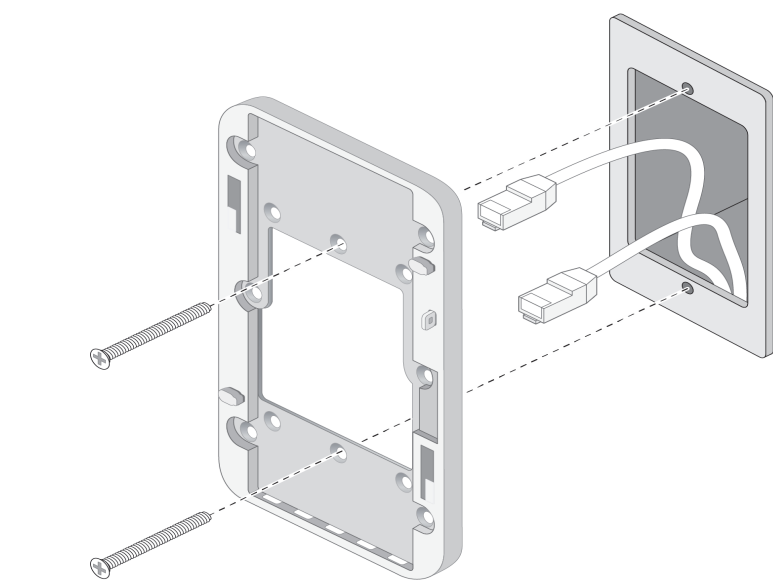
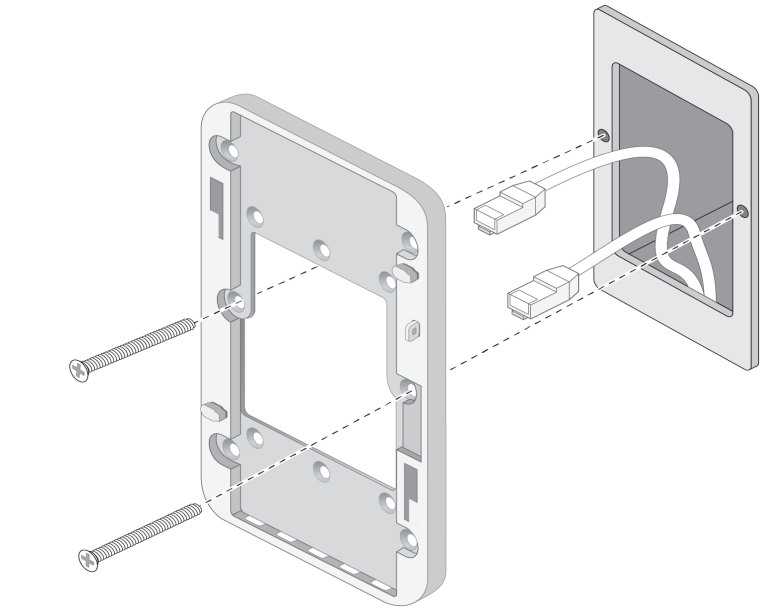
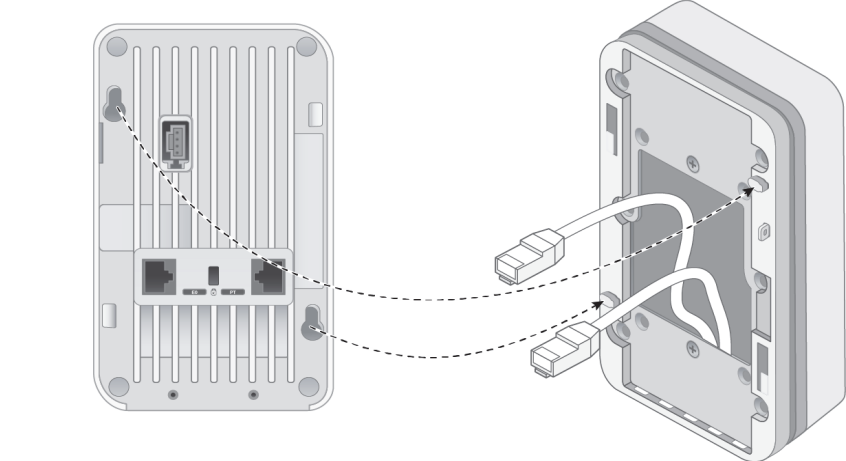


Figure 7 Bracket to Gang Box (Worldwide Single Gang Outlet Box Shown)



6. Connect cables to the back of the AP.
7. Align the mounting slots on the back of the AP with the corresponding mounting posts on the wall mount as shown in Figure 8.
8. Push the AP against the posts and downward until the posts engage the slots at the top of the slots.

Figure 8 Attaching AP to Wall Mount



9. Once the AP is fastened onto the wall mount, insert the T8H Torx security screw into the hole located on the upper-right edge of the wall mount and tighten.
10. If not using PoE, connect the AC-DC power adapter (sold separately) to the DC power socket located on the bottom of the IAP-205H.

Verifying Post-Installation Connectivity

The System Status LED on the AP can be used to verify that the AP is receiving power and initializing successfully (see Figure 1). Refer to the *Aruba Instant Quick Start Guide* for further details on verifying post-installation network connectivity.

Product Specifications

Electrical

- Ethernet:
 - 4x 10/100/1000 Base-T auto-sensing Ethernet RJ-45 interface (E0-E3)
 - 2x passive RJ-45 Pass-Through interface (E0/PT and PT)
 - MDI/MDX
 - IEEE 802.3 (10Base-T), IEEE 802.3u (100Base-T). IEEE 802.3ab (1000Base-T)
 - Power over Ethernet (IEEE 802.3af and 802.3at compliant), 48VDC (nominal) and 56VDC (maximum)/350mA (see Figure 4 for pin configuration)

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- Power:
 - 48VDC power interface, supports powering through an AC-to-DC power adapter
 - PoE support on Ethernet ports: 802.3af-compliant PoE sourcing device

NOTE If a power adapter other than the one provided by Aruba is used in US or Canada, it should be NRTL Listed, with an output rated 48VDC, minimum 0.75A, marked "LPS" and "Class 2", and suitable for plugging into a standard power receptacle in the US and Canada.

Environmental

- Operating:
 - Temperature: 0° C to +50° C (+32° F to +122° F)
 - Humidity: 5% to 95% non-condensing
- Storage and transportation:
 - -Temperature: -40° C to +70° C (-40° F to +158°)

For additional specifications on this product, please refer to the data sheet. The data sheet can be found at www.arubanetworks.com.

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Contacting Aruba Networks

Web Support	
Main Site	http://www.arubanetworks.com
Support Site	https://support.arubanetworks.com
Airheads Social Forums and Knowledge Base	community.arubanetworks.com
North American Telephone	1-800-943-4526 (Toll Free) 1-408-754-1200
International Telephones	arubanetworks.com/support-services/aruba-support-program/contact-support/
Software Licensing Site	licensing.arubanetworks.com/login.php
Wireless Security Incident Response Team (WSIRT)	arubanetworks.com/support/wsirt.php
Support Email Addresses	
Americas and APAC	support@arubanetworks.com
EMEA	emea.support@arubanetworks.com
Americas and APAC Support Email	support@arubanetworks.com
WSIRT Email Please email details of any security problem found in an Aruba product.	wsirt@arubanetworks.com

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