OAW 320 Series Access Point

Installation Guide

The Alcatel-Lucent OAW-320 Series access points (OAW-AP324, OAW-AP325, OAW-IAP324, and OAW-IAP325) support IEEE 802.11ac standards for high-performance WLAN, and is equipped with two dual-band radios, which can provide access and monitor the network simultaneously. Multi-user Multiple-input, Multiple-output (MU-MIMO) technology allows this access point to deliver high-performance 802.11n 2.4 GHz and 802.11ac 5 GHz functionality, while also supporting 802.11a/b/g wireless services.

The OAW-AP324 and OAW-AP325 access points work in conjunction with a Alcatel-Lucent switch, while the OAW-IAP324 and OAW-IAP325 Instant access points can be configured using a built-in virtual switch.

The OAW-320 Series access points provide the following capabilities:

- Dual wireless transceiver
- 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 and spectrum analyzer
- Compatibility with IEEE 802.3at PoE+ and 802.3af PoE
- Centralized management configuration and upgrades
- Integrated Bluetooth Low Energy (BLE) radio

> **CAUTION** This device must be professionally installed and serviced by a trained Alcatel-Lucent Certified Field Expert (ACFE) or similar.

Package Contents

- Alcatel-Lucent OAW-320 Series access point
- 9/16" and 15/16" Ceiling Rail Adapters
- Installation Guide (this document)
- Regulatory Compliance and Safety Information Guide
- Instant Quick Start Guide (Instant access points only)
- Professional Installation Guide (Instant access points only)

> **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.
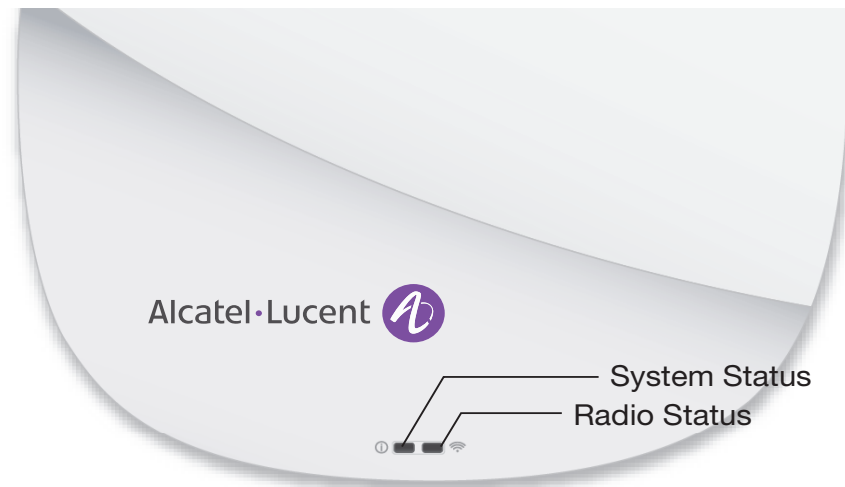
Software

The OAW-AP324 and OAW-AP325 require AOS-W 6.4.4 or higher. For additional information, refer to the AOS-W User Guide and AOS-W Quick Start Guide.

The OAW-IAP324 and OAW-IAP325 Instant access points require Instant 4.2.1 or higher. For additional information, refer to the Instant User Guide and Instant Quick Start Guide.

Hardware Overview

Figure 1 *LEDs*

System Status
Radio Status

LEDs

The OAW-320 Series access points have two LEDs that indicate the system and radio status of the device.

LED	Color/State	Meaning
System Status (Left)	Off	Device powered off
	Green/Amber-Alternating	Device booting; not ready
	Green- Solid	Device ready
	Amber- Solid	Device ready; power-save mode (802.3af PoE): • Single radio • USB disabled
	Green or Amber-Flashing	Restricted mode: • Uplink negotiated in sub optimal speed; or • Radio in non-high throughput mode
	Red	System error condition
Radio Status (Right)	Off	Device powered off, or both radios disabled
	Green- Solid	Both radios enabled in access mode
	Amber- Solid	Both radios enabled in monitor mode
	Green/Amber-Alternating	One radio enabled in access mode, one enabled in monitor mode

External Antenna Connectors

The OAW-AP324/OAW-IAP324 model access points are equipped with four external antenna connectors located on the front corners of the access point (see Figure 2).

Figure 2 *External Antenna Connectors*

ANT1
ANT0
ANT2
ANT3

> **CAUTION** Devices with external antennas must use manufacturer-approved antennas only.
> The administrator(s) is/are responsible for ensuring that the Equivalent Isotropically Radiated Power (EIRP) levels for external antenna devices are compliant with the regulatory standards of the host country/domain. Installer(s) are required to record the antenna gain (dBi) for this device in the system management software.
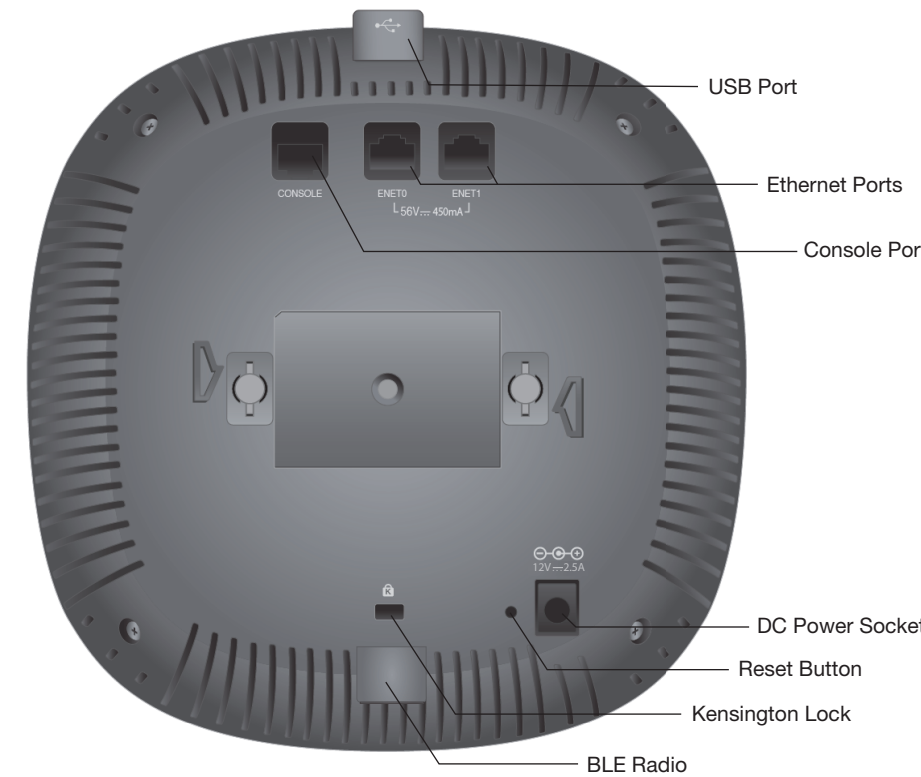
USB Interface

The OAW-320 Series access points are equipped with a USB port for connectivity with cellular modems and other USB client devices. When powered by an 802.3at PoE+ or DC source, the USB port can supply up to 5W.

> **NOTE** The USB is disabled when powered by an 802.3af PoE source.

Figure 3 Bottom Panel

Figure 3 *Bottom Panel*

USB Port
Ethernet Ports
Console Port
DC Power Socket
Reset Button
Kensington Lock
BLE Radio
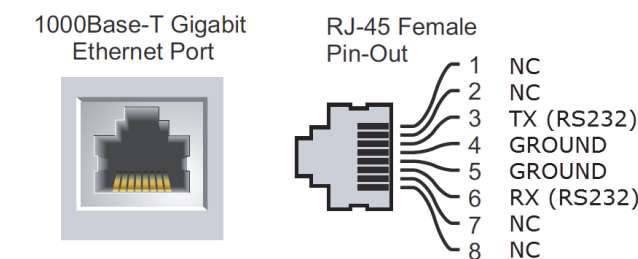
Console Port

The serial console port allows the user to connect the access point to a serial terminal or a laptop for direct local management. This port is an RJ-45 connector with pinouts details in Figure 4. Connect it directly to a terminal or terminal server using an Ethernet cable.
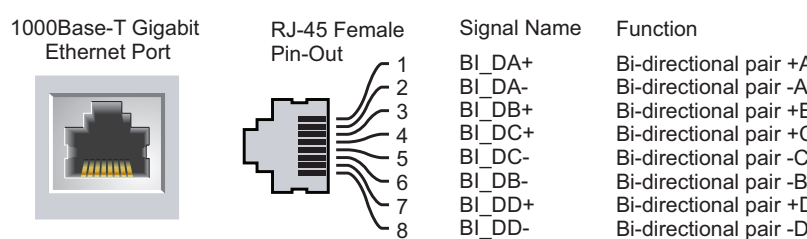
Figure 4 *Serial Port Pin-Out*

1000Base-T Gigabit Ethernet Port   RJ-45 Female Pin-Out
1 NC
2 NC
3 TX (RS232)
4 GROUND
5 GROUND
6 RX (RS232)
7 NC
8 NC

Ethernet Ports

The OAW-320 Series access points are equipped with two 10/100/1000 Base-T (RJ-45) auto-sensing, MDI/MDX wired-network connectivity port, ENET0 and ENET1. These ports support IEEE 802.3af and 802.3at Power over Ethernet (PoE) compliant sources, accepting 56V DC (nominal) as a standard defined Powered Device (PD) from a Power Sourcing Equipment (PSE), such as a PoE midspan injector, or network infrastructure that supports PoE. The Ethernet ports are on the bottom of the access point. These ports have RJ-45 female connectors with the pin-outs shown in Figure 5.

Figure 5 *Gigabit Ethernet Port Pin-Out*

1000Base-T Gigabit Ethernet Port   RJ-45 Female Pin-Out   Signal Name   Function
1 BI_DA+   Bi-directional pair +A
2 BI_DA-   Bi-directional pair -A
3 BI_DB+   Bi-directional pair +B
4 BI_DC+   Bi-directional pair +C
5 BI_DC-   Bi-directional pair -C
6 BI_DB-   Bi-directional pair -B
7 BI_DD+   Bi-directional pair +D
8 BI_DD-   Bi-directional pair -D

Kensington Lock Slot

The OAW-320 Series access points are equipped with a Kensington lock slot for additional security.

Reset Button

The reset button can be used to return the access point to factory default settings. To reset the access point, refer to the steps below:

1. Power off the access point.
2. Press and hold the reset button using a small, narrow object, such as a paperclip.
3. Power-on the access point without releasing the reset button. The power LED will flash within 5 seconds.
4. Release the reset button.

The power LED will flash again within 15 seconds indicating that the reset is completed. The access point will now continue to boot with the factory default settings.

Power

The ENET0 and ENET1 ports support PoE-in, allowing one port to draw power from an 802.3at PoE+ source (recommended) or an 802.3af PoE source. When both PoE and DC power sources are available, the access point will default to using the DC power source.

The OAW-320 Series access points have a single 12V/30W DC power jack socket to support that supports the AP-AC-12V30UN AC-to-DC adapter kit (sold separately).

Power Modes

The OAW-320 Series access points can operate in two power modes. The modes are not configurable and determined by the access point based on the amount of power available.

The OAW-320 Series access points operate without restrictions when powered by a DC or 802.3at PoE+ source.

When powered by an 802.3af PoE source, the following restrictions apply:

- Second Ethernet port disabled
- USB interface disabled
- 2.4 GHz in 1x1:1 mode

Before You Begin

> **CAUTION** FCC Statement: Improper termination of access points installed in the United States configured to non-US model controllers 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** EU Statement:
> Lower power radio LAN product operating in 2.4 GHz and 5 GHz bands. Please refer to the AOS-W User Guide/Instant User Guide for details on restrictions.
>
> Produit réseau local radio basse puissance operant dans la bande fréquence 2.4 GHz et 5 GHz. Merci de vous referrer au AOS-W User Guide/Instant User Guide pour les details des restrictions.
>
> Low Power FunkLAN Produkt, das im 2.4 GHz und im 5 GHz Band arbeitet. Weitere Informationen bezlüglich Einschränkungen finden Sie im AOS-W User Guide/Instant User Guide.
>
> Apparati Radio LAN a bassa Potenza, operanti a 2.4 GHz e 5 GHz. Fare riferimento alla AOS-W User Guide/Instant User Guide per avere informazioni detagliate sulle restrizioni.

Access Point Pre-Installation Checklist

Before installing your OAW-320 Series access point, ensure that you have the following:

- CAT5E or CAT6 UTP cable of required length
- One of the following power sources:
  - IEEE 802.3at or 802.3af-compliant Power over Ethernet (PoE) source. The PoE source can be any power source equipment (PSE) switch or midspan PSE device
  - Alcatel-Lucent AP AC-to-DC adapter kit (sold separately)

For OAW-AP324 and OAW-AP325 access points only:

- Alcatel-Lucent Switch provisioned on the network
  - Layer 2/3 network connectivity to the access point
  - One of the following network services:
    - Alcatel-Lucent Discovery Protocol (ADP)
    - DNS server with an "A" record
    - DHCP Server with vendor-specific options

> **NOTE** Alcatel-Lucent access points are designed in compliance with governmental requirements, so that only authorized network administrators are permitted to change the settings for this device. For more information about access point configuration, refer to the AOS-W Quick Start Guide/Instant Quick Start Guide and AOS-W User Guide/Instant User Guide.

Verifying Pre-Installation Connectivity

> **NOTE** The instructions in this section are applicable to the OAW-AP324 and OAW-AP325 access points only.

Before installing access points in a network environment, make sure that they are able to locate and connect to the switch after power on.

Specifically, you must verify the following conditions:

- When connected to the network, each access point is assigned a valid IP address
- Access points are able to locate the switch

Refer to the AOS-W Quick Start Guide for instructions on locating and connecting to the switch.

Pre-Installation Network Requirements

After WLAN planning is complete and the appropriate products and their placement have been determined, the Alcatel-Lucent switch(s) must be installed and initial setup completed before the Alcatel-Lucent access points are deployed.

For initial setup of the switch, refer to the AOS-W Quick Start Guide.

Identifying Specific Installation Locations

You can mount the OAW-320 Series access point on a wall or on the ceiling. Use the access point placement map generated by the Alcatel-Lucent VisualRF 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 the 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 access point to its fixed location. Examples of sources that degrade RF performance include:

- Cement and brick
- Objects that contain water
- Metal
- Microwave ovens
- Wireless phones and headsets

Installing the Access Point

NOTE	Service to all Alcatel-Lucent products should be performed by an ACFE certified technician or similar.

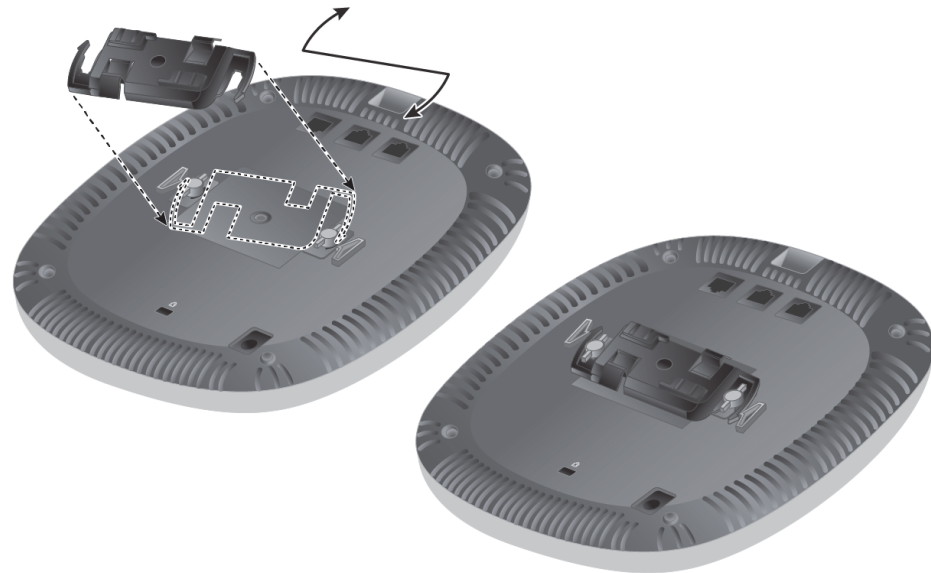### Using the Ceiling Rail Adapter

The OAW-320 Series access points includes two ceiling rail adapters for 9/16" and 15/16" ceiling rails. Additional wall mount adapters and ceiling rail adapters for other rail styles are available as accessory kits.

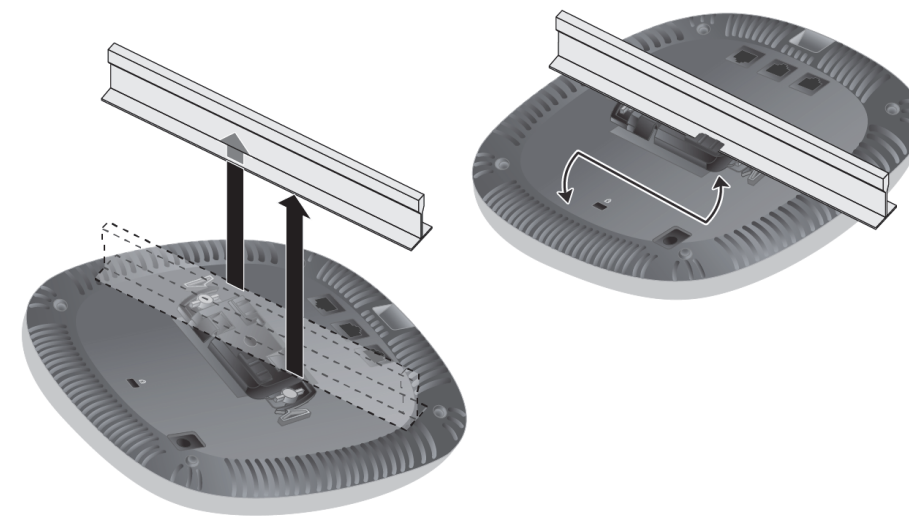|	
CAUTION	The installer is responsible for securing the access point onto the ceiling tile rail in accordance with the steps below. Failure to properly install this product may result in physical injury and/or damage to property.

1. Pull the necessary cables through a prepared hole in the ceiling tile close to where the access point will be placed.
2. Place the adapter against the back of the access point with the adapter at an angle of approximately 30 degrees to the tabs (see Figure 6).
3. Twist the adapter clockwise until it snaps in place into the tabs (see Figure 6).

Figure 6 *Attaching the Ceiling Rail Adapter*

4. If necessary, connect the console cable to the console port on the back of the access point.
5. Hold the access point next to the ceiling tile rail with the ceiling tile rail mounting slots at approximately a 30-degree angle to the ceiling tile rail (see Figure 7). Make sure that any cable slack is above the ceiling tile.
6. Pushing toward the ceiling tile, rotate the access point clockwise until the device clicks in place on the ceiling tile rail.

Figure 7 *Mounting the Access Point*

7. Install the external antennas for OAW-AP324/OAW-IAP324 access points according to the manufacturer's instructions, and connect the antennas to the antenna interfaces on the access point.

Connecting Required Cables

Install cables in accordance with all applicable local and national regulations and practices.

Verifying Post-Installation Connectivity

The integrated LEDs on the access point can be used to verify that the device is receiving power and initializing successfully (see Table 1). Refer to the Alcatel-Lucent AOS-W Quick Start Guide for further details on verifying post-installation network connectivity.

Configuring the Access Point

NOTE	The instructions for this section are applicable to the OAW-AP324 and OAW-AP325 access points only.

Access Point Provisioning/Reprovisioning

Provisioning parameters are unique to each access point. These local access point parameters are initially configured on the switch, and then pushed out to the access points and stored on the access points. Alcatel-Lucent recommends that provisioning settings be configured via the AOS-W Web UI only. Refer to the Instant User Guide for details.

Access Point Configuration

Configuration parameters are network or switch specific. They are configured and stored on the switch and then pushed out to the access points. These parameters remain stored on the switch.

Configuration settings can be configured via the AOS-W Web UI or CLI. Refer to the AOS-W User Guide or CLI Guide for details.

CAUTION	Access points are classified as radio transmission devices and are subject to government regulations of the deploying country. The Network Administrator(s) are responsible for ensuring that the configuration and operation of this equipment is in compliance with their country's regulations. Specifically, access points must use channel assignments appropriate to the locale in which the access point will be used. For a complete list of approved channels in your country, refer to the Downloadable Regulatory Table (DRT) Release Notes at http://service.esd.alcatel-lucent.com.

OAW 320 Series Access Point

Installation Guide

Alcatel·Lucent

Contacting Alcatel-Lucent

Web Site Support	
Main Site	http://www.alcatel-lucent.com/enterprise
Support Site	https://service.esd.alcatel-lucent.com
Support Email	esd.support@alcatel-lucent.com

Telephone Support	
North America	1-800-995-2696
Latin America	1-877-919-9526
Europe	+800 00200100 (Toll Free) or 1-650-385-2193
Asia Pacific	+65 6240 8484
Worldwide	1-818-878-4507

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