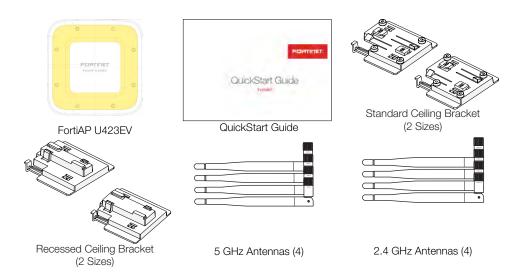


# FortiAP U421FV/U423FV

Quick Start Guide

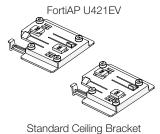
# U423EV Box Includes



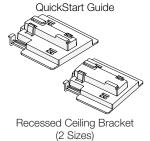
# U421EV Box Includes







(2 Sizes)



## Installation

IMPORTANT: Supported only from System Director 8.2 or later.

The unit can be mounted on a ceiling using the provided ceiling mounting bracket.

## To attach the unit to a ceiling using the ceiling mount bracket:

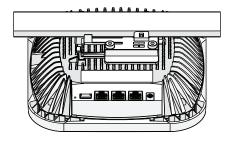
 Attach the ceiling mount bracket to the bottom cover of the FortiAP unit by sliding the ceiling the mount bracket from the left to the right onto the FortiAP Unit.
 If extra space is required to accommodate drop ceiling tiles, use the taller ceiling mount bracket.





2. Select an appropriate location, hold the device against the ceiling t-rail, and push the FortiAP unit onto the ceiling until it snaps into place.

The unit can be removed from the bracket by pressing on the bracket tab and sliding the device out.



**Note:** Four ceiling mount brackets are included; both standard and recessed ceiling mount brackets come in sizes: 1.43cm (9/16in) and 2.38cm (15/16in).

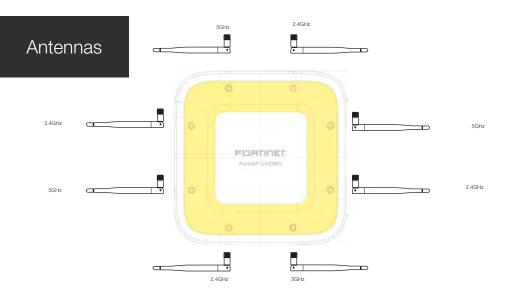
To protect your device from unauthorized removal, use the Kensington™ Security Slot to attach a cable lock (not included).

# Antennas (Applicable for U423EV only)

The FortiAP unit provides dual concurrent radio signals. Use the 2.4GHz antennas to access Radio 0 (802.11 b/g/n 288Mbps) signals, and the 5GHz antennas to access Radio 1 (802.11 a/n/ac 1733Mbps) signals. To use both radio frequencies concurrently, use all eight WiFi antennas.

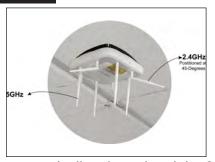
# Installing the WiFi Antennas

- 1. Insert the antenna base firmly into the appropriate antenna mount.
- 2. Securely hand tighten the fastening collar
- 3. Repeat for the remaining antennas



# AP Mounting and Antenna Position

# **FAP 423EV**



All 5.0GHz antennas are vertically oriented and the 2.4GHz antennas are bent at 45 degrees.

# AP Mounting and Antenna Position

# **FAP 421EV**



The FAP-U421EV is placed at 45 degrees with respect to client.

## Ports

Ethernet Port (RJ-45)

Gigabit Ethernet port with Power over Ethernet (PoE) Powered Device (PD) support Use ONLY: 802.3at

USB Port (USB A)



## Console Port (RJ-45)

Optional management computer connection
Provides access to the Command-Line Interface (CLI)

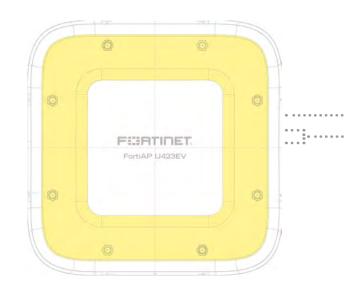
Power 12V, 3A

# LED



## LED Primary LED light to indicate power and operation status.

# LED Status (U423EV and U421EV)



## Power

- Plashing Yellow and White: Power on and ready
- Blinking Pink: Booting up

  Off: No power
- Flashing Yellow and Pink: Discovery in progress

## LAN1 (PoE) & LAN2 (PoE)

- Green: Connected at 1Gbps
- Flashing Amber: Transmitting at 100Mbps
- Flashing Green: Transmitting & receiving data at 1000Mbps
- Off: No link established





# Connecting

Using the provided mounting hardware, attach the FortiAP unit to the wall or ceiling.

Adequate grounding must be provided to the FortiAP unit in compliance with the local electrical code.

**Caution**: This device complies with IEEE 802.af and 802.3at PoE specification. Do not use any PoE injectors that are not IEEE 802.3af or 802.3at compliant, as they may damage your device.

## To connect the FortiAP unit:

- 1. Insert an Ethernet cable into the **LAN2** port of the FortiAP unit.
- 2. Insert the other end of the Ethernet cable into your WLC.
- 3. If you are not using PoE, connect the DC plug of the optional power adapter into the DC power jack on the FortiAP unit. and then insert the other end into an appropriate power outlet.

The power LED will light up.

# Configuring

The FortiAP unit is designed to require no configuration in most networks. Zero configuration mode works if the unit is directly connected to a Wireless LAN Controller (WLC) or on the same layer-2 network and subnet as the FortiWLC.

If the FortiAP wireless controller's IP address cannot be determined using Zero Configuration mode, or if the network uses static IP addresses, it can be configured to use a static IP address..

## To enable the FortiAP using Zero Configuration:

- 1. After connecting the FortiAP unit as described in the previous chapter, the unit goes through its boot procedure and requests an IP address from the DHCP server.
- If the IP address is retrieved successfully, the FortiAP enters discovery mode to locate a FortiWLC. The discovery modes are:
  - Broadcast
  - DHCP option 43
  - Mesh
- 3. Verify that the FortiAP has successfully connected to the controller.in the System Directory WebUI.

# Configuring

## To enable the FortiAP with a static IP address:

- 1. Connect the FortiAP device to a seperate private switch or hub.
- 2. Log into AP console.
- Type Ip config net static <ip-address> netmask <netmask ip-address> gateway <gateway ip-address>
- 4. Save the configuration by typing **ip config save**.
- Unplug the FortiAP unit and plug it back in order for the configuration to take effect.
- Move the FortiAP to the intended deployment location and connect the Ethernet cable

## Cautions and Warnings

## **Environmental specifications**

Ambient operating temperature: 0C to 50C

Refer to specific Product Model Data Sheet for Environmental Specifications (Operating Temperature, Storage Temperature, Humidity, and Altitude)

Référez à la Fiche Technique de ce produit pour les caractéristiques environnementales (Température de fonctionnement, température de stockage, humidité et l'altitude).

### Safety

Caution: This equipment is to be used in a Network Environment 0 per IECTR 62101. This product is connected only to PoE networks without routing to the outside plant.

Attention: Ce matériel doit être utilisé dans un Environnement Réseau 0 par IECTR 62101. Ce produit est uniquement connecté aux réseaux PoE sans installation externe de routage.

This product is intended to be supplied by a Listed Direct Plug-In Power Unit marked LPS or Class 2 and 12 Vdc, 3 A, Tma = 50°C or by 48-57 Vdc from PoE source.

Le produit doit être alimenté par un bloc d'alimentation à courant continu homologué UL de 12 Vdc, 3 A nominal marqué LPS ou Class 2 ou par une source d'alimentation par Ethernet de 48-57 Vdc (PoE).

Only for Horizontal Orientation: Suitable for use in environmental air space in accordance with Section 300-22(C) of the National Electrical Code, and Sections 2-128, 12-010(3) and 12-100 of the Canadian Electrical Code. Part 1. CSA C22.1.

Seulement pour l'orientation horizontale: Convient pour une utilisation dans l'espace aérien conformément à l'article 300-22 (C) du Code National de l'Electricité, et des articles 2-128, 12-010 (S) et 12-100 du Code de l'électricité canadien, Partie 1, CSA C221, CSA (C221)

#### Regulatory Notices Federal Communication Commission (FCC) – USA

This device complies with Part 15 of 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 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 residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more 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/TV technician for help.
 WARNING: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 26 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

For operation within 5.15 ~ 5.25GHz /5.47 ~ 5.725GHz frequency range, it is restricted to indoor environment. The band from 5600-5650MHz will be disabled by the software during the manufacturing and cannot be changed by the end user. This device meets all the other requirements societified in Part 15E.

Section 15.407 of the FCC Rules.

## Industry Canada Equipment Standard for Digital Equipment (ICES) – Canada

CAN ICES-3 (B) / NMB-3 (B)

nossible

## Innovation, Science and Economic Development (ISED) – Canada

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

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) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. For product available in the USA/Canada market, only channel 1-11 can be operated. Selection of other channels is not

Pour les produits disponibles aux États-Unis / Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection

d'autres canaux n'est pas possible.

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 26 cm between the radiator & your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 26 cm de distance entre la source de rayonnement et votre corps.

The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies

with the e.i.r.p. limits specified for point-to-point and non-point-topoint operation as appropriate.

Le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5725-5850 MHz)

doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

Caution: The device for the band 5150-250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems. High-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-8650 MHz and that these radars could cause interference and/or damage to LEI-LAN devices.

Attention: Le dispositif de la bande 5150-5250 MHz est réservé à un usage intérieur afin de réduire l'interférence nuisible potentielle aux systèmes mobiles par satellite co-canal. Les radars à haute puissance sont désignés comme utilisateurs principaux (à savoir les utilisateurs prioritaires) des bandes 5250-5350 MHz et 5650-5350 MHz et que ces radars pourraient causer des interférences et / ou endommager les déribériques LE-LAI

Caution: The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall comply with the e.i.r.p. limit; and the maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate.

Attention: Le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5 250-5 350 MHz et 5 470-5 725 MHz doit se conformer à la limite de p.i.r.e.; le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5 725-5 825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

This device has been designed to operate with an antenna having a maximum gain of 4.42 dBi for 2.4GHz and 5.44 dBi for 5GHz. Antenna having a higher gain is strictly prohibited per regulations of ISED. The required antenna impedance is 50 ohms. Under ISED requiations, this radio transmitter may only operate

using an antenna of a type and maximum (or lesser) gain approved for the transmitter by ISED. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotopically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Ce dispositif a été conçu pour fonctionner avec une antenne ayant un gain maximal de 4.42 dBi pour 2,4 GHz et 5.84 dBi pour 5GHz. Une antenne ayant un gain supérieur sont strictement interdites par la réglementation d'ISED. L'impédance d'antenne requise est de 50 chms.

Conformément à la réglementation d'ISED, cet émetteur radio peut florotionner seulement avec une antienne d'un type et d'un gain maximal (ou inférieur) apprové pour l'émettur par ISED. Dans le but de réduire les risques de brouillage radioélectrique aux autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication dissisé.

This radio transmitter (IC: 7280B-281BB022) has been approved by ISED to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (IC: 7280B-281BB022) a été approuvé par ISED pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

This device and it's antennas(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with IC multi-transmitter product procedures.

Cet appareil et son antenne (s) ne doit pas être co-localisés ou fonctionnement en association avec une autre antenne ou

#### transmetteur.

#### Internal Antennas

Antenna	Antenna Type	Antenna Collector	Gain (dBi)			
	1300		2.4GHz	5GHz		
1 (WLAN)	Printed	IPEX	3.81	-		
2 (WLAN)	Printed	IPEX	3.98	-		
3 (WLAN)	Printed	IPEX	3.47	-		
4 (WLAN)	Printed	IPEX	3.75	-		
5 (WLAN)	Printed	IPEX	-	5.65		
6 (WLAN)	Printed	IPEX	-	5.50		
7 (WLAN)	Printed	IPEX	-	5.84		
8 (WLAN)	Printed	IPEX	-	5.84		
9(BT)	Printed	IPEX	2.91	-		

### **External Antennas**

Antenna Type	Antenna Connector	Gain (dBi)		
	Connector	2.4GHz	5GHz	
Dipole	RP SMA plug	4.42	3	

## European Conformity (CE) - EU

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



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## EULA and Warranty Terms

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