Adtran
Quick Start Guide

Service Delivery Gateway
SDG-8632

Wi-Fi 6E Mesh AP

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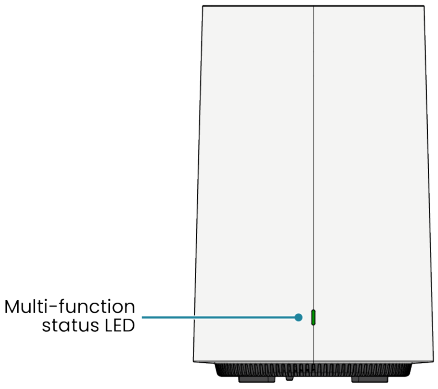
Doc Number: 6SDG8632-13C

Description

The SDG-8632 is a carrier-class, tri-band, Wi-Fi 6E Mesh access point (AP) designed to deliver top-end Wi-Fi 6E performance, multi-gigabit throughput, and advanced service delivery capabilities.

Figure 1: SDG-8632 Wi-Fi 6E Mesh AP — Front View

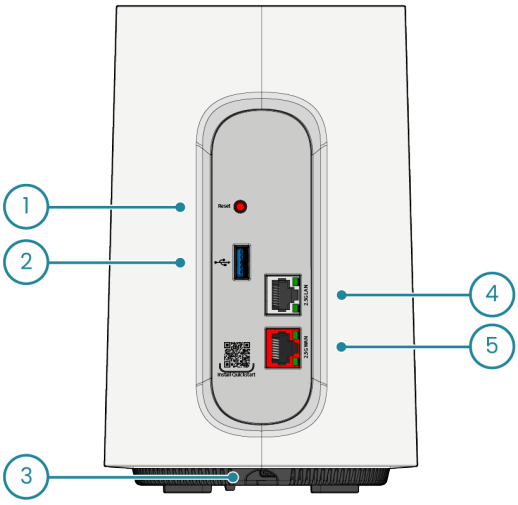


The SDG-8632 comes with pre-loaded software packages, as shown in this table.

Table 1: Versions of the SDG-8632

Description	P/N
SDG-8632 with SmartOS	17600073FxS

Figure 2: SDG-8632 — Rear View



Callout	Description
1	Reset button
2	USB 3.0 host port (Type A) used for the direct connection of a USB memory stick or an Adtran-approved LTE communication module
3	Routing hole for power cable
4	One 2.5 GbE LAN port (RJ45) and LEDs
5	One 2.5 GbE WAN port (RJ45) and LEDs

WARNING

A warning indicates a hazard that, if not avoided, could result in death, injury, or serious property damage.

CAUTION

A caution indicates a hazard that, if not avoided, could result in service interruption, damage to the equipment, or minor property damage.

NOTE

A note highlights additional, but important, information or features.

Installation

After you unpack the unit, inspect it for damage. If you notice any damage, file a claim with the carrier and then contact Adtran. For more information, see Warranty.

Installation Guidelines

NOTE

See the national, state, and local electrical codes for the requirements for power, grounding, wiring, and installation methods.

- Read all warnings and cautions before you install or service the SDG-8632.
- Ensure that the SDG-8632 is not located in direct sunlight or next to any thermal obstructions.
- Ensure that the SDG-8632 does not come in contact with water or other liquids.
- For the optional wall-mounting kit, the screws and anchors are intended for drywall mounting only. For mounting on other surfaces, obtain the appropriate mounting hardware and follow the provided instructions.

CAUTION

This product is subject to eletrostatic damage or a decrease in reliability. Handling precautions are required.

CAUTION

This product is intended for indoor use only. Ethernet cables and attached equipment are intended for use within the same building with equipotential bonding, and not intended to be placed in separate buildings or structures. The Ethernet cables can be safely connected to network wiring that is distributed within the building (Building Wiring per IEC 62368-1). Failure to deploy as described could result in permanent damage from lightning or other electrical events and voids the warranty.

Table 2 shows the recommended minimum distance between the device and household appliances to reduce interference.

Table 2: Recommended Distance Between the Device and Household Appliances

Household Appliance	Minimum Distance
Microwave ovens	30 feet / 9 meters
Baby monitor — analog	20 feet / 6 meters
Baby monitor — digital	40 feet / 12 meters
Cordless phone — analog	20 feet / 6 meters
Cordless phone — digital	30 feet / 9 meters
Bluetooth devices	20 feet / 6 meters
ZigBee	20 feet / 6 meters

Shipment Contents

- SDG-8632 Wi-Fi 6E Mesh AP
- 15 VDC power adapter (USB-C)
- Ethernet cable
- Quick Install Guide

Required Equipment

In addition to standard technician tools, use this equipment to install the SDG-8632:

- Assorted tie wraps for securing cabling and wiring
- #2 Phillips screwdriver
- Drill
- Optional wall-mounting kit (P/N 17600201F1), which includes:
  - SDG Wall Mount M mounting bracket
  - Hook and loop fastener strap
  - 2x M4x50 mm screws and wall anchors
- 6 mm drill bit — for wall mounting to dry wall
- Hammer — for wall mounting to dry wall
- Appropriate size drill bit and screws — for wall mounting to other surfaces

Step 1: Installing the SDG-8632

Follow one of these procedures to install the SDG-8632:

NOTE

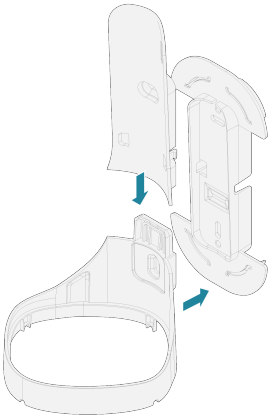
Route and secure the cables in a manner that prevents damage.

Desktop Installation

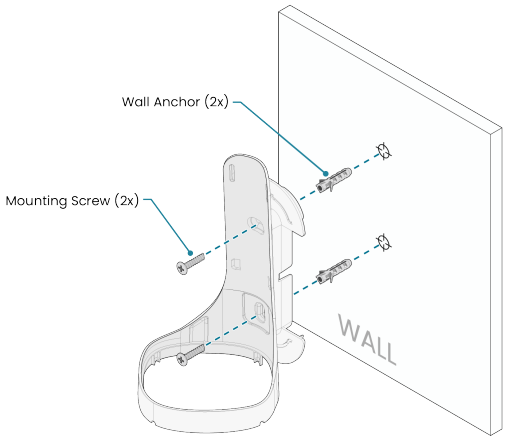
You can locate the SDG-8632 on a desktop or table, but first ensure that the location meets the requirements listed in Installation Guidelines.

Wall-Mount Installation

1. Determine the location for the SDG, and ensure that the LEDs are visible.
2. Assemble the mount by snapping the pieces together, as shown in this figure.



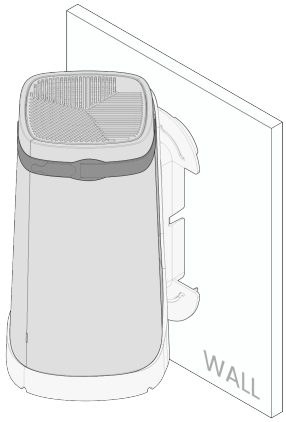
3. Use the keyholes on the wall-mount kit as a template and mark the wall accordingly.
4. To fasten the wall-mount kit to dry wall:
   a. Use a 6 mm drill bit to drill the mounting holes into the wall.
   b. Use a hammer to lightly tap the included wall anchors into the drilled holes until they are flush with the wall.
   c. Thread the hook and loop fastener strap through the slots on the top of the mount.
   d. Align the holes in the wall mount with the anchors in the wall.



   e. Use the screwdriver to install two screws (included) into the anchors. Do not overtighten.

5. To fasten the wall-mount kit to other surfaces:
   a. Obtain screws designed for your desired surface.
   b. Use an appropriate size drill bit to drill pilot holes, if applicable.
   c. Thread the hook and loop fastener strap through the slots on the top of the mount.
   d. Align the holes in the wall mount with either the pilot holes or the marks you made on the wall in step 3.
   e. Use the screwdriver and two appropriate screws to secure the wall mount to the wall.

6. Insert the SDG into the wall mount, base first, and then secure the device at the top with the hook and loop fastener strap.

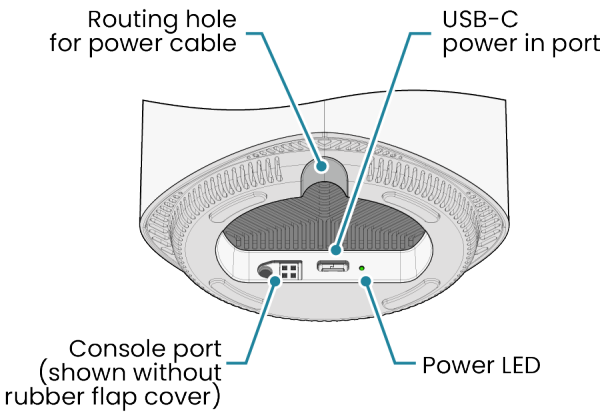


Step 2: Connecting the Power

The SDG-8632 ships with a region-specific AC to USB-C power adapter: North America, United Kingdom, European Union, and Australia/New Zealand. You connect the power adapter to the USB-C power input connector located on the bottom of the SDG.

1. Plug the provided USB-C power adapter into the USB-C Power In connection on the bottom of the SDG-8632.

Figure 3: SDG Bottom View



NOTE

Only a qualified technician can use the console port located on the bottom of the SDG to troubleshoot and repair the device.

2. Connect the power adapter to a standard 100 to 240 VAC outlet. The SDG begins powering up immediately as the SDG-8632 has no on/off power switch.
3. Verify that the Power LED is green, indicating that the SDG-8632 is receiving power. If the LED is red, the unit is receiving an incorrect amount of power.

   The Multifunction Status LED should be lit on the front of the device, as described in LEDs.

NOTE

Adtran recommends only using the DC power adapter that is provided with the unit.

CAUTION

For United States and Canada applications, the DC power adapter must be an NRTL Listed LPS power supply. For International applications, the DC power adapter must be an LPS power supply, specifically approved for that country.

Step 3: Connecting the Subscriber Services

These subscriber connections are available on the SDG-8632 and are shown in Figure 2:

- 2.5 GbE WAN port (RJ45 connector).
- 2.5 GbE LAN port (RJ45 connector).
- USB 3.0 host port (Type A connector).

> NOTE
>
> Route and secure the fiber and cables in a manner that prevents damage.

Connecting the Ethernet Ports

To connect the Ethernet ports:

1. Insert the Category 5e (or higher) Ethernet cable coming from the service provider Ethernet port into the 10G WAN port until you hear an audible click.
2. Insert one end of a Category 5e (or higher) Ethernet cable into the 2.5G LAN port until you hear an audible click.
3. Connect the other end to any local device requiring wired Ethernet service.

Connecting the USB Port

The USB 3.0 host port is used for the direct connection of a USB memory stick or an Adtran-approved LTE communication module.

Step 4: Setting Up

For devices with SmartOS installed, scan the QR code labeled *Wi-Fi Quick Start* located on the back of the unit. You will be presented with a series of self-guided steps to choose your account password, select the gateway or access point mode, and configure the Wi-Fi SSID and passphrase. The specified account password will be used when initially logging into the GUI on the SDG.

Step 5: Logging In

You use a browser-based GUI to manually configure the SDG-8632. These steps describe how to connect and login to the device using SmartOS:

1. Ensure your computer is connected to the SDG-8632 either using Wi-Fi or the Ethernet connection to the LAN port.

   > NOTE
   >
   > This process will fail if your computer is connected to the WAN port.

2. Configure your computer network interface to acquire an IP address automatically using DHCP.
3. Open a web browser and enter **http://router** or **http://setup**. A sign-in page appears. If you are unable to connect to the SDG-8632 using either of these shortcuts, you can also enter the IP address of the unit. The default IP address is **192.168.1.1**.
4. Enter the default username (**admin**) and password. The password is the account password that was specified during the quick setup.

   > NOTE
   >
   > If you have forgotten the password for this device, select **Forgot password?** and follow the instructions to reset the gateway configuration to the factory defaults.

5. Select **Sign In**. The Dashboard page appears, showing data about the system.

> NOTE
>
> If you are using the Intellifi MeshView solution, use the set up procedures found in the Intellifi Mobile App.

LEDs

When the SDG-8632 first powers up, it performs self-tests. When the tests are complete, the LEDs display the device status.

Multifunction Status LED for SmartOS

The Multifunction Status LED on the front indicates the status of the device while running SmartOS. The LEDs appear in order of operation.

Color	LED State	Indication
Initial Set Up		
Blue	Solid	Cold boot
Red	Pulsing	Reboot and system upgrade (persists over uboot)
Green	Pulsing	Linux booting up
Light blue	Pulsing	Quick start
White	Solid	Controller WAN up, Internet
Amber	Solid	Controller WAN down, no Internet
Satellite Set Up		
Purple	Pulsing	Satellite set up
White	Solid	Satellite up
Red	Pulsing	Satellite up, fair signal
Amber	Pulsing	Satellite up, poor signal
White	Pulsing	Reverting

Ethernet Status LEDs

The Ethernet Status LEDs indicate the status of the Ethernet interfaces.

Port	Location and Color	Indication
2.5G WAN	Top, Green	Speed is 2.5 Gbps
	Bottom, Green	Speed is 1 Gbps
	Bottom, Amber	Speed is 100 Mbps
2.5G LAN	Top, Green	Speed is 2.5 Gbps
	Bottom, Green	Speed is 1 Gbps
	Bottom, Amber	Speed is 100 Mbps

Reset Button

If you need to reboot the SDG-8632, press the Reset button for less than 5 seconds.

WARNING

If you press the Reset button for longer than 5 seconds, the SDG-8632 resets to factory defaults.

Specifications

Electrical

Power is provided by a region specific AC to 15 VDC power adapter (USB-C) that is included with the SDG-8632. The nominal output is 15 VDC ±5% with a maximum current rating of 3.0 Amps.

> **NOTE**
>
> Adtran strongly suggests that the power supply (a 5.9-foot [1.8 m] power cord) included with the SDG-8632 be connected to a surge suppressor device which can have its own extension cable. The surge protection device should provide L-N, L-G, and N-G protection. Adtran also recommends that the device contains a visual 'GOOD' indicator.

Table 3: Regional Plug Adapter Specifications

Region	Power	Connector Type	Certifications
North America	120 VAC @ 60 Hz	NEMA 1-15 Type A	cULus Listed
United Kingdom	230 VAC @ 50 Hz	Type G	UKCA and CE compliant
European Union	220 to 240 VAC @ 50 Hz	Type C/F	CE compliant with NB code, TÜV
Australia/New Zealand	220 to 240 VAC @ 50 Hz	Type I	RCM Tick Mark, ERAC Listed

Environmental

- Operating Temperature: 41°F to 104°F (5°C to 40°C)
- Storage Temperature: –13°F to 158°F (–25°C to 70°C)
- Transportation Temperature: –40°F to 158°F (–40°C to 70°C), any humidity
- Operating Humidity: 5 to 85 percent, non-condensing

Compliance

This product meets these compliance requirements:

- US and Canada NRTL Listed
- FCC Part 15, Class B
- FCC Part 2, 2.1091 (MPE)
- ICES-003 (Class B)
- ACMA/RCM
- IEC 62368-1
- EN 62368-1
- AS/NZS 62368.1
- ErP
- RoHS Compliant
- UKCA

> **NOTE**
>
> Changes or modifications not expressly approved by Adtran voids the warranty.

Documentation

You can view Adtran documentation on the Adtran Support Community website after you register at: https://supportcommunity.adtran.com.

These online documents and resources provide additional information for this product:

- *SDG SmartOS User Guide*
- SDG General Resources
- Applicable release notes based on firmware

Training

Adtran offers training courses for our products, including customized training and courses taught at our facilities or at customer sites. For inquiries, see https://adtran.com/training.

Warranty

Adtran will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found online at https://www.adtran.com/warranty.

Safety and Regulatory

CAUTION

- Connect the DC power input to an approved Limited Power Source (LPS) power supply only.
- This product is intended to operate in ambient temperatures up to 40°C.

NOTE

This product meets these compliance requirements:

- This equipment contains no parts that can be serviced by the user.
- This product meets EU RoHS Directive. See www.adtran.com/environmental for further information on RoHS/WEEE.
- This product is NRTL Safety Listed to the applicable UL/CSA Standards.
- This product has also been evaluated to applicable international standards as indicated by CE, UKCA, and RCM marking.
- The AC branch circuit socket-outlet must be installed near the equipment and must be easily accessible.
- The RJ45 jacks are not used for Voice connections.

Regulatory Compliance

This section includes user requirements for operating this product in accordance with national laws for usage of radio spectrum and operation of radio devices. Your failure to comply with the applicable requirements can result in unlawful operation and adverse action against you by the applicable national regulatory authority.

This product's firmware limits operation to only the channels allowed in a particular region or country. Therefore, all options described in this guide might not be available in your version of the product.

Europe - EU Declaration of Conformity

Products bearing the marking comply with these EU Directives:

- EMC Directive 2014/30/EU I
- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/53/EU
- ErP Directive reference: 2009/125/EC
- RoHS Directive 2015/863/EU
- WEEE Directive reference: 2012/19/EU

Compliance with these directives implies conformity to harmonized European standards that are noted in the EU Declaration of Conformity.

For indoor use only. Valid in all EU member states, EFTA states, and Switzerland.

This device can not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 to 2483.5 MHz. For detailed information, you should contact the national spectrum authority in France.

5150 to 5350 MHz is limited to indoor used in these countries:

BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR
IT	CY	LV	LT	LU	UK	MT	NL	AT	PL	PT
RO	SI	SK	FI	SE	UK(NI)	LI	IS	NO	TR	CH

FCC Requirements for Operation in the United States

FCC Information to User

This product does not contain any user serviceable components and is to be used with approved antennas only. Any product changes or modifications will invalidate all applicable regulatory certifications and approvals.

FCC Guidelines for Human Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 31 cm between the radiator and your body.

This device must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

FCC Declaration of Conformity

This device complies with Part 15 of the FCC rules. Operation is subject to these two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

FCC Radio Frequency Interference Warnings and Instructions

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, 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, you are encouraged to try to correct the interference by one or more of these 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.

The specification for this product also lists FCC CFR Part 2, 2.1091 (MPE).

The operation of this device is prohibited on oil platforms, cars, trains, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10,000 feet.

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

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (Wi-Fi 6E Mesh AP SDG-8632) does not exceed the Class B limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Industry Canada

This device complies with RSS-247 of the Industry Canada Rules.

Operation is subject to these 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.

ATTENTION

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 20 cm de distance entre la source de rayonnement et votre corps.

CAUTION

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 20 cm between the radiator and your body.

This radio transmitter (IC: 2250A-17600073) has been approved by Industry Canada to operate with these antenna types. Antenna types not included in this list are strictly prohibited for use with this device.

- RSS-102 (MPE)

ATTENTION

i. les dispositifs fonctionnant dans la bande 5150-5250MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

ii. le gain maximal d'antenne permis pour les dispositifs utilisant les bandes de 5250 à 5350 MHz et de 5470 à 5725 MHz doit être conforme à la limite de la p.i.r.e;

iii. le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5725 à 5850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;

iv. les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, et énoncée à la section 6.2.2 3), doivent être clairement indiqués.

CAUTION

i. The device for operation in the band 5150 to 5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

ii. The maximum antenna gain permitted for devices in the band 5725 to 5850 MHz shall be such that the equipment still complies with the EIRP limits specified for point-to-point and non-point-to-point operation as appropriate.

iii. The worst-case tilt angle(s) necessary to remain compliant with the EIRP elevation mask requirement set forth in Section 6.2.2(3) shall be clearly indicated.

iv. Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250 to 5350 MHz and 5650 to 5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Australia/New Zealand - ACMA/RCM

AS/NZS CSPR 32, Class B (EMC), AS/NZS 4268 (RF), RCM mark with R-NZ

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