

Adtran

Quick Start Guide

8612 and 8614 Service Delivery Gateways

Wi-Fi 6 2.5G Router

October 2023
6SDG861214-13A

P/N: 17600070Fxs, 17600070FxD, 17600070FxPP
17600071Fxs, 17600071FxD, 17600071FxPP

Overview



WARNING!

Read all warnings, cautions, notes and installation instructions before installing or servicing this equipment.

The SDG-8612 and SDG-8614 are carrier-class, dual-band, Wi-Fi 6 2.5G Routers designed to deliver top-end Wi-Fi 6 performance, multi-gigabit throughput, and advanced service delivery capabilities.

Features

The features of the SDG-8612 and SDG-8614 include the following:

- WAN
 - ◆ 1x 2.5 Gigabit Ethernet Interface (RJ-45) (SDG-8612 only)
 - ◆ 1x SFP+ Cage (SDG-8614 only)
- 1x 2.5 Gigabit Ethernet LAN interface (RJ-45)
- 3x Gigabit Ethernet LAN interfaces (RJ-45)
- USB 3.0 host port (Type A)

This quick start describes how to install and connect to the device.

- ["Installing the SDG-8612 and SDG-8614 Router"](#) on page 2
- ["Understanding the Status LEDs"](#) on page 4
- ["Logging Into the SDG-8612 and SDG-8614"](#) on page 5
- ["Product Specifications"](#) on page 5
- ["Safety and Regulatory"](#) on page 6

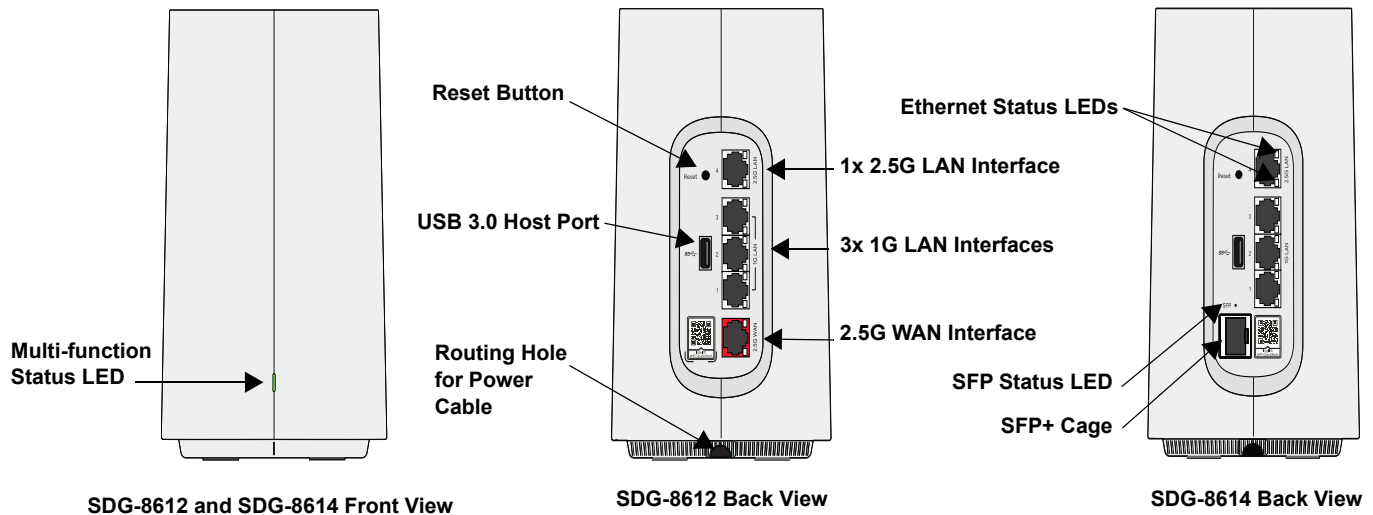


Figure 1. SDG-8612 and SDG-8614 Router



WARNING!

WARNING indicates a hazard which, if not avoided, could result in death, injury or serious property damage.



CAUTION!

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



NOTE

NOTES inform the user of additional, but important, information or features.

Installing the SDG-8612 and SDG-8614 Router



NOTE

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

Package Contents

- Adtran's SDG-8612 or SDG-8614 Wi-Fi 6 Router
- 15V DC USB Type-C power adapter
- Ethernet cable
- Quick Install Guide



CAUTION!

The product is intended for indoor use only. Ethernet 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. Failure to deploy as described could result in permanent damage from lightning or other electrical events and voids the warranty. Furthermore, all connections from outside of the building must be disconnected prior to use.

Prior to Installation

Before installing the equipment, inspect the device. If damage has occurred during shipping, file a claim with the carrier, and then contact Adtran Customer Support. For more information, refer to the product warranty available online at <http://adtran.com/warranty-terms>.

Required Tools

No special tools are required for installing the SDG-8612 and SDG-8614.

Mounting Options

The SDG-8612 and SDG-8614 can be placed on a desk or table. Be sure to route and secure the cables in a manner that will prevent damage. Table 1 shows the recommended minimum distance (in feet and meters) between the device and household appliances to reduce interference.

Table 1: Recommended Minimum Distance Between the SDG and Household Appliances

Household Appliance	Recommended Minimum Distance (in feet and meters)
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



WARNING!

Ensure that the SDG-8612 and SDG-8614 do not come in contact with water or other liquids.



CAUTION!

Ensure that the SDG-8612 and SDG-8614 are not located in direct sunlight or next to any thermal obstructions.

Supplying Power to the Device

The SDG-8612 and SDG-8614 comes with a region specific AC to USB-C power adapter. Available regions include: North America, United Kingdom, EU, and Australia/New Zealand.



NOTE

3rd party USB-C power supplies are not recommended for use as they may not provide the required USB power delivery profile for the SDG-8612 and SDG-8614 units.

Power is supplied to the SDG-8612 and SDG-8614 via a USB-C power input connector located on the bottom of the SDG (see [Figure 2](#)).

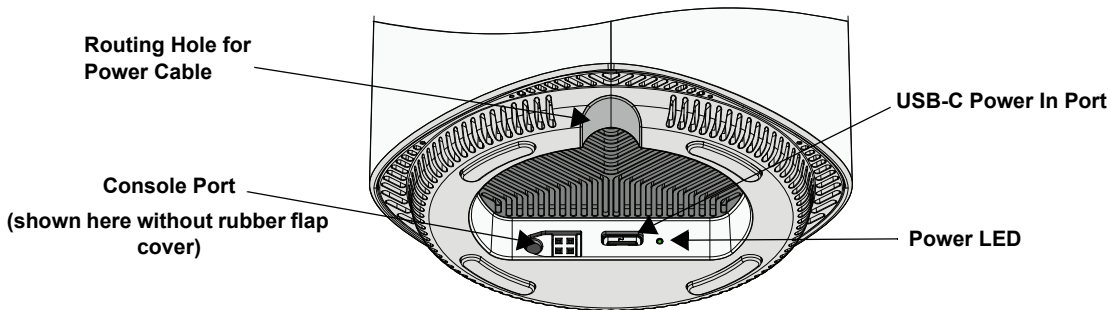


Figure 2. SDG-8612 and SDG-8614 Bottom View

1. Connect the USB-C end of the power adapter to the **USB-C Power In Port** on the bottom of the device.
2. Plug the other end of the power adapter into the wall outlet.
3. The SDG will begin powering up immediately as the SDG-8612 and SDG-8614 have no on/off power switch.
4. Confirm that the power is connected properly by checking the **Power LED** located to the right of the **Power In port**.

LED	Color	State	Description
Power	Green	Solid	Correct Power
	Red		Incorrect Power
	Off		No Power

5. The **Multifunction Status** LED should be lit on the front of the device, as described in the following section "[Multifunction Status LED](#)".

Subscriber Connections

The following subscriber connections are available on the SDG-8612 and SDG-8614:

- 2.5G Ethernet interface (RJ-45 connector) - **WAN** port (SDG-8612 only)
- SFP+ cage - **WAN** port (SDG-8614 only). Maximum power output capability is 2.7W.
- 2.5G Ethernet interface (RJ-45 connector) - **LAN** port
- 3x Ethernet port (RJ-45 connector) – **LAN** port
- USB 3.0 (Type A Connector)

To connect the Ethernet interfaces, refer to [Figure 1](#) on page 1 and insert a Category 5E (or better) RJ-45 cable into The WAN port on the SDG-8612 and any LAN port until there is an audible click.

To install a SFP+ into the SDG-8614, complete the following steps:



NOTE

Only CDRH certified laser class I (1) optical transceivers must be used when connecting an optical transceiver to the SFP+ cage. Do not remove the protective dust cover from the SFP+ until the fiber optic cable is ready to be connected.

1. Insert the SFP+ into the SFP+ cage on the device.
2. Slide the SFP+ all the way into the SFP+cage until there is an audible click.

The **USB 3.0** host port is reserved for future use. This port currently provides +5 VDC for charging external devices.

Resetting the Device

A reset button is available on the back of the SDG-8612 and SDG-8614 as shown in [Figure 1](#) on page 1 and can be used to reboot or restore the device to factory defaults. To reboot the SDG-8612 or SDG-8614, press the **Reset** button on the back panel of the device for less than **5 seconds**. To reset the device to factory defaults, press the **Reset** button for **5 seconds** or longer.

Understanding the Status LEDs

There are several different LEDs on the SDG-8612 and SDG-8614 SDGs that provide information on the device, interfaces, and connectivity status. See [Figure 1](#) on page 1 to locate the different LEDs on the unit.

Multifunction Status LED

The multifunction status LED on the front of the SDG indicates the device and connectivity status. [Table 2](#) defines the multifunction status LED state when running SmartOS.

Table 2: Multifunction Status LED for SmartOS

Color	LEDState	Event
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	Pulsing	Controller WAN down, no Internet
Purple	Pulsing	Satellite set up
White	Solid	Satellite up
Red	Pulsing	Satellite up, fair signal
Amber	Pulsing	Satellite up, poor signal
White	Pulsing	Reverting

SFP Status LED (SDG-8614 only)

When the SFP fiber connection is active, the **SFP** status LED will indicate the status of Fiber connectivity.

Table 3: SFP Status LED

LED	Color	State	Description
SFP	Green	On	Loss of signal (LOS) is cleared.
	Red	On	LOS is set.

Ethernet Status LEDs

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

Table 4: Ethernet Status LED

LED	Port	Color	Description
Ethernet	2.5Gbps	Left Green	Speed is 2.5 Gbps
		Right Green	Speed is 1Gbps
		Right Amber	Speed is 100Mbps
	1Gbps	Green	Speed is 1Gbps
		Amber	Speed is 100Mbps

Quick Setup for the SDG-8612 and SDG-8614

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

Logging Into the SDG-8612 and SDG-8614

Using SmartOS

A browser-based graphical user interface (GUI) is used to manually configure the SDG-8612 and SDG-8614. The following steps describe how to connect and login to the device:

1. Ensure your computer is connected to the SDG-8612 and SDG-8614 either via Wi-Fi or Ethernet connection to one of the LAN ports.
2. Configure your computer's network interface to acquire an IP address automatically using DHCP.
3. Open a web browser and enter the following: **http://router** or **http://setup**. A sign-in page should appear. If you are unable to connect to the SDG-8612 and SDG-8614 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. The default username is **admin**. 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 device to the factory defaults. Next, follow the instructions under ["Quick Setup for the SDG-8612 and SDG-8614"](#) on page 4.

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

Product Specifications

Electrical

- Power is provided by a region specific AC to 15V DC power adapter that is included with the SDG-8612 and SDG-8614. The nominal output is 15V DC $\pm 5\%$ with a minimum current rating of 3.0 Amps. Regional plug adapter specifications are as follows:

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



CAUTION!

It is recommended that an external AC Surge Protection Device be installed at the AC input connection to the local AC-Powered product. The Surge Protection device should provide L-N, L-G, and N-G protection. It is also recommended that the device contains a visual 'GOOD' indicator.


Environment

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

Compliance


This product meets the following compliance requirements:

- UL /cUL Listed
- FCC Part 15, Class B
- FCC Part 11, 2.1091 (MPE)
- ICES-003 (Class B)
- ACMA/RCM
- IEC 62368-1
- EN 62368-1, AS/NZS 62368.1
- ErP
- RoHS Compliant


 **NOTE**

Changes or modifications not expressly approved by Adtran will void the warranty.

Safety and Regulatory

 **CAUTION!**

- Connect the DC power input to an approved Limited Power Source (LPS) or Power Source Class 2 (PS2) power supply ONLY.
- This product is intended to operate in ambient temperatures up to 40°C.

 **NOTE**

This product meets the following compliance requirements:

- This equipment contains no parts that can be serviced by the user.
- This product meets EU RoHS Directive. Refer to 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 markings.
- The AC branch circuit socket-outlet must be installed near the equipment and must be easily accessible.
- The RJ-45 jacks are not used for telephone line connection.

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. Failure of the end-user to comply with the applicable requirements may result in unlawful operation and adverse action against the end-user 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 user's guide may not be available in your version of the product.

Europe – EU Declaration of Conformity

Products bearing the marking comply with the following EU directives:

- EMC Directive 2014/30/EU
- 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

If this product has telecommunications functionality, it also complies with the requirements of the following EU Directive:


- RED 2014/53/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 may 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 - 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

5150 ~ 5350 MHz is limited to indoor used in below countries.

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR
	IT	CY	LV	LT	LU	HU	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. 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 a minimum distance greater than 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 the following 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 & 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, 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.

The spec for this product also lists FCC CFR Part 11, 2.1091 (MPE).

CAN ICES-3(B)/NMB-3(B)**Canadian Department of Communications Radio Interference Regulations**

These digital apparatuses (Wi-Fi 6 2.5G Router Model SDG-8612 and SDG-8614) do 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 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.

IMPORTANT NOTE: 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 & your body.

NOTE IMPORTANTE: 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.

This radio transmitter (IC: 2250A-649B) has been approved by Industry Canada to operate with the antenna types listed below. Antenna types not included in this list are strictly prohibited for use with this device.

RSS-102 (MPE)

**CAUTION!**

- (i) the device for operation in the band 5150-5250 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 5725-5850 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.
- (iv) the worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2(3) shall be clearly indicated.
- (v) Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

**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 5350MHz et de 5470 à 5725MHz 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 5850MHz) 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.*

Australia/New Zealand - ACMA/RCM

AS/NZS CSPR 32, Class B (EMC)

AZ/NZS 4268 (RF)

RCM mark with R-NZ

Documentation for Adtran Network Solutions products is available for viewing and download directly from the Adtran Support Community website.

Go to <https://supportcommunity.adtran.com>

For Adtran training inquiries, visit:

<https://adtran.com/training>

Access additional safety information and product documentation using the QR code or website link.



<https://adtran.com/sdq-info>

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://adtran.com/warranty-terms>.

Trademarks: Brand names and product names included in this document are trademarks, registered trademarks, or trade names of their respective holders.

Copyright © 2023 Adtran, Inc. All Rights Reserved.



Adtran CUSTOMER CARE:

From within the U.S. 1.888.423.8726

From outside the U.S. +1 256.963.8716

PRICING AND AVAILABILITY 1.800.827.0807

