Adtran

Quick Start Guide

SDG-9000

10G PoE Router

December 2025
Doc Number: 617600080Fx-13A
P/N: 17600080Fx

Overview

The SDG-9000 is a PoE router that includes SFP+ and Ethernet (10 GbE/2.5 GbE) ports, an auxiliary WAN port, and an LCD touchscreen. It is a high-performance 10G PoE router built for small business environments.

Figure 1: SDG-9000 PoE Router

Table 1: SDG-9000 Variants

Description	P/N
SDG-9000, 10G PoE Router	17600080F1S, with NA power cable
	17600080F2S, with UK power cable
	17600080F3S, with EU power cable
	17600080F4S, with AU power cable

WARNING

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

CAUTION

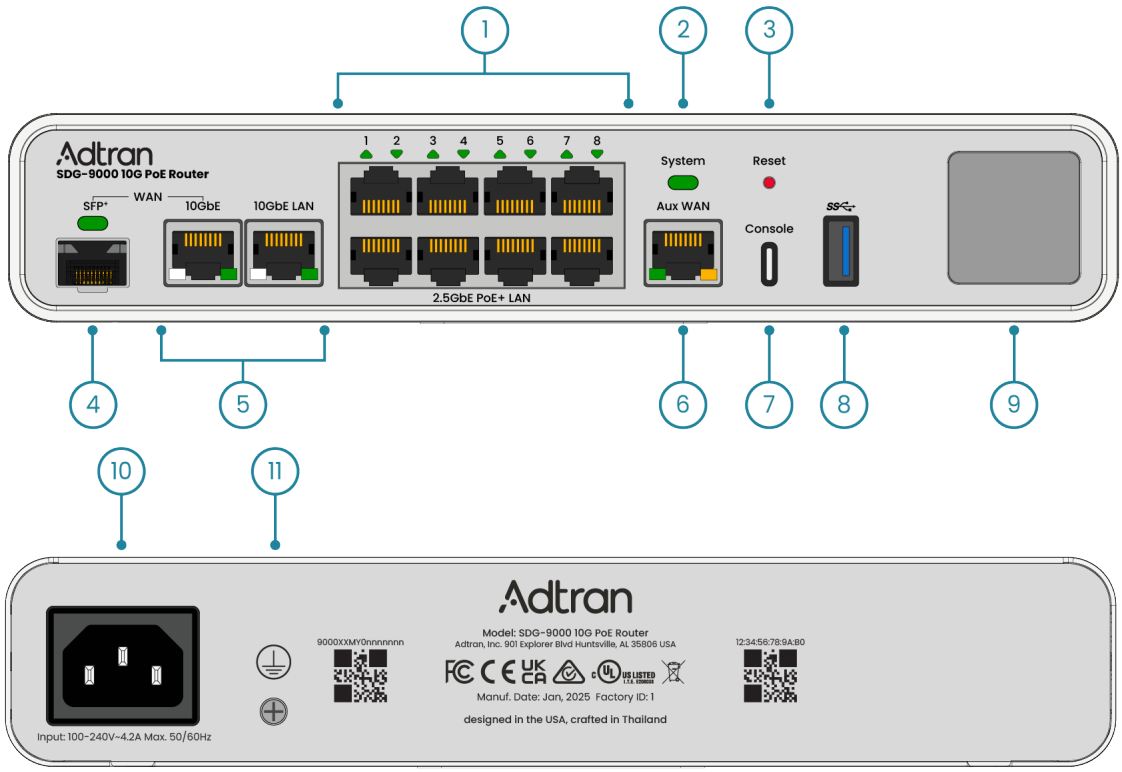
A caution indicates a hazard that, if not avoided, could result in service interruption, damage to the equipment, or minor property damage.

NOTE

A note highlights additional important information or features.

Features

Figure 2: SDG-9000 Features



Callout	Description
1	2.5 GbE PoE+ LAN ports and LEDs
2	System LED
3	Reset button
4	SFP+ WAN port and LED
5	10 GbE WAN and LAN ports and LEDs
6	Auxiliary WAN port and LEDs
7	Console port
8	USB 3.0 Type-A port
9	LCD touchscreen
10	Power connection
11	Grounding connection

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

WARNING

Read all warnings, cautions, notes, and installation instructions before you install or service this equipment.

- Refer to the national, state, and local electrical codes for the requirements for power, grounding, and wiring, as well as installation methods.
- In the US and Canada, labeling information for certain electrical parameters may be required in the final installation. If applicable, the following information must be contained on a label:
  - All 8 PoE ports are rated the same and use 4 conductors to carry current.
  - The maximum rated voltage is 54 VDC.
  - The maximum rated current per conductor is 278 mA.

  Cat 5e or greater LAN cable that is marked CM(x) (e.g., CM, CMX, CMR, CMP) must be used. Labeling is *optional* if the current per conductor is rated ≤300 mA. If labeling is required, the label must be located near the eight PoE ports and be easily readable once installed. Only one label is necessary because all SDG-9000 PoE ports have the same ratings.
- The equipment requires the use of the grounding cable as a part of the safety certification. Modification or misuse can provide a shock hazard that can result in serious injury or death.
- This product must be connected to a known, reliable common bonding point or bar for protective earth (PE) ground at all times during installation, operation, and servicing. The PE grounding wire for this product must be of equal or greater ampacity than the AC power cord conductors.

  The PE connection on the product must utilize a method to prohibit the connection from rotating to prevent it from becoming loose.
- Use the specified mounting screws and supplied mounting brackets only. For wall mounting, obtain the appropriate mounting hardware and follow the manufacturer's instructions.
- Ensure that the SDG-9000 is not located in direct sunlight or next to any thermal obstructions.
- Ensure that the SDG-9000 does not come in contact with water or other liquids.
- Do not use this product near water, for example a wet basement or near a swimming pool.
- Do not use this product outside, and make sure all connections are indoors. There may be a remote risk of electrical shock from lightning.
- This product is intended for use with Class 1 or 1M lasers. Hazard Level 1M Invisible Laser Radiation may be present. Do not view directly with non-attenuating optical instruments.
- This product uses Class 1 Laser modules that comply with FDA 21 CFR 1040.10, 1040.11, and IEC 60825-1. For continued compliance with the above standards, only approved Class 1 laser modules from an Adtran-approved vendor list (located on the Adtran website) should be installed in this product. Adtran cannot certify system integrity with other laser modules.

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. Failure to deploy as described could result in permanent damage from lightning or other electrical events and voids the warranty.

CAUTION

Compliance is required with respect to voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source than those specified may result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.

Shipment Contents

- SDG-9000 10G PoE Router
- AC power cord
- Mounting kit (twelve M4 x 6mm bracket mounting screws, four cable ties, and four cable tie bases)
- RJ45 Cat 6a cable (2 meters)
- Four adhesive rubber feet

Required Equipment

In addition to standard technician tools, use this equipment to install the SDG-9000:

Mounting

- #2 Phillips screwdriver
- Hammer – for wall mounting to drywall
- 1/4" (6 mm) drill bit – for wall mounting to drywall
- 1/8" (3 mm) drill bit – for wall mounting to plywood
- Four #6 x 1.25" (M3.5 x 30 mm) type A screws - for wall mounting to drywall
- Four 1/4" x 1" (6 mm x 25 mm) anchors - for wall mounting to drywall
- Four #6 x 1.25" (M3.5 x 30 mm) wood screws - for wall mounting to plywood
- Four 12-24 x 3/8" (6 mm x 10 mm) rack mounting screws - for rack mounting

Installation

- Assorted tie wraps for securing cabling and wiring
- Ethernet cables for LAN connections — Cat 5e or better
- Appropriate grounding wire and ring terminals
- Crimpers for ring terminals

NOTE

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

Step 1: Mounting the SDG-9000

Desktop Installation

1. Attach the four adhesive rubber feet to the underside of the router.
2. Place the router on a desktop or shelf.

Wall Mount Installation

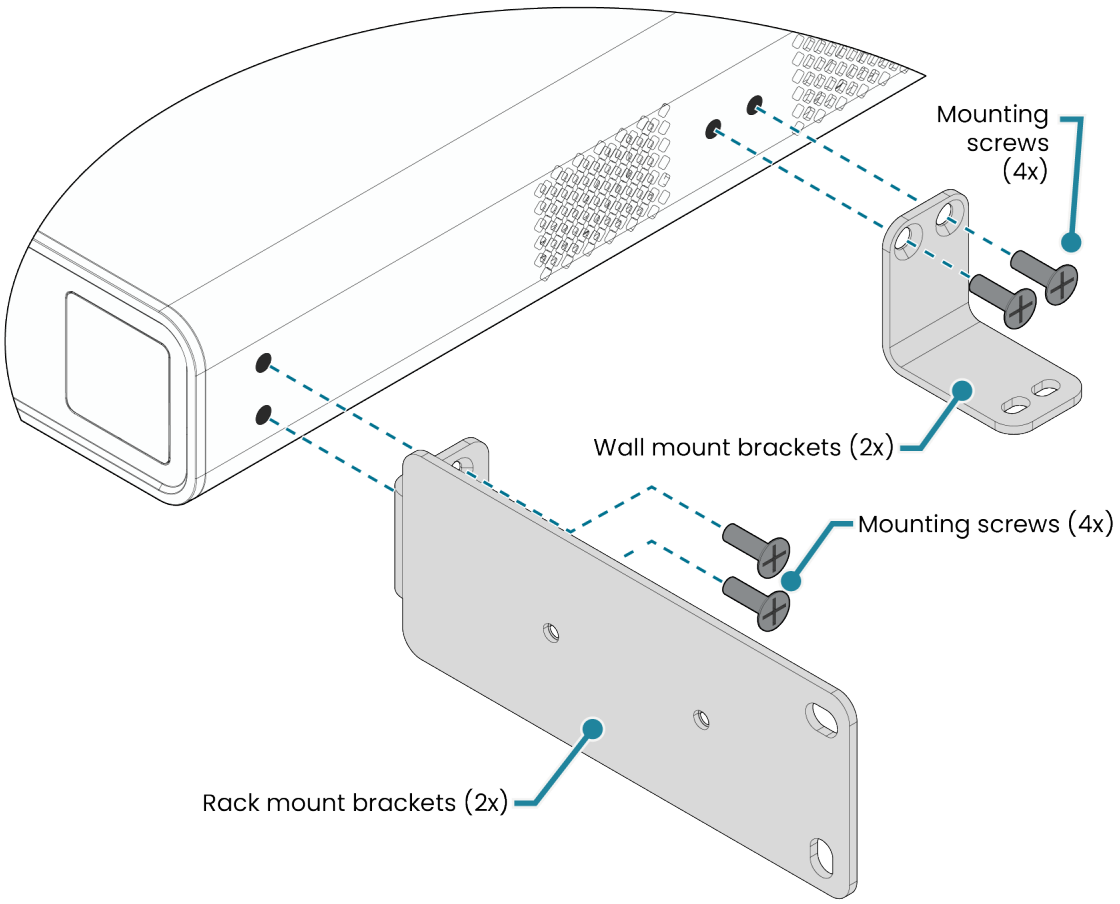
For wall mounting, obtain the appropriate mounting hardware for the mounting surface and follow the manufacturer's instructions.

1. Determine the location for the SDG-9000, and ensure that the LEDs are visible.

> **NOTE**
>
> Adtran recommends mounting the SDG-9000 with the ports facing down to avoid dust buildup.

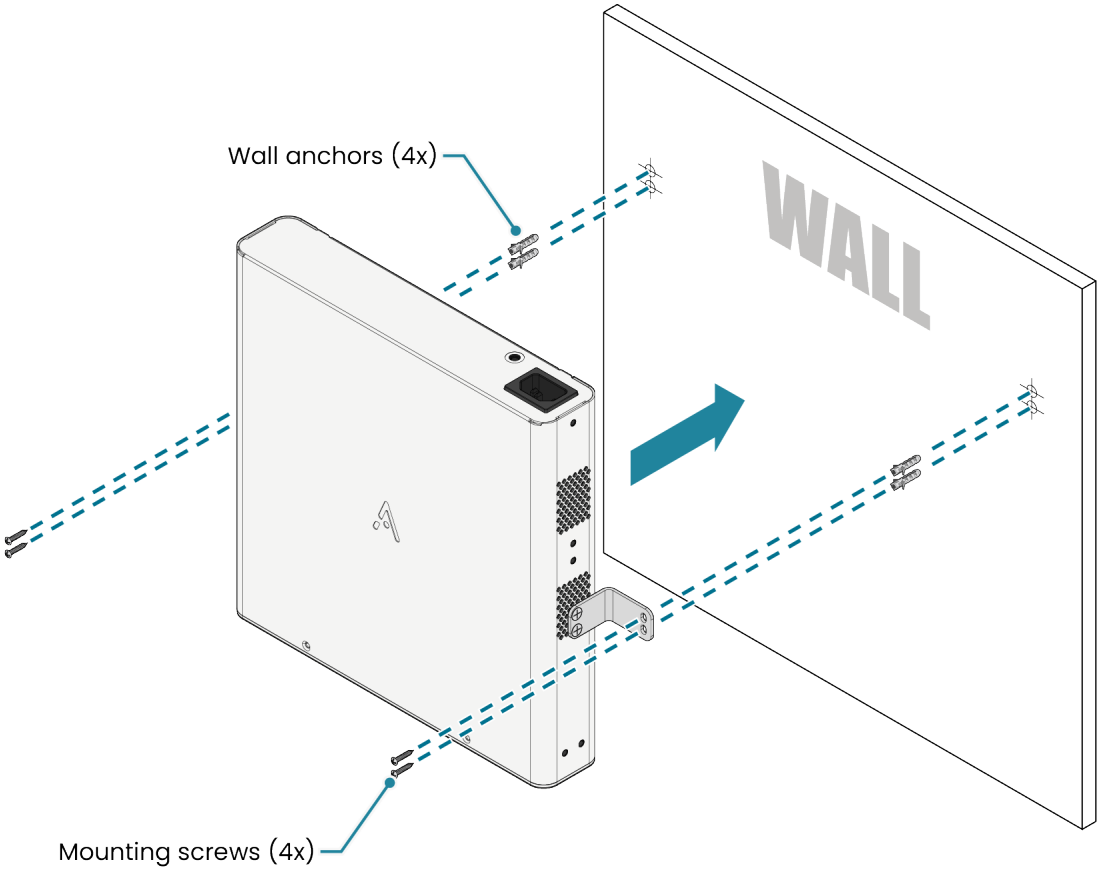
2. Attach the two wall mounting brackets to the SDG-9000 using the supplied mounting screws.
3. Use a pencil or pen to mark the four holes on the mounting surface.

Figure 3: Attaching Wall-Mount and 19-inch Rack Mount Brackets with Mounting Screws



4. To mount the SDG-9000 to drywall:
   a. Use a drill and appropriate drill bit to drill the mounting holes as needed.
   b. Install the wall anchors in accordance with the manufacturer's instructions.
   c. Align the holes in the wall mount with the anchors in the wall.
   d. Use a #2 Phillips screwdriver to install four screws (not included) into the anchors. Do not overtighten.

Figure 4: Mounting the SDG-9000 to Drywall



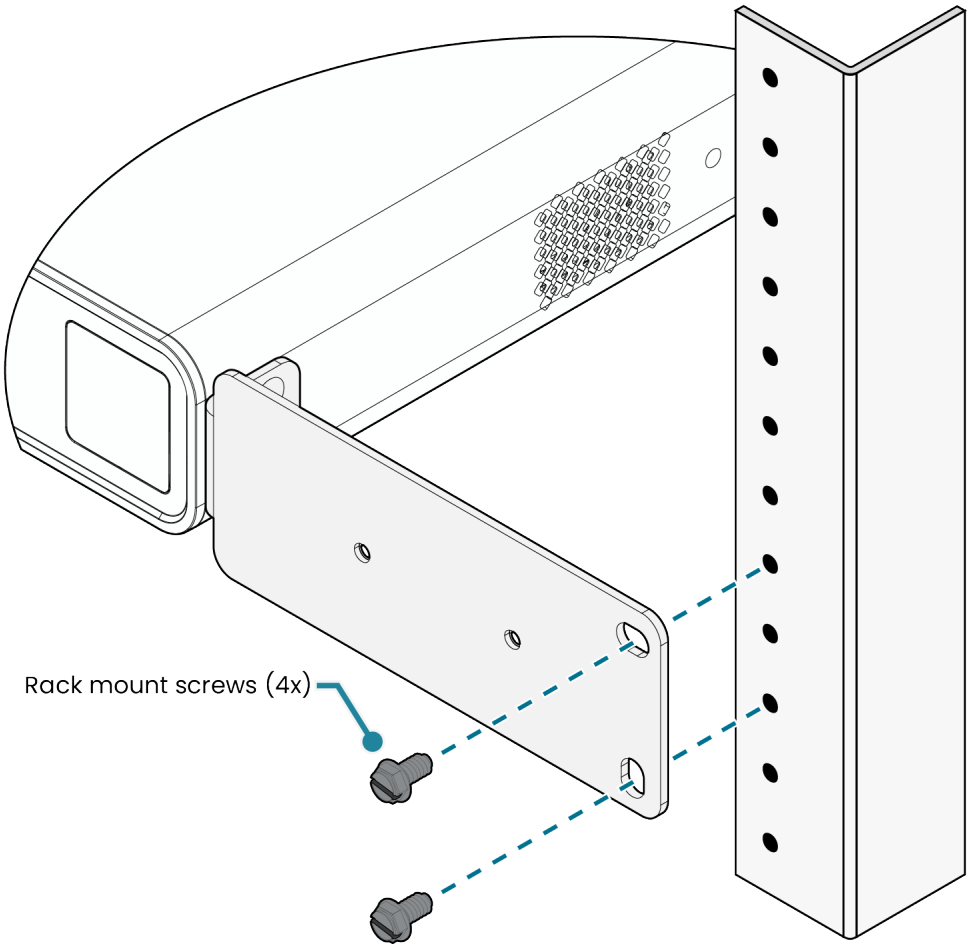
5. To mount the SDG-9000 to plywood:
   a. Obtain four #6 x 1.25" (M3.5 x 30 mm) wood screws.
   b. Use a 3 mm drill bit to drill pilot holes.
   c. Align the holes in the wall mount with the pilot holes on the wall in step 5b.
   d. Use a Phillips #2 screwdriver and the four wood screws to secure the wall mount to the wall.

Rack Mount Installation

To mount the SDG-9000 to a 19-inch rack, use the included two rack mount brackets and four rack mount screws (not included). For other rack sizes, use extender brackets (not included).

1. Align one bracket with the first set of holes on one side of the SDG-9000 and attach using the provided bracket mounting screws using a #2 Phillips screwdriver. See Figure 3.
2. Repeat step 1 on the other side. See Figure 5.

Figure 5: Attaching Mounting Brackets to 19-inch Rack Post



3. Secure the SDG-9000 to the front of the rack by tightening two rack screws on both sides.

Step 2: Grounding the SDG-9000

Use a grounding cable to ground the SDG-9000. See Features for the location of the grounding connection.

1. Use 14 AWG (2.0 mm2) or larger wire to create a ground cable of the necessary length.

> **NOTE**
>
> The ground screw on the chassis requires a #10 (M5) ring terminal.

2. Remove the grounding screw from the chassis.
3. Place the ground lug from the grounding cable on the shank of the ground screw and secure the screw to the unit. Tighten the screw securely.
4. Attach the other end of the grounding cable to a reliable earth ground point.

> **WARNING**
>
> This product must be connected to a known, reliable common bonding point or bar for protective earth (PE) ground at all times during installation, operation, and servicing to ensure that the exposed metal on the product is properly grounded. A clearly marked grounding location is provided on the back of the unit for this purpose. Consult a certified electrician to ensure that all grounding and cabling is installed in compliance with the local electrical code.

> **WARNING**
>
> The PE grounding wire for this product must be of equal or greater ampacity than the AC power supply cord conductors.

Step 3: Connecting the Power

The SDG-9000 includes an internal PSU which provides power to the router. See Features for the location of the power connection.

1. Plug the provided AC power cord into the power connection. See Table 2 for information on the plug adapter used in the applicable region.
2. Connect the other end of the power cord to a standard 100 to 240 VAC outlet. The SDG begins powering up immediately as the SDG-9000 has no on/off power switch.

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

CAUTION

Any damage or malfunction resulting from exposure of this unit to lightning or transient voltage events voids the warranty.

Step 4: Connecting the Subscriber Services

These subscriber connections are available on the SDG-9000. See Features for the port locations.

- 10 GbE LAN port (RJ45 connector)
- 10 GbE WAN port (RJ45 connector)
- SFP+ cage — WAN port
- Eight 2.5 GbE PoE LAN ports (RJ45 connectors)
- Auxiliary WAN port (RJ45 connector)
- USB 3.0 host port (Type-A connector)
- Console port

Connecting the Ethernet Ports

Insert a Category 5e (or better) RJ45 cable into one of the LAN ports until you hear an audible click. See Specifications for the maximum PoE wattage per port and output power.

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. Failure to deploy as described could result in permanent damage from lightning, create a safety hazard, or other electrical events and voids the warranty.

Installing the Pluggable Optics and Connecting the Optical Cables

CAUTION

Do not look into the ends of optical fibers. Exposure to invisible laser radiation can cause serious retinal damage or even blindness. Before you handle optical fibers, verify the optical source is disabled using an optical power meter.

CAUTION

- Use caution when installing pluggable optics and optical fiber cables so as not to damage the optical fiber cable. The optical fiber cable should not have a bend radius smaller than one inch or 25.4 millimeters.
- Do not remove the protective dust cover from the pluggable optic until you are ready to connect the fiber optic cable.
- Due to compliance certification requirements, use only SFP+ pluggable optics approved by Adtran. Adtran cannot certify system integrity with other pluggable optics and cables. See the Adtran Pluggable Optics Compatibility Matrix (online tool, see www.adtran.com/pluggableoptics).

NOTE

For this procedure, ensure that:

- The pluggable optics are installed correctly.
- The fiber-optic cable ends and pluggable optic receptacles are properly inspected and cleaned.

To install an SFP+ into the SDG-9000:

1. Verify that you are properly connected to an appropriate ESD ground connection using an anti-static wrist strap or heel strap.
2. Remove the pluggable optic from its packaging and inspect the connectors for damage. If you find any damage, do not use this pluggable optic. Contact Adtran Technical Support for assistance. Do not attempt to repair it yourself.
3. Ensure that the latch on the pluggable optic is closed.
4. Insert the pluggable optic into the SFP cage until you hear an audible click.
5. Select the correct fiber cable types.
6. Prepare each cable:
   a. Remove the protective cap from one end of the fiber, and the dust plug from the pluggable optic.
   b. Inspect the fiber connector for damage. If you find any damage, replace the cable.
   c. Clean the fiber end and pluggable optic receptacle using a standard cleaning kit. Be careful not to contaminate the surfaces after cleaning.
7. Insert the cable into the pluggable optic.
8. Repeat this section as appropriate to connect the other end.
9. Route and secure the fiber cables appropriately to prevent damage.
10. As you complete each connection, check the status LEDs to verify the links are valid. See LEDs for more information.

NOTE

- Use the pluggable optic latch only when you remove it from the SDG. Rotate the latch away from the port during removal. The pluggable optic should easily slide out of the cage.
- You can only use CDRH certified laser class I (1) pluggable optics when connecting a pluggable optic to the SFP+ cage. Do not remove the protective dust cover from the SFP+ until the fiber optic cable is ready to be connected.

Connecting the USB Port

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

Step 5: Setting Up

For devices with SmartOS installed, scan the QR code located on the back of the unit. You will see 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 is used when initially logging into the GUI on the SDG.

LEDs

When the SDG-9000 first powers up, it performs self-tests. Once the power up self-tests are complete, the LEDs display the status of the device. The LEDs are found on the front of the device.

System LED

The System LED 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

SFP Status LED

When the SFP fiber connection is active, the SFP Status LED indicates the status of fiber connectivity

LED	Color	Indication
SFP	N/A	Power is off.
	White	SFP module inserted and LOS is cleared.
	Red	SFP module inserted and LOS is set.

Ethernet Status LEDs

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

Port	Color	Indication
10GbE WAN 10GbE LAN	White	Speed is 10 Gbps
	Green	Speed is 2.5 or 5 Gbps
	Amber	Speed is 1 Gbps or less
2.5GbE LAN	White	Speed is 2.5 Gbps
	Green	Speed is 1 Gbps
	Blue	Speed is 10 or 100 Mbps
Aux WAN	Green	Speed is 1 Gbps
	Amber	Speed is 10 or 100 Mbps

Reset Button

If you need to reboot the SDG-9000, press **Reset** for less than five seconds.

> **WARNING**
>
> If you press the reset button for longer than five seconds, all settings return to factory defaults and registration provisioning will be lost.

LCD Touchscreen

The LCD touchscreen displays the uptime (in seconds) and the PoE wattage.

Specifications

- Electrical
  - Input: 100 to 240 VAC, 4.2 A maximum , 50 to 60 Hz
  - Nominal power consumption: 25 W (No PoE PSE load)
  - Power supply: internal PSU
  - Maximum PoE wattage per port:
    - PoE 802.3af mode: 44 to 57 VDC, 15.4 W (2-pair)
    - PoE+ 802.3at mode: 50 to 57 VDC, 30 W (2-pair)
  - Maximum PoE output power: 240 W

Table 2: 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

- Physical
  - Height: 1.73 in (4.40 cm)
  - Width: 9.10 in (23.10 cm)
  - Depth: 9.13 in (23.2 cm)
  - Weight: 4.4 lbs (2 kg)
- Environmental
  - Operational temperature range: 5°C to +40°C (41°F to 104 °F)
  - Storage temperature range: –40°C to +70°C (–40°F to 158 °F)
  - Relative humidity: 5 to 85%, non-condensing

Maintenance

The SDG-9000 does not require routine hardware maintenance for normal operation. Adtran does not recommend that you attempt repairs in the field. Repair services can be obtained by returning the defective unit to Adtran. See Warranty for further information. Field support for software is provided through upgrade facilities.

Documentation

You can view and download the Adtran product documentation from our documentation portal. To access our documentation portal, click one of these options:

- docs.adtran.com
- My Adtran > **Support Community > Technical Documentation**

Training

Adtran offers training courses for our products, including customized training and courses taught at our facilities or at customer sites. For inquiries, go to: 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. For more information, go to https://www.adtran.com/warranty.

Safety and Regulatory

NOTE

Read all compliance notes and 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 been evaluated to applicable international standards as indicated by CE, UKCA, and RCM marking.
- This product is compliant with the following directives as applicable:
  - EMC Directive
  - SAFETY (Low Voltage Directive)
  - ErP Directives with regulation
  - WEEE Directive
  - RoHS Directive
  - REACH regulations
  - POPs regulations
  - Packaging and Packaging Waste Directive
- This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
  1. This device may not cause harmful interference.
  2. This device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications not expressly approved by Adtran could void the user's authority to operate this equipment.
- 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.
- CAN ICES-3(B)/NMB-3(B)
- The RJ-45 jacks are not used for telephone line connections.
- The installation of this product must comply with the national, state, and local electrical code requirements, as applicable. The AC branch circuit overcurrent protection must be a fuse or circuit breaker rated 125 VAC, 20 Amps maximum or 250 VAC, 16 Amps maximum.
- ETS 300 753 Acoustic Noise Emitted by Telecommunications Equipment:

  Declared noise emissions in accordance with ISO 9296 and ISO 7779:

  Quantities Declared Operating Mode:
  LWA,m (1B = 10dB) <4.3 BelsA
  LpA,m <32 dBA

  Statistical adder Kv:
  LWA,c (LWA,m + Kv) <4.7 BelsA

CAUTION!

SUBJECT TO ELECTROSTATIC DAMAGE
OR DECREASE IN RELIABILITY
HANDLING PRECAUTIONS REQUIRED

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

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