

Overview



WARNING!

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

This quick start provides the specifications and installation instructions for the NetVanta 1760-12F power supply unit (PSU), a 250 W hot-swappable redundant power supply with both 12V and 12VSB outputs. This power supply functions only with the NetVanta 1760-12F Multi-Gigabit Fiber Aggregation switch (PN 17101763F1), which will hold two PSUs. [Figure 1](#) describes the power supply and its installation orientation in the NetVanta 1760-12F switch.

The following sections are included in this quick start guide:

- ["Overview"](#) on page 1
- ["Product Specifications"](#) on page 2
- ["Connecting to AC Power"](#) on page 2
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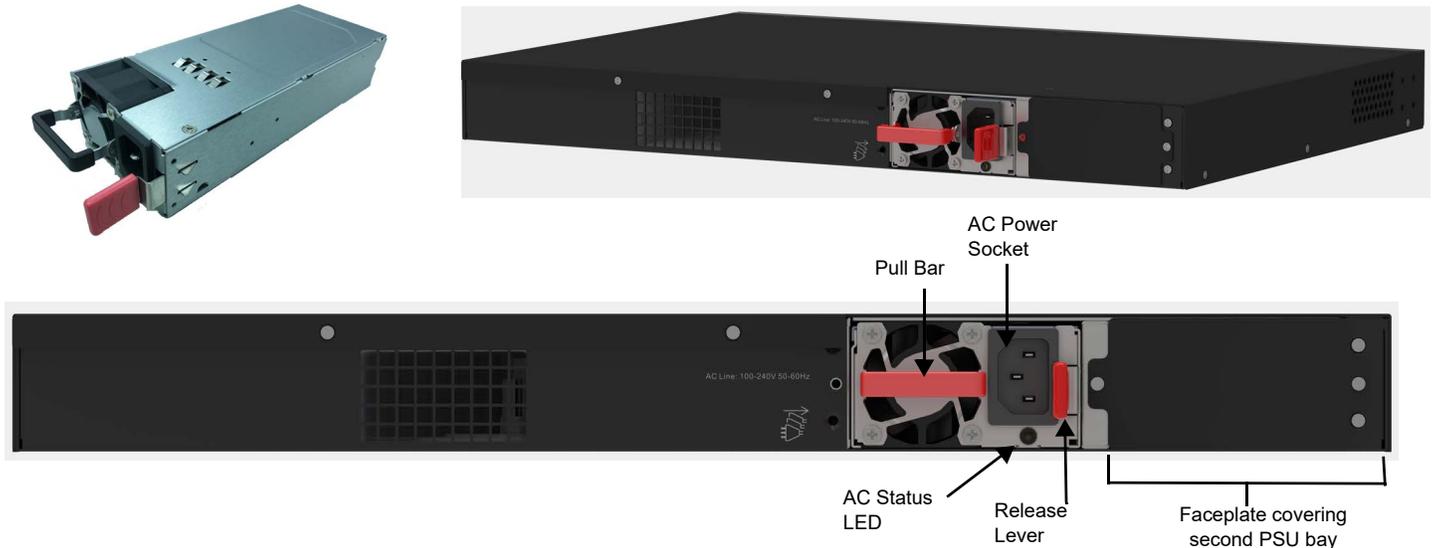


Figure 1. 250 W Redundant Power Supply and the NetVanta 1760-12F



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.

Product Specifications

The 250 W hot-swappable, redundant power supply provides 12V and 12VSB outputs and the AC input is auto-ranging with power factor correction. In addition, the power supply includes an outward-facing fan and is 80 PLUS Bronze compliant. Two of these power supplies can be used simultaneously with the NetVanta 1760-12F switch; for mission critical operations where downtime needs to be minimized, this hot-swappable redundant AC power supply can protect against a single power supply failure. You can install up to two PSUs with matching airflow direction in the NetVanta 1760-12F switch. The PSUs operate in a load-sharing mode and provide 1+1 redundancy.



NOTE

1+1 redundancy is a system where a switch power supply is backed up by another switch power supply in a load-sharing mode. If one power supply fails, the other power supply takes over the full load of the switch.



CAUTION!

The switch includes plug-in power supply modules that are installed into its chassis. All installed modules must have a matching airflow direction. That is, all modules must have a front-to-back (F2B) airflow direction, or all modules must have a back-to-front (B2F) airflow direction. The airflow direction of PSUs are indicated by labels on the modules.

Power

The 250 W redundant power supply modules require power from an external AC power supply that can provide 100 to 240 VAC, 50-60 Hz. A standard AC power socket is located on the rear panel on the PSU. The power socket is for the AC power cord (as shown in [Figure 1](#) on page 1). The following table summarizes the power information for the PSU.

Item	Description
AC Input	100 to 240 VAC, 50 to 60 Hz, 4-2 A
DC Output	12 VDC @ 20.8 A (maximum) 12 VSB @ 1 A (maximum)
Power Supply	100 to 240 VAC, 50 to 60 Hz, auto-sensing; hot swappable 250 W @ 220 V/110 V per module
Power Consumption	250 W maximum
Maximum Current	4 A @ 100 VAC 2 A @ 240 VAC
Dimensions	73.3 mm W x 185 mm D x 39 mm H 2.89 inch W x 7.28 inch D x 1.54 inch H

LED Description

The PSU also includes an AC power status LED. This LED is described in the following table.

LED	Color	Indication
AC	Off	External power is not connected or has failed.
	Green (solid)	External AC power is connected to the module.
	Green (flashing)	External AC power is present but only the 12 VSB power supply is on.
	Amber (solid)	External AC power cord is unplugged or AC power is lost, if a second PSU is installed, indicates the second power supply in parallel still has AC input power. Can also indicate a critical event with the power supply has caused a shutdown.
	Amber (flashing)	Power supply warning events have been detected where the power supply continues to operate; such as high temperature, high power, high current, or slow fan events.

Connecting to AC Power

To supply AC power to the switch in which the PSU resides, first verify that the external AC power supply can provide 100 to 240 VAC, 50-60 Hz, 4 A maximum. Next, install the PSU(s) in the switch and connect it to AC power.



WARNING!

- *This equipment is intended to be installed and used only by instructed or skilled persons.*
- *The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN 60320/IEC 320 appliance inlet.*
- *The AC branch circuit socket-outlet must be installed near the equipment and must be easily accessible.*

Installing the PSU(s)

To install the PSU(s) in the switch, follow these steps:

1. From the rear of the switch, using a screwdriver, remove the two screws holding the faceplate covering the bay in which the power supply will be installed. Then, remove the faceplate. If only installing one power supply, keep the faceplate installed on the open bay.
2. Carefully slide the PSU into the open power supply slot until the locking lever clicks into place.
3. If installing a second PSU, repeat steps 1 and 2.

Connecting to AC Power

Once the PSU(s) have been installed correctly into the switch, follow these steps to connect to AC power:

1. Plug the appropriate power cord into a grounded, 3-pin, AC power source.
2. Insert the plug on the other end of the power cord directly into the socket on the PSU.
3. Check the LED indicators on the PSU and switch front panel as the unit is powered on to verify that power is being received. If not, recheck the PSU and power cord connections at the AC supply source and PSU.
4. If you have installed a second PSU, repeat steps 1 to 3.



Figure 2. AC PSU and Power Socket

Replacing an Installed PSU (Hot Swapping)

To replace an installed PSU, follow these steps:

1. Remove the AC power cord from the installed PSU.



NOTE

Hot swapping a power supply is the process of inserting and extracting a power supply from an operating power system. This PSU provides a locking lever that prevents insertion or extraction of the power supply when the AC cord is attached to the PSU.

2. Move the orange locking lever to the left and use the pull bar to remove the PSU from the switch.
3. Carefully slide the new power supply into the chassis slot until the locking lever clicks.
4. Connect the newly installed PSU to the AC power as directed in ["Connecting to AC Power"](#) on page 3.



NOTE

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.



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.



CAUTION!

The power supply cords must be connected to socket-outlets that are provided with proper earth ground connections. Do not connect the unit to an AC outlet (power supply) without an earth (ground) connection.

Additional Product Information

Environment

- Operating Temperature: 32°F to 122°F (0°C to 50°C)
- Storage Temperature: -40°F to 158°F (-40°C to 70°C)
- Relative Humidity: 5 to 90 percent, non-condensing



CAUTION!

This product is intended for business deployment in restricted access locations. Care should be taken to protect cables from damage or vandalism.



CAUTION!

Electrostatic Discharge (ESD) can damage electronic devices. When handling devices, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place in antistatic packing material when transporting or storing. When installing or maintaining, always place devices on an approved antistatic mat that is electrically grounded.

Compliance

- 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.



NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- This product is NRTL Listed to the applicable UL/CSA Standards. This product has also been evaluated to applicable international standards for CE marking and RCM marking.
- CAN ICES-003 (A)/NMB-003(A)
- This product meets EU RoHS Directive and complies with the 2015/863/EU Restriction of Hazardous Substance Directive. Refer to www.adtran.com/environment for further information on RoHS/WEEE.
- This product complies with the UL/CUL and IEC/EN 62368-1: 2014 2nd Ed standards, as well as the AS/NZS 62368.1:2018 standards.
- This product complies with the EU Code of Conduct on Energy Consumption of Broadband Equipment.
- This product complies with ETSI EN 300 386 standards.
- Changes or modifications not expressly approved by ADTRAN will void the warranty.
- This equipment contains no parts that can be serviced by the user.

The following configuration guides provide additional information for this ADTRAN product (available online at <https://supportcommunity.adtran.com>).

[Configuring the CLI in ASE](#)
[Configuring QoS in ASE](#)
[Configuring Layer 2 Services in ASE](#)
[Configuring PoE in ASE](#)
[Configuring DHCP in ASE](#)
[Configuring MRP and MVRP in ASE](#)
[ASE Command Reference Guide](#)

For ADTRAN training inquiries, visit: <https://adtran.com/training>

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



<https://supportcommunity.adtran.com>

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 www.adtran.com/warranty-terms.

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