# Quick Start

## NetVanta 1560-24-370W
### 24-port Managed GbE 370W PoE+ Switch

## Overview

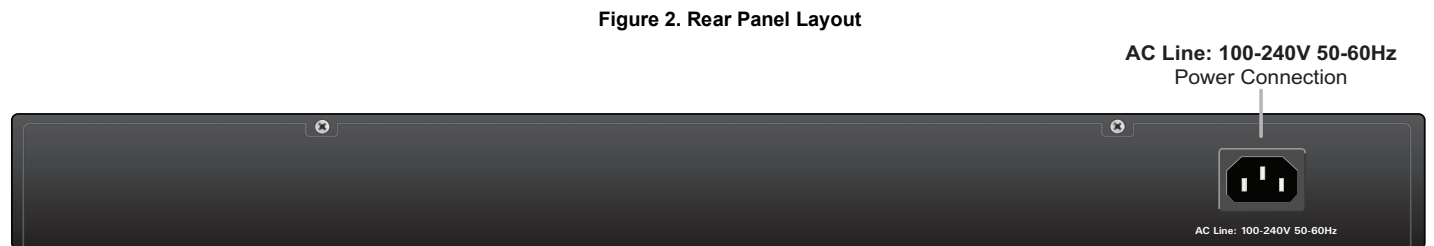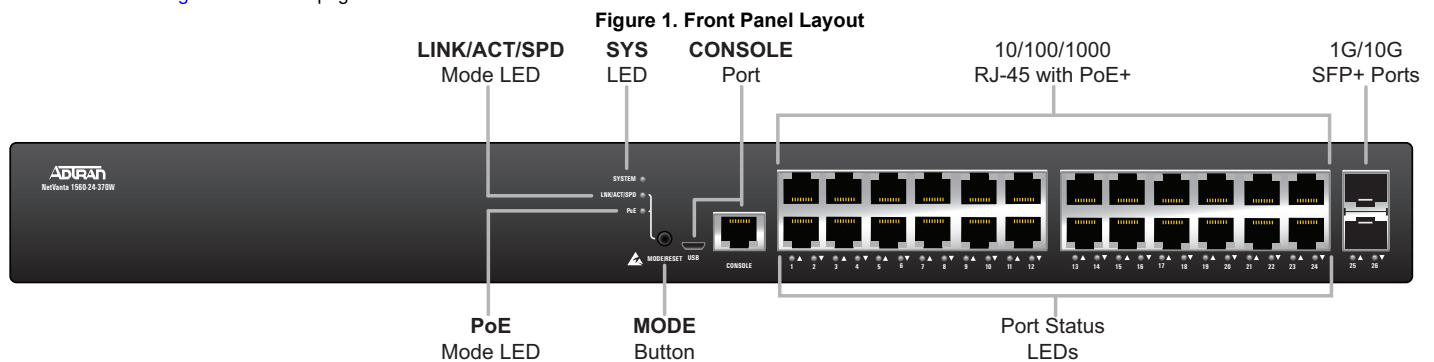This quick start describes how to install, configure, and troubleshoot the NetVanta 1560-24-370W, 24-port Managed GbE 370W PoE+ Switch. Figures 1 and 2 show the Front and Rear Panel layouts of the switch.

**Figure 1. Front Panel Layout**



**Figure 2. Rear Panel Layout**



## Installing the Switch

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

> ⚠️ **WARNING!**
> Read all warnings, cautions, notes and installation instructions before installing or servicing this equipment.

### Package Contents

- NetVanta 1560-24-370W switch
- AC power cord
- DB-9 to RJ-45 cable
- Micro-USB to USB cable
- Four adhesive rubber feet
- Mounting kit for rack mount (two brackets and eight screws)
- Quick Start

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![ADTRAN logo]

⚠️ **CAUTION!**

The NetVanta 1560-24-370W is intended for indoor use only. Ethernet, PoE 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.

⚠️ **WARNING!**

This equipment is not suitable for use in locations where children are likely to be present.

## Installation Overview

To install the switch, you will need to do the following:

1. Mount the switch
2. Connect AC Power
3. Install SFP+ Modules

## Installation Steps

To install the NetVanta 1560-24-370W switch, complete the following steps:
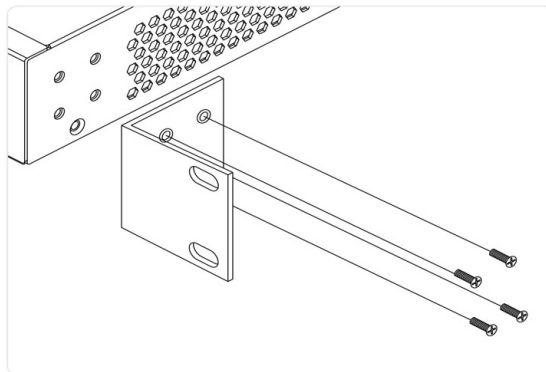
## Mount The Switch

The switch can be mounted in a 19-inch rack, on a desk or shelf, or on a wall.

### Mounting in a 19-inch Rack

To mount the switch into a 19-inch rack, complete the following steps.

1. Attach the brackets provided in the mounting kit to both sides of the chassis. Insert the provided screws and tighten them with a screwdriver to secure the brackets.

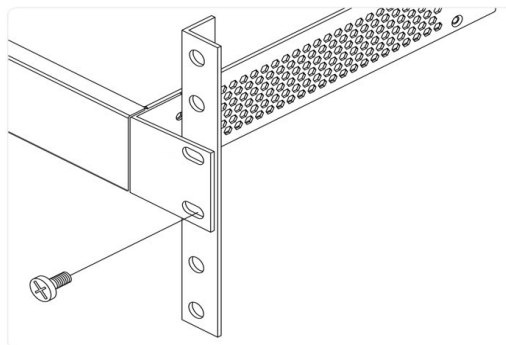**Figure 3. Attaching Brackets to the Switch**



2. Position the chassis in the stationary equipment rack. Allow 1-inch of clearance between units.
3. Have an assistant hold the unit in position, with the oval holes in the brackets aligned with the mounting holes in the rack posts, as you insert two rack screws and tighten them with the appropriate screw driver.

ℹ️ **NOTE**

Rack mount brackets are a default accessory with the unit; spare brackets can be ordered through ADTRAN, part number: 1700519F1.

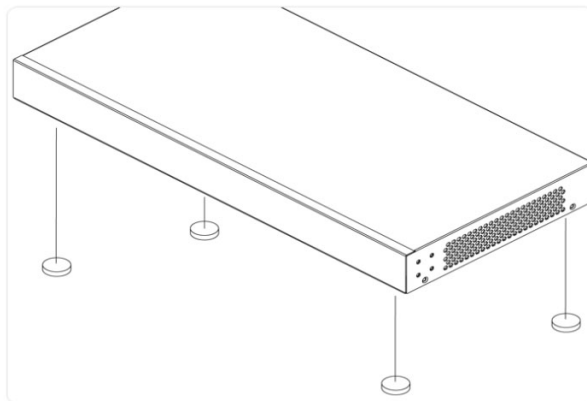**Figure 4. Attaching Brackets to the Rack Post**

## Mounting on a Desk or Shelf

To mount the switch on a desk or shelf, complete the following steps.
1. Verify that the desk or shelf is sturdy enough to support the switch.
2. Attach the four adhesive rubber feet to the bottom of the switch.

**Figure 5. Attaching the Rubber Feet**



⚠ **CAUTION!**

Desk, shelf, or wall mounting of the equipment should be such that the amount of air flow required for safe operation of the equipment is not compromised. Allow 1-inch clearance on the top and sides of the unit for sufficient air flow.

## Mounting on a Wall

To mount the switch on a wall, complete the following steps.
1. Using the mounting holes on the bottom of the unit as a template, install four #8 PAN head screws (0.75-inch), using two for each bracket as shown in Figure 6, in the appropriate location on the wall. Be aware of the dimensional limitations of the screws.
2. Slide the keyed insets on the bottom of the unit's chassis securely onto the screws.

⚠ **CAUTION!**

The NetVanta 1560-24-370W must be mounted in the face down orientation when wall mounted.

**Figure 6. Install Screws in the Wall and Hang the Switch on the Screws**



ℹ **NOTE**

The wall mount brackets are not supplied with the unit and must be purchased separately from ADTRAN, part number 1700520F1.

## Connect AC Power
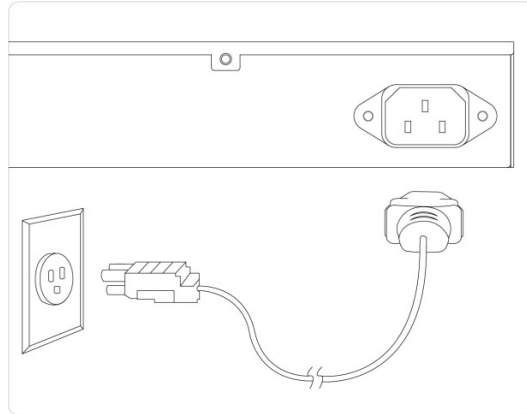
To connect the AC power cord to the switch, complete the following steps.

1. Connect the AC power cord to the AC power receptacle on the rear panel of the switch.
2. Connect the other end of the AC power cord to a properly grounded AC power outlet. The AC branch circuit socket-outlet must be installed near the equipment and must be easily accessible.
3. Confirm that the power is connected properly. The **SYSTEM** LED should be ON (see "SYSTEM Status LED").

**Figure 7. Connecting the AC Power Cord**



### 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. A readily accessible disconnect device that is suitably approved and rated must be incorporated in the field wiring.

### 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.
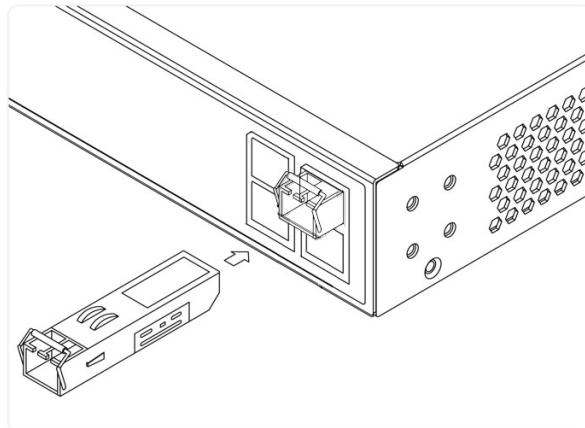
### WARNING!
This equipment incorporates double pole/neutral fusing. If the neutral fuse opens and the line fuse does not open, voltage could still be present in the unit.

## Install SFP+ Modules

You can install or remove an SFP+ module from an SFP+ port without having to power off the switch. To install an SFP+ module, complete the following steps.

1. Insert the module into the appropriate SFP+ port.
2. Press firmly to ensure that the module seats properly into the connector.

**Figure 8. Installing an SFP+ Module into an SFP+ Port**



### NOTE
This product is intended for use with a Class 1 Laser module that complies 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. The CDRH Laser Class emitted by the Fiber Optic Laser Module Component is Class I or 1 when installed in the end-product with the fiber-optic cable removed.

# Initially Configuring the Switch

The Switch can be configured by two methods:

- Web based Graphical User Interface (GUI)
- Command Line Interface (CLI)

## Initial Switch Configuration Using a Web Browser

After powering up the switch for the first time, you can perform the initial switch configuration using a web browser.

To begin with the initial configuration stage, you need to reconfigure your PC's IP address and subnet mask to make sure the PC can communicate with the switch. After changing PC's IP address (for example, 10.10.10.250), then you can access the web interface of the switch using the switch's default IP address as shown below.

> ℹ️ **NOTE**
> The factory default IP address of the switch is **10.10.10.1** and the subnet mask is **255.255.255.0**. If the switch is connected to a Dynamic Host Control Protocol (DHCP) server, the server assigns the switch an IP address and the default **10.10.10.1** IP address is not configured. The DHCP server also assigns your PC the correct IP address to allow a connection on the same subnet as the switch.

### Initial Switch Configuration Procedure

To initially configure the switch, complete the following steps.

1. Power up the PC that you will use for the initial configuration. Please make sure the PC has the Ethernet RJ-45 connector to be connected to the switch via standard Ethernet LAN cable. If the switch is connected to a DHCP server, skip to Step 3.
2. Reconfigure the PC's IP address and subnet mask as below, so that it can communicate with the switch. For example, the method to change the PC's IP address for a PC running Windows® 7/8.x/10 is as follows:
   a. Type **network and sharing** into the Search box in the Start Menu.
   b. Select **Network and Sharing Center**.
   c. Select **Change adapter settings** on the left of PC screen.

> ℹ️ **NOTE**
> Users can also skip Steps 1-2, by pressing **WinKey+R** and typing the **ncpa.cpl** command to get to Step 4 directly.

- Right-click on your local adapter and select **Properties**.
- In the **Local Area Connection Properties** menu, highlight **Internet Protocol Version 4 (TCP/IPv4)**. Then, select the **Properties** button.

> ℹ️ **NOTE**
> Be sure to record all your PC's current IP settings to be able to restore them later.

- Select the radio button **Use the following IP address** and enter in the IP address for the PC (e.g., any IP address not in use, and in between 10.10.10.2 and 10.10.10.254), subnet mask (e.g., 255.255.255.0).
- Select **OK** to change the PC's IP address.
3. Power up the switch to be initially configured, and wait until it has finished its start-up processes.
4. Connect the PC to any port on the switch using a standard Ethernet cable, and check the port LED on the switch to make sure the link status of the PC is OK.
5. Run your web browser on the PC; enter either the DHCP-assigned or factory default IP address to access the switch's web interface. If your PC is configured correctly, you will see the login page of the switch requesting your username and password. In some browsers, the information needed may be requested in a new window.

If you do not see the login page, perform the following steps:
   a. Refresh the web page.
   b. Check to see if there is an IP conflict issue.
   c. Clean browser cookies and temporary Internet files.
   d. Check your PC settings again and repeat Step 2.
6. Enter the factory default username in the login page. Select **Login** to log into the switch.

> ℹ️ **NOTE**
> The factory default username of the switch is **admin**. The factory default password is **password**.

## Initial Switch Configuration Using CLI

The CLI can be accessed using any one of the two console ports (USB & RJ45) available in the switch. To establish the connection to the console port, the following are needed:

- PC with VT100 terminal emulation software
- Micro USB to USB cable or a DB-9 to RJ45 Serial Cable (the cables are provided along with the unit)

> ℹ️ **NOTE**
> There are many terminal emulation applications available on the web. PuTTY, SecureCRT, and HyperTerminal are a few examples.

Complete the following steps:

1. Connect a Micro USB cable to the micro USB CONSOLE port or connect a DB-9 to RJ-45 serial cable to the RJ-45 CONSOLE port.
2. If using a Micro USB cable, connect the other end of the USB cable to a USB port on the PC. If using an RJ-45 serial cable, connect the other end to the serial terminal on the PC.

3. If using the Micro USB cable to connect the switch, check if the USB drivers are automatically installed in the PC. If not install manually.
4. Open a VT100 terminal session using the following settings: 115200 baud; 8 data bits; no parity bits; 1 stop bit; and no flow control. Press <Enter> to activate the CLI.
5. Login with the default user name (`admin`) and password (`password`).

# Power Over Ethernet (PoE)

The switch provides the PoE on the 24 Ethernet ports shown in Figure 1. PoE provides the ability to detect attached Powered Devices (PDs), and deliver power to the PD via Ethernet cabling. The switch is fully compliant with the IEEE 802.3af PoE and IEEE 802.3at PoE+ standards. By default, the PoE switch discovers and provides power to IEEE-compliant PDs, it also supports legacy PDs. The total PoE budget for the switch is 370W. Each port can provide a maximum of 30W in compliance to the IEEE 802.3at PoE+ standard.

# Understanding the Status LEDs

The LEDs on the front panel provide you with switch status checking and monitoring. The following section describes the three types of LEDs.

### SYSTEM Status LED

The SYSTEM Status LED indicates if the switch is powered up correctly or if a system alarm has been triggered for troubleshooting.

| LED | Color | State | Description |
|-----|-------|-------|-------------|
| SYSTEM | ○ | Off | The switch is not receiving power. |
| | ● | On | The switch is powered ON correctly. |
| | ● | On | An abnormal state, such as exceeding operating temperature range, has been detected in the switch. |

### LINK/ACT/SPD Mode LED

The LINK/ACT/SPD Mode LED indicates the port status LEDs are displaying in link/act/speed mode.

| LED | Color | State | Description |
|-----|-------|-------|-------------|
| LINK/ACT/SPD | ● | On | The port status LEDs are displaying link status, network activity, and the speed of each port. |

### PoE Mode LED

The PoE Mode LED indicates the port status LEDs are displaying in PoE mode.

| LED | Color | State | Description |
|-----|-------|-------|-------------|
| PoE | ● | On | The RJ-45 port status LEDs are displaying the PoE powering status of each port. |

### Port Status LEDs

The Port Status LEDs indicate the current status of each port in either Link/Act/Speed mode or PoE mode. By pressing the **MODE** button for less than two seconds, you can change LED modes from **LINK/ACT/SPD** mode to **PoE** mode, to check the port status in each mode.

*When LINK/ACT/SPD Mode LED Is Lit*

When the LINK/ACT/SPD Mode LED is lit, the link/act/spd status is indicated by the LED behavior.

| LED | Color | State | Description |
|-----|-------|-------|-------------|
| RJ-45 Ports | ● | On | The port is enabled and established a link to connected device, and the connection speed is 1000 Mbps. |
| | | Flashing | The port is transmitting/receiving packets, and the connection speed is 1000 Mbps. |
| | ● | On | The port is enabled and established a link to connected device, and the connection speed is 10/100 Mbps. |
| | | Flashing | The port is transmitting/receiving packets, and the connection speed is 10/100 Mbps. |
| | ○ | Off | The port has no active network cable connected or has not established a link to connected device. Otherwise, the port may have been disabled through the switch user interface. |
| SFP+ Ports | ● | On | The port is enabled, has established a link to a connected device, and the connection speed is 10 Gbps. |
| | | Flashing | The port is transmitting/receiving packets, and the connection speed is 10 Gbps. |
| | ● | On | The port is enabled, has established a link to connected device, and the connection speed is 1 Gbps. |
| | | Flashing | The port is transmitting/receiving packets, and the connection speed is 1 Gbps. |
| | ○ | Off | The port has no active network cable connected or has not established a link to connected device. Otherwise, the port may have been disabled through the switch user interface. |

*When PoE Mode LED Is Lit*

When the PoE Mode LED is lit, the PoE status is indicated by the LED behavior.

| LED | Color | State | Description |
|-----|-------|-------|-------------|
| RJ-45 Ports | ● | On | The port is enabled and supplying power to a connected device. |
| | ● | On | An abnormal state, such as an overload status, has been detected in the switch. |
| | ○ | Off | The port has no active network cable connected, or it is not connected to a PoE powered device. Otherwise, the port may have been disabled through the switch user interface. |

# Using the MODE Button

By pressing the MODE button for certain period of time, you can perform the following tasks:

- Change Port Status LED Mode
  To read the port status Link/Act/Speed or PoE modes.
- Reset the Switch
  To reboot and restore the switch to the previous configuration settings saved.
- Restore the Switch to Factory Defaults
  To restore the original factory default settings to the switch.

⌊i⌋   **NOTE**

As seen in the table below, you can easily judge which task is being performed by reading the LED behaviors while pressing and holding the **MODE** button. **Once the correct LED behaviors are displayed, release the button**.

| Task | Press for... | System LED Behavior | Port Status LED Behavior |
|------|--------------|---------------------|--------------------------|
| Change LED Mode | 0 ~ 2 seconds | Solid Green | LED status will change according to the mode selected. |
| Reset the Switch | 2 ~ 7 seconds | Flashing Green | All LEDs are OFF. |
| Restore to Factory Defaults | 7 ~ 12 seconds | Flashing Green | All LEDs are ON. |

# Troubleshooting the Switch

The following table provides information to easily troubleshoot problems by taking actions based on the suggested solutions.

| Symptoms | Possible Causes | Suggested Solutions |
|----------|-----------------|---------------------|
| System LED is OFF | The switch is not receiving power. | 1. Check if correct power cord is connected firmly to the switch and to the AC outlet socket. |
| | | 2. Cycle the power on the switch by unplugging and plugging the power cord back into the switch. |
| | | 3. If the LED is still off, try plugging the power cord into different AC outlet. |
| System LED is RED | An abnormal state has been detected by the switch. | Check the system log within the switch from web user interface to understand the abnormal state (e.g., exceeding operating temperature range) and take corresponding actions to resolve. |
| Port Status LED is OFF when the LINK/ACT/SPD LED is LIT | The port is not connected or the connection is not functioning. | 1. Check if the cable connector plug is firmly inserted and locked into the port at both the switch and the connected device. |
| | | 2. Make sure the connected device is up and running correctly. |
| | | 3. If the symptom still exists, try using a different cable or different port, in order to identify if it is related to the cable or specific port. |
| | | 4. Check if the port is disabled in the configuration settings via web user interface. |
| Port Status LED is OFF when the PoE LED is LIT | The port is not supplying power. | 1. Check if the cable connector plug is firmly inserted and locked into the port at both the switch and the connected device. |
| | | 2. Make sure the correct Ethernet cables were used. |
| | | 3. If the symptom still exists, try using a different cable or different port, in order to identify if it is related to the cable or specific port. |
| | | 4. Check if the port is disabled in the configuration settings via web user interface. |

# Product Specifications

**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.
- Changes or modifications not expressly approved by ADTRAN will void the warranty.
- This equipment contains no parts that can be serviced by the user.

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## ℹ️ 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. CAN ICES-3 (A)/NMB-3(A)T

- 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.
- IEEE 802.3at PoE+
- This product meets EU RoHS Directive. Refer to www.adtran.com/environmental for further information on RoHS/WEEE.

## Environment

- Operating Temperature: 32°F to 113°F (0°C to 45°C)
- Storage Temperature: -40°F to 158°F (-40°C to 70°C)
- Relative Humidity: 10 to 95 percent, non-condensing

## ⚠️ CAUTION!

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

The product is designed to meet the following environmental classes:
- ETSI EN 300 019-1-1 "Classification of environmental conditions; Storage",  1.2
- ETSI EN 300 019-1-2 "Classification of environmental conditions, Transportation", Class  2.3
- ETSI EN 300 019-1-3 "Classification of environmental conditions, Stationary use at weather protected locations", Class 3.1
- The device is designed to function without degradation during the exposure to all test severities per 3.1of ETSI EN 300 019-1-3.

## Electrical

- Power Supply: 100 to 240 VAC, 50-60 Hz, 5A

## ⚠️ 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.

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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

ADTRAN offers training courses on our products, including customized training and courses taught at our facilities or at customer sites.

For inquiries, go to: http://adtran.com/training

The following online documents and resources provide additional information for this product:

*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*

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**CAUTION!**
SUBJECT TO ELECTROSTATIC DAMAGE
OR DECREASE IN RELIABILITY
HANDLING PRECAUTIONS REQUIRED

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