EDG-6528

8-Port Industrial 10/100 Mbps Ethernet Switch

User Manual

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Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class A

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.

Technical Support and Assistance

Step 1. Visit the Advantech web site at **www.advantech.com/support** where you can find the latest information about the product.

Step 2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages

Document Feedback

To assist us in making improvements to this manual, we would welcome comments and constructive criticism. Please send all such - in writing to: support@advantech.com

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CHAPTER 1

Introduction

Sections include:

- Features
- Specifications
- Packing List
- Ordering Information
- Safety Precaution

Chapter 1 Introduction

1.1 Features

The EDG-6528 is an industrial-grade Ethernet switch for fast and cost-effective expansion of industrial Ethernet networks. The EDG-6528 has eight 10/100 Mbps Ethernet ports to connect up to eight Ethernet devices. Moreover, EDG-6528 has industrial-grade design that assures high reliability and stability. Therefore, EDG-6528 is an excellent solution for industrial environments with Ethernet networking, such as: semi-conductor factories, inventory control environments, assembly lines and production facilities.

High-Speed Transmission

The EDG-6528 includes a switch controller that can automatically sense transmission speeds. (10/100 Mbps) The RJ-45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a crossover cable is not required. All Ethernet ports have memory buffers that support the store-and-forward mechanism. This assures that data is properly transmitted.

Dual Power Inputs (does not include EDG-6528L)

To reduce the risk of power failure, the EDG-6528 provides dual power inputs. If there is a power failure, EDG-6528 will automatically switch to the secondary power input.

Flexible Mounting

EDG-6528 is extremely compact and can be mounted on a DIN-rail or a panel, so it is suitable for any space-constrained environment.

Advanced Protection for Power line and Ethernet Port

The power line of EDG-6528 supports up to 3000 VDC surge protection, which secure equipment against unregulated voltage and make systems safer and more reliable. Meanwhile, 4000 V DC ESD protection for Ethernet ports (not including EDG-6528L) make EDG-6528 more suitable for harsh environments.

Wide Operating Temperature Range

The operating temperature of the EDG-6528 is between 0 and 70° C, and the EDG-6528I can operate between -40 and 85° C. With such a wide range you can use the EDG-6528 in some of the harshest industrial environments that exist.

Easy to Trouble-Shoot

LED indicators make troubleshooting quick and easy. Each port has LEDs that display the link status, power failure, and port activity for immediate on-site diagnosis. (See 2.1)

1.2 Feature Summary

- Provides 8 x 10/100 Mbps Ethernet ports with RJ-45 connector
- Supports dual power inputs (not including EDG-6528L)
- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with the memory buffer, supports store-and-forward transmission
- Supports +12 ~ 48 VDC voltage
- Provides 3000 VDC surge protection for power line
- Provides 4000VDC ESD protection for Ethernet Ports (not including EDG-6528L)
- Provides flexible mounting: DIN rail and panel mounting
- Supports wide-range operating temperature
- 128 KB of SRAM on chip for frame buffering
- Integrated address Look-Up Engine, supports 1K absolute MAC addresses

1.3 Specifications

- **Interfaces:** Network 10/100Base-Tx standard
- **Ports:** 8 x 10/100 Mbps (RJ-45)
- **Connectors:** 8 x RJ-45
- **Compatibility:** IEEE 802.3, IEEE 802.3u
- **Surge Protection:** 3000 VDC (Power)
- **ESD Protection:** 4000 V DC (Ethernet)(not including EDG-6528L)
- **LEDs:** Power, LNK/ACT, 10/100 Mbps
- **Transmission Distance:** 100 m (Ethernet)
- **Power Requirement:** Unregulated 12~48 VDC
- **Power Consumption:** Max. 3.1 W
- **Case:** Aluminum with mounting bracket
- **Mounting:** DIN-rail, panel
- **Operating Temperature:** EDG-6528I: -40 ~ 85° C
  EDG-6528 and EDG-6528L: 0 ~ 70° C
- **Operating Humidity:** 20~95% (non-condensing)
- **SRAM on chip for frame buffering:** 128 KB
- Integrated address Look-Up Engine, supports 1K absolute MAC addresses.

1.4 Packing List

- EDG-6528 8-Port 10/100 Ethernet Switch
- INET CD-ROM
- DIN real mounting adapter
- Panel mounting bracket

1.5 Ordering Information

- EDG-6528 8-port Industrial 10/100 Mbps Ethernet Switch
- EDG-6528L 8-port Industrial Unmanaged Ethernet Switch
- EDG-6528I 8-port Industrial 10/100 Mbps Ethernet Switch with Wide Operating Temperature

1.6 Safety Precaution

Attention! If DC voltage is supplied by an external circuit, please use a protection device on the power supply input.

CHAPTER 2

Installation

In this chapter, you will be given an overview of the EDG-6528 installation procedure.

Sections include:

- LED Definitions
- Dimensions
- Mounting
- Network Connections
- Power Connections

Chapter 2 Installation

2.1 LED Definitions

There are network status LEDs located on the front panel of EDG-6528, each with its own specific meaning..

Table 2.1: EDG-6528 LED Definition

LED	Color	Description	
PWR	Green	On	Power is on
		Off	Power is off
P1 (EDG-6528L does not have this LED)	Green	On	Power input 1 is active
		Off	Power input 1 is inactive
P2 (EDG-6528L does not have this LED)	Green	On	Power input 2 is active
		Off	Power input 2 is inactive
FAULT (EDG-6528L does not have this LED)	Red	On	Power input 1 or Power input 2 have failed
		Off	Power input 1 and Power input 2 are active
Link (Port 1~8)	Orange	On	Networking
		Flash	Networking is active
		Off	No Networking
10/100 (Port 1~ 8)	Green	On	Link to 100M bps
		Off	Link to 10M bps

2.2 Dimensions

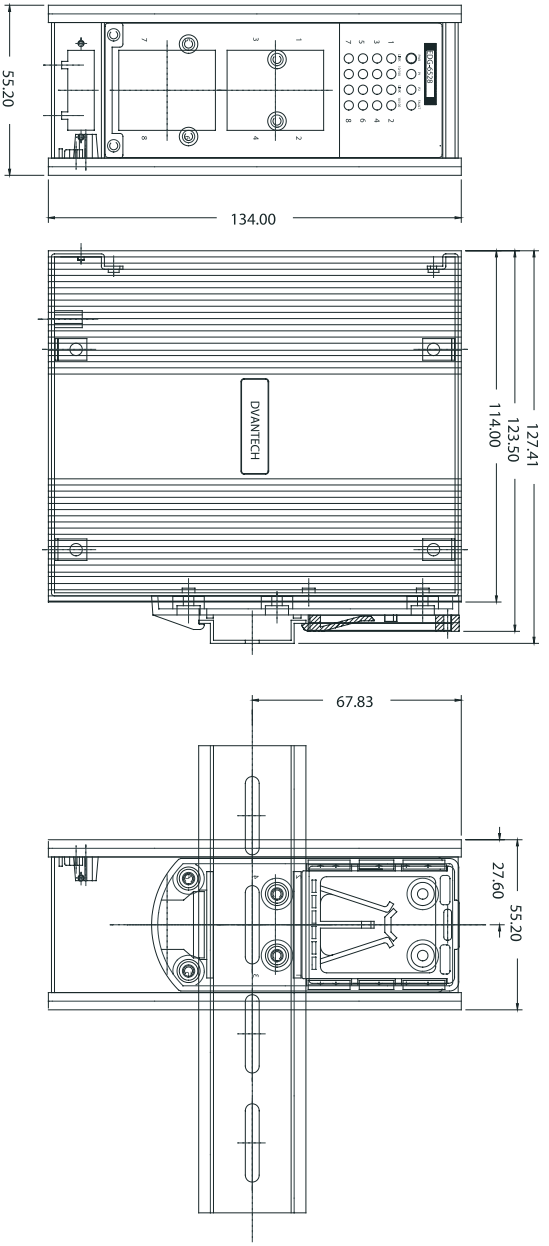

Figure 2.1: EDG-6528 Front Panel and Dimension

2.3 Mounting

2.3.1 Panel Mounting

- Attach the bracket to the EDG-6528 with four screws.
- Place the EDG-6528 against the panel or wall, and fasten it by using two screws in the bracket's holes.

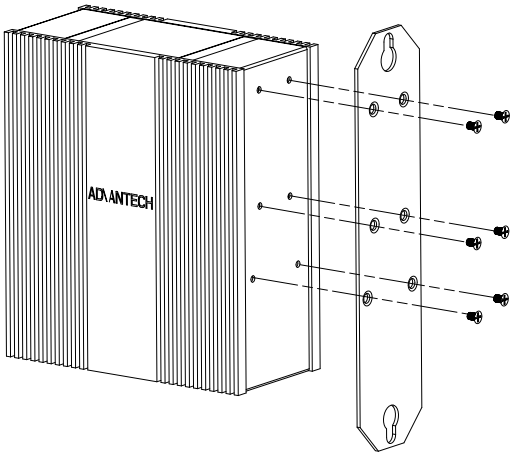

Figure 2.2: Attach the Bracket to the EDG-6528 with Six Screws

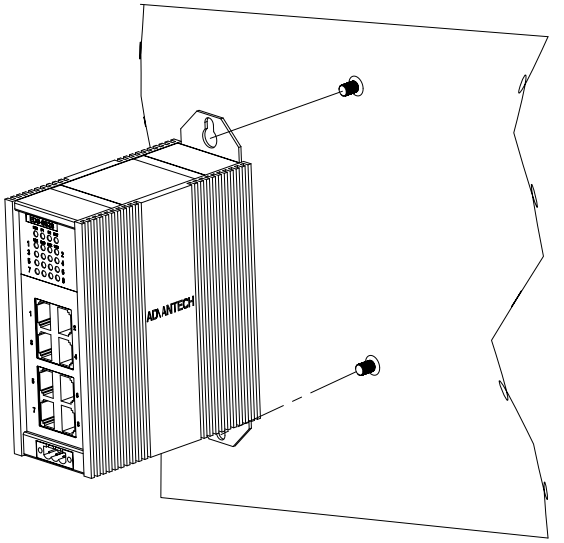

Figure 2.3: Panel Mounting

2.3.2 DIN-rail Mounting

1. Attach the DIN-rail mounting kit to the EDG-6528 with six screws.

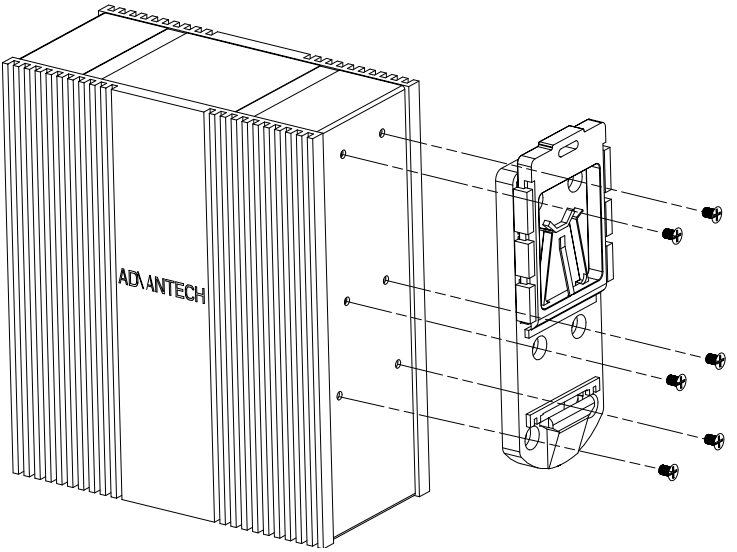

Figure 2.4: Attach the DIN-rail Mounting Kit to EDG-6528 with Six Screws

2. Snap the EDG-6528 onto the DIN rail to attach it.

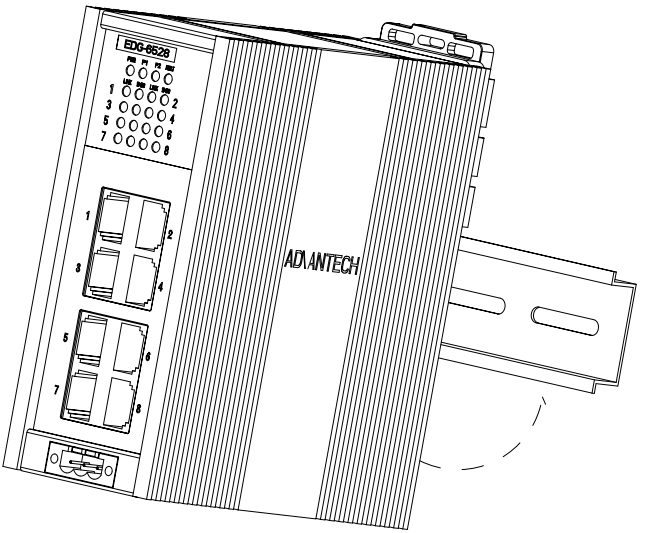

Figure 2.5: DIN-rail Mounting.

2.3.3 DIN-rail Dismounting

Use a flat screwdriver to lift the DIN rail's attachment bracket up. This will release the EDG-6528 from the Din-rail. Then pull the EDG-6528 down to dismount it.

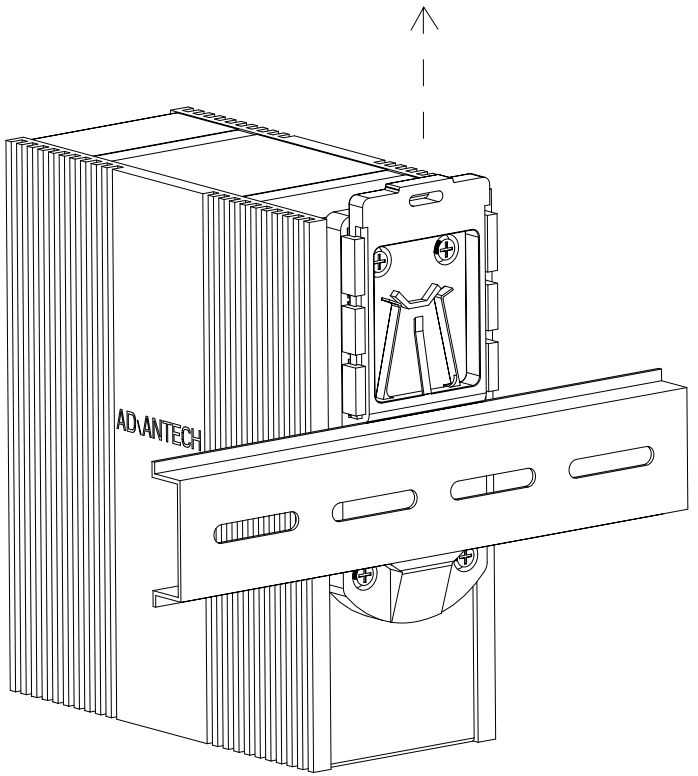

Figure 2.6: DIN-rail Dismounting

2.4 Network Connections

2.4.1 Connection to Devices

Each of the switch's twisted-pair ports can be used to connect a station or another device. Use a straight-through twisted-pair cable with RJ-45 connectors on both ends. A twisted-pair cable extended from a twisted-pair port is called a "twisted-pair segment," and it can be up to 100 meters long.

You can connect any RJ-45(MDI-X) station port on the switch to any device that uses a standard network interface such as a workstation or server.

2.4.2 Connection to Other Hubs or Switches

EDG-6528 has 8 RJ-45 ports that support connection to 10 Mbps Ethernet or 100 Mbps Fast Ethernet, and half or fullduplex operation. EDG-6528 can be connected to other hubs or switches via a two-pair straight through cable or a crossover cable.

The connection can be made from any ports on EDG-6528 (MDIX) to other Hubs or Switches either by MDI-X port or the uplink MDI port.

EDG-6528 supports auto crossover to make it easier to setup your network. You can connect any RJ-45(MDI-X) station port on the switch to any device such as a switch, bridge or router.

2.5 Power Connections

EDG-6528 and EDG-6528I support two individual power inputs (P1/P2); it will switch to another power input if one power input fails.

Pin	Description
+Vs	Power input 1 (Range: +12~48VDC)
+Vs*	Power input 2 (Range: +12~48VDC)
GND	Power ground
FAULT	Relay out (EDG-6528L does not have this function) You can connect to an alarm such as an indicator, buzzer or other signaling equipment by EDG-6528's relay output. The relay opens if power input 1 or power input 2 fails.

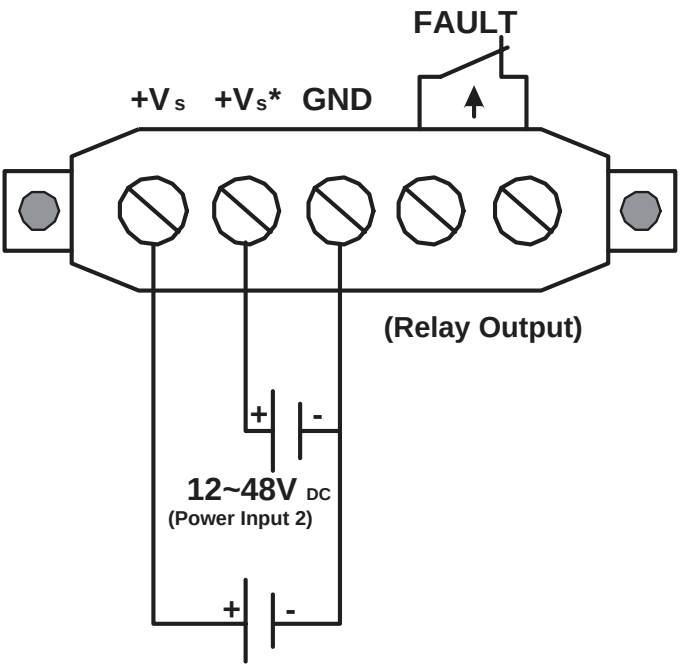

Figure 2.7: Pin Assignment of EDG-6528's Power Connector