EtherDevice™ Switch ED6008 Series

Industrial 8-Port Managed Redundant Ethernet Switch

Features

High Performance Network Switching Technology

- 10/100BaseT(X) (RJ45), 100BaseFX (Multi/Single mode Fiber)
- IEEE 802.3/ 802.3u/ 802.3x/ 802.1D, SNMP, DHCP Server/Client, BootP, RARP
- Store and Forward switching process type, 4096 address entries
- 10/100M, Full/Half-Duplex, MDI/MDI-X auto-sensing

Industrial Grade Reliability

- Redundant Ethernet Ring capability (recovery time < 300 ms at full load)
- Line-swap fast recovery (patent pending)
- Automatic e-mail warning by user-configured events
- Relay warning by user-configured events
- Automatic recovery of connected devices' IP addresses
- Redundant, dual DC power inputs

Rugged Design

- Operating temperature ranges from 0 to 60°C, or extended operating temperature from -40 to 75°C
- IP 30, rugged high-strength aluminum case
- DIN-Rail or panel mounting ability
- For hazardous location (Class 1 Div. 2/Zone 2)

- Long-haul transmit distance of 40 km or 80 km

Useful Utilities and Remote Configuration

- Web browser, Telnet/Serial console, Windows utility configurable
- Port mirroring for online debugging
- Send Ping commands to identify network segment integrity

Recommended Software and Accessories

- SNMP to OPC Server
- DR-4524, DR-75-24, DR-120-24 DIN-Rail 24 VDC Power Supply Series

Overview

The MOXA EtherDevice™ Switch ED6008 series consists of 8-port Ethernet Switches designed especially for industrial applications. With their high performance switching engine, redundant Ethernet ring capability, and dynamic status report ability, you can be confident that your industrial automation system will keep running continuously. ED6008 series' useful device management and network management functions make it easy for you to master your automation Ethernet network, and the rugged hardware design makes these products suitable for use in demanding industrial environments. Moreover, the easy web browser and windows utility configuration options ensure quick and accurate installation.

High Performance Ethernet Switch

ED6008 series has 8 Ethernet switching ports that support 10/100BaseT(X) (RJ45) or 100BaseFX (Fiber), and the 10/100M auto-negotiation feature and auto MDI/MDI-X function eliminate compatibility problems when connecting Ethernet-enabled devices to ED6008. With a full slate of supported IEEE standards, and its full-performance bandwidth for heavy Ethernet package switching tasks, your network system is assured to operate at peak performance.

Fast Ethernet Redundant Ring Capability (< 300 ms)

For industrial automation applications, redundancy is always an important issue to help increase the reliability of your system. MOXA EtherDevice™ Redundant Switch ED6008 comes equipped with a network redundant protocol—called Turbo Ring—that was developed by Moxa. Turbo Ring, which allows you to establish a redundant Ethernet network easily, is used to build a backup ring topology. One network segment is blocked logically, and if another segment is broken, Turbo Ring will automatically start using the Backup Path, with recovery time less than 300 ms (with 120 nodes connected and a full load network traffic), increasing uptime, and keeping your HMI/SCADA system running continuously.
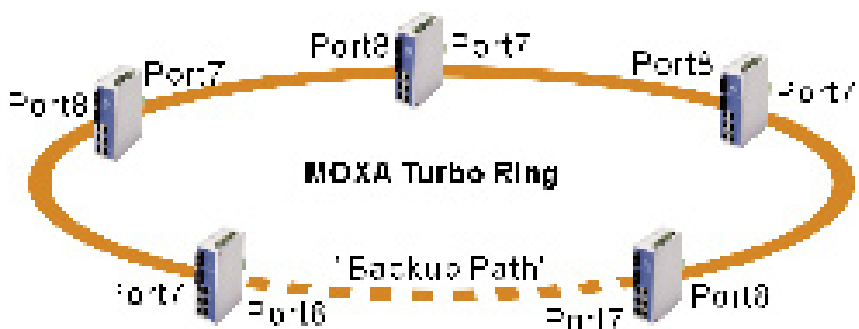

Designed for Industrial Environments
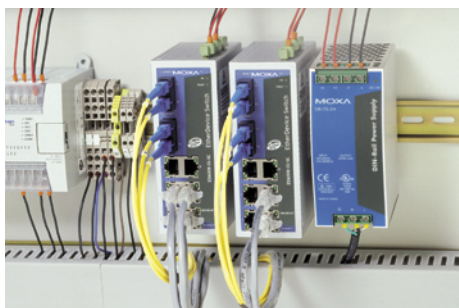
The ED6008 series is designed to operate in harsh industrial application environments, has a wide operating temperature range of -40 to 75°C, and ensures that your Ethernet equipment can withstand critical industrial applications, such as in hazardous locations (Class 1 division 2/Zone 2). The ED6008 Series complies with FCC, TUV, UL, and CE Standards.

Automatic E-mail and Relay Warning by User-Configured Events

The ED6008 series can send out a warning e-mail when an exception is detected, providing system managers with real-time alarm messages.

Switch Events		Port Events
Cold Start	Warm Start	Link On
Power On/Off	Authentication failure	Link Off
Topology Change	Configuration Change	Traffic Overload
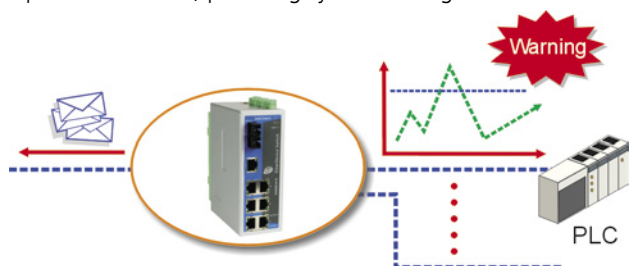
*The traffic overload warning notifies you before the network crashes.

Line-Swap Fast Recovery

Commercial Ethernet switches need 3 to 5 minutes to recover connections when networked devices change their positions, which is an unacceptable scenario for industrial applications.

Compare this with the MOXA patented Line-Swap Fast Recovery feature, which responds in less than 1 second, helping you do field diagnosis from the factory shop floor.

Replace Faulty Devices

To reduce the effort required to repeatedly set up IP addresses, the ED6008 Series comes equipped with DHCP/BootP server and RARP protocol to automatically set up IP addresses of Ethernet-enabled devices.
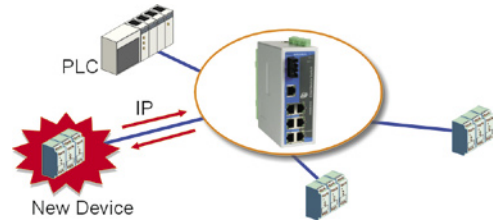
Network and Device Management with SNMP OPC Server

The ED6008 SNMP-OPC Server software package can convert SNMP information into industrial standard OPC (OLE for Process Control) format. The vertical integration of SNMP Management Information into existing OPC-based SCADA packages gives the customer the ability to build up an Ethernet network management application integrated with existing visualization and control applications, a proven and standard communication model for the IT and Automation worlds.

Easy Configuration
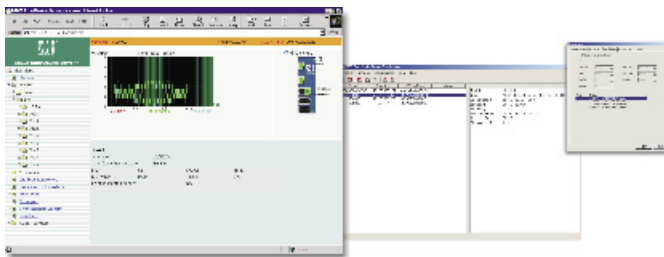
Industrial Ethernet Switch Solutions

The ED6008 Series is easily configured over the network by web browser, Telnet console, or a Moxa provided Windows utility. Moxa's Batch Configurator can also be used to import and export configuration parameters to multiple ED6008 units simultaneously.

Dimensions, unit = mm (inch)

| Side View | DIN-Rail Kit | Front View | Rear View | Panel Mounting Kit |
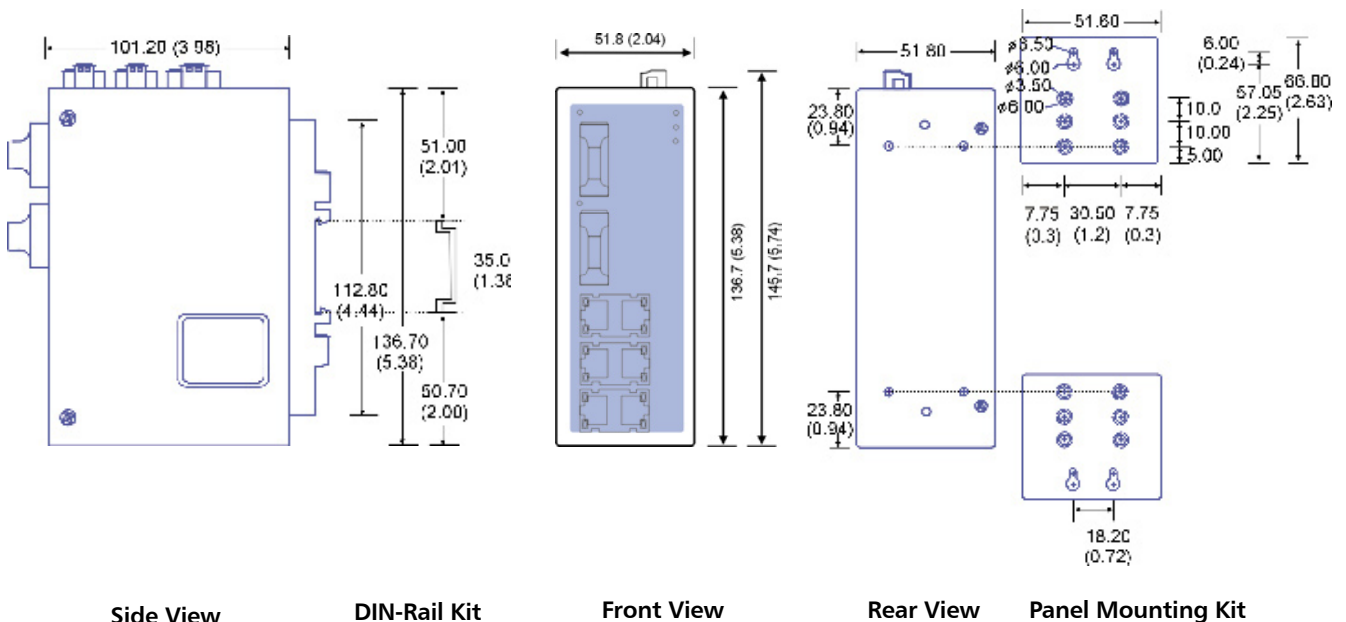
Specifications

Technology

Standards: IEEE802.3, 802.3u, 802.3x, 802.1D

Protocols: SNMP, DHCP Server/Client, BOOTP, SMTP, RARP and EDS-SNMP OPC server (Optional)

MIB: MIB-II, Ethernet-Like MIB, Bridge MIB

Processing Type: Store and Forward

Flow Control: IEEE802.3x flow control, back pressure flow control

Address Table Size: 4K uni-cast addresses

Management: SNMP V. 1.2c, MIB-II, Ethernet-like MIB, EDS-SNMP OPC Server (optional)

Interface

RJ45 Ports: 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection

Fiber Ports: 100BaseFX ports (SC connector)

Console: RS-232 (RJ45)

LED Indicators: P1, P2, FAULT, 10/100 LNK/ACT

Alarm Contact: One relay output with current carrying capacity of 1A @ 24 VDC

Optical Fiber

Distance: Single mode fiber for 15 km, Multi mode fiber for 2 km

Wavelength: 1310 nm

Min. TX Output: -15 dBm (Single), -20 dBm (Multi)

Max. TX Output: -6 dBm (Single), -14 dBm (Multi)

Sensitivity: -36 to -32 dBm (Single), -34 to -30 dBm (Multi)

Recommended Diameter: 9/125 μm (Single)
62.5/125 μm (Multi)

Power

Input Voltage: Before Ver. 2.0, 9 to 32 VDC, redundant inputs
After Ver. 2.0, 12 to 48 VDC, redundant inputs\

Input Current (@24V):

0.35A: (ED6008)

0.45A: (ED6008-M-SC, ED6008-S-SC)

0.55A: (ED6008-MM-SC, ED6008-SS-SC)

Connection: Removable Terminal Block (maximum cable diameter = 1.5 mm)

Overload Current Protection: Thermal fuse set to below 2.5A

Reverse Polarity Protection: Present

Mechanical

Casing: IP30 protection, aluminum case

Dimensions: 51.8 x 136.7 x 101.2 mm (W x H x D)

Weight: 0.57 kg

Installation: DIN-Rail, Wall Mounting

Environment

Operating Temperature: 0 to 60°C (32 to 140°F), -40 to 75°C (-40 to 167°F) for -T models

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5% to 95% (non-condensing)

Regulatory Approvals

Safety: UL60950, UL 508, CSA C22.2 No. 60950, EN60950

Hazardous location:

UL/cUL Class 1, Division 2, Groups A, B, C and D

ATEX Class 1, Zone 2, EEx nC IIC

EMI: FCC Part 15, CISPR (EN55022) class A,

EMS:

EN61000-4-2 (ESD), level 3

EN61000-4-3 (RS), level 3

EN61000-4-4 (EFT), level 3

EN61000-4-5 (Surge), level 3

EN61000-4-6 (CS), level 3

Shock: IEC60068-2-27

Free Fall: IEC60068-2-32

Vibration: IEC60068-2-6

MTBF: 230,000 hrs

Data Base: MIL-HDBK-217F, GB

WARRANTY: 5 years

Ordering Information

ED6008: Industrial Redundant Ethernet Switch with 8 10/100BaseT(X) ports, 0 to 60°C

ED6008-M-SC: Industrial Redundant Ethernet Switch with 7 10/100BaseT(X) ports, 1 multi mode 100BaseFX port, 0 to 60°C

ED6008-S-SC: Industrial Redundant Ethernet Switch with 7 10/100BaseT(X) ports, 1 single mode 100BaseFX port, 0 to 60°C

ED6008-MM-SC: Industrial Redundant Ethernet Switch with 6 10/100BaseT(X) ports, 2 multi mode 100BaseFX ports, 0 to 60°C

ED6008-SS-SC: Industrial Redundant Ethernet Switch with 6 10/100BaseT(X) ports, 2 single mode 100BaseFX ports, 0 to 60°C

Long haul transmit for Single mode optical fiber of 40 km and 80 km are also available.

All items include: User's Manual

Extended Operating Temperature (-40 to 75ºC) Models are also available with the following ordering numbers

ED6008-T, ED6008-M-SC-T, ED6008-S-SC-T, ED6008-MM-SC-T, ED6008-SS-SC-T

Optional Accessories

DR-4524: 45W/2A DIN-Rail 24 VDC Power Supply with universal 85 to 264 VAC input

DR-75-24: 75W/3.2A DIN-Rail 24 VDC Power Supply with universal 85 to 264 VAC input

DR-120-24: 120W/5A DIN-Rail 24 VDC Power Supply with 88 to 132 VAC/176 to 264 VAC input by switch

EDS-SNMP OPC Server: CD with EDS-SNMP OPC Server Software and Manual