

EDS-510E Series

Preliminary

7+3G-port Gigabit managed Ethernet switches



- > 2 Gigabit Ethernet ports for redundant ring and 1 Gigabit Ethernet port for uplink solution
- > Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), RSTP/STP, and MSTP for network redundancy
- > RADIUS, TACACS+, SNMPv3, IEEE 802.1x, HTTPS, and SSH to enhance network security
- > EtherNet/IP, PROFINET, and Modbus/TCP protocols supported for device management and monitoring



Introduction

The EDS-510E Gigabit managed Ethernet switch is designed to meet rigorous mission critical applications, such as factory automation, ITS and process control. The 3 Gigabit Ethernet ports allows great

flexibility to build up a Gigabit redundant Turbo Ring and a Gigabit uplink. The switch adopts USB interfaces for switch configuration, system file backup, and firmware upgrade, making it easier to manage.

Features and Benefits

- Command Line Interface (CLI) for quickly configuring major managed functions
- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- IEEE 1588 PTP V2 (Precision Time Protocol) for precise time synchronization of networks
- DHCP Option 82 for IP address assignment with different policies
- Support EtherNet/IP, PROFINET, and Modbus/TCP protocols for device management and monitoring
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), RSTP/STP, and MSTP for network redundancy
- IGMP snooping and GMRP for filtering multicast traffic
- Port-based VLAN, IEEE 802.1Q VLAN, and GVRP to ease network planning
- QoS (IEEE 802.1p/1Q) and TOS/DiffServ to increase determinism
- Port Trunking for optimum bandwidth utilization
- RADIUS, TACACS+, SNMPv3, IEEE 802.1X, HTTPS, and SSH to enhance network security
- SNMPv1/v2c/v3 for different levels of network management
- RMON for efficient network monitoring and proactive capability
- Bandwidth management prevents unpredictable network status
- Lock port function for blocking unauthorized access based on MAC address
- Automatic warning by exception through e-mail, relay output
- Configurable by web browser, Telnet/USB console, CLI, MXconfig, and ABC-02 automatic backup configurator.

Specifications

Technology

Standards:

IEEE 802.3 for 10BaseT
 IEEE 802.3u for 100BaseT(X) and 100BaseFX
 IEEE 802.3ab for 1000BaseT(X)
 IEEE 802.3z for 1000BaseX
 IEEE 802.3x for Flow Control
 IEEE 802.1D-2004 for Spanning Tree Protocol
 IEEE 802.1w for Rapid STP
 IEEE 802.1s for Multiple Spanning Tree Protocol
 IEEE 802.1Q for VLAN Tagging
 IEEE 802.1p for Class of Service
 IEEE 802.1X for Authentication
 IEEE 802.3ad for Port Trunk with LACP

Protocols: IGMPv1/v2/v3, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, BootP, TFTP, SNTp, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, Syslog, DHCP Option 66/67/82, SSH, SNMP Inform, EtherNet/IP, PROFINET, Modbus/TCP, LLDP, IEEE 1588 PTP V2, IPv6, NTP Server/Client

MIB: MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9

Flow Control: IEEE 802.3x flow control, back pressure flow control

Switch Properties

Priority Queues: 4
Max. Number of Available VLANs: 64
VLAN ID Range: VID 1 to 4094
IGMP Groups: 256
MAC Table Size: 8 K
Packet Buffer Size: 1 Mbit

Interface

Fiber Ports: 100/1000BaseSFP slot
RJ45 Ports: 10/100BaseT(X) or 10/100/1000BaseT(X) auto negotiation speed
USB Ports: USB console port (type B connector)
 USB storage port (type A connector)
Buttons: Reset button
DIP Switches: Turbo Ring, Master, Coupler, Reserve
LED Indicators: PWR1, PWR2, FAULT, STATE, 10/100M (TP port), 100/1000M (Gigabit port), MSTR/HEAD, CPLR/TAIL

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

Digital Inputs: 1 input with the same ground, but electrically isolated from the electronics.

- +13 to +30V for state “1”
- -30 to +3V for state “0”
- Max. input current: 8 mA

Power Requirements

Input Voltage: 12/24/48/-48 VDC, redundant dual inputs

Input Current:

EDS-510E: 0.68 A @ 24 V

Overload Current Protection: Present

Connection: 2 removable 4-contact terminal blocks

Reverse Polarity Protection: Present

Physical Characteristics

Housing: Metal, IP30 protection

Dimensions: 79.2 x 135 x 116 mm (3.12 x 5.31 x 4.57 in)

Weight: 1690 g

Installation: DIN-rail mounting, wall mounting (with optional kit)

Environmental Limits

Operating Temperature:

Standard Models: -10 to 60°C (14 to 140°F)

Wide Temp. Models: -40 to 75°C (-40 to 167°F)

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

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

Standards and Certifications

Safety: UL 508

EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A

EMS:

EN 61000-4-2 (ESD) Level 4, EN 61000-4-3 (RS) Level 3,

EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 4,

EN 61000-4-6 (CS) Level 3, EN 61000-4-8, IEEE 1613

Traffic Control: NEMA TS2

Rail Traffic: EN 50121-4

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Note: Please check Moxa's website for the most up-to-date certification status.

MTBF (mean time between failures)

Time: 723,532 hours

Database: Telcordia (Bellcore), GB

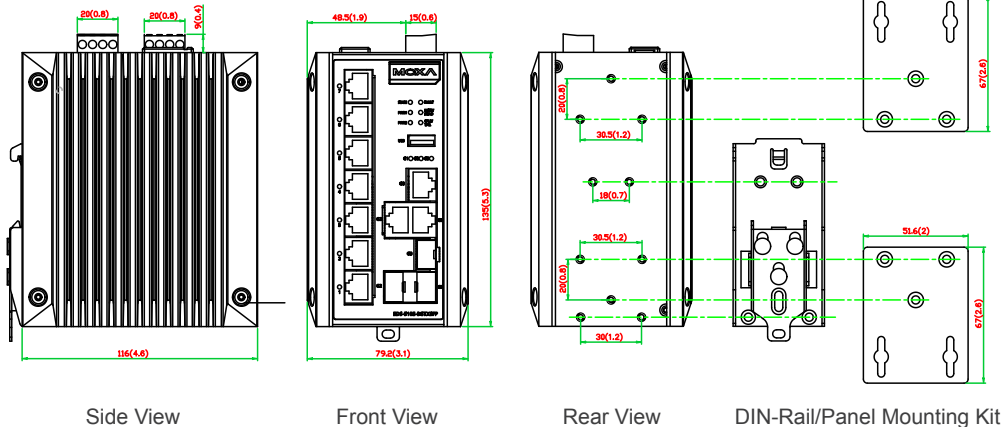
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models		Port Interface	
		Gigabit Ethernet	Fast Ethernet
Standard Temperature (-10 to 60°C)	Wide Temperature (-40 to 75°C)	10/100/1000BaseT(X) or 100/1000BaseSFP*	10/100BaseT(X)
EDS-510E-3GTXSFP	EDS-510E-3GTXSFP-T	3	7

*The EDS-510E series supports up to 3 100/1000BaseSFP slots. See page 3 and 4 for SFP-1G/1FE series Gigabit /Fast Ethernet SFP module product information.

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes

EDS-SNMP OPC Server Pro: OPC server software that works with all SNMP devices

ABC-02-USB-T: Configuration backup and restoration tool for managed Ethernet switches, -40 to 75°C operating temperature

DR-4524/75-24/120-24: 45/75/120 W DIN-rail 24 VDC power supplies

MDR-40-24/60-24: 40/60 W DIN-rail 24 VDC power supplies, -20 to 70°C operating temperature

RK-4U: 4U-high 19" rack mounting kit

WK-51-01: Wall mounting kit

Package Checklist

- EDS-510E switch
- USB-IF certified cable
- Protective caps for unused ports
- Documentation and software CD
- Warranty card
- Hardware installation guide (printed)