EDS-P510A-8PoE Series

8+2G-port Gigabit PoE+ managed Ethernet switches

- Built-in 8 PoE+ ports compliant with IEEE 802.3af/at standards
- Up to 36 W output per PoE+ port
- 3 KV LAN surge protection for extreme outdoor environments
- PoE diagnostic for powered device mode analysis
- 2 Gigabit combo ports for high-bandwidth and long-distance communication
- Operate with 240 watts full PoE+ loading at -40 to 75°C

Introduction

The Moxa EDS-P510A-8PoE Series are Gigabit managed PoE+ Ethernet switches that come standard with 8 10/100BaseT(X), 802.3af (PoE), and 802.3at (PoE+)-compliant Ethernet ports, and 2 combo Gigabit Ethernet ports. The EDS-P510A-8PoE Ethernet switches provide up to 30 watts of power per PoE+ port in standard mode and allow high power output of up to 36 watts for industrial heavy-duty PoE devices, such as weather-proof IP surveillance cameras with wipers/heaters, high-performance wireless access points, and rugged IP phones. The EDS-P510A-8PoE Ethernet switches are highly versatile, and the SFP fiber ports can transmit data up to 120 km from the device to the control center with high EMI immunity. The Ethernet switches support a variety of management functions, including STP/RSTP, TurboRing, Turbo Chain, PoE power management, PoE device auto-checking, PoE power scheduling, PoE diagnostic, IGMP, VLAN, QoS, RMON, bandwidth management, and port mirroring. The EDS-P510A-8PoE series is designed especially for harsh outdoor applications with 3KV surge protection to ensure uninterrupted reliability of PoE systems.

Features and Benefits

- Advanced PoE management function (PoE output setting, PD failure check, PoE scheduling, and PoE diagnostic)
- 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 and Modbus/TCP protocols for device management and monitoring
- Compatible with EtherNet/IP and PROFINET protocols for transparent data transmission
- 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
- TACACS+, IEEE 802.1X, SNMPv3, HTTPS, and SSH to enhance network security
- Lock port function for blocking unauthorized access based on MAC address
- SNMPv1/v2c/v3 for different levels of network management
- RMON for efficient network monitoring and proactive capability
- Bandwidth management to prevent unpredictable network status
- Port mirroring for online debugging
- Automatic warning by exception through e-mail, relay output

Specifications

Technology

Standards:
IEEE 802.3af/at for Power-over-Ethernet
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, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, DHCP Option 66/67/82, BootP, TFTP, SNTP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, SSH, Syslog, EtherNet/IP, Modbus/TCP, SNMP Inform, 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
PoE Pinout: V+, V+, V-, V- for pin 1, 2, 3, 6 (Endspan, MDI, Mode A)
Console Port: RS-232 (RJ45 connector)
DIP Switches: Turbo Ring, Master, Coupler, Reserve
LED Indicators: PWR1, PWR2, FAULT, 10/100/1000, 10/100, MSTR/HEAD, CPLR/TAIL, PoE+
Alarm Contact: 1 relay output with current carrying capacity of 0.5 A @ 48 VDC
Digital Inputs: 1 input with the same ground, but electrically isolated from the electronics.
- +13 to +30 V for state "1"
- -30 to +3 V for state "0"
- Max. input current: 8 mA

Power Requirements

Input Voltage: 48 (46 to 57 V) VDC redundant dual inputs (> 50 VDC for PoE+ output recommended)
Input Current: 0.27 A @ 48 VDC (w/o PDs connected), 0.42 A @ 48 VDC (w/ 8 PDs connected, excluding PDs' consumption)*
Overload Current Protection: Present
Connection: 2 removable 2-contact terminal blocks
Reverse Polarity Protection: Present
*Note: When selecting power supply, check the PD power consumption

Physical Characteristics

Housing: Metal, IP30 protection
Dimensions: 79.2 x 135 x 105 mm (3.12 x 5.31 x 4.13 in)
Weight: 1030 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 Operating 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 3, EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3
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)

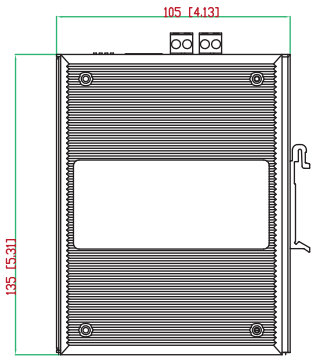
Time: 710,166 hrs
Database: Telcordia (Bellcore), GB

Warranty

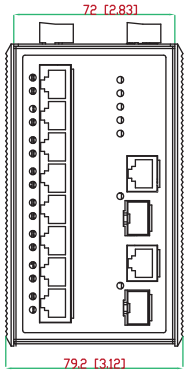
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

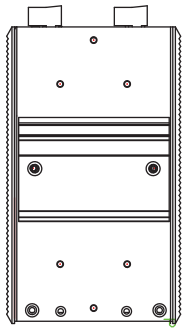
Unit: mm (inch)

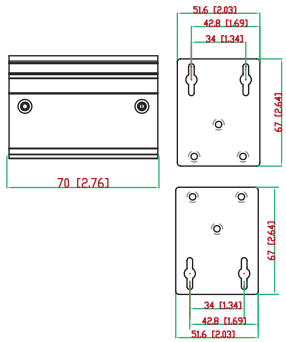


Side View



Front View


Rear View



DIN-Rail/Panel Mounting Kit

Ordering Information

Available Models		Port Interface	
		Gigabit Ethernet	Fast Ethernet
Standard Temperature (-10 to 60°C)	Wide Temperature (-40 to 75°C)	Combo Port, 10/100/1000BaseT(X) or 100/1000BaseSFP*	PoE+, 10/100BaseT(X)
EDS-P510A-8PoE-2GTXSFP	EDS-P510A-8PoE-2GTXSFP-T	2	8

*The EDS-P510A-8PoE series supports 2 100/1000BaseSFP slots. See SFP module page for SFP-1G/1FE series Gigabit/Fast Ethernet SFP module product information.

Optional Accessories (can be purchased separately)

DR-75-48/120-48: 75/120 W DIN-Rail 48 VDC power supplies
DRP-240-48: 240 W DIN-Rail 48 VDC power supplies
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-01: Configuration backup and restoration tool for managed Ethernet switches, 0 to 60°C operating temperature
WK-46: Wall mounting kit
RK-4U: 4U-high 19" rack mounting kit

Package Checklist

- EDS-P510A-8PoE switch
- RJ45 to DB9 console port cable
- Protective caps for unused ports
- Documentation and software CD
- Hardware installation guide (printed)
- Warranty card