

# 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, SNMP, 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  
 \* 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 (Pending)  
**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.

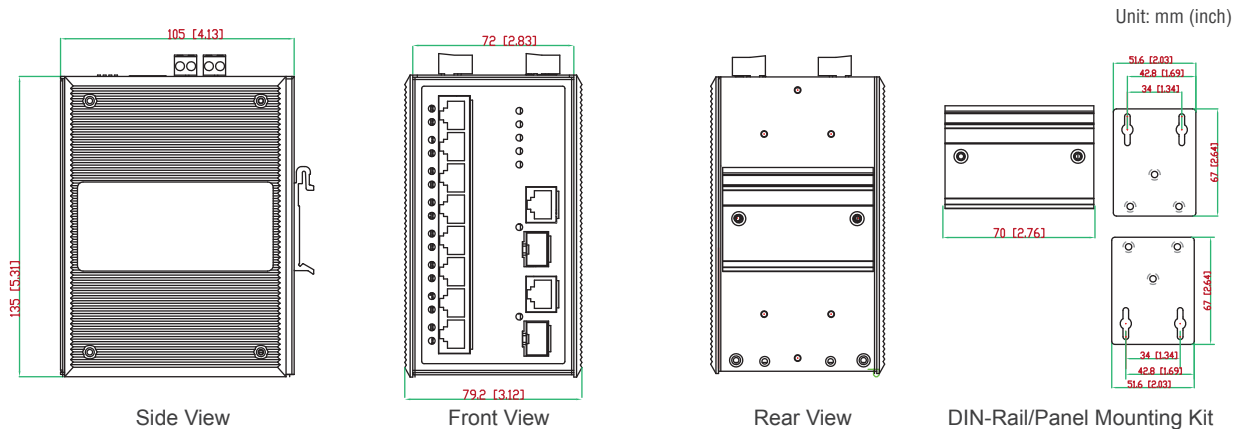
### MTBF (mean time between failures)

**Time:** TBD  
**Database:** Telcordia (Bellcore), GB

### Warranty

**Warranty Period:** 5 years  
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

### Dimensions



### Ordering Information

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