

EDS-P510 Series

7+3G-port Gigabit PoE managed Ethernet switches



- 4 IEEE 802.3af-compliant PoE and Ethernet combo ports
- Provides up to 15.4 watts at 48 VDC per PoE port
- Intelligent power consumption detection, classification, and PoE scheduling function
- 3 combo (10/100/1000BaseT(X) or 100/1000BaseSFP slot) Gigabit ports; 2 ports for redundant ring and 1 port for uplink
- Turbo Ring (recovery time < 20 ms), RSTP/STP (IEEE 802.1w/D) for Ethernet redundancy
- QoS, IGMP snooping/GMRP, VLAN, LACP, SNMPv1/v2c/v3, RMON, IEEE 802.1X, HTTPS, and SSH supported

The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.



Introduction

The EDS-P510 series includes Gigabit managed redundant Ethernet switches that come standard with 4 10/100BaseT(X) 802.3af (PoE) compliant Ethernet ports and 3 combo Gigabit Ethernet ports. The EDS-P510 switches provide up to 15.4 watts of power per PoE port, and allow power to be supplied to connected devices (such as surveillance cameras, wireless access points, and IP phones) when AC power is not readily available or is cost-prohibitive to provide locally. The EDS-P510 switches are highly versatile, and their SFP fiber port

can transmit data up to 80 km from the device to the control center with high EMI immunity. The Ethernet switches support a variety of management functions, including Turbo Ring, RSTP/STP, IGMP, VLAN, QoS, RMON, bandwidth management, and port mirroring. The EDS-P510 series is designed especially for security automation applications such as IP surveillance, and gate of entry systems, which can benefit from a scalable backbone construction and Power-over-Ethernet support.

Features and Benefits

- Advanced PoE management function
- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- IEEE 1588 PTP (Precision Time Protocol) for precise time synchronization of networks
- DHCP Option 82 for IP address assignment with different policies
- Modbus/TCP industrial Ethernet protocol supported
- IEC 61850 GOOSE messaging compliance
- Turbo Ring (recovery time < 20 ms at full load) and RSTP/STP (IEEE 802.1w/D)
- 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
- 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 to prevent unpredictable network status
- Lock port function for blocking unauthorized access based on MAC address
- Port mirroring for online debugging
- Automatic warning by exception through e-mail, relay output

Specifications

Technology

Standards:

IEEE 802.3af for Power-over-Ethernet
 IEEE 802.3 for 10BaseT
 IEEE 802.3u for 100BaseT(X) and 100Base FX
 IEEE 802.3ab for 1000BaseT(X)
 IEEE 802.3z for 1000BaseSX/LX/LHX/ZX
 IEEE 802.3x for Flow Control
 IEEE 802.1D for Spanning Tree Protocol
 IEEE 802.1w for Rapid STP
 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 device, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, DHCP Option 66/67/82, BootP, TFTP, SNMP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, SSH, Syslog, LLDP, Modbus/TCP, IEEE 1588 PTP, IPv6

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

Interface

Fiber Ports: 100/1000BaseSFP slot

RJ45 Ports: 10/100BaseT(X) or 10/100/1000BaseT(X) auto negotiation speed

Console Port: RS-232 (RJ45 connector)

DIP Switches: Turbo Ring, Master, Coupler, Reserve

LED Indicators: PWR1, PWR2, FAULT, 10/100/1000, 10/100, MASTER, COUPLER, PoE

Alarm Contact: 2 relay outputs with current carrying capacity of 0.5 A @ 48 VDC

Digital Inputs: 2 inputs 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: 48 (46 to 50V) VDC, redundant dual inputs

Input Current: Max. 1.62 A @ 48 VDC (supports up to 4 ports at 15.4 W per PoE port)

Overload Current Protection: Present

Connection: 2 removable 6-contact terminal blocks

Reverse Polarity Protection: Present

Physical Characteristics

Housing: Metal, IP30 protection

Dimensions: 80.2 x 135 x 105 mm (3.16 x 5.31 x 4.13 in)

Weight: 1170 g

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

Environmental Limits

Operating Temperature:

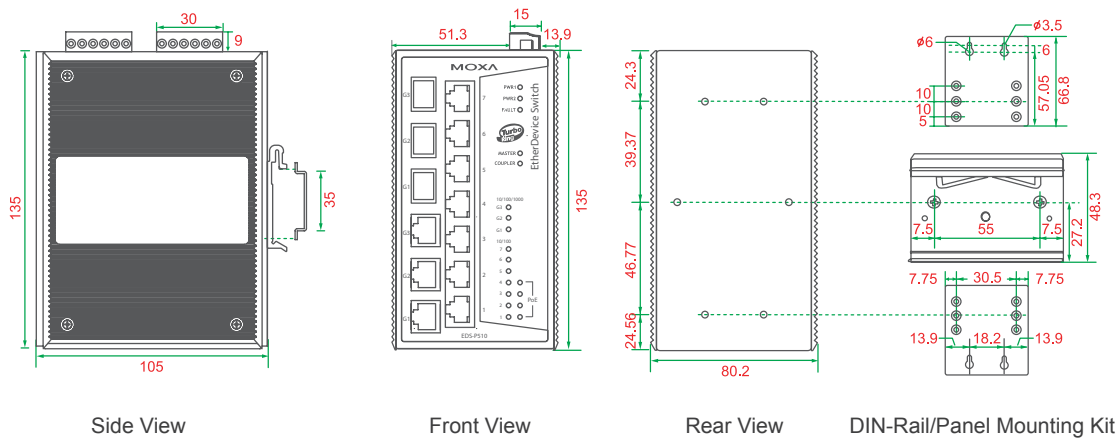
Standard Models: 0 to 60°C (32 to 140°F)

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)

Dimensions (unit = mm)



Regulatory Approvals

Safety: UL508 (Pending)

Hazardous Location: UL/cUL Class I, Division 2, Groups A, B, C, and D (Pending); ATEX Class I, Zone 2, Ex nC IIC (Pending)

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

EN61000-4-8

EN61000-4-11

Maritime: DNV (Pending), GL (Pending)

Traffic Control: NEMA TS2 (Pending)

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.

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Ordering Information

Available Models		Port Interface			
		Gigabit Ethernet		Fast Ethernet	
Standard Temperature (0 to 60°C)	Wide Temperature (-40 to 75°C)	Combo Port, 10/100/1000BaseT(X) or 100/1000BaseSFP*		PoE, 10/100BaseT(X)	10/100BaseT(X)
		EDS-P510	EDS-P510-T	3	

Note: The EDS-P510 series supports up to 3 100/1000BaseSFP slots. See page 3-45 and 3-47 for SFP-1G/1FE series Gigabit/fast Ethernet SFP module product information.

Optional Accessories (can be purchased separately)

SPL-24: PoE splitter, maximum output of 12.95 W at 24 VDC, 0 to 60°C operating temperature

SPL-24-T: PoE splitter, maximum output of 12.95 W at 24 VDC, -40 to 75°C operating temperature

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

DR-75-48/120-48: 75/120 W DIN-Rail 48 VDC power supplies

WK-46: Wall mounting kit

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