EDS-P510 Series

7+3G-port Gigabit PoE managed Ethernet switch

> ❯ **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.

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Introduction

The EDS-P510 series Ethernet switches are 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 Ethernet 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, industrial wireless access points, and I/O sensor) when AC power is not readily available or cost-prohibitive to provide locally. The EDS-P510 Ethernet 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
- IEEE 802.3af Power-over-Ethernet Technology
- 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 prevents 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
- Digital inputs to integrate sensors and alarms with IP networks

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 1000Base(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 82, BootP, TFTP, SNTP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, SSH, Syslog
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

RJ45 Ports: 10/100BaseT(X) or 10/100/1000BaseT(X) auto negotiation speed
Fiber Ports: 100/1000BaseSFP slot
Console: RS-232 (RJ45)
LED Indicators: PWR1, PWR2, FAULT, 10/100M (TP port), 10/100/1000M (Gigabit port), MASTER, COUPLER, PoE
DIP Switch: Turbo Ring, Master, Coupler, Reserve
Alarm Contact: Two relay outputs with current carrying capacity of 0.5A @ 48 VDC
Digital Inputs: Two 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

PoE (per port)

Max. Output Power: 15.4W
Output Voltage: 44 to 48.5 VDC
Max. Output Current: 350 mA
Max. Overload Protection: 400 mA

Power Requirements

Input Voltage: 48 (46 to 50V) VDC, redundant dual inputs
Connection: Two removable 6-pin terminal blocks
Overload Current Protection: Present
Reverse Polarity Protection: Present
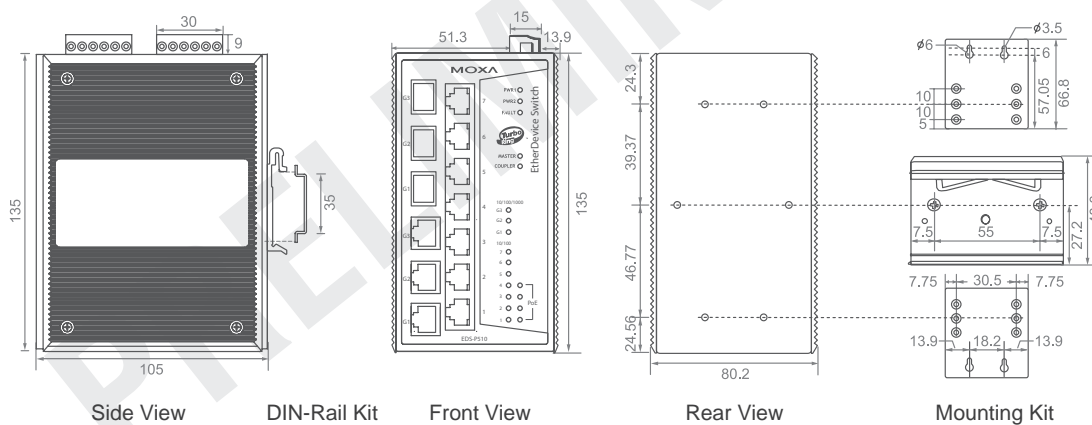
Physical Characteristics

Casing: IP30 protection, metal case
Dimensions (W x H x D): 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 (optional kit)

Environmental Limits

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)

Note: The features and specifications of this product are provided here for information purposes only. If you are interested in ordering this product, please contact a Moxa sales representative for details.

Regulatory Approvals

Safety: UL508 (Pending), EN60950-1 (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)
Maritime: DNV (Pending), GL (Pending)
Traffic Control: NEMA TS2 (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 2
EN61000-4-6 (CS), level 3
EN61000-4-8
EN61000-4-11
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6
*Please check Moxa's website for the most up-to-date certification status.

Warranty

5 years (see www.moxa.com/warranty for details)

Dimensions (unit = mm)

Side View   DIN-Rail Kit   Front View   Rear View   Mounting Kit

: Ordering Information

Product Model		Port Interface		
		Gigabit Ethernet	Fast Ethernet	
Standard Temperature (0 to 60˚C)	Extended 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	4	3

* EDS-P510 series supports up to 3 100/1000BaseSFP slots. Please see page 2-23 for the product information of SFP-1G series Gigabit Ethernet SFP modules.

Optional Accessories

- **ABC-01:** Industrial RS-232, RJ45-based, automatic backup configurator
- **SPL-24:** PoE splitter, maximum output of 12.95W at 24 VDC, 0 to 60˚C
- **SPL-24-T:** PoE splitter, maximum output of 12.95W at 24 VDC, -40 to 75˚C
- **EDS-SNMP OPC Server Pro:** CD with EDS-SNMP OPC server software and manual
- **DR-120-48:** 120W/2.5A DIN-Rail 48 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch
- **WK-46:** Wall mounting kit
- **RK-4U:** 4U-high, 19" rack mounting kit