

# EDS-P506E Series

4+2G-port Gigabit PoE+ managed Ethernet switches with 4 IEEE 802.3af/at PoE+ ports



## Features and Benefits

- Built-in 4 PoE+ ports support up to 60 W output per port
- Wide-range 12/24/48 VDC power inputs for flexible deployment
- Smart PoE functions for remote power device diagnosis and failure recovery
- 2 Gigabit combo ports for high-bandwidth communication
- Supports MXstudio for easy, visualized industrial network management

## Certifications



EN 50121-4



## Introduction

The EDS-P506E Series includes Gigabit managed PoE+ Ethernet switches that come standard with 4 10/100BaseT(X), 802.3af (PoE), and 802.3at (PoE+)-compliant Ethernet ports, and 2 combo Gigabit Ethernet ports. The EDS-P506E Series provides up to 30 watts of power per PoE+ port in standard mode and allows a high-power output of up to 4-pair 60 W 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-P506E Series is 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, Turbo Ring, 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-P506E Series is designed especially for harsh outdoor applications with 4 kV surge protection to ensure uninterrupted reliability of PoE systems.

## Additional Features and Benefits

- Supports different PoE output settings (High-power 36 W and 60 W, Force and Legacy modes) to maximize powered device compatibility
- Supports Smart PoE functions (PoE diagnosis, PD failure check, PoE scheduling, and PoE Event Warning) to enhance PoE operational efficiency
- Command line interface (CLI) for quickly configuring major managed functions
- Supports EtherNet/IP, PROFINET, and Modbus TCP protocols for device management and monitoring
- Supports V-ON™ to ensure millisecond-level Layer2/Layer3 network recovery
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches),<sup>1</sup> RSTP/STP, and MSTP for network redundancy
- Automatic warning by exception through email and relay output
- Port mirroring for online debugging
- 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+, MAB Authentication, SNMPv3, IEEE 802.1x, MAC ACL, HTTPS, SSH, and sticky MAC address to enhance network security
- SNMPv1/v2c/v3 for different levels of network management
- Fiber Check™ provides a comprehensive fiber Digital Diagnostic Monitoring (DDM) function and event warning on SFP fiber ports
- Bandwidth management to prevent unpredictable network status
- ABC-02-USB (Automatic Backup Configurator) for system configuration backup/restore and firmware upgrade

1. Gigabit Ethernet recovery time < 50 ms

## Specifications

### Ethernet Interface

Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP+)	2 Full/Half duplex mode Auto MDI/MDI-X connection Auto negotiation speed
PoE Ports (10/100BaseT(X), RJ45 connector)	4 Full/Half duplex mode Auto MDI/MDI-X connection Auto negotiation speed
Standards	IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1X for authentication IEEE 802.3 for 10BaseT IEEE 802.3ab for 1000BaseT(X) IEEE 802.3ad for Port Trunk with LACP IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control IEEE 802.3z for 1000BaseSX/LX/LHX/ZX

### Ethernet Software Features

Filter	802.1Q VLAN, GMRP, GVRP, IGMP v1/v2/v3, Port-based VLAN
Industrial Protocols	EtherNet/IP, Modbus TCP, PROFINET
Management	Back Pressure Flow Control, BOOTP, DDM, DHCP Option 66/67/82, DHCP Server/Client, Fiber check, Flow control, IPv4/IPv6, RARP, RMON, SMTP, SNMP Inform, SNMPv1/v2c/v3, Syslog, Telnet, TFTP
MIB	Bridge MIB, Ethernet-like MIB, MIB-II, P-BRIDGE MIB, Q-BRIDGE MIB, RMON MIB Groups 1, 2, 3, 9, RSTP MIB
Redundancy Protocols	Link Aggregation, MSTP, RSTP, STP, Turbo Chain, Turbo Ring v1/v2
Security	Broadcast storm protection, HTTPS/SSL, MAC ACL, TACACS+, MAB authentication, Sticky MAC, NTP authentication, Port Lock, RADIUS, SSH
Time Management	IEEE 1588v2 PTP (software-based), NTP Server/Client, SNTP

### Switch Properties

IGMP Groups	256
Jumbo Frame Size	9.6 KB
MAC Table Size	8 K
Packet Buffer Size	12 Mbits
Priority Queues	4
Max. No. of VLANs	64
VLAN ID Range	VID 1 to 4094

### USB Interface

Storage Port	USB Type A
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### LED Interface

LED Indicators	PWR1, PWR2, STATE, FAULT, 10/100M (TP port), 10/100/1000M (Gigabit Combo port), MSTR/HEAD, CPLR/TAIL, PoE
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<b>Serial Interface</b>	
Console Port	USB-serial console (Type B connector)
<b>Input/Output Interface</b>	
Digital Input Channels	1
Digital Inputs	Max. input current: 8 mA +13 to +30 V for state 1 -30 to +3 V for state 0
Alarm Contact Channels	1, Relay output with current carrying capacity of 0.5 A @ 48 VDC
Buttons	Reset button
<b>DIP Switch Configuration</b>	
Ethernet Interface	Turbo Ring, Master, Coupler, Reserve
<b>Power Parameters</b>	
Input Voltage	12/24/48 VDC, Redundant dual inputs
Operating Voltage	12 to 57 VDC (> 50 VDC for PoE+ output recommended)
Input Current	4.08 A @ 48 VDC
Max. PoE Power Output per Port	60 W
Connection	2 removable 4-contact terminal block(s)
Power Consumption (Max.)	Max. 18.96 W full loading without PDs' consumption
Total PoE Power Budget	Max. 180 W for total PD's consumption @ 48 VDC input Max. 150 W for total PD's consumption @ 24 VDC input Max. 62 W for total PD's consumption @ 12 VDC input
Overload Current Protection	Supported
Reverse Polarity Protection	Supported
<b>Physical Characteristics</b>	
Housing	Metal
IP Rating	IP40
Dimensions	49.1 x 135 x 116 mm (1.93 x 5.31 x 4.57 in)
Weight	910 g (2.00 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)
<b>Environmental Limits</b>	
Operating Temperature	EDS-P506E-4PoE-2GTXSFP: -10 to 60°C (14 to 140°F) EDS-P506E-4PoE-2GTXSFP-T: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
<b>Standards and Certifications</b>	
Safety	UL 61010-2-201, EN 61010-2-201
EMC	EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A

EMS	IEC 61000-4-6 CS: 10 V IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-11 DIPs IEC 61000-4-8 PFMF
Power Substation	IEEE 1613, IEC 61850-3 Edition 2.0
Railway	EN 50121-4
Traffic Control	NEMA TS2
Vibration	IEC 60068-2-6
Bump	IEC 61850-3 Edition 2.0
Freefall	IEC 60068-2-31
Shock	IEC 60068-2-27

#### MTBF

Time	755,167 hrs
Standards	Telcordia (Bellcore), GB

#### Warranty

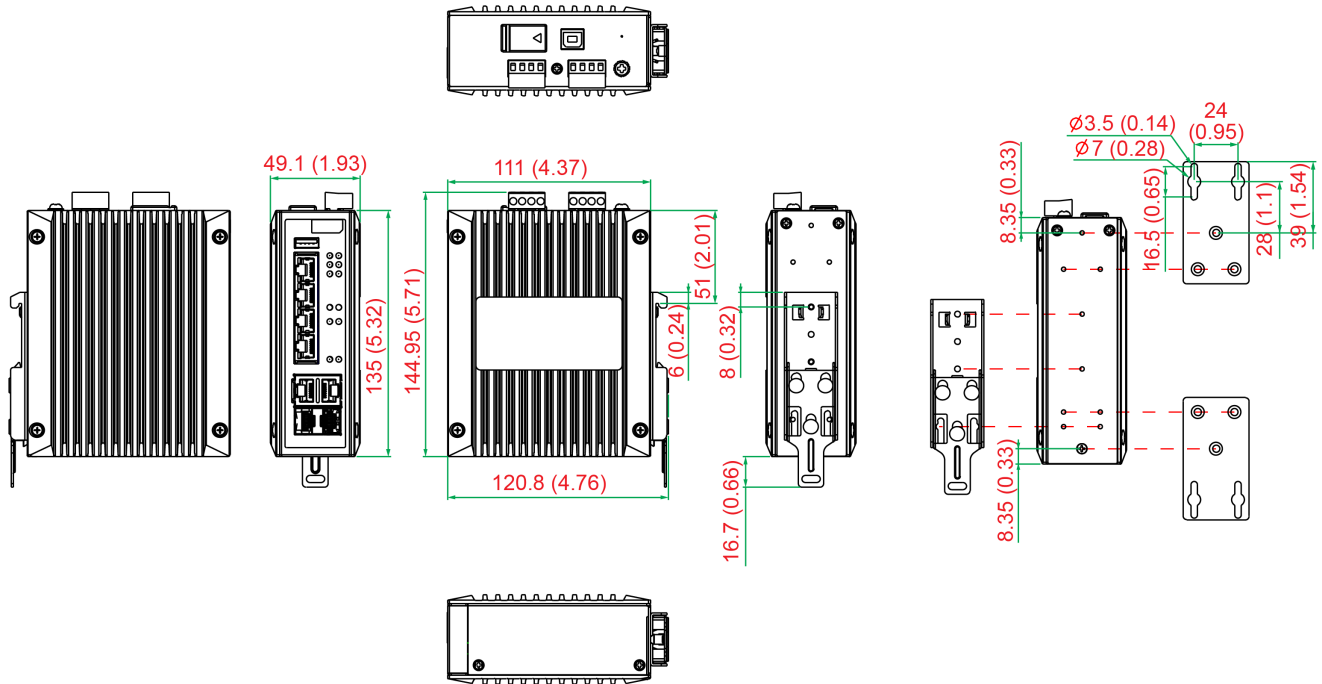
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

#### Package Contents

Device	1 x EDS-P506E Series switch
Cable	1 x USB type A male to USB type B male
Installation Kit	4 x cap, plastic, for RJ45 port 2 x cap, plastic, for SFP slot
Documentation	1 x quick installation guide 1 x product certificates of quality inspection, Simplified Chinese 1 x product notice, Simplified Chinese 1 x warranty card
Note	SFP modules need to be purchased separately for use with this product.

## Dimensions

Unit: mm (inch)



## Ordering Information

Model Name	Combo Ports 10/100/1000BaseT(X) or 100/ 1000BaseSFP+	PoE Ports 10/100BaseT(X), RJ45 Connector	Operating Temp.
EDS-P506E-4PoE-2GTXSFP	2	4	-10 to 60°C
EDS-P506E-4PoE-2GTXSFP-T	2	4	-40 to 75°C

## Accessories (sold separately)

### Storage Kits

ABC-02-USB	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, 0 to 60°C operating temperature
ABC-02-USB-T	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, -40 to 75°C operating temperature

### SFP Modules

SFP-1FELLC-T	SFP module with 1 100Base single-mode with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1FEMLC-T	SFP module with 1 100Base multi-mode with LC connector for 4 km transmission, -40 to 85°C operating temperature
SFP-1FESLC-T	SFP module with 1 100Base single-mode with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1G10ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G10ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G10BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G10BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature

SFP-1G20ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G20ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G20BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G20BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G40ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G40ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G40BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G40BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1GEZXC	SFP module with 1 1000BaseEZXC port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXC-120	SFP module with 1 1000BaseEZXC port with LC connector for 120 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature
SFP-1GLHXC	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLHXC-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXC	SFP module with 1 1000BaseLSX port with LC connector for 500 m transmission, 0 to 60°C operating temperature
SFP-1GLSXC-T	SFP module with 1 1000BaseLSX port with LC connector for 500 m transmission, -40 to 85°C operating temperature
SFP-1GLXC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXC	SFP module with 1 1000BaseSX port with LC connector for 300/550 m transmission, 0 to 60°C operating temperature
SFP-1GSXC-T	SFP module with 1 1000BaseSX port with LC connector for 300/550 m transmission, -40 to 85°C operating temperature
SFP-1GZXC	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GZXC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature

## Software

MXview-50	Industrial network management software with a license for 50 nodes (by IP address)
MXview-100	Industrial network management software with a license for 100 nodes (by IP address)
MXview-250	Industrial network management software with a license for 250 nodes (by IP address)
MXview-500	Industrial network management software with a license for 500 nodes (by IP address)
MXview-1000	Industrial network management software with a license for 1000 nodes (by IP address)
MXview-2000	Industrial network management software with a license for 2000 nodes (by IP address)
MXview Upgrade-50	License expansion of MXview industrial network management software by 50 nodes (by IP address)

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