

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),¹ 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

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|----------------------|--|
| 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

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|--------------------|---------------|
| IGMP Groups | 256 |
| Jumbo Frame Size | 9.6 KB |
| MAC Table Size | 8 K |
| Max. No. of VLANs | 4096 |
| Packet Buffer Size | 12 Mbits |
| Priority Queues | 4 |
| VLAN ID Range | VID 1 to 4094 |

USB Interface

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| Storage Port | USB Type A |
|--------------|------------|

LED Interface

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| LED Indicators | PWR1, PWR2, STATE, FAULT, 10/100M (TP port), 10/100/1000M (Gigabit Combo port), MSTR/HEAD, CPLR/TAIL, PoE |
|----------------|---|

Serial Interface

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| Console Port | USB-serial console (Type B connector) |
|--------------|---------------------------------------|

Input/Output Interface

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|------------------------|---|
| 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 |

DIP Switch Configuration

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| Ethernet Interface | Turbo Ring, Master, Coupler, Reserve |
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Power Parameters

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| 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 |

Physical Characteristics

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|--------------|--|
| 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) |

Environmental Limits

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|--|---|
| 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) |

Standards and Certifications

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|--------|--------------------------------|
| Safety | UL 61010-2-201, EN 61010-2-201 |
| EMC | EN 61000-6-2/-6-4 |
| EMI | CISPR 32, FCC Part 15B Class A |

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|------------------|--|
| 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

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

Warranty

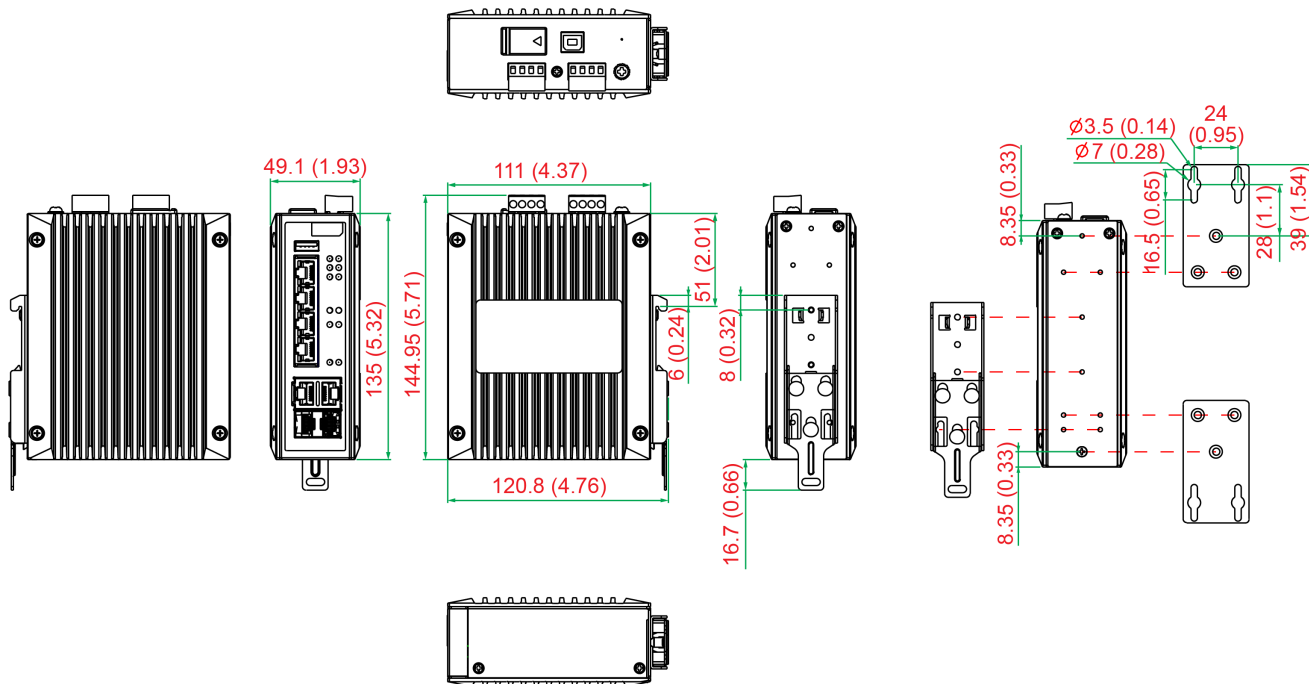
| | |
|-----------------|--|
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |

Package Contents

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|------------------|---|
| 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)

Software

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|--------|---|
| MXview | Industrial network management software designed for converged automation networks |
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SFP Modules

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|---------------|--|
| 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 |

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|----------------|--|
| 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 1000BaseEZC port with LC connector for 110 km transmission, 0 to 60°C operating temperature |
| SFP-1GEZXC-120 | SFP module with 1 1000BaseEZC 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 |

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