

# EDS-405A/408A-PN Series

## 5 and 8-port managed Ethernet switches with PROFINET enabled



- > PROFINET enabled by default
- > PROFINET I/O parameters, I/O cyclic data, DCP, DHCP, fully compatible with PROFINET Real-Time
- > PROFINET GSD file, SIMATIC STEP 7 device icons are included
- > Port mirroring, QoS, IEEE 802.1Q VLAN, and port-based VLAN supported



### Introduction

The EDS-405A/408A-PN are 5 and 8-port managed Ethernet switches with PROFINET enabled. With embedded PROFINET, the PN switches can be easily integrated into the Simatic Step 7 engineering tool. It is more convenient for automation engineers to configure through Step 7 and monitor with automation HMIs. The EDS-405A/408A-PN

switches with fast booting, Turbo Ring and Turbo Chain fast-recovery technology, can optimize PROFINET network performance. Moxa's PROFINET switches also support a variety of useful management functions, such as IGMP snooping, IEEE 802.1Q VLAN, QoS, port mirroring, SNMP, bandwidth management, and warning by email or relay.

### Features and Benefits

- Command Line Interface (CLI) for quickly configuring major managed functions
- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- DHCP Option 82 for IP address assignment with different policies
- Support EtherNet/IP and Modbus/TCP protocols for device management and monitoring
- PROFINET v2 conformance class B, GSD (General Station Description) v2, and SIMATIC STEP 7 device icons are available
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), and RSTP/STP 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 and TOS/DiffServ) to increase determinism
- RMON for efficient network monitoring and proactive capability
- SNMPv1/v2c/v3 for different levels of network management security
- Bandwidth management to prevent unpredictable network status
- Port mirroring for online debugging

### Specifications

#### Technology

##### Standards:

- IEEE 802.3 for 10BaseT
- IEEE 802.3u for 100BaseT(X)
- IEEE 802.3x for Flow Control
- IEEE 802.1D-2004 for Spanning Tree Protocol
- IEEE 802.1w for Rapid STP
- IEEE 802.1p for Class of Service
- IEEE 802.1Q for VLAN Tagging

**Protocols:** IGMPv1/v2, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, TFTP, SNTP, SMTP, RARP, RMON, HTTP, Telnet, Syslog, DHCP Option 66/67/82, BootP, LLDP, PROFINET, EtherNet/IP, Modbus/TCP, IPv6, NTP Server/Client

**MIB:** MIB-II, Ethernet-Like MIB, P-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

**MAC Table Size:** 2 K (EDS-405A-PN), 8 K (EDS-408A-PN)

**Packet Buffer Size:** 1 Mbit

#### Interface

**RJ45 Ports:** 10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection

**Console Port:** RS-232 (RJ45 connector)

**DIP Switches:** Turbo Ring, Master, Coupler, Reserve

**LED Indicators:** PWR1, PWR2, FAULT, MSTR/HEAD, CPLR/TAIL, 10/100M

**Alarm Contact:** 1 relay output with current carrying capacity of 1 A @ 24 VDC

#### Power Requirements

**Input Voltage:** 24 VDC (12 to 45 VDC), redundant dual inputs

##### Input Current:

EDS-405A-PN: 0.24 A @ 24 V

EDS-408A-PN: 0.26 A @ 24 V

**Overload Current Protection:** Present

**Connection:** 1 removable 6-contact terminal block

**Reverse Polarity Protection:** Present

#### Physical Characteristics

**Housing:** Metal, IP30 protection

**Dimensions:** 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)

**Packing Size:** 19.2 x 16.8 x 9.3 cm

**Weight:** 650 g

##### Packing Weight:

EDS-405A-PN series: 1140 g

EDS-408A-PN series: 1220 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 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, UL 60950-1, CSA C22.2 No. 60950-1, EN 60950-1\*\*

**Hazardous Location:** UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nC IIC

**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, EN 61000-4-8

**Marine:** DNV, GL

**Traffic Control:** NEMA TS2

**Rail Traffic:** EN 50121-4\*

**Shock:** IEC 60068-2-27

**Freefall:** IEC 60068-2-32

**Vibration:** IEC 60068-2-6

\* EDS-405A/408A-PN

\*\* EDS-408A-PN only

Note: Please check Moxa's website for the most up-to-date certification status.

### MTBF (mean time between failures)

#### Time:

EDS-405A-PN Series: 392,000 hrs

EDS-408A-PN Series: 363,000 hrs

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

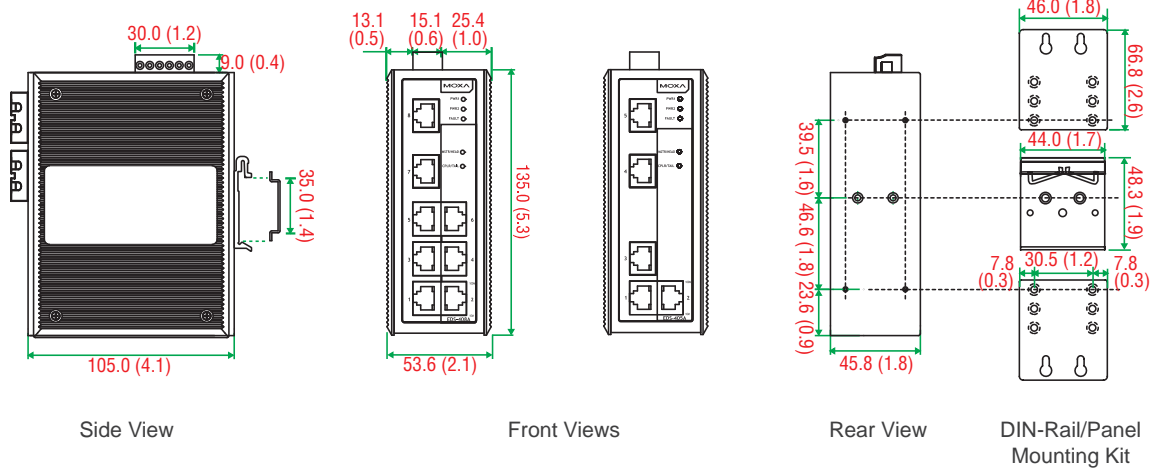
### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

### Dimensions

Unit: mm (inch)



### Ordering Information

Available Models		Port Interface			
Standard Temperature (0 to 60°C)	Wide Temperature (-40 to 75°C)	10/100BaseT(X)	100BaseFX		
			Multi-mode, SC Connector	Multi-mode, ST Connector	Single-mode, SC Connector
EDS-405A/408A-PN	EDS-405A/408A-PN-T	5/8	-	-	-

### Optional Accessories (can be purchased separately)

**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

**DR-4524/75-24/120-24:** 45/75/120 W DIN-rail 24 VDC power supplies

**MDR-40-24/60-24:** 40/60 W DIN-rail 24 VDC power supplies, -20 to 70°C operating temperature

**WK-46:** Wall mounting kit

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

### Package Checklist

- EDS-405A-PN or EDS-408A-PN switch
- RJ45 to DB9 console port cable
- Protective caps for unused ports
- Documentation and software CD
- Hardware installation guide (printed)
- Warranty card