

# EDS-405A/408A Series

## 5 and 8-port entry-level managed Ethernet switches



- > Plug-n-Play Turbo Ring with fast recovery time (under 20 ms)
- > QoS, port-based VLAN, SNMPv1/v2c/v3, RMON supported
- > Automatic warning by exception through e-mail, relay output
- > User-friendly web-based configuration and management
- > ABC-01 (Automatic Backup Configurator) for system configuration backup



### Introduction

The EDS-405A/408A are entry-level 5 and 8-port managed Ethernet switches designed especially for industrial applications. The switches support a variety of useful management functions, such as Turbo Ring, ring coupling, port-based VLAN, QoS, RMON, bandwidth management,

port mirroring, and warning by email or relay. The ready-to-use Turbo Ring can be set up easily using the web-based management interface, or with the DIP switches located on the top panel of the EDS-405A/408A switches.

### Features and Benefits

- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- DHCP Option 82 for IP address assignment with different policies
- Modbus/TCP industrial Ethernet protocol supported
- IEC 61850 GOOSE messaging compliance
- Plug-n-Play Turbo Ring (recovery time < 20 ms at full load) and RSTP/STP (IEEE 802.1w/D) capability
- Port-based VLAN 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) and 100Base FX  
 IEEE 802.3x for Flow Control  
 IEEE 802.1D for Spanning Tree Protocol  
 IEEE 802.1w for Rapid STP  
 IEEE 802.1p for Class of Service

**Protocols:** SNMPv1/v2c/v3, DHCP Server/Client, TFTP, SNMP, SMTP, RARP, RMON, HTTP, Telnet, Syslog (Available Soon: DHCP Option 66/67/82, BootP, LLDP, Modbus/TCP, IPv6)

**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

#### Interface

**Fiber Ports:** 100BaseFX ports (SC/ST connector)

**RJ45 Ports:** 10/100BaseT(X) auto negotiation speed, F/H 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, MASTER, COUPLER, 10/100M

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

#### Optical Fiber

	100BaseFX	
	Multi-mode	Single-mode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km <sup>a</sup> 4 km <sup>b</sup>	40 km <sup>c</sup>
Saturation	-6 dBm	-3 dBm

- a. 50/125 μm, 800 MHz\*km fiber optic cable
- b. 62.5/125 μm, 500 MHz\*km fiber optic cable
- c. 9/125 μm single-mode fiber optic cable

#### Power Requirements

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

##### Input Current:

EDS-405A: 0.24 A @ 24 V  
 EDS-408A: 0.26 A @ 24 V  
 EDS-405A-MM/SS: 0.32 A @ 24 V  
 EDS-408A-MM/SS: 0.35 A @ 24 V  
 EDS-408A-3M/3S/2M1S/1M2S: 0.32 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 (3.17 x 5.31 x 4.13 in)

**Weight:**

EDS-405A, EDS-405A-MM-SC/ST, EDS-405A-SS-SC: 650 g  
 EDS-408A, EDS-408A-MM-SC/ST, EDS-408A-SS-SC: 650 g  
 EDS-408A-3M/3S/2M1S/1M2S: 890 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)

### Regulatory Approvals

**Safety:** UL508, UL60950-1, CSA C22.2 No. 60950-1, EN60950-1 (Pending\*)

**Hazardous Location:** UL/cUL Class I, Division 2, Groups A, B, C, and D (Pending\*); ATEX 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\*)

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

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

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

\* All models in this series except for the 3 fiber models have already received this regulatory approval. Please check Moxa's website for the most up-to-date certification status.

### MTBF (mean time between failures)

**Time:**

EDS-405A Series: 392,000 hrs

EDS-408A Series: 363,000 hrs

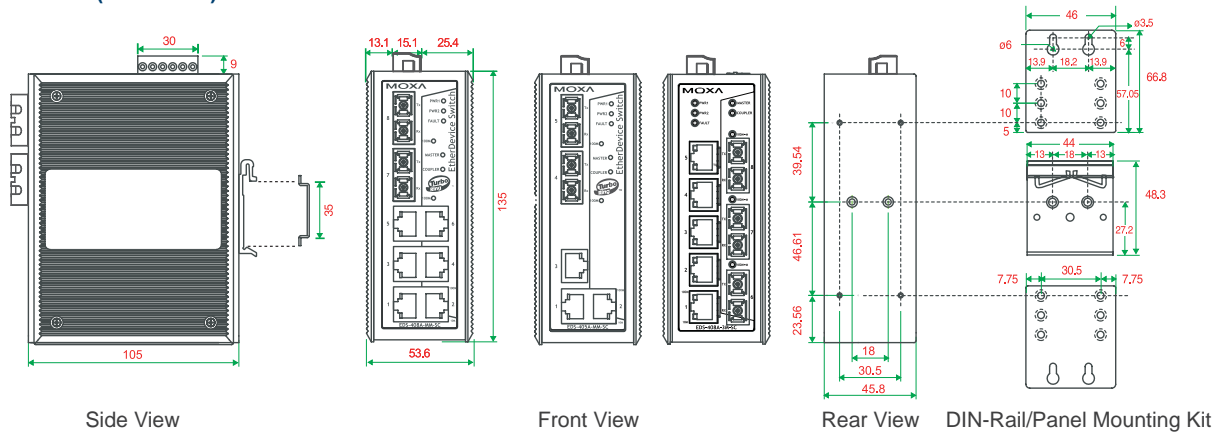
**Database:** Telcordia (Bellcore), GB

### Warranty

**Warranty Period:** 5 years

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

### Dimensions (unit = mm)



## 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	EDS-405A/408A-T	5/8	---	---	---
EDS-405A/408A-MM-SC	EDS-405A/408A-MM-SC-T	3/6	2	---	---
EDS-405A/408A-MM-ST	EDS-405A/408A-MM-ST-T	3/6	---	2	---
EDS-408A/405A-SS-SC	EDS-408A/405A-SS-SC-T	3/6	---	---	2
EDS-408A-3M-SC	EDS-408A-3M-SC-T	5	3	---	---
EDS-408A-3M-ST	EDS-408A-3M-ST-T	5	---	3	---
EDS-408A-3S-SC	EDS-408A-3S-SC-T	5	---	---	3
EDS-408A-2M1S-SC	EDS-408A-2M1S-SC-T	5	2	---	1
EDS-408A-1M2S-SC	EDS-408A-1M2S-SC-T	5	1	---	2

### Optional Accessories (can be purchased separately)

**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