

# EDS-405A/408A Series

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



- > Plug-n-Play Turbo Ring with fast recovery time within 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-408A/405A series Ethernet switches are entry-level 8 and 5-port managed Ethernet switches designed especially for industrial applications. The Ethernet 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 on the Ethernet switch's top panel.

### Features and Benefits

- 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 prevents unpredictable network status
- Port mirroring for online debugging
- Automatic warning by exception through e-mail, relay output

### 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, DHCP Option 82, BootP, TFTP, SMTP, RARP, RMON, HTTP, Telnet, Syslog

**MIB:** MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON Group 1, 2, 3, 9

**Flow Control:** IEEE 802.3x flow control, back pressure flow control

#### Interface

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

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

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

**LED Indicators:** PWR1, PWR2, FAULT, MASTER, COUPLER, 10/100M

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

**Alarm Contact:** One relay output with current carrying capacity of 1A @ 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, 3.5 PS/(nm\*km) fiber optic cable

#### Power Requirements

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

**Input Current (@ 24 V):** 0.26A/0.24A (EDS-408A/405A), 0.35A/0.32A (EDS-408A/405A-MM, -SS)

**Connection:** One removable 6-pin terminal block

**Overload Current Protection:** Present

**Reverse Polarity Protection:** Present

#### Physical Characteristics

**Casing:** IP30 protection, metal case

**Dimensions (W x H x D):** 53.6 x 135 x 105 mm (3.17 x 5.31 x 4.13 in.)

**Weight:** 650 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)

**Regulatory Approvals**

**Safety:** UL508, UL60950-1, CSA C22.2 No. 60950-1, EN60950-1

**Hazardous Location:**

UL/cUL Class I, Division 2, Groups A, B, C, and D;

ATEX Class I, Zone 2, Ex nC IIC (Pending)

**Maritime:** DNV, GL

**EMI:** FCC Part 15, CISPR (EN55022) class A

**EMS:** EN61000-4-2 (ESD), level 3

EN61000-4-3 (RS), level 3 (EDS-405A) / level 2 (EDS-408A)

EN61000-4-4 (EFT), level 3 (EDS-405A) / level 2 (EDS-408A)

EN61000-4-5 (Surge), level 3 (EDS-405A) / level 2 (EDS-408A)

EN61000-4-6 (CS), level 3 (EDS-405A) / level 2 (EDS-408A)

EN61000-4-8

EN61000-4-11

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

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

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

**MTBF:** EDS-408A series: 363,000 hrs

EDS-405A series: 392,000 hrs

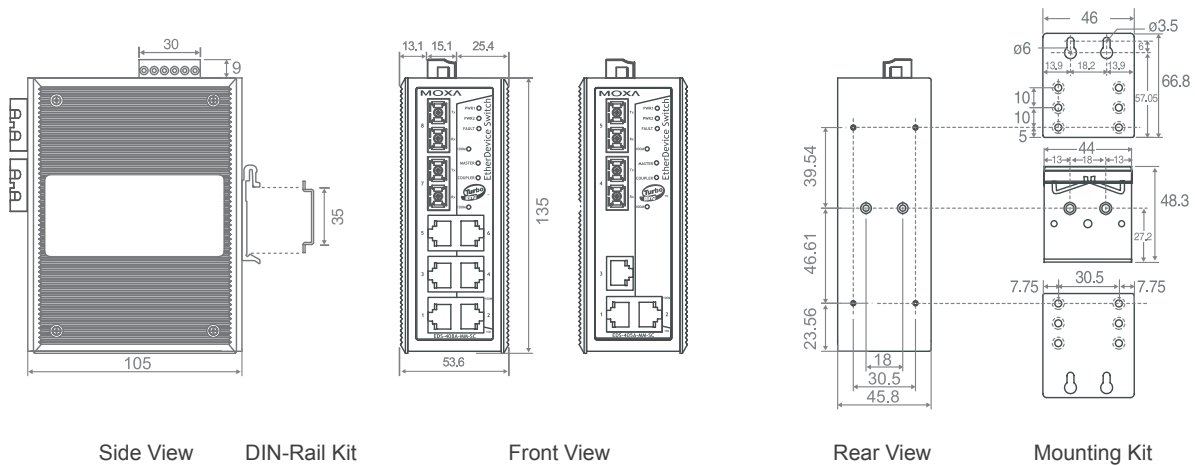
Database: Telcordia (Bellcore), GB

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

**Warranty**

5 years (see [www.moxa.com/warranty](http://www.moxa.com/warranty) for details)

**Dimensions (unit = mm)**



**Ordering Information**

Product Model		Port Interface			
Standard Temperature (0 to 60°C)	Extended Temperature (-40 to 75°C)	10/100BaseT(X)	100BaseFX		
			Multi Mode, SC Connector	Multi Mode, ST Connector	Single Mode, SC Connector
EDS-408A/405A	EDS-408A/405A-T	8/5			
EDS-408A/405A-MM-SC	EDS-408A/405A-MM-SC-T	6/3	2		
EDS-408A/405A-MM-ST	EDS-408A/405A-MM-ST-T	6/3		2	
EDS-408A/405A-SS-SC	EDS-408A/405A-SS-SC-T	6/3			2

**Optional Accessories**

- **ABC-01:** Industrial RS-232, RJ45-based, automatic backup configurator
- **EDS-SNMP OPC Server Pro:** CD with EDS-SNMP OPC server software and manual
- **DR-4524:** 45W/2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-75-24:** 75W/3.2A DIN-Rail 24 VDC power supply, 85 to 264 VAC input
- **DR-120-24:** 120W/5A DIN-Rail 24 VDC power supply, 88 to 132 VAC/176 to 264 VAC input by switch
- **WK-46:** Wall mounting kit
- **RK-4U:** 4U-high, 19" rack mounting kit