

# 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

The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.



### 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

- 3 fiber optic ports for long distance communication
- 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
- 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 66/67/82, BootP, TFTP, SNTP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, Syslog

**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

#### Switch Properties

**Priority Queues:** 4  
**Max. Number of Available VLANs:** 64  
**VLAN ID Range:** VID 1 to 4094

**IGMP Groups:** 256

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

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

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

**Alarm Contact:** 2 relay outputs 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):** 0.24A (EDS-405A), 0.26A (EDS-408A), 0.32A (EDS-405A-MM/SS, EDS-408A-3M/3S/2M1S/1M2S), 0.35A (EDS-408A)

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

**Overload Current Protection:** Present

**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:** 650 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 (EDS-408A-3M/3S/2M1S/1M2S Pending)

**Hazardous Location:** UL/cUL Class I, Division 2, Groups A, B, C, and D; ATEX Class I, Zone 2, Ex nC IIC (EDS-408A-3M/3S/2M1S/1M2S Pending)

**Maritime:** DNV, GL, ABS (Pending), LR (Pending), NKK (Pending)

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

**EMS:**

EN61000-4-2 (ESD), level 3

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

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

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

EN61000-4-6 (CS), level 3 for EDS-405A and level 2 for 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-405A Series: 392,000 hrs

EDS-408A Series: 363,000 hrs

Database: Telcordia (Bellcore), GB

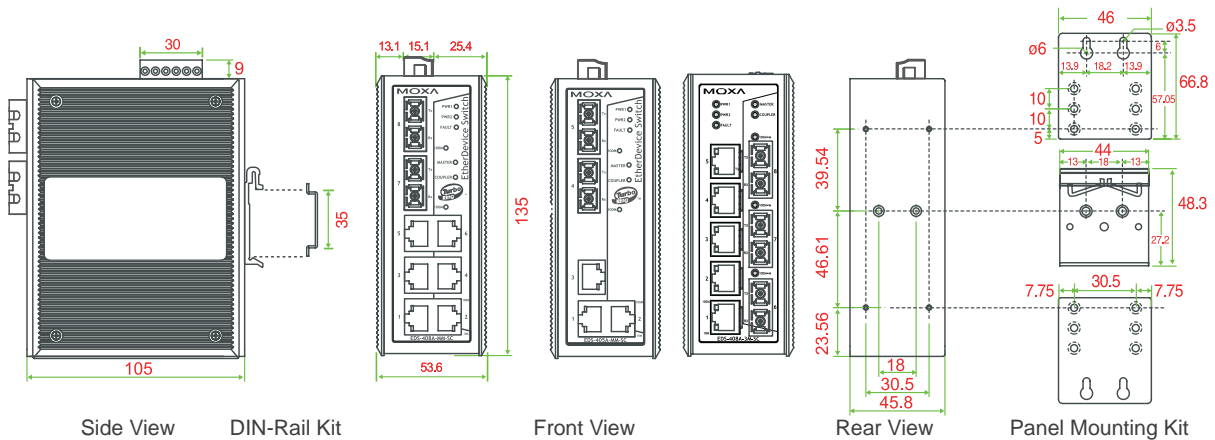
**Note:** Please check Moxa's website for the most up-to-date certification status.

**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-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
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)

**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 or 176 to 264 VAC input by switch

**WK-46:** Wall mounting kit

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