

# EDS-405A/408A Series

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



- ▶ Plug-n-Play Turbo Ring and Turbo Chain with fast recovery time (under 20 ms)
- ▶ IGMP Snooping QoS, IEEE 802.1Q 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 (optional accessory)



### 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, Turbo Chain, 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
- Turbo Ring and Turbo Chain (recovery time < 20 ms at full load), and RSTP/STP (IEEE 802.1w/D)
- 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) and 100BaseFX
- 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
- 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, 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

#### Switch Properties

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

**Packet Buffer Size:** 1 Mbit

#### Interface

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

**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

#### 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-405A-MM/SS: 0.32 A @ 24 V

EDS-408A: 0.26 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 (2.11 x 5.31 x 4.13 in)

**Weight:**

EDS-405A, EDS-405A-MM, EDS-405A-SS: 650 g

EDS-408A, EDS-408A-MM, EDS-408A-SS: 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

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

### Maritime:

EDS-405A, EDS-405A-MM, EDS-405A-SS: DNV, GL

EDS-408A, EDS-408A-MM, EDS-408A-SS: DNV, GL

EDS-408A-3M/3S/2M1S/1M2S: DNV, GL, ABS, LR, NK

**Rail Traffic:** EN50121-4 (EDS-408A series only)

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

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

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

Note: 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

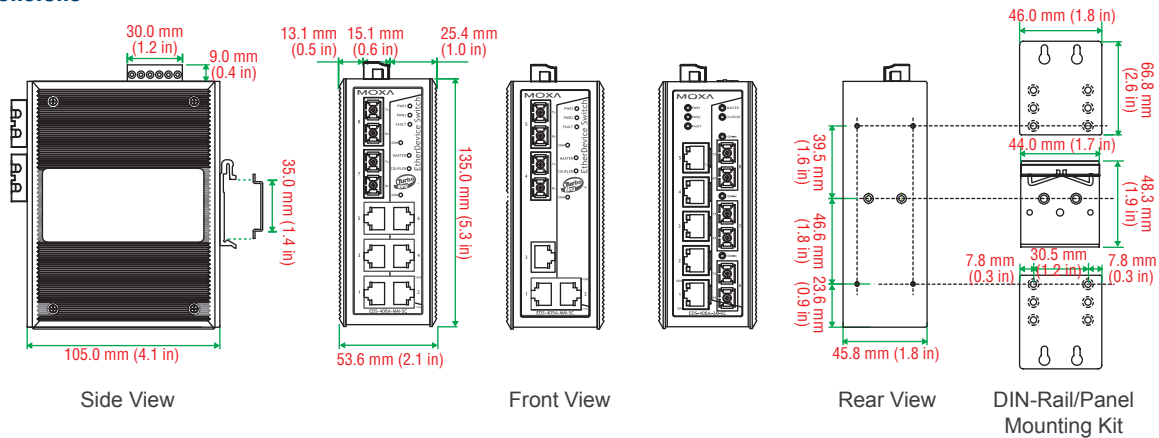
**Database:** Telcordia (Bellcore), GB

### Warranty

**Warranty Period:** 5 years

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

### Dimensions



### 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)

**MXview:** Moxa industrial network management software with 50, 100, 250, or 500 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