

EDS-405A/408A Series

5 and 8-port entry-level managed Ethernet switches



- > Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), and RSTP/STP for network redundancy
- > IGMP Snooping, QoS, IEEE 802.1Q VLAN, and port-based VLAN supported
- > Easy network management by web browser, CLI, Telnet/serial console, Windows utility, and ABC-01
- > PROFINET or EtherNet/IP enabled by default (PN or EIP models)
- > Supports MXstudio for easy, visualized industrial network management



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, IGMP snooping, IEEE 802.1Q VLAN, 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

- DHCP Option 82 for IP address assignment with different policies
- Support EtherNet/IP, Modbus/TCP and PROFINET* protocols for device management and monitoring
- EtherNet/IP EDS (Electronic Data Sheet) file, custom AOI (Add-On Instructions) and FactoryTalk® View faceplate available
- PROFINET GSDML file and SIMATIC STEP 7 device icons available*
- 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

* EDS-405A/408A-PN series only

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-2004 for Spanning Tree Protocol
- IEEE 802.1w for Rapid STP
- IEEE 802.1p for Class of Service
- IEEE 802.1Q for VLAN Tagging

Software Features

Management: IPv4/IPv6, SNMP v1/v2c/v3, LLDP, Port Mirror, RMON, DHCP Server/Client, DHCP Option 66/67/82, BootP, TFTP, SMTP, RARP, Telnet, Syslog, SNMP Inform, Flow Control, Back Pressure Flow Control

Filter: 802.1Q VLAN, Port-Based VLAN, GVRP, IGMP v1/v2, GMRP

Redundancy Protocols: STP, RSTP, Turbo Ring v1/v2, Turbo Chain

Time Management: SNTP, NTP Server/Client

Industrial Protocols: EtherNet/IP, Modbus/TCP

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

Switch Properties

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

Packet Buffer Size: 1 Mbit

Interface

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

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

Console Port: RS-232 (RJ45 connector)

DIP Switches: Turbo Ring, Master, Coupler, Reserve

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

Optical Fiber

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 μm 800 MHz*km	G.652
Typical Distance		4 km	5 km	40 km
Wave-length	Typical (nm)	1300		1310
	TX Range (nm)	1260 to 1360		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34
	Link Budget (dB)	12		29
Dispersion Penalty (dB)		3		1

Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.

Note: Compute the "typical distance" of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).

Power Requirements

Input Voltage: 24 VDC, redundant dual inputs

Operating Voltage: 12 to 45 VDC

Input Current: EDS-405A, EDS-405A-EIP, EDS-405A-PN: 0.21 A @ 24 V
EDS-405A-MM/SS: 0.28 A @ 24 V

EDS-408A, EDS-408A-EIP, EDS-408A-PN: 0.22 A @ 24 V

EDS-408A-MM/SS: 0.3 A @ 24 V

EDS-408A-3M/3S/2M1S/1M2S: 0.28 A @ 24 V

Overload Current Protection: Present

Connection: 1 removable 6-contact terminal block

Reverse Polarity Protection: Present

Physical Characteristics

Housing: Metal

IP Rating: 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, EDS-405A-PN,

EDS-405A-EIP: 650 g (1.44 lb)

EDS-408A, EDS-408A-MM, EDS-408A-SS, EDS-408A-PN,

EDS-408A-EIP: 650 g (1.44 lb)

EDS-408A-3M/3S/2M1S/1M2S: 890 g (1.97 lb)

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 1 Division 2 Groups A/B/C/D*, ATEX

Zone 2 Ex nA nC IIC T4 Gc***,

ATEX Zone 2 Ex nA nC op is IIC T4 Gc****

EMC: EN 55032/24

EMI: CISPR 32, FCC Part 15B Class A

EMS:

IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV

IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m

IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV

IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV

IEC 61000-4-6 CS: 10 V

IEC 61000-4-8

Traffic Control: NEMA TS2

Rail Traffic: EN 50121-4**

Marine:

EDS-405A/408A, EDS-405A/408A 2 Fiber series: DNV, GL

EDS-408A 3 Fiber series: DNV, GL, LR, ABS, NK

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

*EDS-405A/408A, EDS-405A/408A 2 Fiber series only

**EDS-408A only

***EDS-405A, EDS-405A 2 Fiber series only

****EDS-408A, EDS-408A 2 Fiber series only

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

MTBF (mean time between failures)

Time:

EDS-405A Series: 852,421 hrs

EDS-408A Series: 1,102,845 hrs

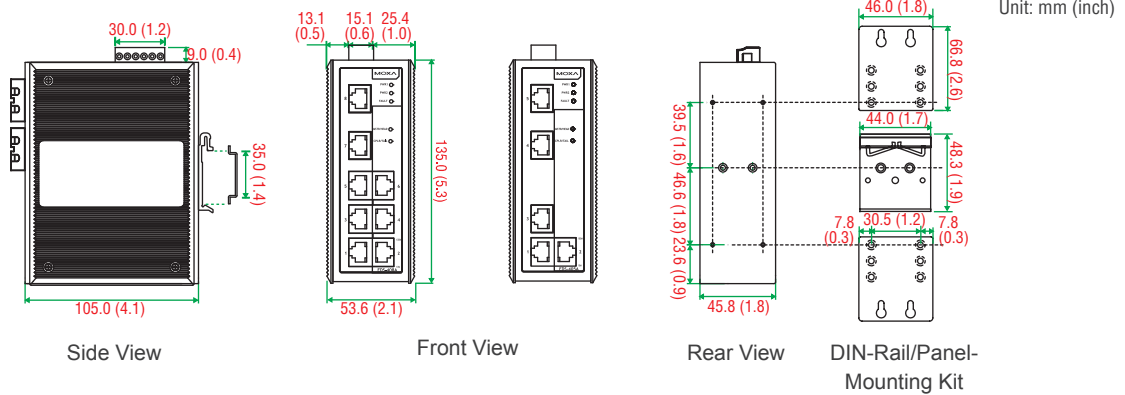
Standard: Telcordia (Bellcore), GB

Warranty

Warranty Period: 5 years

Details: See 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-405A/408A-SS-SC	EDS-405A/408A-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
EDS-405A/408A-EIP	EDS-405A/408A-EIP-T	5/8	–	–	–
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

RK-4U: 4U-high 19-inch rack-mounting kit

WK-46: Wall-mounting kit, 2 plates with 8 screws

Package Checklist

- EDS-405A or EDS-408A switch
- Serial Cable: CN20070
- Protective caps for unused ports
- Documentation and software CD
- Hardware installation guide (printed)
- Warranty card