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: 12/24/48 VDC, redundant dual inputs
Operating Voltage: 9.6 to 60 VDC
Input Current:
EDS-405A, EDS-405A-EIP, EDS-405A-PN: 0.21 A @ 24 V
EDS-405A-MM/SS: 0.26 A @ 24 V
EDS-408A, EDS-408A-EIP, EDS-408A-PN: 0.18 A @ 24 V
EDS-408A-MM/SS: 0.30 A @ 24 V
EDS-408A-3M/3S/2M1S/1M2S: 0.35 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: -10 to 60°C (14 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*
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: 20 V/m
IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 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**
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-31
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)

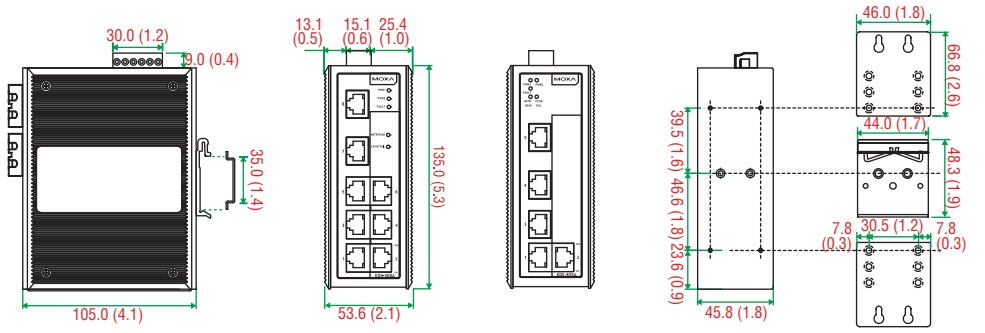
Time:
EDS-405A Series: 1,547,941 hrs
EDS-408A Series: 1,339,439 hrs
Standard: Telcordia (Bellcore), GB

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Side View | Front View | Rear View | DIN-Rail/ Panel-Mounting Kit

Ordering Information

Available Models		Port Interface			
Standard Temperature (-10 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-46-01: Wall-mounting kit, 2 plates with 8 screws

Package Checklist

- EDS-405A or EDS-408A switch
- Serial Cable: CN20070
- Protective caps for unused ports
- Quick installation guide (printed)
- Warranty card