

# EDS-408A Series

## 8-port entry-level managed Ethernet switches



### Features and Benefits

- 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

### Certifications



## Introduction

The EDS-408A Series is 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-408A switches.

### Additional Features and Benefits

- DHCP Option 82 for IP address assignment with different policies
- Supports EtherNet/IP, Modbus TCP and PROFINET<sup>1</sup> 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<sup>1</sup>
- Port mirroring for online debugging
- 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 proactive and efficient network monitoring
- SNMPv1/v2c/v3 for different levels of network management security
- Bandwidth management to prevent unpredictable network status

## Specifications

### Ethernet Interface

|  |  |
|--|--|
| 10/100BaseT(X) Ports (RJ45 connector)      | EDS-408A/408A-T, EDS-408A-EIP/PN Series: 8<br>EDS-408A-MM-SC/MM-ST/SS-SC Series: 6<br>EDS-408A-3M-SC/3M-ST/3S-SC/3S-SC-48/1M2S-SC/2M1S-SC Series: 5<br><br>All models support:<br>Auto negotiation speed<br>Full/Half duplex mode<br>Auto MDI/MDI-X connection |
| 100BaseFX Ports (multi-mode SC connector)  | EDS-408A-MM-SC/2M1S-SC Series: 2<br>EDS-408A-3M-SC Series: 3<br>EDS-408A-1M2S-SC Series: 1   |
| 100BaseFX Ports (multi-mode ST connector)  | EDS-408A-MM-ST Series: 2<br>EDS-408A-3M-ST Series: 3   |
| 100BaseFX Ports (single-mode SC connector) | EDS-408A-SS-SC/1M2S-SC Series: 2<br>EDS-408A-2M1S-SC Series: 1<br>EDS-408A-3S-SC/3S-SC-48 Series: 3  |

1. EDS-408A-PN Series only

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|               |   |                         |            |              |       |
|---------------|---|-------------------------|------------|--------------|-------|
| Standards     | IEEE 802.3 for 10BaseT<br>IEEE 802.3u for 100BaseT(X) and 100BaseFX<br>IEEE 802.3x for flow control<br>IEEE 802.1D-2004 for Spanning Tree Protocol<br>IEEE 802.1p for Class of Service<br>IEEE 802.1Q for VLAN Tagging<br>IEEE 802.1w for Rapid Spanning Tree Protocol  |                         |            |              |       |
| Optical Fiber |   |                         | 100BaseFX  |              |       |
|               |   |                         | Multi-Mode | Single-Mode  |       |
|               | Fiber Cable Type  |                         | OM1        | 50/125 μm    | G.652 |
|               |   |                         |            | 800 MHz x km |       |
|               | Typical Distance  |                         | 4 km       | 5 km         | 40 km |
|               | Wavelength  | Typical (nm)            |            | 1300         |       |
|               |   | TX Range (nm)           |            | 1260 to 1360 |       |
|               |   | RX Range (nm)           |            | 1100 to 1600 |       |
|               | Optical Power   | TX Range (dBm)          |            | -10 to -20   |       |
|               |   | RX Range (dBm)          |            | -3 to -32    |       |
|               |   | Link Budget (dB)        |            | 12           |       |
|               |   | Dispersion Penalty (dB) |            | 3            |       |
|               | <p>Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.</p> <p>Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) &gt; dispersion penalty (dB) + total link loss (dB).</p> |                         |            |              |       |

### Ethernet Software Features

|                      |   |
|----------------------|---|
| Filter               | 802.1Q VLAN, GMRP, GVRP, IGMP v1/v2, Port-based VLAN  |
| Industrial Protocols | EtherNet/IP, Modbus TCP, EDS-408A-PN Series: PROFINET IO Device (Slave)   |
| Management           | Back Pressure Flow Control, BOOTP, DHCP Option 66/67/82, DHCP Server/Client, Flow control, IPv4/IPv6, LLDP, Port Mirror, RARP, RMON, SMTP, SNMP Inform, SNMPv1/v2c/v3, Syslog, Telnet, TFTP |
| MIB                  | Bridge MIB, Ethernet-like MIB, MIB-II, P-BRIDGE MIB, RMON MIB Groups 1, 2, 3, 9, RSTP MIB   |
| Redundancy Protocols | RSTP, STP, Turbo Chain, Turbo Ring v1/v2  |
| Time Management      | NTP Server/Client, SNTP   |

### Switch Properties

|                    |               |
|--------------------|---------------|
| IGMP Groups        | 256           |
| MAC Table Size     | 8 K           |
| Max. No. of VLANs  | 64            |
| Packet Buffer Size | 1 Mbits       |
| Priority Queues    | 4             |
| VLAN ID Range      | VID 1 to 4094 |

### Serial Interface

|              |  |
|--------------|--|
| Console Port | RS-232 (TxD, RxD, GND), 10-pin RJ45 (19200, n, 8, 1) |
|--------------|--|

## DIP Switch Configuration

|  |  |
|--|--|
| Ethernet Interface                     | Turbo Ring, Master, Coupler, Reserve   |
| <b>Input/Output Interface</b>          |  |
| Alarm Contact Channels                 | Relay output with current carrying capacity of 1 A @ 24 VDC  |
| <b>Power Parameters</b>                |  |
| Connection                             | 1 removable 6-contact terminal block(s)  |
| Input Voltage                          | All models: Redundant dual inputs<br>EDS-408A/408A-T, EDS-408A-MM-SC/MM-ST/SS-SC/3M-SC/3M-ST/3S-SC/1M2S-SC/<br>2M1S-SC/EIP/PN Series: 12/24/48 VDC<br>EDS-408A-3S-SC-48/408A-3S-SC-48-T: $\pm 24/\pm 48$ VDC         |
| Operating Voltage                      | EDS-408A/408A-T, EDS-408A-MM-SC/MM-ST/SS-SC/3M-SC/3M-ST/3S-SC/1M2S-SC/<br>2M1S-SC/EIP/PN Series: 9.6 to 60 VDC<br><br>EDS-408A-3S-SC-48 Series:<br>$\pm 19$ to $\pm 60$ VDC <sup>2</sup>                             |
| Input Current                          | EDS-408A/408A-T, EDS-408A-EIP/PN Series: 0.18 A @ 24 VDC<br>EDS-408A-MM-SC/MM-ST/SS-SC Series: 0.30 A @ 24 VDC<br>EDS-408A-3M-SC/3M-ST/3S-SC/3S-SC-48/1M2S-SC/2M1S-SC Series: 0.35 A @ 24 VDC                        |
| Overload Current Protection            | Supported  |
| Reverse Polarity Protection            | Supported  |
| <b>Physical Characteristics</b>        |  |
| Housing                                | Metal  |
| IP Rating                              | IP30   |
| Dimensions                             | 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)  |
| Weight                                 | EDS-408A/408A-T, EDS-408A-MM-SC/MM-ST/SS-SC, EDS-408A-EIP/PN Series: 650 g (1.44 lb)<br>EDS-408A-3M-SC/3M-ST/3S-SC/3S-SC-48/1M2S-SC/2M1S-SC Series: 890 g (1.97 lb)  |
| Installation                           | DIN-rail mounting, Wall mounting (with optional kit)   |
| <b>Environmental Limits</b>            |  |
| Operating Temperature                  | Standard Models: -10 to 60°C (32 to 140°F)<br>Wide Temp. Models: -40 to 75°C (-40 to 167°F)  |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F)   |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)  |
| <b>Standards and Certifications</b>    |  |
| Safety                                 | All models: EN 60950-1, UL 508<br>EDS-408A/408A-T, EDS-408A-MM-SC/MM-ST/SS-SC Series, EDS-EIP/PN Series: UL 60950-1  |
| EMC                                    | EN 55032/24  |
| EMI                                    | CISPR 32, FCC Part 15B Class A   |
| EMS                                    | IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV<br>IEC 61000-4-6 CS: 10 V |

2. -60 to -19 VDC or 19 to 60 VDC. Do not mix power polarity systems.

|                     |  |
|---------------------|--|
|                     | IEC 61000-4-8 PFMF   |
| Hazardous Locations | EDS-408A/408A-T, EDS-408A-MM-SC/MM-ST/SS-SC Series, EDS-408A-EIP/PN Series: ATEX, Class I Division 2                 |
| Maritime            | EDS-408A/408A-T, EDS-408A-MM/SS Series: NK<br>EDS-408A/408A-T, EDS-408A-MM/SS Series, EDS-408A-EIP/PN Series: DNV-GL |
| Railway             | EN 50121-4   |
| Traffic Control     | NEMA TS2   |
| Freefall            | IEC 60068-2-31   |
| Shock               | IEC 60068-2-27   |
| Vibration           | IEC 60068-2-6  |

#### MTBF

|      |   |
|------|---|
| Time | EDS-408A/408A-T, EDS-408A-EIP/PN Series: 1,339,439 hrs<br>EDS-408A-MM-SC/MM-ST/SS-SC/3M-SC/3M-ST/3S-SC/1M2S-SC/2M1S-SC Series: 1,253,072 hrs<br>EDS-408A-3S-SC-48 Series: 989,940 hrs |
|------|---|

|           |                          |
|-----------|--------------------------|
| Standards | Telcordia (Bellcore), GB |
|-----------|--------------------------|

#### Warranty

|                 |  |
|-----------------|--|
| Warranty Period | 5 years  |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

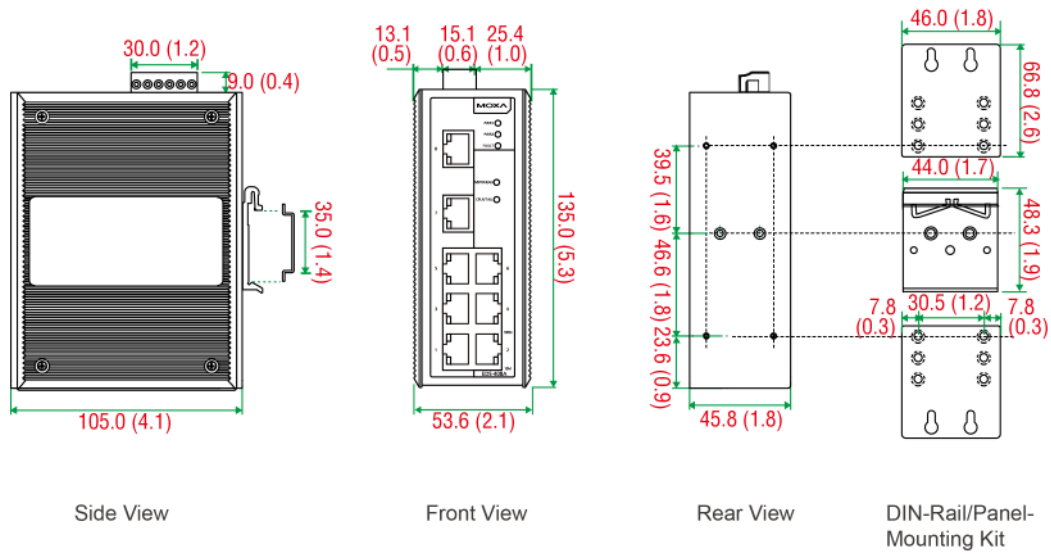
#### Package Contents

|                  |   |
|------------------|---|
| Device           | 1 x EDS-408A Series switch  |
| Cable            | 1 x RJ45-to-DB9 console cable   |
| Installation Kit | 4 x cap, plastic, for RJ45 port   |
| Documentation    | 1 x product certificates of quality inspection, Simplified Chinese<br>1 x product notice, Simplified Chinese<br>1 x quick installation guide<br>1 x warranty card |

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## Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name          | Layer | Total No. of Ports | 10/100BaseT(X) Ports RJ45 Connector | 100BaseFX Ports Multi-Mode, SC Connector | 100BaseFX Ports Multi-Mode, ST Connector | 100BaseFX Ports Single-Mode, SC Connector | Operating Temp. |
|---------------------|-------|--------------------|-------------------------------------|--|--|---|-----------------|
| EDS-408A            | 2     | 8                  | 8                                   | -  | -  | -   | -10 to 60°C     |
| EDS-408A-T          | 2     | 8                  | 8                                   | -  | -  | -   | -40 to 75°C     |
| EDS-408A-MM-ST      | 2     | 8                  | 6                                   | -  | 2  | -   | -10 to 60°C     |
| EDS-408A-MM-ST-T    | 2     | 8                  | 6                                   | -  | 2  | -   | -40 to 75°C     |
| EDS-408A-MM-SC      | 2     | 8                  | 6                                   | 2  | -  | -   | -10 to 60°C     |
| EDS-408A-MM-SC-T    | 2     | 8                  | 6                                   | 2  | -  | -   | -40 to 75°C     |
| EDS-408A-SS-SC      | 2     | 8                  | 6                                   | -  | -  | 2   | -10 to 60°C     |
| EDS-408A-SS-SC-T    | 2     | 8                  | 6                                   | -  | -  | 2   | -40 to 75°C     |
| EDS-408A-3M-ST      | 2     | 8                  | 5                                   | -  | 3  | -   | -10 to 60°C     |
| EDS-408A-3M-ST-T    | 2     | 8                  | 5                                   | -  | 3  | -   | -40 to 75°C     |
| EDS-408A-3M-SC      | 2     | 8                  | 5                                   | 3  | -  | -   | -10 to 60°C     |
| EDS-408A-3M-SC-T    | 2     | 8                  | 5                                   | 3  | -  | -   | -40 to 75°C     |
| EDS-408A-3S-SC      | 2     | 8                  | 5                                   | -  | -  | 3   | -10 to 60°C     |
| EDS-408A-3S-SC-T    | 2     | 8                  | 5                                   | -  | -  | 3   | -40 to 75°C     |
| EDS-408A-3S-SC-48   | 2     | 8                  | 5                                   | -  | -  | 3   | -10 to 60°C     |
| EDS-408A-3S-SC-48-T | 2     | 8                  | 5                                   | -  | -  | 3   | -40 to 75°C     |
| EDS-408A-1M2S-SC    | 2     | 8                  | 5                                   | 1  | -  | 2   | -10 to 60°C     |
| EDS-408A-1M2S-SC-T  | 2     | 8                  | 5                                   | 1  | -  | 2   | -40 to 75°C     |
| EDS-408A-2M1S-SC    | 2     | 8                  | 5                                   | 2  | -  | 1   | -10 to 60°C     |
| EDS-408A-2M1S-SC-T  | 2     | 8                  | 5                                   | 2  | -  | 1   | -40 to 75°C     |

| Model Name     | Layer | Total No. of Ports | 10/100BaseT(X) Ports RJ45 Connector | 100BaseFX Ports Multi-Mode, SC Connector | 100BaseFX Ports Multi-Mode, ST Connector | 100BaseFX Ports Single-Mode, SC Connector | Operating Temp. |
|----------------|-------|--------------------|-------------------------------------|--|--|---|-----------------|
| EDS-408A-EIP   | 2     | 8                  | 8                                   | –  | –  | –   | -10 to 60°C     |
| EDS-408A-EIP-T | 2     | 8                  | 8                                   | –  | –  | –   | -40 to 75°C     |
| EDS-408A-PN    | 2     | 8                  | 8                                   | –  | –  | –   | -10 to 60°C     |
| EDS-408A-PN-T  | 2     | 8                  | 8                                   | –  | –  | –   | -40 to 75°C     |

## Accessories (sold separately)

### Storage Kits

|        |  |
|--------|--|
| ABC-01 | Configuration backup and restoration tool for managed Ethernet switches and AWK Series wireless APs/bridges/clients, 0 to 60°C operating temperature |
|--------|--|

### Power Supplies

|           |   |
|-----------|---|
| DR-120-24 | 120W/2.5A DIN-rail 24 VDC power supply with universal 88 to 132 VAC or 176 to 264 VAC input by switch, or 248 to 370 VDC input, -10 to 60°C operating temperature |
| DR-4524   | 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°C operating temperature                                       |
| DR-75-24  | 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 60°C operating temperature                                     |
| MDR-40-24 | DIN-rail 24 VDC power supply with 40W/1.7A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature   |
| MDR-60-24 | DIN-rail 24 VDC power supply with 60W/2.5A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature   |

### Wall-Mounting Kits

|          |   |
|----------|---|
| WK-46-01 | Wall-mounting kit, 2 plates, 8 screws, 46 x 66.8 x 2 mm |
|----------|---|

### Rack-Mounting Kits

|       |                           |
|-------|---------------------------|
| RK-4U | 19-inch rack-mounting kit |
|-------|---------------------------|

### Software

|                   |  |
|-------------------|--|
| MXview-50         | Industrial network management software with a license for 50 nodes (by IP address)             |
| MXview-100        | Industrial network management software with a license for 100 nodes (by IP address)            |
| MXview-250        | Industrial network management software with a license for 250 nodes (by IP address)            |
| MXview-500        | Industrial network management software with a license for 500 nodes (by IP address)            |
| MXview-1000       | Industrial network management software with a license for 1000 nodes (by IP address)           |
| MXview-2000       | Industrial network management software with a license for 2000 nodes (by IP address)           |
| MXview Upgrade-50 | License expansion of MXview industrial network management software by 50 nodes (by IP address) |

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