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

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\(^1\) 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\(^1\)
• 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  
| | EDS-408A-3M-SC/3M-ST/SS-SC/3S-SC-48/1M2S-SC/2M1S-SC Series: 5  
| | All models support:  
| | Auto negotiation speed  
| | Full/Half duplex mode  
| | Auto MDI/MDI-X connection  

| 100BaseFX Ports (multi-mode SC connector) | EDS-408A-MM-SC/2M1S-SC Series: 2  
| | EDS-408A-3M-SC Series: 3  
| | EDS-408A-1M2S-SC Series: 1  

| 100BaseFX Ports (multi-mode ST connector) | EDS-408A-MM-ST Series: 2  
| | EDS-408A-3M-ST Series: 3  

| 100BaseFX Ports (single-mode SC connector) | EDS-408A-SS-SC/1M2S-SC Series: 2  
| | EDS-408A-2M1S-SC Series: 1  
| | EDS-408A-3S-SC/3S-SC-48 Series: 3  

1. EDS-408A-PN Series only
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 802.1p for Class of Service
- IEEE 802.1Q for VLAN Tagging
- IEEE 802.1w for Rapid Spanning Tree Protocol

Optical Fiber

### 100BaseFX

<table>
<thead>
<tr>
<th>Fiber Cable Type</th>
<th>OM1</th>
<th>50/125 µm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Distance</td>
<td>4 km</td>
<td>5 km</td>
</tr>
</tbody>
</table>

#### Wave Length

- **Typical (nm)**: 1300
- **TX Range (nm)**: 1260 to 1360
- **RX Range (nm)**: 1100 to 1600
- **TX Range (dBm)**: -10 to -20
- **RX Range (dBm)**: -3 to -32
- **Link Budget (dB)**: 12
- **Dispersion Penalty (dB)**: 1

#### Optical Power

- **TX Range (dBm)**: -10 to -20
- **RX Range (dBm)**: -3 to -32

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).

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

<table>
<thead>
<tr>
<th>Ethernet Interface</th>
<th>Turbo Ring, Master, Coupler, Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input/Output Interface</td>
<td>Relay output with current carrying capacity of 1 A @ 24 VDC</td>
</tr>
</tbody>
</table>

### Power Parameters

<table>
<thead>
<tr>
<th>Connection</th>
<th>1 removable 6-contact terminal block(s)</th>
</tr>
</thead>
</table>
| Input Voltage                      | All models: Redundant dual inputs  
EDS-408A-3S-SC-48 Series: ±19 to ±60 VDC |
| Input Current                      | EDS-408A/408A-T, EDS-408A-EIP/PN Series: 0.18 A @ 24 VDC  
EDS-408A-MM-SC/MM-ST/SS-SC Series: 0.30 A @ 24 VDC  
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 |

### Physical Characteristics

<table>
<thead>
<tr>
<th>Housing</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Rating</td>
<td>IP30</td>
</tr>
<tr>
<td>Dimensions</td>
<td>53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)</td>
</tr>
</tbody>
</table>
| Weight                             | EDS-408A/408A-T, EDS-408A-MM-SC/MM-ST/SS-SC, EDS-408A-EIP/PN Series: 650 g (1.44 lb)  
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) |

### Environmental Limits

| Operating Temperature              | Standard Models: -10 to 60°C (32 to 140°F)  
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) |

### Safety

| All models: EN 60950-1, UL 508  
| 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 |

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2. -60 to -19 VDC or 19 to 60 VDC. Do not mix power polarity systems.
|---------------------|--------------------------------------------------------------------------------------------------|
| Maritime            | EDS-408A/408A-T, EDS-408A-MM/SS Series: NK  
| 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  
EDS-408A-MM-SC/MM-ST/SS-SC/3M-SC/3M-ST/3S-SC/1M2S-SC/2M1S-SC Series:  
1,253,072 hrs  
EDS-408A-3S-SC-48 Series: 989,940 hrs |
| Standards           | Telcordia (Bellcore), GB                                                                          |
| **Warranty**        |                                                                                                 |
| Warranty Period     | 5 years                                                                                          |
| Details             | See www.moxa.com/warranty                                                                        |

**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  
1 x product notice, Simplified Chinese  
1 x quick installation guide  
1 x warranty card     |
### Dimensions

Unit: mm (inch)

![Dimensions Diagram](image)

### Ordering Information

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

**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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