

# EDS-508A Series

## 8-port managed Ethernet switches



### Features and Benefits

- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), and STP/RSTP/MSTP for network redundancy
- TACACS+, SNMPv3, IEEE 802.1X, HTTPS, and SSH to enhance network security
- Easy network management by web browser, CLI, Telnet/serial console, Windows utility, and ABC-01
- Supports MXstudio for easy, visualized industrial network management

### Certifications



## Introduction

The EDS-508A standalone 8-port managed Ethernet switches, with their advanced Turbo Ring and Turbo Chain technologies (recovery time < 20 ms), RSTP/STP, and MSTP, increase the reliability and availability of your industrial Ethernet network. Models with a wide operating temperature range of -40 to 75°C are also available, and the switches support advanced management and security features, making the EDS-508A switches suitable for any harsh industrial environment.

### Additional Features and Benefits

- Command line interface (CLI) for quickly configuring major managed functions
- DHCP Option 82 for IP address assignment with different policies
- Supports EtherNet/IP and Modbus TCP protocols for device management and monitoring
- Compatible with PROFINET protocol for transparent data transmission
- Automatic warning by exception through email and relay output
- 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/1Q and TOS/DiffServ) to increase determinism
- Port Trunking for optimum bandwidth utilization
- RMON for proactive and efficient network monitoring
- SNMPv1/v2c/v3 for different levels of network management
- Bandwidth management to prevent unpredictable network status
- Lock port function for blocking unauthorized access based on MAC address

## Specifications

### Input/Output Interface

|                        |                                                                                 |
|------------------------|---------------------------------------------------------------------------------|
| Alarm Contact Channels | 2, Relay output with current carrying capacity of 1 A @ 24 VDC                  |
| Digital Input Channels | 2                                                                               |
| Digital Inputs         | +13 to +30 V for state 1<br>-30 to +3 V for state 0<br>Max. input current: 8 mA |
| Buttons                | Reset button                                                                    |

### Ethernet Interface

|                                           |                                                                                                                                                           |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10/100BaseT(X) Ports (RJ45 connector)     | EDS-508A Series: 8<br>EDS-508A-MM/SS Series: 6<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-508A-MM-SC Series: 2                                                                                                                                  |

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 100BaseFX Ports (multi-mode ST connector)        | EDS-508A-MM-ST Series: 2                                                                                                                                                                                                                                                                                                                                                                             |
| 100BaseFX Ports (single-mode SC connector)       | EDS-508A-SS-SC Series: 2                                                                                                                                                                                                                                                                                                                                                                             |
| 100BaseFX Ports, Single-Mode SC Connector, 80 km | EDS-508A-SS-SC-80 Series: 2                                                                                                                                                                                                                                                                                                                                                                          |
| Standards                                        | IEEE 802.3 for 10BaseT<br>IEEE 802.3u for 100BaseT(X) and 100BaseFX<br>IEEE 802.1X for authentication<br>IEEE 802.1D-2004 for Spanning Tree Protocol<br>IEEE 802.1w for Rapid Spanning Tree Protocol<br>IEEE 802.1s for Multiple Spanning Tree Protocol<br>IEEE 802.1Q for VLAN Tagging<br>IEEE 802.1p for Class of Service<br>IEEE 802.3x for flow control<br>IEEE 802.3ad for Port Trunk with LACP |

|               |  |                                                                                                                                                     |                         |            |              |                     |                     |              |
|---------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------|--------------|---------------------|---------------------|--------------|
| Optical Fiber |  |                                                                                                                                                     |                         | 100BaseFX  |              |                     |                     |              |
|               |  |                                                                                                                                                     |                         | Multi-Mode |              | Single-Mode (40 km) | Single-Mode (80 km) |              |
|               |  | Fiber Cable Type                                                                                                                                    |                         | OM1        | 50/125 μm    | G.652               | G.652               |              |
|               |  |                                                                                                                                                     |                         |            | 800 MHz x km |                     |                     |              |
|               |  | Typical Distance                                                                                                                                    |                         | 4 km       | 5 km         | 40 km               | 80 km               |              |
|               |  | Wave-length                                                                                                                                         | Typical (nm)            |            | 1300         |                     | 1310                | 1550         |
|               |  |                                                                                                                                                     | TX Range (nm)           |            | 1260 to 1360 |                     | 1280 to 1340        | 1530 to 1570 |
|               |  |                                                                                                                                                     | RX Range (nm)           |            | 1100 to 1600 |                     | 1100 to 1600        | 1100 to 1600 |
|               |  | Optical Power                                                                                                                                       | TX Range (dBm)          |            | -10 to -20   |                     | 0 to -5             | 0 to -5      |
|               |  |                                                                                                                                                     | RX Range (dBm)          |            | -3 to -32    |                     | -3 to -34           | -3 to -34    |
|               |  |                                                                                                                                                     | Link Budget (dB)        |            | 12           |                     | 29                  | 29           |
|               |  |                                                                                                                                                     | Dispersion Penalty (dB) |            | 3            |                     | 1                   | 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). |                         |            |              |                     |                     |              |

|                            |                                                                                                                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet Software Features |                                                                                                                                                                                                               |
| Filter                     | 802.1Q VLAN, Port-based VLAN, IGMP v1/v2, GVRP, GMRP                                                                                                                                                          |
| Industrial Protocols       | EtherNet/IP, Modbus TCP                                                                                                                                                                                       |
| Management                 | IPv4/IPv6, SNMPv1/v2c/v3, LLDP, Port Mirror, Back Pressure Flow Control, BOOTP, DDM, DHCP Option 66/67/82, DHCP Server/Client, Fiber check, Flow control, RARP, RMON, SMTP, SNMP Inform, Syslog, Telnet, TFTP |
| MIB                        | MIB-II, Bridge MIB, Ethernet-like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, RMON MIB Groups 1, 2, 3, 9, RSTP MIB                                                                                                       |
| Redundancy Protocols       | STP, MSTP, RSTP, LACP, Link Aggregation, Turbo Chain, Turbo Ring v1/v2                                                                                                                                        |
| Security                   | HTTPS/SSL, TACACS+, Port Lock, RADIUS, SSH                                                                                                                                                                    |
| Time Management            | NTP Server/Client, SNTP, IEEE 1588v2 PTP (software-based)                                                                                                                                                     |

|                   |     |
|-------------------|-----|
| 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                                                                                                                                                                              |
| <b>LED Interface</b>                   |                                                                                                                                                                                            |
| LED Indicators                         | PWR1, PWR2, FAULT, 10/100M (TP port), 100M (fiber port), MSTR/HEAD, CPLR/TAIL                                                                                                              |
| <b>Serial Interface</b>                |                                                                                                                                                                                            |
| Console Port                           | RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1)                                                                                                                                       |
| <b>DIP Switch Configuration</b>        |                                                                                                                                                                                            |
| Ethernet Interface                     | Turbo Ring, Master, Coupler, Reserve                                                                                                                                                       |
| <b>Power Parameters</b>                |                                                                                                                                                                                            |
| Connection                             | 2 removable 6-contact terminal block(s)                                                                                                                                                    |
| Input Voltage                          | 12/24/48 VDC, Redundant dual inputs                                                                                                                                                        |
| Operating Voltage                      | 9.6 to 60 VDC                                                                                                                                                                              |
| Input Current                          | EDS-508A Series: 0.22 A @ 24 VDC<br>EDS-508A-MM/SS Series: 0.30 A @ 24 VDC                                                                                                                 |
| Overload Current Protection            | Supported                                                                                                                                                                                  |
| Reverse Polarity Protection            | Supported                                                                                                                                                                                  |
| <b>Physical Characteristics</b>        |                                                                                                                                                                                            |
| Housing                                | Metal                                                                                                                                                                                      |
| IP Rating                              | IP30                                                                                                                                                                                       |
| Dimensions                             | 80.2 x 135 x 105 mm (3.16 x 5.31 x 4.13 in)                                                                                                                                                |
| Weight                                 | 1040 g (2.3 lb)                                                                                                                                                                            |
| Installation                           | DIN-rail mounting, Wall mounting (with optional kit)                                                                                                                                       |
| <b>Environmental Limits</b>            |                                                                                                                                                                                            |
| Operating Temperature                  | Standard Models: -10 to 60°C (14 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                                 | EN 60950-1, UL 60950-1, CSA C22.2 No. 60950-1, UL 508                                                                                                                                      |
| Hazardous Locations                    | ATEX, Class I Division 2                                                                                                                                                                   |
| 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: 20 V/m<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV |

|           |                                              |
|-----------|----------------------------------------------|
|           | IEC 61000-4-6 CS: 10 V<br>IEC 61000-4-8 PFMF |
| Shock     | IEC 60068-2-27                               |
| Vibration | IEC 60068-2-6                                |
| Freefall  | IEC 60068-2-31                               |

#### MTBF

|           |                          |
|-----------|--------------------------|
| Time      | 1,043,909 hrs            |
| Standards | Telcordia (Bellcore), GB |

#### Warranty

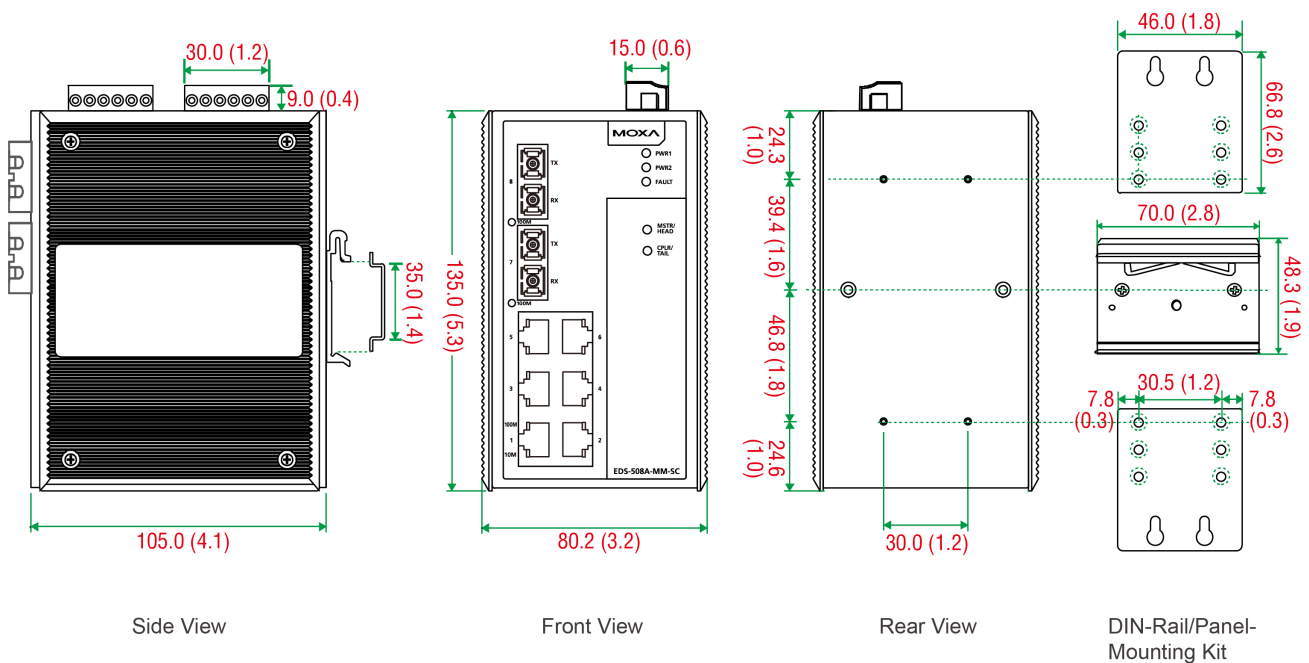
|                 |                                                                      |
|-----------------|----------------------------------------------------------------------|
| Warranty Period | 5 years                                                              |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty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

#### Package Contents

|                  |                                                                                                                                                                   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device           | 1 x EDS-508A Series switch                                                                                                                                        |
| Cable            | 1 x DB9 female to RJ45 10-pin                                                                                                                                     |
| Installation Kit | 4 x cap, plastic, for RJ45 port<br>2 x cap, plastic, for SC fiber port (-SC models)<br>2 x cap, plastic, for ST fiber port (-ST models)                           |
| Documentation    | 1 x quick installation guide<br>1 x warranty card<br>1 x product certificates of quality inspection, Simplified Chinese<br>1 x product notice, Simplified Chinese |

## Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name          | 10/100BaseT(X)<br>Ports, RJ45<br>Connector | 100BaseFX Ports<br>Multi-Mode, SC<br>Connector | 100BaseFX Ports<br>Multi-Mode, ST<br>Connector | 100BaseFX Ports<br>Single-Mode, SC<br>Connector | 100BaseFX Ports<br>Single-Mode, SC<br>Connector, 80 km | Operating Temp. |
|---------------------|--------------------------------------------|------------------------------------------------|------------------------------------------------|-------------------------------------------------|--------------------------------------------------------|-----------------|
| EDS-508A            | 8                                          | –                                              | –                                              | –                                               | –                                                      | -10 to 60°C     |
| EDS-508A-T          | 8                                          | –                                              | –                                              | –                                               | –                                                      | -40 to 75°C     |
| EDS-508A-MM-SC      | 6                                          | 2                                              | –                                              | –                                               | –                                                      | -10 to 60°C     |
| EDS-508A-MM-SC-T    | 6                                          | 2                                              | –                                              | –                                               | –                                                      | -40 to 75°C     |
| EDS-508A-MM-ST      | 6                                          | –                                              | 2                                              | –                                               | –                                                      | -10 to 60°C     |
| EDS-508A-MM-ST-T    | 6                                          | –                                              | 2                                              | –                                               | –                                                      | -40 to 75°C     |
| EDS-508A-SS-SC      | 6                                          | –                                              | –                                              | 2                                               | –                                                      | -10 to 60°C     |
| EDS-508A-SS-SC-T    | 6                                          | –                                              | –                                              | 2                                               | –                                                      | -40 to 75°C     |
| EDS-508A-SS-SC-80   | 6                                          | –                                              | –                                              | –                                               | 2                                                      | -10 to 60°C     |
| EDS-508A-SS-SC-80-T | 6                                          | –                                              | –                                              | –                                               | 2                                                      | -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 | Wall-mounting kit, 2 plates, 8 screws, 46.5 x 66.8 x 1 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) |

© Moxa Inc. All rights reserved. Updated Sep 10, 2019.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.