# EDS-208A Series

## 8-port compact unmanaged Ethernet switches

### Features and Benefits

- 10/100BaseT(X) (RJ45 connector), 100BaseFX (multi/single-mode, SC or ST connector)

- Redundant dual 12/24/48 VDC power inputs

- IP30 aluminum housing

- Rugged hardware design well suited for hazardous locations (Class 1 Div. 2/ ATEX Zone 2), transportation (NEMA TS2/EN 50121-4/e-Mark), and maritime environments (DNV/GL/LR/ABS/NK)

- -40 to 75°C operating temperature range (-T models)

### Certifications

## Introduction

The EDS-208A Series 8-port industrial Ethernet switches support IEEE 802.3 and IEEE 802.3u/x with 10/100M full/half-duplex, MDI/MDI-X auto-sensing. The EDS-208A Series has 12/24/48 VDC (9.6 to 60 VDC) redundant power inputs that can be connected simultaneously to live DC power sources. These switches have been designed for harsh industrial environments, such as in maritime (DNV/GL/LR/ABS/NK), rail wayside, highway, or mobile applications (EN 50121-4/NEMA TS2/e-Mark), or hazardous locations (Class I Div. 2, ATEX Zone 2) that comply with FCC, UL, and CE standards.

The EDS-208A switches are available with a standard operating temperature range from -10 to 60°C, or with a wide operating temperature range from -40 to 75°C. All models are subjected to a 100% burn-in test to ensure that they fulfill the special needs of industrial automation control applications. In addition, the EDS-208A switches have DIP switches for enabling or disabling broadcast storm protection, providing another level of flexibility for industrial applications.

## Specifications

### Ethernet Interface

| | |
|---|---|
| 10/100BaseT(X) Ports (RJ45 connector) | EDS-208A/208A-T: 8<br>EDS-208A-M-SC/M-ST/S-SC Series: 7<br>EDS-208A-MM-SC/MM-ST/SS-SC 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-208A-M-SC Series: 1<br>EDS-208A-MM-SC Series: 2 |
| 100BaseFX Ports (multi-mode ST connector) | EDS-208A-M-ST Series: 1<br>EDS-208A-MM-ST Series: 2 |
| 100BaseFX Ports (single-mode SC connector) | EDS-208A-S-SC Series: 1<br>EDS-208A-SS-SC Series: 2 |

| Standards | IEEE 802.3 for 10BaseT<br>IEEE 802.3u for 100BaseT(X) and 100BaseFX<br>IEEE 802.3x for flow control |
|---|---|

| 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 | | 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).

## Switch Properties

| MAC Table Size | 2 K |
|---|---|
| Packet Buffer Size | 768 kbits |
| Processing Type | Store and Forward |

## Power Parameters

| Connection | 1 removable 4-contact terminal block(s) |
|---|---|
| Input Current | EDS-208A/208A-T, EDS-208A-M-SC/M-ST/S-SC Series: 0.11 A @ 24 VDC<br>EDS-208A-MM-SC/MM-ST/SS-SC Series: 0.15 A @ 24 VDC |
| Input Voltage | 12/24/48 VDC, Redundant dual inputs |
| Operating Voltage | 9.6 to 60 VDC |
| Overload Current Protection | Supported |
| Reverse Polarity Protection | Supported |

## DIP Switch Configuration

| Ethernet Interface | Broadcast storm protection |
|---|---|

## Physical Characteristics

| Housing | Aluminum |
|---|---|
| IP Rating | IP30 |
| Dimensions | 50 x 114 x 70 mm (1.96 x 4.49 x 2.76 in) |
| Weight | 275 g (0.61 lb) |
| Installation | DIN-rail mounting, Wall mounting (with optional kit) |

## Environmental Limits

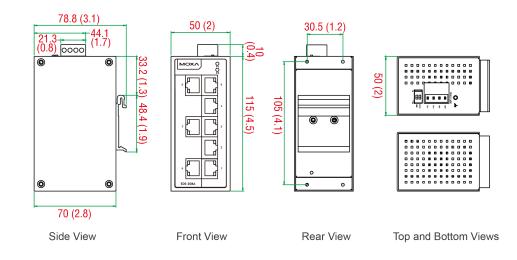| | |
|---|---|
| Operating Temperature | Standard Models: -10 to 60°C (14 to 140°F)<br>Wide Temp. Models: -40 to 75°C (-40 to 167°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F) |
| Ambient Relative Humidity | 5 to 95% (non-condensing) |

## Standards and Certifications

| | |
|---|---|
| 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: 1 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV<br>IEC 61000-4-6 CS: 10 V<br>IEC 61000-4-8 PFMF |
| Hazardous Locations | ATEX, Class I Division 2 |
| Maritime | ABS, DNV-GL, LR, NK |
| Railway | EN 50121-4 |
| Safety | UL 508 |
| Shock | IEC 60068-2-27 |
| Traffic Control | NEMA TS2 |
| Vibration | IEC 60068-2-6 |
| Freefall | IEC 60068-2-31 |

## MTBF

| | |
|---|---|
| Time | 2,701,531 hrs |
| Standards | Telcordia (Bellcore), GB |

## Warranty

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

## Package Contents

| | |
|---|---|
| Device | 1 x EDS-208A Series switch |
| Documentation | 1 x quick installation guide<br>1 x warranty card |

# Dimensions

Unit: mm (inch)



Side View       Front View       Rear View       Top and Bottom Views

# Ordering Information

| Model Name | 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-208A | 8 | – | – | – | -10 to 60°C |
| EDS-208A-T | 8 | – | – | – | -40 to 75°C |
| EDS-208A-M-SC | 7 | 1 | – | – | -10 to 60°C |
| EDS-208A-M-SC-T | 7 | 1 | – | – | -40 to 75°C |
| EDS-208A-M-ST | 7 | – | 1 | – | -10 to 60°C |
| EDS-208A-M-ST-T | 7 | – | 1 | – | -40 to 75°C |
| EDS-208A-MM-SC | 6 | 2 | – | – | -10 to 60°C |
| EDS-208A-MM-SC-T | 6 | 2 | – | – | -40 to 75°C |
| EDS-208A-MM-ST | 6 | – | 2 | – | -10 to 60°C |
| EDS-208A-MM-ST-T | 6 | – | 2 | – | -40 to 75°C |
| EDS-208A-S-SC | 7 | – | – | 1 | -10 to 60°C |
| EDS-208A-S-SC-T | 7 | – | – | 1 | -40 to 75°C |
| EDS-208A-SS-SC | 6 | – | – | 2 | -10 to 60°C |
| EDS-208A-SS-SC-T | 6 | – | – | 2 | -40 to 75°C |

# Accessories (sold separately)

### 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

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|---|---|
| WK-30 | Wall-mounting kit, 2 plates, 4 screws, 40 x 30 x 1 mm |
| 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 |

www.yoisys.com | moxa@yoisys.com