

EDS-205A/208A Series

5 and 8-port unmanaged Ethernet switches



- > 10/100BaseT(X) (RJ45 connector), 100BaseFX (multi/single-mode, SC or ST connector)
- > Redundant dual 12/24/48 VDC, 18 to 30 VAC 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)



Introduction

The EDS-205A/208A series are 5 and 8-port industrial Ethernet switches that support IEEE 802.3 and IEEE 802.3u/x with 10/100M full/half-duplex, MDI/MDI-X auto-sensing. The EDS-205A/208A switches provide 12/24/48 VDC (9.6 to 60 VDC), 18 to 30 VAC redundant power inputs that can be connected simultaneously to live AC/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-205A/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-205A/208A switches have DIP switches for enabling or disabling broadcast storm protection, providing another level of flexibility for industrial applications.

Specifications

Technology

Standards:

IEEE 802.3 for 10BaseT
 IEEE 802.3u for 100BaseT(X) and 100BaseFX
 IEEE 802.3x for Flow Control

Processing Type: Store and Forward

Flow Control: IEEE 802.3x flow control, back pressure flow control

Switch Properties

MAC Table Size: 1 K

Packet Buffer Size: 512 kbit

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, multi-mode, single-mode)

DIP Switches: Enable/Disable broadcast storm protection

LED Indicators: Power, 10/100M (TP port), 100M (fiber port)

Optical Fiber

| | 100BaseFX | |
|------------------|--|--------------------|
| | Multi-mode | Single-mode |
| Wavelength | 1300 nm | 1310 nm |
| Max. TX | -10 dBm | 0 dBm |
| Min. TX | -20 dBm | -5 dBm |
| RX Sensitivity | -32 dBm | -34 dBm |
| Link Budget | 12 dB | 29 dB |
| Typical Distance | 5 km ^a 4 km ^b | 40 km ^c |
| Saturation | -6 dBm | -3 dBm |

a. 50/125 μm, 800 MHz*km fiber optic cable
 b. 62.5/125 μm, 500 MHz*km fiber optic cable
 c. 9/125 μm single-mode fiber optic cable

Power Requirements

Input Voltage: 12/24/48 VDC (9.6 to 60 VDC), 18 to 30 VAC (47 to 63 Hz), redundant dual inputs

Input Current:

EDS-205A: 0.1 A @ 24 V
 EDS-205A-M/S: 0.11 A @ 24 V
 EDS-208A: 0.13 A @ 24 V
 EDS-208A-M: 0.17 A @ 24 V
 EDS-208A-MM/SS: 0.22 A @ 24 V

Overload Current Protection: 1.1 A

Connection: 1 removable 4-contact terminal block

Reverse Polarity Protection: Present

Physical Characteristics

Housing: Aluminum, IP30 protection

Dimensions:

EDS-205A Series: 30 x 115 x 70 mm (1.18 x 4.52 x 2.76 in)
 EDS-208A Series: 50 x 115 x 70 mm (1.96 x 4.52 x 2.76 in)

Weight:

EDS-205A Series: 175 g
 EDS-208A Series: 275 g

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
Hazardous Location: UL/cUL Class 1 Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nA nC IIC T4 Gc, IECEx*
 *Available with the EDS-205A-IEX series only.
EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A
EMS:
 EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8, EN 61000-4-11
Wheeled Vehicles: e-Mark (E1) (EDS-208A only)
Traffic Control: NEMA TS2
Rail Traffic: EN 50121-4
Marine: DNV, GL, LR, ABS, NK
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Note: Please check Moxa's website for the most up-to-date certification status.

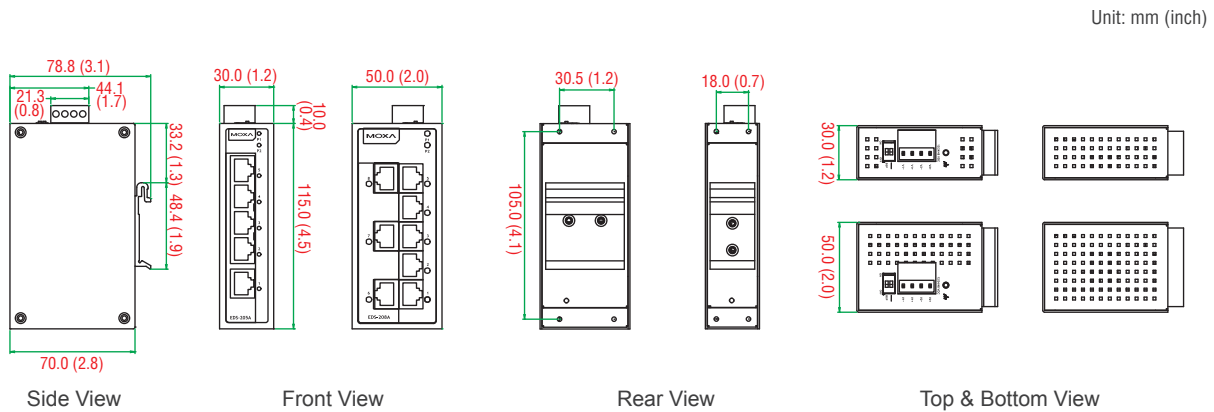
MTBF (mean time between failures)

Time: EDS-205A Series: 3,040,784 hrs
 EDS-208A Series: 2,428,212 hrs
Database: Telcordia (Bellcore), GB

Warranty

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

Dimensions



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-205A | EDS-205A-T | 5 | - | - | - |
| EDS-205A-M-SC | EDS-205A-M-SC-T | 4 | 1 | - | - |
| EDS-205A-M-ST | EDS-205A-M-ST-T | 4 | - | 1 | - |
| EDS-205A-S-SC | EDS-205A-S-SC-T | 4 | - | - | 1 |
| EDS-208A | EDS-208A-T | 8 | - | - | - |
| EDS-208A-M-SC | EDS-208A-M-SC-T | 7 | 1 | - | - |
| EDS-208A-M-ST | EDS-208A-M-ST-T | 7 | - | 1 | - |
| EDS-208A-MM-SC | EDS-208A-MM-SC-T | 6 | 2 | - | - |
| EDS-208A-MM-ST | EDS-208A-MM-ST-T | 6 | - | 2 | - |
| EDS-208A-S-SC | EDS-208A-S-SC-T | 7 | - | - | 1 |
| EDS-208A-SS-SC | EDS-208A-SS-SC-T | 6 | - | - | 2 |

Optional Accessories (can be purchased separately)

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" rack mounting kit
WK-30: Wall mounting kit (EDS-205A series only)
WK-46: Wall mounting kit (EDS-208A series only)

Package Checklist

- EDS-205A or EDS-208A switch
- Hardware installation guide (printed)
- Warranty card