

# 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 I 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

**Fiber Ports:** 100BaseFX ports (SC/ST connector, multi-mode, single-mode)

**RJ45 Ports:** 10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection

**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 <sup>a</sup> 4 km <sup>b</sup>	40 km <sup>c</sup>
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: 30 x 115 x 70 mm (1.18 x 4.52 x 2.76 in)  
 EDS-208A: 50 x 115 x 70 mm (1.96 x 4.52 x 2.76 in)

##### Weight:

EDS-205A: 175 g  
 EDS-208A: 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 I Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nC IIC

**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

**Marine:** DNV, GL, LR, ABS, NK

**Wheeled Vehicles:** e-Mark (E1) (EDS-208A only)

**Traffic Control:** NEMA TS2

**Rail Traffic:** EN 50121-4

**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

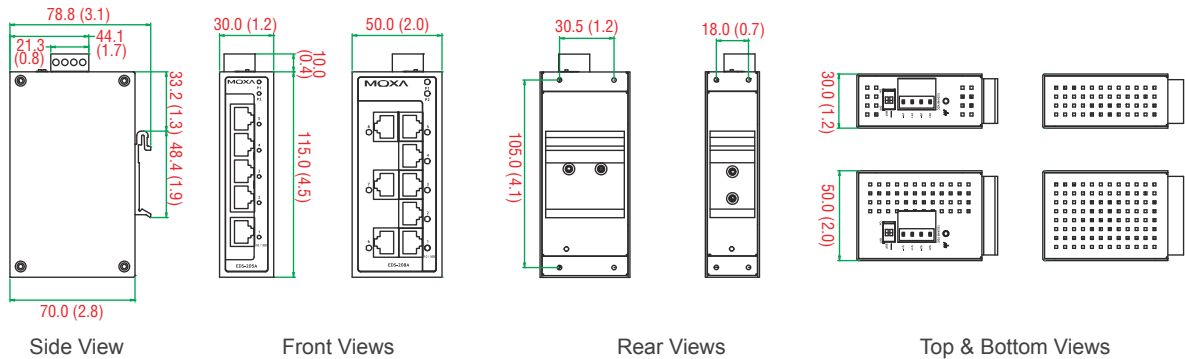
**Warranty**

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions**

Unit: mm (inch)



**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

**WK-30:** Wall mounting kit (EDS-205A series only)

**WK-46:** Wall mounting kit (EDS-208A series only)

**RK-4U:** 4U-high 19" rack mounting kit

**Package Checklist**

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