

# 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

##### 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

#### Optical Fiber

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 μm	G.652
			800 MHz*km	
Typical Distance		4 km	5 km	40 km
Wave-length	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).

#### Power Requirements

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

**Operating Voltage:** 9.6 to 60 VDC, 18 to 30 VAC (47 to 63 Hz)

**Input Current:** EDS-205A: 0.09 A @ 24 V

EDS-205A-M/S: 0.1 A @ 24 V

EDS-208A: 0.11 A @ 24 V

EDS-208A-M: 0.15 A @ 24 V

EDS-208A-MM/SS: 0.19 A @ 24 V

**Overload Current Protection:** 1.1 A

**Connection:** 1 removable 4-contact terminal block

**Reverse Polarity Protection:** Present

### Physical Characteristics

**Housing:** Aluminum

**IP Rating:** 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 (0.39 lb)

EDS-208A Series: 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)

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

**EMC:** EN 55022/24

**EMI:** CISPR 22, 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: 1 kV

IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV

IEC 61000-4-6 CS: 10 V

IEC 61000-4-8

IEC 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

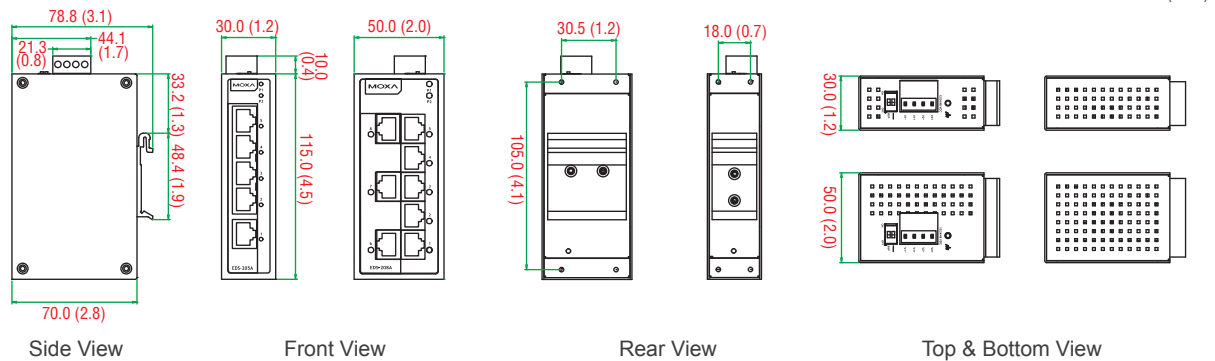
**Standard:** Telcordia (Bellcore), GB

### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://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-inch rack-mounting kit

**WK-30:** Wall-mounting kit, 2 plates with 4 screws (EDS-205A series only)

**WK-46:** Wall-mounting kit, 2 plates with 8 screws (EDS-208A series only)

### Package Checklist

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