

# 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 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) 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-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:

EDS-205A: 1 K

EDS-208A: 2 K

##### Packet Buffer Size:

EDS-205A: 384 kbit

EDS-208A: 768 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 redundant dual inputs

**Operating Voltage:** 9.6 to 60 VDC

**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/S: 0.11 A @ 24 V

EDS-208A-MM/SS: 0.15 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 114 x 70 mm (1.96 x 4.49 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 IIC T4 Gc, IECEx\*

\*EDS-205A Series only

**EMC:** EN 55032/24

**EMI:** CISPR 32, 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

**Traffic Control:** NEMA TS2

**Rail Traffic:** EN 50121-4

### Marine:

EDS-205A: DNV, GL, LR, ABS, NK

EDS-208A: IEC 60945; Pending: 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: 2,701,531 hrs

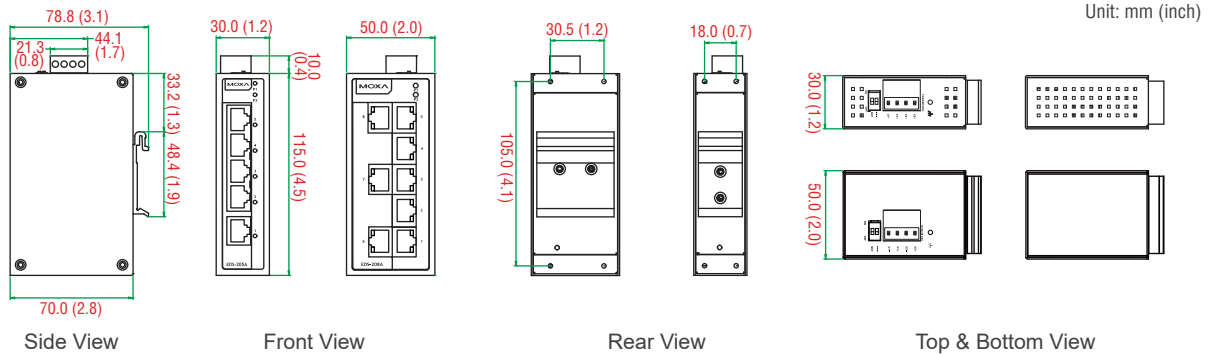
**Standard:** Telcordia (Bellcore), GB

## 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-46-01:** Wall-mounting kit, 2 plates with 8 screws (EDS-208A series only)

## Package Checklist

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