

# EDS-205A Series

## 5-port 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-205A Series 5-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-205A 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-205A 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 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-205A/205A-T: 5 EDS-205A-M-SC/M-ST/S-SC Series: 4  All models support: Auto negotiation speed Full/half duplex mode Auto MDI/MDI-X connection
100BaseFX Ports (multi-mode SC connector)	EDS-205A-M-SC Series: 1
100BaseFX Ports (multi-mode ST connector)	EDS-205A-M-ST Series: 1
100BaseFX Ports (single-mode SC connector)	EDS-205A-S-SC Series: 1

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Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control				
Optical Fiber			100BaseFX		
			Multi-Mode	Single-Mode	
	Fiber Cable Type	OM1	50/125 $\mu$ m	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
	<p>Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.</p> <p>Note: Compute the "typical distance" of a specific fiber transceiver as follows: Link budget (dB) &gt; dispersion penalty (dB) + total link loss (dB).</p>				

#### Switch Properties

MAC Table Size	1 K
Packet Buffer Size	384 kbits
Processing Type	Store and Forward

#### Power Parameters

Connection	1 removable 4-contact terminal block(s)
Input Current	EDS-205A/205A-T: 0.09 A @ 24 VDC EDS-205A-M-SC/M-ST/S-SC Series: 0.1 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
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#### Physical Characteristics

Housing	Aluminum
IP Rating	IP30
Dimensions	30 x 115 x 70 mm (1.18 x 4.52 x 2.76 in)
Weight	175 g (0.39 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 (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 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 PFMF
Hazardous Locations	IECEX, 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	3,040,784 hrs
Standards	Telcordia (Bellcore), GB

## Warranty

Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

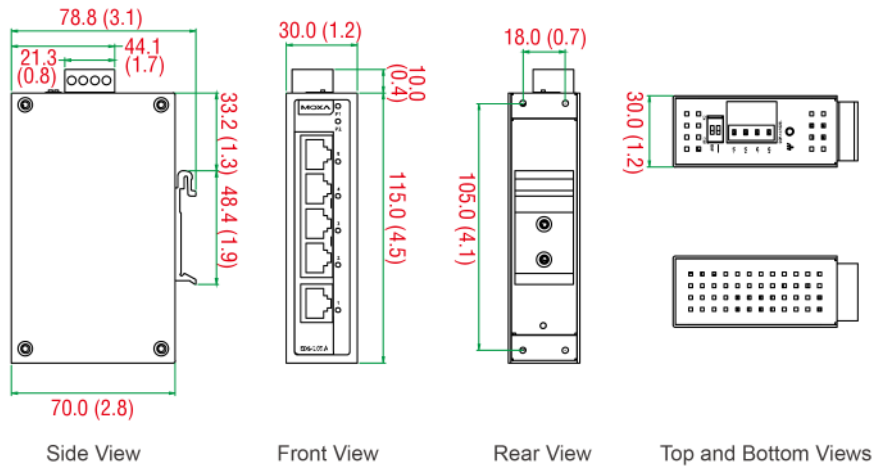
## Package Contents

Device	1 x EDS-205A Series switch
Documentation	1 x quick installation guide 1 x warranty card

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## Dimensions

Unit: mm (inch)



## 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-205A	5	-	-	-	-10 to 60°C
EDS-205A-T	5	-	-	-	-40 to 75°C
EDS-205A-M-SC	4	1	-	-	-10 to 60°C
EDS-205A-M-SC-T	4	1	-	-	-40 to 75°C
EDS-205A-M-ST	4	-	1	-	-10 to 60°C
EDS-205A-M-ST-T	4	-	1	-	-40 to 75°C
EDS-205A-S-SC	4	-	-	1	-10 to 60°C
EDS-205A-S-SC-T	4	-	-	1	-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

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
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# EDS-208A Series

## 8-port 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 EDS-208A-M-SC/M-ST/S-SC Series: 7 EDS-208A-MM-SC/MM-ST/SS-SC Series: 6  All models support: Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection
100BaseFX Ports (multi-mode SC connector)	EDS-208A-M-SC Series: 1 EDS-208A-MM-SC Series: 2
100BaseFX Ports (multi-mode ST connector)	EDS-208A-M-ST Series: 1 EDS-208A-MM-ST Series: 2
100BaseFX Ports (single-mode SC connector)	EDS-208A-S-SC Series: 1 EDS-208A-SS-SC Series: 2

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Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control				
Optical Fiber			100BaseFX		
			Multi-Mode	Single-Mode	
	Fiber Cable Type		OM1	50/125 $\mu$ m	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
	<p>Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.</p> <p>Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) &gt; dispersion penalty (dB) + total link loss (dB).</p>				

#### 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 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
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#### 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) 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 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 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 <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

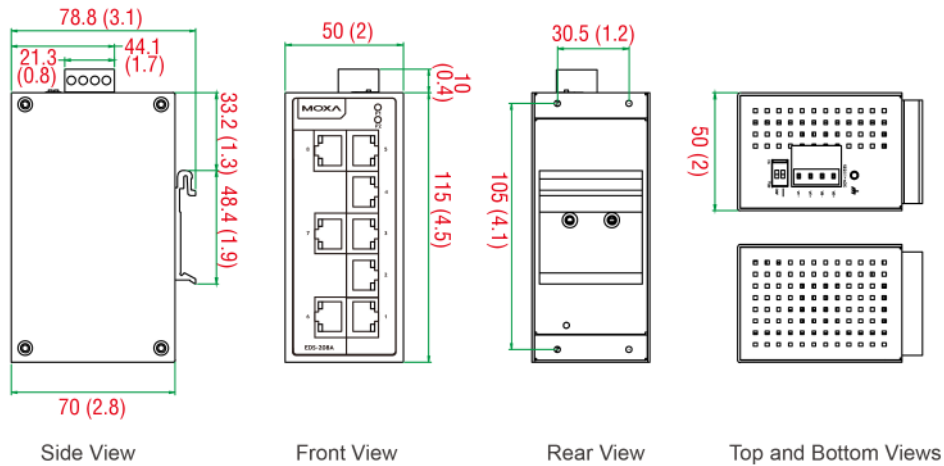
## Package Contents

Device	1 x EDS-208A Series switch
Documentation	1 x quick installation guide 1 x warranty card



## Dimensions

Unit: mm (inch)



## 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

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
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