EDS-309 Series

InROI

9-port unmanaged Ethernet switches

Features and Benefits

- Relay output warning for power failure and port break alarm

- Broadcast storm protection

- -40 to 75°C operating temperature range (-T models)

Certifications

DNV-GL MARITIME   Ex   CE   FC

Introduction

The EDS-309 Ethernet switches provide an economical solution for your industrial Ethernet connections. These 9-port switches come with a built-in relay warning function that alerts network engineers when power failures or port breaks occur. In addition, the switches are designed for harsh industrial environments, such as the hazardous locations defined by the Class 1 Div. 2 and ATEX Zone 2 standards.

The switches comply with FCC, UL, and CE standards and support either a standard operating temperature range of 0 to 60°C or a wide operating temperature range of -40 to 75°C. All switches in the series undergo a 100% burn-in test to ensure that they fulfill the special needs of industrial automation control applications. The EDS-309 switches can be installed easily on a DIN rail or in a distribution box.

Specifications

Input/Output Interface

Alarm Contact Channels	1 relay output with current carrying capacity of 1 A @ 24 VDC

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	6 Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection
100BaseFX Ports (multi-mode SC connector)	EDS-309-3M-SC Series: 1
100BaseFX Ports (multi-mode ST connector)	EDS-309-3M-ST Series: 3
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 µm	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

		100BaseFX	
		Multi-Mode	Single-Mode
Fiber Cable Type	OM1	50/125 μm	G.652
		800 MHz x km	
	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).

Switch Properties

MAC Table Size	1 K
Packet Buffer Size	512 kbits
Processing Type	Store and Forward

DIP Switch Configuration

Ethernet Interface	Port break alarm

Power Parameters

Input Current	0.26 A @ 24 VDC
Connection	1 removable 6-contact terminal block(s)
Operating Voltage	12 to 45 VDC
Input Voltage	24 VDC, Redundant dual inputs
Reverse Polarity Protection	Supported
Overload Current Protection	Supported

Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Weight	790 g (1.75 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)

Environmental Limits

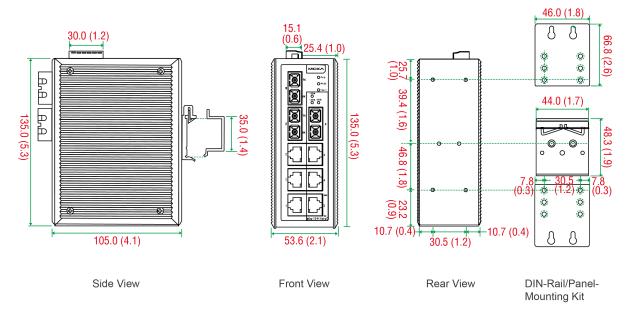|	
Operating Temperature	Standard Models: 0 to 60°C (32 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

Hazardous Locations	ATEX, Class I Division 2
EMI	CISPR 32, FCC Part 15B Class A
Maritime	DNV-GL
EMC	EN 55032/24
Vibration	IEC 60068-2-6
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 MHz: 20 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
Safety	UL 508, UL 60950-1, CSA C22.2 No. 60950-1
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32

MTBF

Time	396,595 hrs
Standards	MIL-HDBK-217F

Warranty

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

Package Contents

Device	1 x EDS-309 Series switch
Installation Kit	4 x cap, plastic, for RJ45 port 3 x cap, plastic, for SC fiber port (-SC models) 3 x cap, plastic, for ST fiber port (-ST models)
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)

Side View   Front View   Rear View   DIN-Rail/Panel-Mounting Kit

Ordering Information

Model Name	10/100BaseT(X) Ports RJ45 Connector	100BaseFX Ports Multi-Mode, SC Connector	100BaseFX Ports Multi-Mode, ST Connector	Operating Temp.
EDS-309-3M-SC	6	3	–	0 to 60°C
EDS-309-3M-SC-T	6	3	–	-40 to 75°C
EDS-309-3M-ST	6	–	3	0 to 60°C
EDS-309-3M-ST-T	6	–	3	-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-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