

EDS-G205-1GTXSFP/G308 Series

5G and 8G-port full Gigabit unmanaged Ethernet switches



- > Fiber optic options for extending distance and electrical noise immunity
- > Redundant dual 12/24/48 VDC power inputs
- > Supports jumbo frame transmission up to 10 KB (EDS-G205-1GTXSFP series) and 9.6 KB (EDS-G308 series)
- > Relay output warning for power failure and port break alarm
- > Broadcast storm protection
- > -40 to 75°C operating temperature range (T models)



Introduction

The EDS-G205-1GTXSFP and EDS-G308 switches are equipped with 5 and 8 Gigabit Ethernet ports, respectively, and up to 2 fiber optic ports (one for EDS-G205-1GTXSFP series and two for EDS-G308-2 SFP series), making them ideal for applications that demand high bandwidth. The EDS-G205-1GTXSFP/G308 switches provide an economical solution for your industrial Gigabit Ethernet connections, and the built-in relay warning function alerts network managers when power failures or port breaks occur. In addition, the add-on 4-pin DIP switches can be used for controlling over the functions of broadcast

protection, jumbo frame, IEEE 802.3az energy saving and 100/1000 SFP speed switching (EDS-G205-1GTXSFP series only) is ideal for easy on-site configuration for any industrial automation application. Two models are available in this series. One model has an operating temperature range of -10 to 60°C, and the other model has an extended operating temperature range of -40 to 75°C. Both models undergo a 100% burn-in test to ensure that they fulfill the special needs of industrial automation control applications. The EDS-G205-1GTXSFP/G308 switches can be installed easily on a DIN-rail or in distribution boxes.

Specifications

Technology

Standards:

IEEE 802.3 for 10BaseT
 IEEE 802.3u for 100BaseT(X) and 100BaseFX
 IEEE 802.3ab for 1000BaseT(X)
 IEEE 802.3z for 1000BaseX
 IEEE 802.3x for Flow Control
 IEEE 802.3az for Energy-Efficient Ethernet

Processing Type: Store and Forward

Switch Properties

MAC Table Size: 8 K

Packet Buffer Size: 1024 kbit (EDS-G205-1GTXSFP Series), 4 Mbit (EDS-G308 Series)

Jumbo Frame Size: 10 KB (EDS-G205-1GTXSFP Series), 9.6 KB (EDS-G308 Series)

Interface

RJ45 Ports: 10/100/1000BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection

Fiber Ports: 100/1000BaseSFP slot (SFP model)

DIP Switches: One for port break alarm, one for Enable/Disable broadcast storm protection, jumbo frame, IEEE 802.3az energy saving and 100/1000 SFP speed switching (EDS-G205-1GTXSFP series only)

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

Power Requirements

Input Voltage: 12/24/48 VDC, redundant dual inputs

Operating Voltage: 9.6 to 60 VDC

Input Current: EDS-G205-1GTXSFP: 0.14 A @ 24 V

EDS-G308: 0.29 A @ 24 V

EDS-G308-2SFP: 0.31 A @ 24 V

Connection: 1 removable 6-contact terminal block

Reverse Polarity Protection: Present

Physical Characteristics

Housing: Metal

IP Rating: IP30 protection

Dimensions:

EDS-G205-1GTXSFP Series: 29 x 135 x 105 mm (1.14 x 5.31 x 4.13 in)

EDS-G308 Series: 53 x 135 x 105 mm (2.08 x 5.31 x 4.13 in)

Weight:

EDS-G205-1GTXSFP Series: 290 g (0.64 lb)

EDS-G308 Series: 880 g (1.94 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, EN 60950-1 (LVD)

Hazardous Location:

UL/cUL Class 1 Division 2 Groups A/B/C/D,

ATEX Zone 2 Ex nA nC IIC T4 Gc (EDS-G205-1GTXSFP series)

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: 4 kV; Signal: 2 kV

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

IEC 61000-4-6 CS: 10 V

IEC 61000-4-8

Rail Traffic: EN 50121-4 (EDS-G205-1GTXSFP series)

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-G205-1GTXSFP Series: 2,823,446 hrs

EDS-G308 Series: 2,424,649 hrs

Standard: Telcordia (Bellcore), GB

Warranty

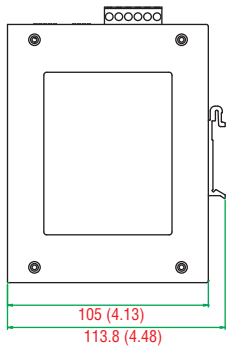
Warranty Period: 5 years

Details: See www.moxa.com/warranty

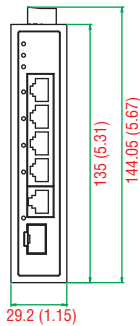
Dimensions

EDS-G205-1GTXSFP Series

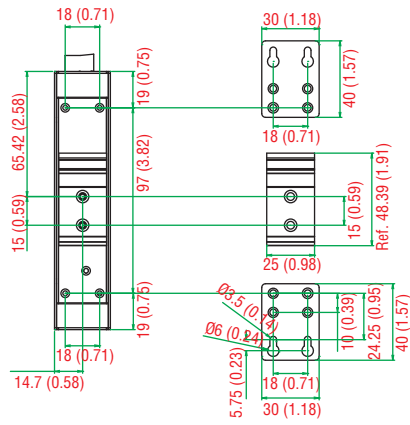
Unit: mm (inch)



Side View



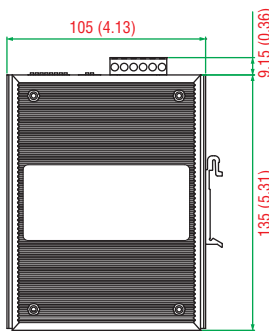
Front View



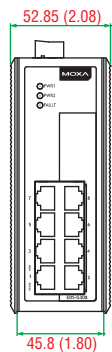
Rear View

DIN-Rail/
Panel-Mounting Kit

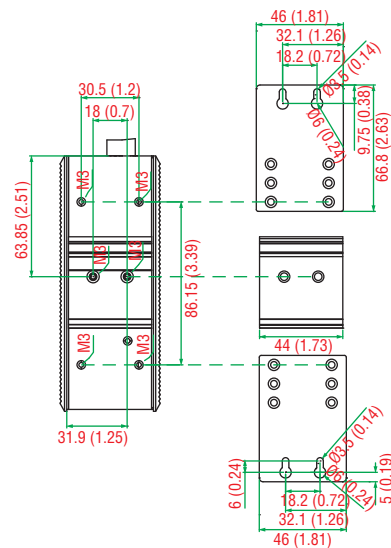
EDS-G308 Series



Side View



Front View



Rear View

DIN-Rail/
Panel-Mounting Kit

Ordering Information

Product Model		Port Interface	
Standard Temperature	Wide Temperature (-40 to 75°C)	Gigabit Ethernet	
		10/100/1000BaseT(X)	Combo Port, 10/100/1000BaseT(X) or 100/1000BaseSFP*
EDS-G205-1GTXSFP	EDS-G205-1GTXSFP-T	4	1
EDS-G308	EDS-G308-T	8	-
EDS-G308-2SFP	EDS-G308-2SFP-T	6	2

* The EDS-G205-1GTXSFP and EDS-G205-1GTXSFP-T support 1 100/1000BaseSFP slot. The EDS-G308-2SFP and EDS-G308-2SFP-T support 2 100/1000BaseSFP slots. See the SFP-1G and SFP-1FE datasheets for Gigabit/Fast Ethernet SFP module product information.

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 (EDS-G205 series only)

WK-46: Wall-mounting kit, 2 plates with 8 screws (EDS-G308 series only)

Package Checklist

- EDS-G205-1GTXSFP or EDS-G308 switch
- Protective caps for unused ports
- Hardware installation guide (printed)
- Warranty card

SFP-1G Series

1-port Gigabit Ethernet SFP modules



- > Digital Diagnostic Monitor Function
- > -40 to 85°C operating temperature range (T models)
- > IEEE 802.3z compliant
- > Differential LVPECL inputs and outputs
- > TTL signal detect indicator
- > Hot pluggable LC duplex connector
- > Class 1 laser product, complies with EN 60825-1



Specifications

Interface

Ethernet Ports: 1

Connectors: Duplex LC Connector or Simplex LC Connector (WDM-type only)

Optical Fiber

		Gigabit Ethernet SFP									
		SFP-SX		SFP-LSX		SFP-LX	SFP-LH	SFP-LHX	SFP-ZX	SFP-EZX	SFP-EZX-120
Transceiver Type		Multi-Mode		Multi-Mode		Single-Mode	Single-Mode	Single-Mode	Single-Mode	Single-Mode	Single-Mode
Fiber Cable Type		OM1	OM2	OM2	OM1	G.652	G.652	G.652	G.652	G.652	G.652
Typical Distance		300 m	550 m	1 km	2 km	10 km	30 km	40 km	80 km	110 km	120 km
Wave-length	Typical (nm)	850		1310		1310	1310	1310	1550	1550	1550
	TX Range (nm)	830 to 860		1270 to 1355		1280 to 1355	1280 to 1355	1280 to 1340	1530 to 1570	1530 to 1570	1530 to 1570
	RX Range (nm)	770 to 860		1260 to 1610		1260 to 1610	1260 to 1610	1260 to 1610	1260 to 1610	1260 to 1610	1100 to 1600
Optical Power	TX Range (dBm)	-4 to -9.5		-1 to -9		-3 to -9	-3 to -8	+3 to -4	+5 to 0	+5 to 0	+3 to -2
	RX Range (dBm)	0 to -18		-1 to -19		-3 to -21	-3 to -23	-1 to -24	-1 to -24	-9 to -30	-8 to -33
	Link Budget (dB)	8.5		10		12	15	20	24	30	31
	Dispersion Penalty (dB)	4.3	3.6	5	5	1	1	1	1	1	2

Note: When connecting the SFP-LHX, ZX, EZX, or EZX-120, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

		WDM Gigabit Ethernet SFP											
		SFP-10A		SFP-10B		SFP-20A		SFP-20B		SFP-40A		SFP-40B	
Transceiver Type		Single-Mode				Single-Mode				Single-Mode			
Fiber Cable Type		G.652				G.652				G.652			
Typical Distance		10 km				20 km				40 km			
Wave-length	Typical (nm)	TX 1310, RX 1550		TX 1550, RX 1310		TX 1310, RX 1550		TX 1550, RX 1310		TX 1310, RX 1550		TX 1550, RX 1310	
	TX Range (nm)	1270 to 1355		1530 to 1570		1270 to 1355		1530 to 1570		1290 to 1330		1530 to 1570	
	RX Range (nm)	1480 to 1580		1260 to 1360		1480 to 1580		1260 to 1360		1480 to 1580		1260 to 1360	
Optical Power	TX Range (dBm)	-3 to -9				-2 to -8				+2 to -3			
	RX Range (dBm)	-3 to -21				-2 to -23				-1 to -23			
	Link Budget (dB)	12				15				20			
	Dispersion Penalty (dB)	2				3				1			

Note: WDM-type SFP modules must be used in pairs (e.g., SFP-1G10ALC and SFP-1G10BLC)

Note: When connecting the SFP-40A and 40B, we recommend using an attenuator to prevent damage caused by excessive optical power.

Typical Distance: To reach the typical distance of specified fiber transceiver, please refer to formula: Link budget(dB) > dispersion penalty(dB) + total link loss(dB).

Power Requirements

Power Consumption: Max. 1 W

Environmental Limits

Operating Temperature:

Standard Models: 0 to 60°C (32 to 140°F)

Wide Temp. Models: -40 to 85°C (-40 to 185°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Standards and Certifications

Safety: CE, FCC, TÜV (EN 60825), UL 60950-1

Marine: DNV, GL

Warranty

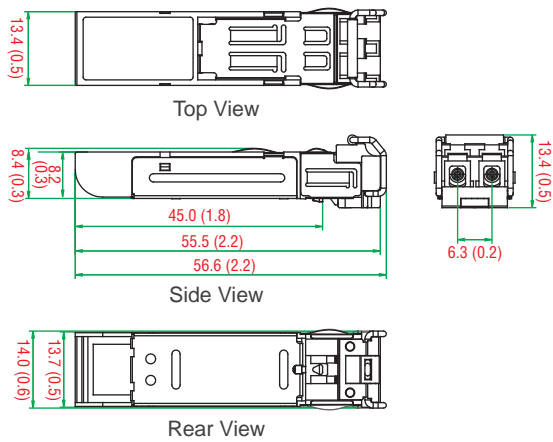
Warranty Period: 5 years

Details: See www.moxa.com/warranty

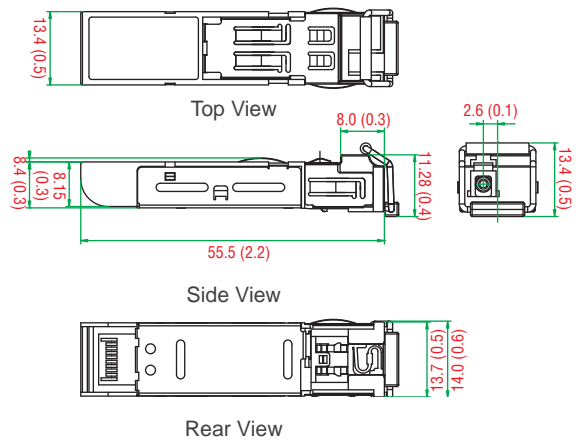
Dimensions

Unit: mm (inch)

SFP-1G Series



SFP-1G Series (WDM Type)



Ordering Information

Gigabit Ethernet SFP Models				WDM Gigabit Ethernet SFP Models			
Standard Temperature Models (0 to 60°C)	Wide Temperature Models (-40 to 85°C)	Transceiver Type	Typical Distance	Standard Temperature (0 to 60°C)	Wide Temperature (-40 to 85°C)	Transceiver Type	Typical Distance
SFP-1GSXLC	SFP-1GSXLC-T*	Multi-Mode	300/550 m	SFP-1G10ALC	SFP-1G10ALC-T	Single-Mode	10 Km
SFP-1GLSXLC	SFP-1GLSXLC-T	Multi-Mode	1/2 Km	SFP-1G10BLC	SFP-1G10BLC-T	Single-Mode	10 Km
SFP-1GLXLC	SFP-1GLXLC-T	Single-Mode	10 Km	SFP-1G20ALC	SFP-1G20ALC-T	Single-Mode	20 Km
SFP-1GLHLC	SFP-1GLHLC-T	Single-Mode	30 Km	SFP-1G20BLC	SFP-1G20BLC-T	Single-Mode	20 Km
SFP-1GLHXLC	SFP-1GLHXLC-T	Single-Mode	40 Km	SFP-1G40ALC	SFP-1G40ALC-T	Single-Mode	40 Km
SFP-1GZXLC	SFP-1GZXLC-T	Single-Mode	80 Km	SFP-1G40BLC	SFP-1G40BLC-T	Single-Mode	40 Km
SFP-1GEZXLC	-	Single-Mode	110 Km	-	-	-	-
SFP-1GEZXLC-120	-	Single-Mode	120 Km	-	-	-	-

*SFP-1GSXLC-T: -20 to 75°C operating temperature

Available Models

Please refer to the Moxa Ethernet SFP Transceiver Products Compatibility Matrix on the next page for available models.

Package Checklist

- SFP-1G module
- Warranty card

SFP-1FE Series

1-port Fast Ethernet SFP modules



- > Digital Diagnostic Monitor Function
- > IEEE 802.3u compliant
- > Differential PECL inputs and outputs
- > TTL signal detect indicator
- > Hot pluggable LC duplex connector
- > Class 1 laser product; complies with EN 60825-1



Specifications

Interface

Ethernet Ports: 1
Connectors: Duplex LC Connector

Optical Fiber

	Fast Ethernet SFP			
	SFP-M		SFP-S	SFP-L
Transceiver Type	Multi-Mode		Single-Mode	Single-Mode
Fiber Cable Type	OM1/OM2	62.5/125, 50/125 μm 800 MHz* Km	G.652	G.652
Typical Distance	2 km	4 km	40 km	80 km
Wave-length	Typical (nm)	1310	1310	1550
	TX Range (nm)	1280 to 1340	1280 to 1340	1530 to 1570
	RX Range (nm)	1100 to 1650	1100 to 1600	1100 to 1600
Optical Power	TX Range (dBm)	-8 to -18	0 to -5	0 to -5
	RX Range (dBm)	-3 to -32	-3 to -34	-3 to -34
	Link Budget (dB)	14	29	29
	Dispersion Penalty (dB)	2	3	1

Note: When connecting the SFP-S or L, we recommend using an attenuator to prevent damage caused by excessive optical power.

Power Requirements

Power Consumption: Max. 1 W

Ordering Information

Available Models	Port Interface			
	Wide Temperature (-40 to 85°C)	100BaseFX, Multi-Mode, LC Connector, 4 km	100BaseFX, Single-Mode, LC Connector, 40 km	100BaseFX, Single-Mode, LC Connector, 80 km
SFP-1FEMLC-T		1	-	-
SFP-1FESLC-T		-	1	-
SFP-1FELLC-T		-	-	1

Available Models

Please refer to the Moxa Ethernet SFP Transceiver Products Compatibility Matrix on the next page for available models.

Environmental Limits

Operating Temperature: -40 to 85°C (-40 to 185°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

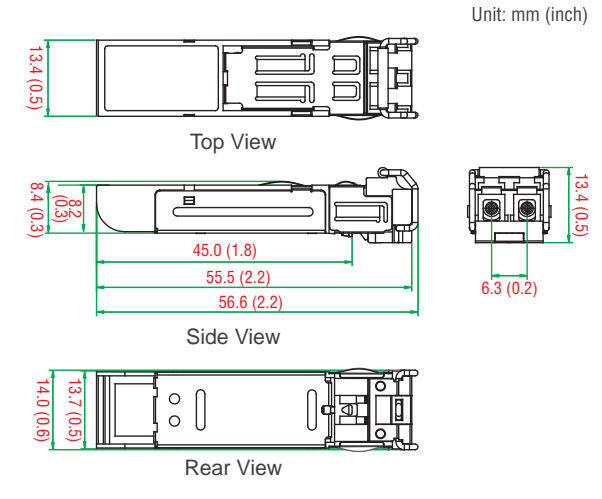
Standards and Certifications

Safety: CE, FCC, TÜV, UL 60950-1
Marine: DNV, GL

Warranty

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

Dimensions



Package Checklist

- SFP-1FE module
- Warranty card