Stride SE2 Series Unmanaged Industrial Ethernet Switches and Media Converters

SE2 Series DIN Rail mounted switches

Features

- Broadcast storm protection
- Wide temp range option
- Optional panel mounting accessory
- 12, 24, 48 VDC & 18-30 VAC redundant input
- GbE models
- Haz Loc
- IP30 metal cases
- 5-year warranty

RoHS Compliant

Stride SE2 Unmanaged Models							
Part Number	***Price***	***RJ45 10/100***	***RJ45 GbE***	***Fiber***	***Input power (max.)***	***Operating Temp***	***Agency Approvals***
SE2-MC2U-C1-T		1	–	1 SC	3.4 W	-40 to +75°C [-40 to +167°F]	UL/cUL 61010-1 and 61010-2-201, Haz Loc, CE
SE2-SW5UG-T		–	5	–	4.5 W	-40 to +75°C [-40 to +167°F]	
SE2-SW8U		8	–	–	4.6 W	-10 to +60°C [+14 to +140°F]	
SE2-SW8U-T			–	–		-40 to +75°C [-40 to +167°F]	
SE2-SW8U-2C1-T		6	–	2 SC			

*** Optional SFP modules sold separately. Use only Gigabit speed SFPs with SE2-SW10UG-2P-T.**

Panel Mounting Brackets

Stride SE2 series DIN-rail mounted switches can be panel mounted with the addition of the optional panel mounting brackets SE2-PM1 or SE2-PM3.

SE2-Series Panel Mounting Brackets		
Part Number	***Price***	***For use with switch model***
SE2-PM1		SE2-SW5Ux, SE2-SW8U-x, and SE2-MCx
SE2-PM3		SE2-SWPx and all SE2 managed switches

SE2-PM1

SE2-PM3

Stride SE2 Series Unmanaged Industrial Ethernet Switches and Media Converters

SE2 Series DIN Rail mounted switches

General Specifications	
Operating Mode	Store and forward wire speed switching, non-blocking
Devices Supported	All IEEE 802.3 compliant devices are supported
MAC Addresses	8K for SE2-SWxG-T, 2K
Packet Forwarding Rate	0.75 Mpps - SE2-MC2U-x & SE2-SW5U-x 1.2 Mpps - SE2-SW8U-x 7.4 Mpps - SE2-SW5UG-T
Broadcast Storm Protection*	DIP switch enabled (DIP switch I ON)
Jumbo Frame Support	DIP switch enabled for SE2-SW5UG-T only (DIP switch II ON)**
Latency	< 10 µs
Storage Temperature Range	-40 to +85 °C [-40 to +185 °F]
Humidity (non-condensing)	5 to 95% RH
Environmental Air	No corrosive gases permitted
Vibration, Shock & Freefall	IEC60068-2-6, -27, -32
EMI Emissions	FCC CFR47 Part 15, EN55032/CISPR32, Class A
EMS	IEC61000-4-2 (ESD): +/- 6kV (contact), +/- 8kV (air) IEC61000-4-3 (RS): 10V/m (80MHz ~ 2GHz) IEC61000-4-4 (EFT): Power Port +/- 2kV; Data Port: +/- 1kV IEC61000-4-5 (Surge): Power Port: +/- 1kV/DM, +/- 2kV/CM; Data Port +/- 1kV (+/- 2kV for 16 and 18 port models) IEC61000-4-6 (CS): 10V (150kHz ~ 80MHz)
RoHS and WEEE	RoHS (Pb free) and WEEE compliant
Packaging and Protection	Metal case, IP30
Hazardous Locations	ANSI/ISA 12.12.01-2015 & CSA 22.2 No. 213-15 (Class I, Div.2) (file #E200031);
Agency Approvals	UL/cUL 61010-1 and 61010-2-201, Class 1, Div. 2, Groups A, B, C, D, (UL file #E200031) CE

*** Broadcast storm threshold value is 2 packets/100ms for 10 Mbps port or 2 packets/10ms for 100 Mbps and 1000 Mbps ports.**
**** DIP switch II is unused on the 10/100 models.**

SC/ST Fiber Port: (100BaseFX multimode)	
Optimal Fiber Cable	50/125 or 62.5/125 µm
Center Wavelength	1300 nm
Multimode	Links up to 4 km typ. > Transmitter power (dBm): -21 min, -17 typ, -14 max > Receiver sensitivity (dBm): -34 typ, -31 max
Nominal Max. Distance	4 km
Eye Safety (laser)	IEC 60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11

RJ45 Ports	
Port Type	Shielded RJ45
Ethernet Compliance	IEEE 802.3i, 802.3u, 802.3x for 10/100 Ethernet IEEE 802.3ab, 802.3z for Gigabit Ethernet
Auto-Crossover	Yes, allows you to use straight-through or crossover wired cables
Auto-Sensing Operation	Yes, full and half duplex
Auto-Negotiating Speed	Yes
Flow Control	Automatic
Cable Requirements	Twisted pair (Cat5e or better) (shielded recommended)
Max. Cable Distance	100 meters

Power Details	
Power Input	Redundant Input Terminals
Input Voltage	Class 2 Power Supply: 12-48 VDC, 18-30VAC 50/60 Hz
Reverse Power Protection	Yes
Power Consumption	Refer to Stride SE2 Series Unmanaged Models table

Front Panel LEDs		
LED	***State***	***Description***
PWR1 LED	On	Power 1 connected and operational
	Off	Power 1 no voltage
PWR2 LED	On	Power 2 connected and operational
	Off	Power 2 no voltage
ACT/LNK LED	On	Indicates that there is a proper Ethernet connection (Link) between the port and another Ethernet device, but no communications activity is detected.
	Blinking	Indicates that there is a proper Ethernet connection (Link) between the port and another Ethernet device, and that there is communications activity.
	Off	Indicates that there is not a proper Ethernet connection (Link) between the port and another Ethernet device. Make sure the cable has been plugged securely into the ports at both ends.
Speed LED 10/100 Models	On	A 100 Mbps (100BaseT) connection is detected.
	Off	A 10 Mbps (10BaseT) connection is detected.
Speed LED 10/100/1000 Models	On	A 1000 Mbps (1000BaseT) connection is detected
	Off	A 100 or 10 Mbps (100BaseT or 10BaseT) connection is detected

SFP Ports
SFP (pluggable) ports accept 1000Mbps Mini-GBIC (SFP) transceivers
See SFP datasheet for optional fiber transceiver specification

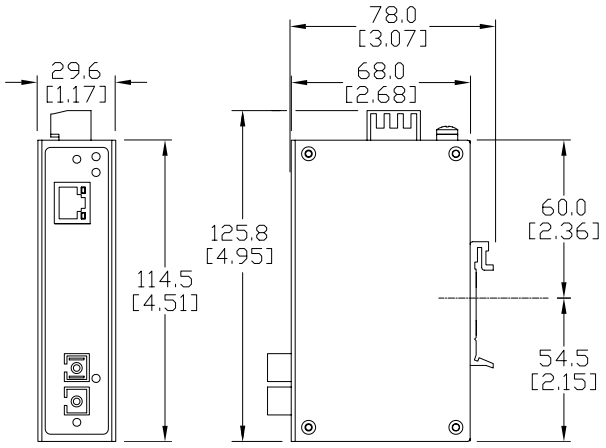
Stride SE2 Series Unmanaged Industrial Ethernet Switches and Media Converters

SE2 Series DIN Rail mounted switches

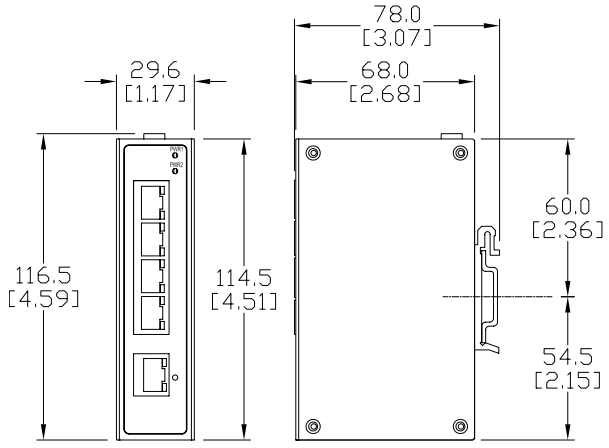
Allow 20mm [0.79"] clearance around the switch for cooling

Dimensions

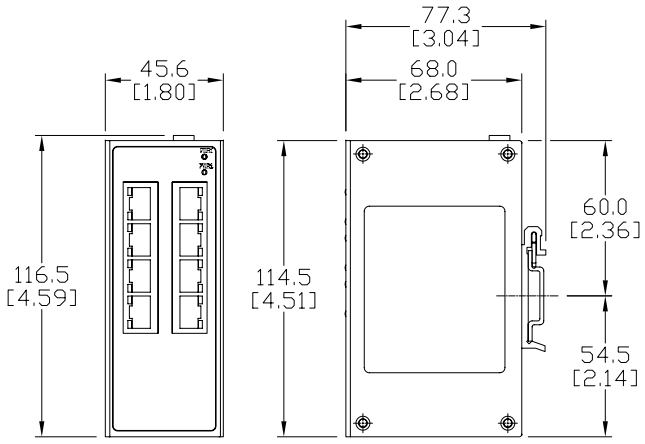
mm [Inches]



SE2-MC2U-C1-T



SE2-SW5U-1C1-T **SE2-SW5UG-T**



SE2-SW8U
SE2-SW8U-T

See our website: www.AutomationDirect.com for complete engineering drawings.

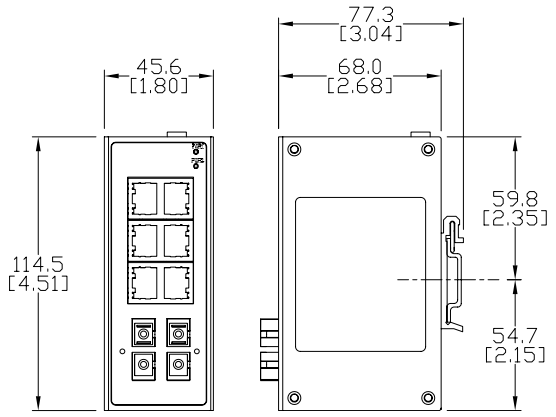
Stride SE2 Series Unmanaged Industrial Ethernet Switches

SE2 Series DIN Rail mounted switches

Allow 20mm [0.79"] clearance around the switch for cooling

Dimensions

mm [Inches]



SE2-SW8U-2C1-T

See our website: www.AutomationDirect.com for complete engineering drawings.

Stride SE2 Series Unmanaged Industrial Ethernet Switches

SE2 Series IP65 Rated

Features

- Rugged IP65 rating
- Tight M12 connections
- Wide temp range
- Panel mount
- 12, 24, 48 VDC and 18-30 VAC redundant input
- Complies with EN50155 and EN50121 industrial standards
- 5-year warranty

IP65

RoHS Compliant

Stride SE2 Series IP65 Rated Models					
Part Number	***Price***	***M12, IP65 10/100 ports***	***Input power (max.)***	***Operating Temp***	***Agency Approvals***
SE2-SW5U-N65-T		5	4.6 W	-40 to +75°C [-40 to +167°F]	UL/cUL 61010-1, UL/cUL 6010-2-201 CE, EN50155, EN50121

Stride SE2 Series Unmanaged Industrial Ethernet Switches

SE2 Series IP65 Rated

General Specifications	
Operating Mode	Store and forward wire speed switching, non-blocking
Devices Supported	All IEEE 802.3 compliant devices are supported
MAC Addresses	2K
Packet Buffer	1Mbit
Packet Forwarding Rate	1.2 Mpps
Latency	< 10 µs
Storage Temperature Range	-40 to +85 °C [-40 to +185 °F]
Humidity (non-condensing)	5 to 95% RH
Pollution Degree	2
Vibration and Shock	IEC60068-2-6, -27, -32
Freefall	IEC60068-2-32
Safety	EN60950-1
EMI Emissions	FCC CFR47 Part 15, EN55032/CISPR32, Class A
EMS	IEC61000-4-2 (ESD): ± 6kV (contact), ± 8kV (air) IEC61000-4-3 (RS): 20V/m (80MHz ~ 2 GHz) IEC61000-4-4 (EFT): Power Port ± 2kV; Data Port: ± 2kV IEC61000-4-5 (Surge): Power Port: ± 1kV/DM, ± 2kV/CM IEC61000-4-6 (CS): 10V (150 kHz ~ 80 MHz) IEC61000-4-8 (Power frequency magnetic field) :50 Hz 100A/m IEC61000-4-9 (Pulsed magnetic field) :300A/m IEC61000-4-29 (Voltage short interruptions) :10ms 100%
RoHS and WEEE	RoHS (Pb free) and WEEE compliant
Packaging and Protection	Metal case, IP65
Agency Approvals	UL/cUL 61010-1 UL/cUL 61010-2-201, (UL file #E157382), CE, EN50155, EN50121

Power Details	
Power Input	Redundant Input M12 connector
Input Voltage	Class 2 Power Supply: 12-48 VDC, 18-30VAC 50/60 Hz
Power Input Ports	M12, male, A-coding, 4-pin
Reverse Power Protection	Yes

M12 Ports	
10/100BaseT ports	M12, female, D-coding, 4-pin
Ethernet Compliance	IEEE 802.3i, 802.3u, 802.3x
Auto-Crossover	Yes, allows you to use straight-through or crossover wired cables
Auto-Sensing Operation	Yes, full and half duplex
Auto-Negotiating Speed	Yes
Flow Control	Automatic
Cable Requirements	Twisted pair (Cat5 or better) (shielded recommended)
Max. Cable Distance	100 meters

***Note–M12 caps (ZP-JBH-CAP) need to be used on open (disconnect) ports.**

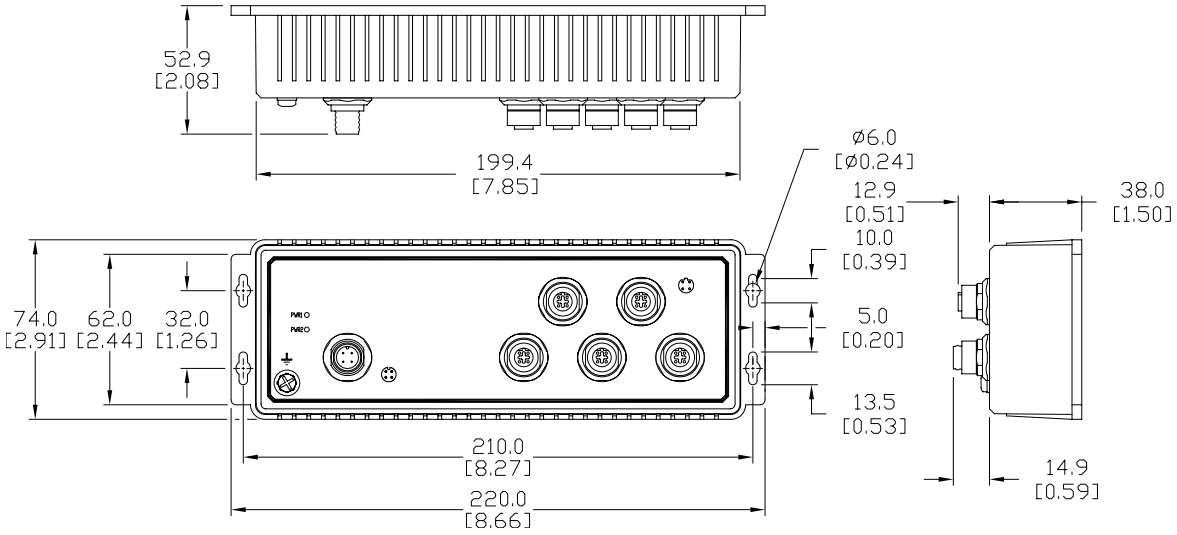
Front Panel LEDs		
LED	***State***	***Description***
Power 1 LED	On	Power 1 connected and operational
	Off	Power 1 no voltage
Power 2 LED	On	Power 2 connected and operational
	Off	Power 2 no voltage
Ethernet Port Connection Status LED	On	Ethernet port connected
	Blinking	Ethernet port active
	Off	Ethernet port no connection

Stride SE2 Series Unmanaged Industrial Ethernet Switches

SE2 Series IP65 Rated

Dimensions

mm [Inches]



SE2-SW5U-N65-T

See our website: www.AutomationDirect.com for complete engineering drawings.

Stride® Unmanaged Industrial Ethernet Switches

Features

- Reliable connectivity
- Industrially hardened
- Simple installation

- For detailed specifications on all models, see following pages





		SE Series	SE2 Series DIN Rail	SE2 Series IP65	SE3 Series DIN Rail	SE3 Series IP67
Price						
Broadcast Storm Protection						
		—	✓	—	—	—
Industrial Temperature Ranges						
	Standard Temp	-10 to +60°C	-10 to +60°C	—	-10 to +65°C	—
	Wide Temp	-40 to +85°C	-40 to +75°C	-40 to +75°C	-40 to +75°C	-40 to +75°C
Port Connectivity						
	Port Count	2 to 9	2 to 18	5	5 to 16	5
	RJ45 Port Speed	up to 100 Mbps	up to 1000 Mbps	—	up to 1000 Mbps	—
	M12 Port Speed	—	—	up to 100 Mbps	—	up to 100 Mbps
	Fiber Optic Ports	✓	✓	—	✓	—
	PoE+ Ports	—	✓	—	✓	—
	SFP Ports	—	✓	—	✓	—
Mounting						
	DIN Rail Mount	✓	✓	—	✓	✓
	Panel Mount	✓	✓	✓	✓	✓
Input Power						
	Redundant Power Inputs	✓	✓	✓	✓	✓
	Reverse Polarity Protection	✓	✓	✓	✓	✓
	Power LED	✓	✓	✓	✓	✓
Agency Approvals						
	UL508 or UL61010	✓	✓	✓	✓	✓
	Haz Loc–Class 1 Div 2	✓	✓	—	✓	—
	IECEx	✓	—	—	—	—
	ATEX Zone 2	✓	—	—	—	—
	CE	✓	✓	✓	✓	✓
	EN50155 & EN50121	—	—	✓	—	—
Warranty						
		5 years	5 years	5 years	5 years	5 years
Activity, Link & Speed LEDs						
		✓	✓	✓	✓	✓

Stride Industrial Ethernet Fiber Transceivers Fast Ethernet

Description:
STRIDE 100Mb Small Form Factor Pluggable (SFP) transceiver modules (Transmit/Receive). Hot Swappable. 1310nm wavelength. Data transmission up to 4km multimode fiber (SFP-4K-FMF) or 30km singlemode fiber (SFP-30K-FSF). LC duplex receptacle, SFP Multi-Source Agreement compliant.

NOTE: Port speed settings for the Stride switch must be manually set to 100 Mbps.

Part Number	Mode	Light Source	Max Trans. Distance	Price
SFP-4K-FMF	Multi-mode	1310 nm, FP	4km	
SFP-30K-FSF	Single-mode		30 km	
Note: Use only Gigabit speed SFPs with SE2-SW10UG-2P-T				

General Specifications

Connector Type		Type LC connector with bail latch
Operating Temperature range		-40 to +85 °C [-40 to +185 °F]
Storage temperature range		-40 to +85 °C [-40 to +185 °F]
Humidity (non-condensing)		5 to 95% RH
Link Speed		Gigabit Ethernet
Laser Type		FP laser diode (Class 1 laser safety standard IEC 60825 compliant)
Media	SFP-4K-FMF	Multi-mode Fiber
	SFP-30K-FSF	Single-mode Fiber
Fiber	SFP-4K-FMF	62.5 / 125 µm
	SFP-30K-FSF	9 / 125 µm
Code	SFP-4K-FMF	FX5
	SFP-30K-FSF	100LX
Distance	SFP-4K-FMF	4km
	SFP-30K-FSF	30 km
Compliances	SFP-4K-FMF	125Mbps IEEE802.3u 100BASE-FX compliant 125Mbps FDDI ISO/IEC 9314-1 compliant
	SFP-30K-FSF	125Mbps IEEE802.3ah 100BASE-LX10 compliant 155Mbps ITU-T G957 STM S-1.1/L-1.1 compliant 155Mbps SONET OC-3 IR-1/LR-1 compliant
Inputs / Outputs		AC-coupled differential inputs and outputs

Transmitter Optical characteristics

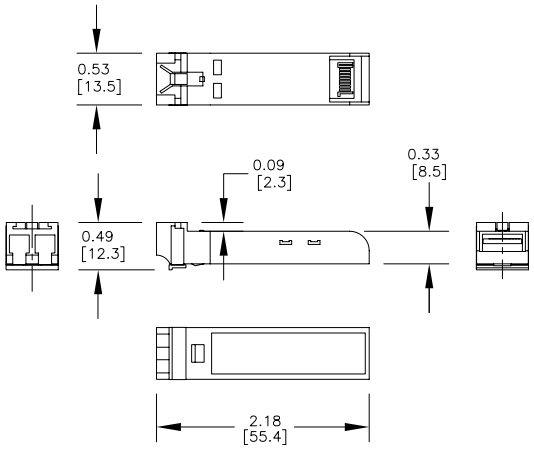
Parameter (unit)		Minimum	Typical	Maximum
Output optical power (dBM)	SFP-4K-FMF	-9		0
	SFP-30K-FSF	-15		-8
Extinction Ratio (dB)	SFP-4K-FMF	8.2		
	SFP-30K-FSF			
Center Wavelength (nm)	SFP-4K-FMF	1261	1310	1360
	SFP-30K-FSF			
Spectral width - RMS (nm)	SFP-4K-FMF			7
	SFP-30K-FSF			4
Rise / Fall Time - 10% - 90% (ns)	SFP-4K-FMF			2
	SFP-30K-FSF			

Receiver Optical characteristics

Parameter (unit)		Minimum	Maximum
Sensitivity (dBm)	SFP-4K-FMF		-30
	SFP-30K-FSF		-34
Operating Wavelength (nm)	SFP-4K-FMF	1260	1620
	SFP-30K-FSF		
Loss of Signal - Deasserted (dBm)	SFP-4K-FMF		-30
	SFP-30K-FSF		-35
Loss of Signal - Asserted (dBm)	SFP-4K-FMF	-45	
	SFP-30K-FSF		
Loss of Signal - Hysteresis (dB)	SFP-4K-FMF	0.5	
	SFP-30K-FSF		

Dimensions

Inches [mm]



Safety Standards:

Electrical Safety | European Directives | WEEE Compliant | RoHS Compliant | US Emissions

Stride Industrial Ethernet Fiber Transceivers Gigabit Ethernet

Description:

STRIDE Gigabit (1.25GB) Small Form Factor Pluggable (SFP) transceiver module (Transmit/Receive). Hot Swappable. Short or long wavelength of 850nm or 1310nm, dependant on model. Supports data transmission up to 550 meters, 2km, 10 km, or 30 km on a single-mode or multi-mode fiber, dependant on model. LC duplex receptacle, SFP Multi-Source Agreement compliant.

Part Number	Mode	Light Source	Max Trans. Distance	Price
SFP-500-GMF	Multi-mode	850 nm, VCSEL	550m	
SFP-2K-GMF		1310 nm, FP	2km	
SFP-10K-GSF	Single-mode		10 km	
SFP-30K-GSF		1310 nm, DFB	30 km	

Note: Use only Gigabit speed SFPs with SE2-SW10UG-2P-T

Transmitter Optical characteristics

Parameter (unit)		Minimum	Typical	Maximum
Output optical power (dBM)	SFP-500-GMF	-9.5		-4
	SFP-2K-GMF	-9		-1
	SFP-10K-GSF	-9.5		-3
	SFP-30K-GSF	-2	1	3
Extinction Ratio (dB)	SFP-500-GMF	9		
	SFP-2K-GMF			
	SFP-10K-GSF			
	SFP-30K-GSF			
Center Wavelength (nm)	SFP-500-GMF	830	850	860
	SFP-2K-GMF	1270	1310	1355
	SFP-10K-GSF	1285		1343
	SFP-30K-GSF	1270		1355
Spectral width - RMS (nm)	SFP-500-GMF			0.85
	SFP-2K-GMF			4
	SFP-10K-GSF			2.8
	SFP-30K-GSF			1
Rise / Fall Time - 20% - 80% (ps)	SFP-500-GMF			260
	SFP-2K-GMF			
	SFP-10K-GSF			
	SFP-30K-GSF			

Receiver Optical characteristics

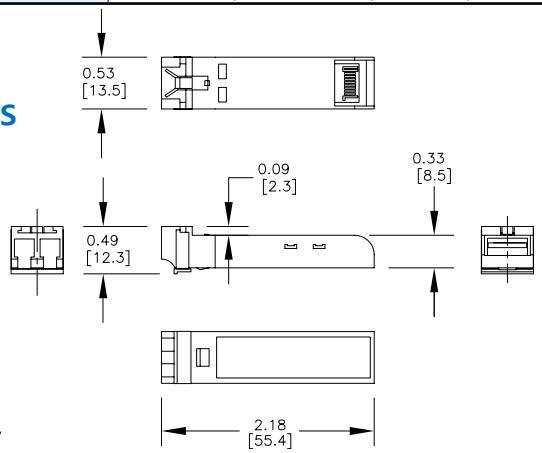
Parameter (unit)		Minimum	Maximum
Sensitivity (dBm)	SFP-500-GMF		-17
	SFP-2K-GMF		-19
	SFP-10K-GSF		-20
	SFP-30K-GSF		-23
Operating Wavelength (nm)	SFP-500-GMF	770	860
	SFP-2K-GMF	1260	1610
	SFP-10K-GSF	1270	1355
	SFP-30K-GSF		1580
Return Loss (dB)	SFP-500-GMF	12	
	SFP-2K-GMF		
	SFP-10K-GSF		
	SFP-30K-GSF		
Loss of Signal - Deasserted (dBm)	SFP-500-GMF		-17.5
	SFP-2K-GMF		-19
	SFP-10K-GSF		-20
	SFP-30K-GSF		-23
Loss of Signal - Asserted (dBm)	SFP-500-GMF	-35	
	SFP-2K-GMF		
	SFP-10K-GSF		
	SFP-30K-GSF		
Loss of Signal - Hysteresis (dB)	SFP-500-GMF	0.5	
	SFP-2K-GMF		
	SFP-10K-GSF		
	SFP-30K-GSF		

General Specifications

Connector Type		Type LC connector with bail latch
Operating Temperature range		-40 to +85 °C [-40 to +185 °F]
Storage temperature range		-40 to +85 °C [-40 to +185 °F]
Humidity (non-condensing)		5 to 95% RH
Link Speed		Gigabit Ethernet
Laser Type	SFP-500-GMF	VCSEL laser diode (Class 1 laser safety standard IEC 60825 compliant)
	SFP-2K-GMF	FP laser diode (Class 1 laser safety standard IEC 60825 compliant)
	SFP-10K-GSF	
	SFP-30K-GSF	DFB laser diode (Class 1 laser safety standard IEC 60825 compliant)
Media	SFP-500-GMF	Multi-mode Fiber
	SFP-2K-GMF	
	SFP-10K-GSF	Single-mode Fiber
	SFP-30K-GSF	
Fiber	SFP-500-GMF	50 / 125 µm and 62.5 / 125 µm
	SFP-2K-GMF	
	SFP-10K-GSF	9 / 125 µm
	SFP-30K-GSF	
Code	SFP-500-GMF	SX
	SFP-2K-GMF	SX2
	SFP-10K-GSF	LX
	SFP-30K-GSF	lhx
Distance	SFP-500-GMF	550m
	SFP-2K-GMF	2km
	SFP-10K-GSF	10 km
	SFP-30K-GSF	40 km
Compliances	SFP-500-GMF	1.0625Gbps Fiber Channel FC-PI 100-M5-SN-I compliant 1.0625Gbps Fiber Channel FC-PI 100-M6-SN-I compliant 1.25Gbps IEEE 802.3z 1000BASE-SX compliant 1.25Gbps IEEE 802.3ah 1000BASE-SX compliant
	SFP-2K-GMF	IEEE 802.3 1000BASE-SX+ compliant
	SFP-10K-GSF	1.0625Gbps Fiber Channel FC-PI 100-SM-LC-L compliant 1.25Gbps IEEE 802.3 1000BASE-LX compliant
	SFP-30K-GSF	1.25Gbps Gigabit Ethernet compliant
Inputs / Outputs		AC-coupled differential inputs and outputs

Dimensions

Inches [mm]



Safety Standards:

Electrical Safety | European Directives | WEEE Compliant | RoHS Compliant | US Emissions