

# Stride<sup>SE</sup> Series Managed Switches



## Features

- Modbus TCP read capability
- Wide temp range
- DIN-rail mount with integrated panel mount option
- Metal housing
- 12, 24 VDC redundant input
- Gigabit Ethernet (GbE) models
- Haz Loc
- 5 -year warranty



RoHS Compliant

### Stride SE Series Managed Models

Part Number	Price	Ethernet Ports	Fiber Ports	Input Power (max)
<b><u>SE-SW5M</u></b>	\$571.00	5	–	3.6 W
<b><u>SE-SW5M-2SC</u></b>	\$1,048.00	3	2 SC	5.6 W
<b><u>SE-SW5M-2ST</u></b>	\$1,048.00		2 ST	
<b><u>SE-SW10MG-2P</u></b>	\$1,682.00	7, 1 GbE, 2 GbE combo	2 GbE SFP combo*	7W
<b><u>SE-SW16M</u></b>	\$1,429.00	16	–	

\*Optional SFP modules sold separately.

# Stride SE Series Managed Industrial Ethernet Switches

## Specifications

General Specifications	
<b>Ethernet Switch Type</b>	Industrial Ethernet managed switch with 5 or 8 ports
<b>Operating Mode</b>	Store and forward wire speed switching, non-blocking. Broadcast and multicast storm protection
<b>Devices Supported</b>	All IEEE 802.3 compliant devices are supported
<b>Ethernet Compliance</b>	IEEE 802.3 (10Mbps Ethernet supports legacy devices) IEEE 802.3u (Fast Ethernet 100Mbps for newer devices) IEEE 802.3x (Full-Duplex with Flow Control) IEEE 802.1D/w (Rapid Spanning Tree for redundant rings and Spanning Tree for interoperability) IEEE 802.1p (Priority Queuing – QoS, CoS, ToS/DS) IEEE 802.1Q (VLAN for traffic segregation) IEEE 802.3ab
<b>Ethernet Protocols Supported</b>	SNMPv1 / v2 / v3, RMON, DHCP, SNTP, TFTP, STP, RSTP, QoS / CoS / ToS / DS, IGMPv1 / v2, VLAN (tag and port based), HTTP, HTTPS (SSL and TLS), Telnet, SSH and more
<b>Industrial Protocols Supported</b>	Modbus / TCP, EtherNet / IP, PROFINet, Foundation Fieldbus HSE and others
<b>MAC Addresses</b>	2048 addresses
<b>Memory Bandwidth</b>	3.2 Gbps
<b>Latency (typical)</b>	10M ports 16 $\mu$ s + frame time 100M & 1000M ports 5 $\mu$ s + frame time
<b>Transient Protection</b>	15,000 watts peak
<b>Spike Protection</b>	5,000 watts (10x for 10 $\mu$ s)
<b>Ethernet Isolation</b>	1500 VRMS 1 minute
<b>Operating Temperature Range</b>	-40 to +75°C (cold startup at -40°C), -40 to +167°F (cold startup at -40°F)
<b>Storage Temperature Range</b>	-40 to +85°C [-40 to +185°F]
<b>Humidity (non-condensing)</b>	5 to 95% RH
<b>Environmental Air</b>	For use in Pollution Degree 2 environment. No corrosive gases permitted
<b>Vibration and shock</b>	IEC60068-2-6 and -27
<b>EMI Emissions</b>	FCC part 15, ICES-003, EN61000-6-4
<b>EMC Immunity</b>	IEC61000-6-2, CE
<b>Eye Safety (fiber models)</b>	IEC60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11
<b>RoHS and WEEE</b>	RoHS and WEEE compliant
<b>Packaging and Protection</b>	Metal case; IP40
<b>Agency Approvals</b>	Electrical safety: UL Haz Loc (Class 1, Div 2, Group A, B, C, D) E200031 CSA C22.2/14; EN61010-1, CE, Marine and offshore rated per ABS

Power Details	
<b>Power Input</b>	Redundant input terminals
<b>Input Voltage</b>	10-30 VDC (continuous)—Class 2 Power Supply
<b>Reverse Power Protection</b>	Yes
<b>“OK” Output Indicates Power and Operational Status</b>	Voltage same as switch input voltage Maximum current output 0.5 Amp
<b>Power Consumption</b>	Refer to Stride SE Series Managed Models table

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

SC or ST Fiber Port: (100BaseFX multimode)	
<b>100BaseFX Ports</b>	2
<b>Fiber Port Connector</b>	ST or SC, by model
<b>Optimal Fiber Cable</b>	50/125 or 62.5/125 $\mu$ m
<b>Center Wavelength</b>	1300 nm
<b>Multimode</b>	Links up to 4 km typ.; > Transmitter power (dBm): -21 min, -17 typ, -14 max > Receiver sensitivity (dBm): -34 typ, -31 max
<b>Nominal Max. Distance (full duplex)</b>	4 km
<b>Eye Safety (laser)</b>	IEC 60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11

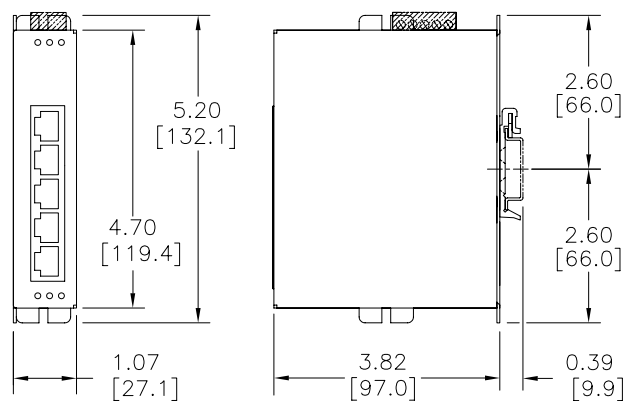
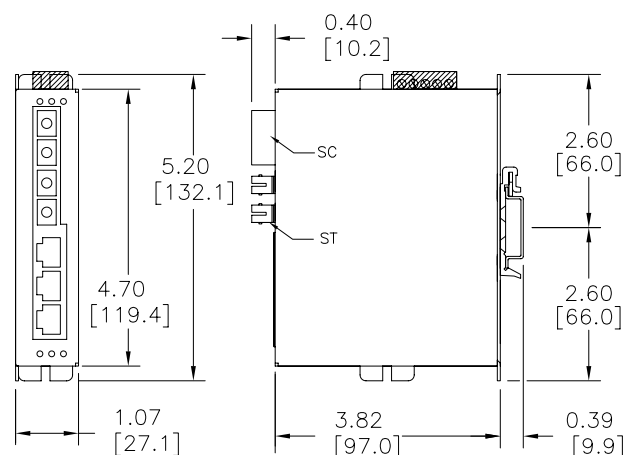
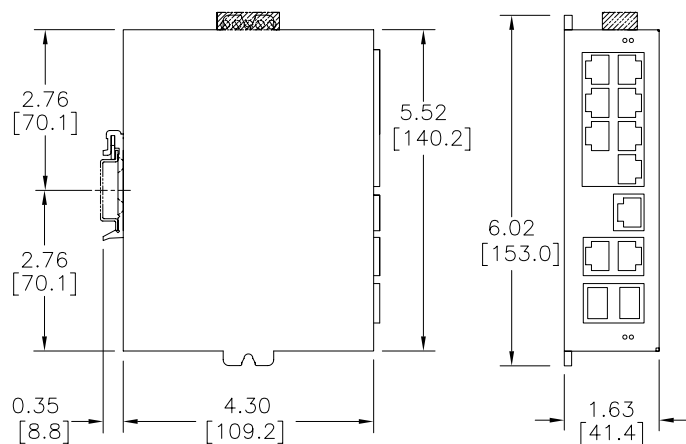
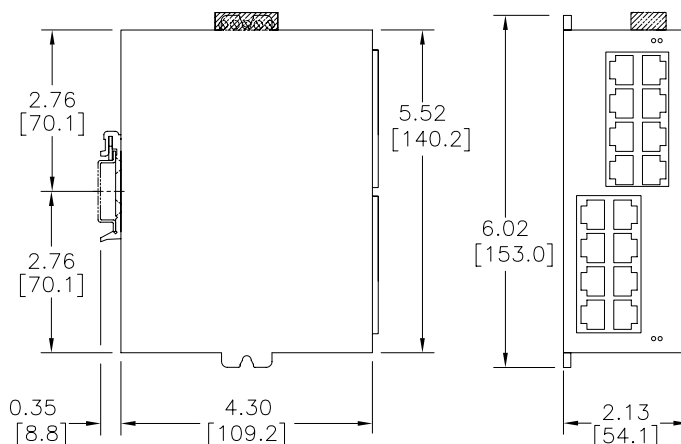
SFP Ports	
SFP (pluggable) ports accept Mini-GBIC (SFP) transceivers with a speed of 1000Mbps or 100Mbps	
See SFP datasheet for optional fiber transceiver specification	

Management Interfaces	
<b>Ethernet ports (RJ45)</b>	Browser (Secure), Text (Telnet and SSH), CLI (command line interface) and SNMP (see the user manual for supported MIBs)
<b>Console ports: USB and RS232 (RJ45)</b>	Text (Telnet), CLI (command line interface)

# Stride<sup>SE</sup> Series Managed Industrial Ethernet Switches

## Dimensions

Inches [mm]

**SE-SW5M****SE-SW5M-2SC  
SE-SW5M-2ST****SE-SW10MG-2P****SE-SW16M**See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

# 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
<b>SFP-4K-FMF</b>	Multi-mode	1310 nm, FP	4km	\$54.00
<b>SFP-30K-FSF</b>	Single-mode		30 km	\$48.50

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

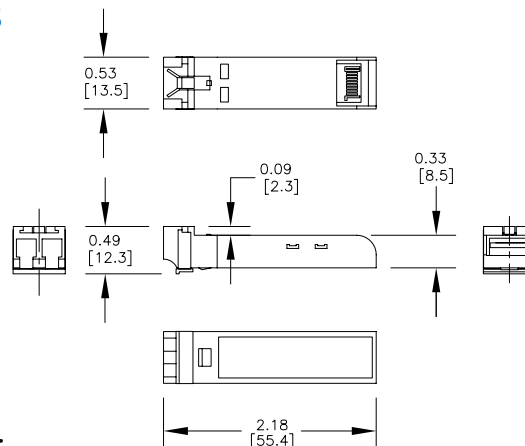
Transmitter Optical characteristics				
Parameter (unit)		Minimum	Typical	Maximum
Output optical power (dBm)	SFP-4K-FMF	-9		0
	SFP-30K-FSF	-15		-8
Extinction Ratio (dB)	SFP-4K-FMF	8.2		
	SFP-30K-FSF			
Center Wavelength (nm)	SFP-4K-FMF	1261	1310	1360
	SFP-30K-FSF			
Spectral width - RMS (nm)	SFP-4K-FMF			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
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		

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

### Dimensions

Inches [mm]



### Safety Standards:



# 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
<b>SFP-500-GMF</b>	Multi-mode	850 nm, VCSEL	550m	\$43.00
<b>SFP-2K-GMF</b>		1310 nm, FP	2km	\$72.00
<b>SFP-10K-GSF</b>	Single-mode	1310 nm, FP	10 km	\$43.00
<b>SFP-30K-GSF</b>		1310 nm, DFB	30 km	\$99.00

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

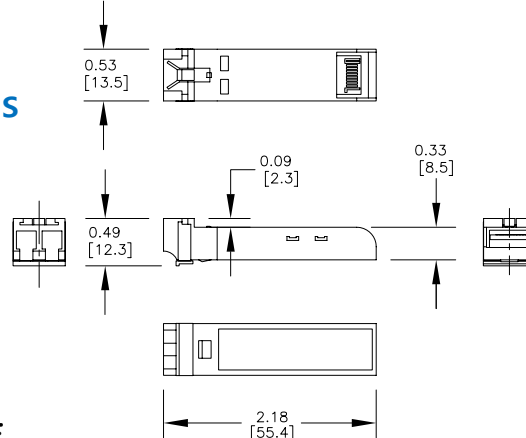
Transmitter Optical characteristics				
Parameter (unit)		Minimum	Typical	Maximum
Output optical power (dBm)	SFP-500-GMF	-9.5		-4
	SFP-2K-GMF	-9		-1
	SFP-10K-GSF	-9.5		-3
	SFP-30K-GSF	-2	1	3
Extinction Ratio (dB)	SFP-500-GMF			
	SFP-2K-GMF	9		
	SFP-10K-GSF			
	SFP-30K-GSF			
Center Wavelength (nm)	SFP-500-GMF	830	850	860
	SFP-2K-GMF	1270		1355
	SFP-10K-GSF	1285	1310	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		1355
	SFP-30K-GSF	1270	1580
Return Loss (dB)	SFP-500-GMF		
	SFP-2K-GMF	12	
	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		
	SFP-2K-GMF	-35	
	SFP-10K-GSF		
	SFP-30K-GSF		
Loss of Signal - Hysteresis (dB)	SFP-500-GMF		
	SFP-2K-GMF	0.5	
	SFP-10K-GSF		
	SFP-30K-GSF		

General Specifications	
<b>Connector Type</b>	Type LC connector with bail latch
<b>Operating Temperature range</b>	-40 to +85 °C [-40 to +185 °F]
<b>Storage temperature range</b>	-40 to +85 °C [-40 to +185 °F]
<b>Humidity (non-condensing)</b>	5 to 95% RH
<b>Link Speed</b>	Gigabit Ethernet
<b>Laser Type</b>	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 DFB laser diode (Class 1 laser safety standard IEC 60825 compliant)
	SFP-30K-GSF DFB laser diode (Class 1 laser safety standard IEC 60825 compliant)
<b>Media</b>	SFP-500-GMF Multi-mode Fiber
	SFP-2K-GMF Multi-mode Fiber
	SFP-10K-GSF Single-mode Fiber
	SFP-30K-GSF Single-mode Fiber
<b>Fiber</b>	SFP-500-GMF 50 / 125 μm and 62.5 / 125 μm
	SFP-2K-GMF 50 / 125 μm and 62.5 / 125 μm
	SFP-10K-GSF 9 / 125 μm
	SFP-30K-GSF 9 / 125 μm
<b>Code</b>	SFP-500-GMF SX
	SFP-2K-GMF SX2
	SFP-10K-GSF LX
	SFP-30K-GSF Lhx
<b>Distance</b>	SFP-500-GMF 550m
	SFP-2K-GMF 2km
	SFP-10K-GSF 10 km
	SFP-30K-GSF 40 km
<b>Compliances</b>	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
<b>Inputs / Outputs</b>	AC-coupled differential inputs and outputs

### Dimensions

Inches [mm]



### Safety Standards:



# Stride Industrial Ethernet Copper Transceivers

## Gigabit Ethernet

### Description:

The STRIDE SFP-1GC-T is a hot-pluggable Small Form Factor Pluggable (SFP) transceiver. It has an RJ-45 connector, and can send and receive data at 1.25 Gbps up to 100m distance over 4-pair Cat5e/6a cable. The module is compliant with the SFP Multi-Source Agreement (MSA) and IEEE802.3:2002.



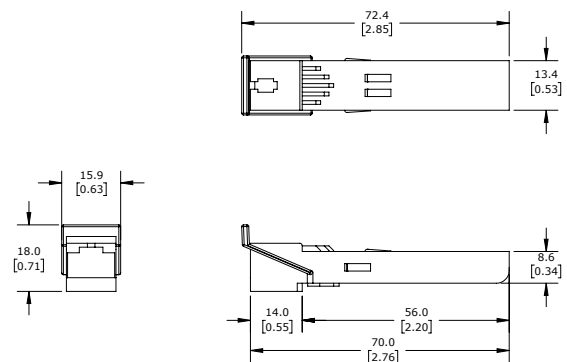
Part Number	Connector Type	Link Speed	Price
<b>SFP-1GC-T</b>	RJ-45	Gigabit Ethernet	\$76.00

RJ45 Ports	
<b>Ethernet Compliance</b>	IEEE 802.3ab (1000Base-T) Gigabit Ethernet
<b>Auto-Crossover</b>	Yes, allows use of straight-through or crossover cables
<b>Auto-Sensing Operation</b>	Yes, full and half duplex
<b>Port Speed</b>	1000Base-T only
<b>Cable Requirements</b>	4-pair UTP/STP Cat.5e/6a cable EIA/TIA-568 100-ohm
<b>Max. Cable Distance</b>	100m [328ft]

General Specifications	
<b>Operating Temperature Range</b>	-40 to +85 °C [-40 to +185 °F]
<b>Storage Temperature Range</b>	-40 to +85 °C [-40 to +185 °F]
<b>Humidity (non-condensing)</b>	5 to 95% RH
<b>Link Speed</b>	Gigabit Ethernet
<b>Compliances</b>	SFP Multi-Source Agreement (MSA)

### Dimensions

Inches [mm]



### Safety Standards:



# Stride<sup>®</sup> Managed Industrial Ethernet Switches

## Industrial Hardened Full Feature Layer 2 Switch



• For detailed specifications on all models, see following pages

<i>SE Series</i>		
<b>Price</b>		
starting at \$571.00 (5 port)		
<b>Full Feature Layer 2 Switch</b>		
✓		
<b>Industrial Temperature Ranges</b>		
	<b>Wide Temp</b>	-40 to +75°C
<b>Ethernet Connectivity</b>		
	<b>RJ45 Ports</b>	up to 1000 Mbps
	<b>Fiber Optic Ports</b>	✓
	<b>SFP Ports</b>	✓
<b>Port Count</b>		
5,8,10,16		
<b>Industrial Protocol Management</b>		
	<b>Modbus TCP</b>	Read
	<b>EtherNet/IP</b>	—
<b>Network Redundancy</b>		
	<b>STP/RSTP</b>	✓
	<b>Proprietary Fast Recovery</b>	Real-Time Ring
<b>Mounting</b>		
	<b>DIN Rail Mount</b>	✓
	<b>Panel Mount</b>	Integrated
<b>Input Power</b>		
	<b>Redundant Power Inputs</b>	✓
	<b>Reverse Polarity Protection</b>	✓
	<b>Power LED</b>	✓
	<b>Power Alarm</b>	✓
<b>Agency Approvals</b>		
	<b>UL508 / 61010</b>	✓
	<b>Haz Loc—Class 1 Div 2</b>	✓
	<b>ATEX Zone 2</b>	✓
	<b>CE</b>	✓
<b>Warranty</b>		
5 years		