Industrial Unmanaged Ethernet Switches and Media Converter USER MANUAL

Manual Number: SE-USER-M

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Stride™

Industrial Unmanaged Ethernet Switches and Media Converters

USER MANUAL

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Please include the User Manual Number and Issue, both shown below, when communicating with Technical Support regarding this publication.

Manual Number: SE-USER-M

Issue: 1st Edition, Rev. C

Issue Date: 07/11

Publication History		
Issue	**Date**	**Description of Changes**
1st Edition	11/07	Original issue
Rev. A	01/08	Corrected table on page 4
Rev. B	04/09	Added high temp (-WT) models
Rev. C	07/11	Added SC fiber port models

Industrial Unmanaged Ethernet Switches & Media Converters

In This User Manual...

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

Introduction

The Purpose of this User's Manual

Thank you for purchasing our *Stride*™ Industrial Ethernet Switches and Media Converters. This manual describes *AutomationDirect.com's Stride* industrial Ethernet switches and media converters, their specifications, included components, and provides you with important information for installation, connectivity and setup. The manual shows you how to install, wire and use the products.

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When you see the "notepad" icon in the left-hand margin, the paragraph to its immediate right will be a special note. The word ***NOTE:*** *in boldface will mark the beginning of the text.*

When you see the "exclamation mark" icon in the left-hand margin, the paragraph to its immediate right will be a warning. This information could prevent injury, loss of property, or even death (in extreme cases). The word WARNING: in boldface will mark the beginning of the text.

Product Overview

Industrial Unmanaged Ethernet Switches and Media Converters		
Part Number		**Description**
SE-SW5U **SE-SW5U-WT**	 	***STRIDE***™ SlimLine Industrial Unmanaged Ethernet Switch with five 10/100BaseT RJ45 Ethernet ports. Redundant power inputs with surge and spike protection. Auto-crossover. DIN rail mounting. Supports store & forward wire speed switching and full-duplex with flow control. UL, CSA (CUL), & CE ***Note: -WT models have a metal case and are rated for a wider temperature range, from -40 ° to 85 °C.***
SE-SW8U **SE-SW8U-WT**	 	***STRIDE***™ SlimLine Industrial Unmanaged Ethernet Switch with eight 10/100BaseT RJ45 Ethernet ports. Redundant power inputs with surge and spike protection. Auto-crossover. DIN rail mounting. Supports store & forward wire speed switching and full-duplex with flow control. UL, CSA (CUL), & CE ***Note: -WT models have a metal case and are rated for a wider temperature range, from -40 ° to 85 °C.***
SE-SW5U-ST **SE-SW5U-SC** **SE-SW5U-ST-WT** **SE-SW5U-SC-WT**	   	***STRIDE***™ SlimLine Industrial Unmanaged Ethernet Switch with four 10/100BaseT RJ45 Ethernet Ports and one 100BaseFX Fiber Optic Port (ST or SC type multimode fiber connector for links up to 4km). Redundant power inputs with surge and spike protection. Auto-crossover. DIN rail mounting. Supports store & forward wire speed switching and full-duplex with flow control. UL, CSA (CUL), & CE ***Note: -WT models have a metal case and are rated for a wider temperature range, from -40 ° to 85 °C.***
SE-SW9U-ST **SE-SW9U-SC** **SE-SW9U-ST-WT** **SE-SW9U-SC-WT**	   	***STRIDE***™ SlimLine Industrial Unmanaged Ethernet Switch with eight 10/100BaseT RJ45 Ethernet Ports and one 100BaseFX Fiber Optic Port (ST or SC type multimode fiber connector for links up to 4km). Redundant power inputs with surge and spike protection. Auto-crossover. DIN rail mounting. Supports store & forward wire speed switching and full-duplex with flow control. UL, CSA (CUL), & CE ***Note: -WT models have a metal case and are rated for a wider temperature range, from -40 ° to 85 °C.***
SE-MC2U-ST **SE-MC2U-SC**	 	***STRIDE*** ™ SlimLine Industrial Unmanaged Ethernet to Fiber Converter with one 10/100BaseT auto-detecting, auto-crossover and auto-polarity RJ45 Ethernet Port and one 100BaseFX Fiber Optic Port (ST or SC type multimode fiber connector for links up to 4km). Redundant power inputs with surge and spike protection. DIN rail mounting. Supports store & forward wire speed switching and full-duplex with flow control. UL, CSA (CUL), & CE

General Information

Overview

This user's manual will help you install and maintain the ***STRIDE*** Industrial Ethernet Switches and Media Converters. Installation of these devices is very easy and they will begin to operate as soon as they are powered up.

Operation

Unlike an Ethernet hub that broadcasts all messages out all ports, these industrial Ethernet switches will intelligently route Ethernet messages only out the appropriate port. The major benefits of this are increased bandwidth and speed, reduction or elimination of message collisions, and deterministic performance when tied with real-time systems.

These industrial Ethernet switches can support 10BaseT (10 Mbps) and 100BaseT (100 Mbps) on their RJ45 ports. Each of these ports will independently auto-sense the speed and duplex, mdi/mdix-crossover and polarity allowing you to use straight, crossed or even mis-wired cables. Some models also have one 100BaseFX (100 Mbps) fiber optic port for making noise immune connections up to 4 km.

Performance Specifications

These general specifications apply to these industrial Ethernet switches. Refer to the Technical Specifications topic for complete details.

Number of ports	2, 5, 8 or 9 Ethernet ports
Ethernet Switch Type	Unmanaged
Ethernet Protocols	All standard IEEE 802.3
RJ45 Ports (shielded)	10/100BaseT (with auto-negotiation, auto-crossover and auto-polarity)
Fiber optic port speed	100BaseFX
Fiber optic wavelength	1300 nm

Safety Standards

These industrial Ethernet Switches meet the following standards plus others:

CE c UL us	**Electrical Safety -** CE per Low Voltage Directive and EN61010-1 (IEC1010) UL recognition per UL508 (UL File #E200031) CSA per C22.2/14 (cUL File #E200031) **See Warnings on following page**
	Install the Switches in accordance with local and national electrical codes.
	Lightning Danger: Do not work on equipment during periods of lightning activity. Do not connect a telephone line into one of the Ethernet RJ45 connectors.
CE FC	**EMC (emmissions and immunity) -** • CE per the EMC directive, EN 55022 or IEC 61326-1 or EN 61000-6-2/4 • FCC part 15 and ICES 003; Class B. **See FCC statement on following page.**
 	**Marine, maritime and offshore -** These devices, when installed in an appropriately IP rated enclosure. Comply with DNV No. 2.4 and equivalent Lloyds and ABS standards. **For marine and maritime compliance, do not install this product within 5 meters of a standard or a steering magnetic compass.**
	**WEEE compliance -** These devices comply with the WEEE directive. Dispose of properly.
✓RoHS	**RoHS compliance -** These devices comply with the RoHS directive and are considered lead and other hazardous substance free.
CE c UL us	**Hazardous Locations -** • CE per ATEX directive and EN50021/EN60079-15 (Zone 2); EEx nA II T4 X (-40 °C $\leq T_a \leq$ +85 °C) • UL per UL1604 (Class 1, Div. 2), Groups A, B, C, D (UL File #E200031) • CSA per C22.2/213 (Class 1, Div.2), Groups A, B, C, D (cUL File #E200031) **See Warnings on following page**

Installation and Hazardous Area Warnings

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WARNING (EXPLOSION HAZARD)	SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS 1, DIVISION 2 (ZONE 2).
WARNING (EXPLOSION HAZARD)	WHEN IN HAZARDOUS LOCATIONS, DISCONNECT POWER BEFORE REPLACING OR WIRING UNITS.
WARNING (EXPLOSION HAZARD)	DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS.
WARNING (EXPLOSION HAZARD)	IN HAZARDOUS OR POTENTIALLY HAZARDOUS LOCATIONS, DO NOT SEPARATE ANY PART OF THE UNIT WHEN ENERGIZED. USE THE UNIT FOR INTERNAL CONNECTIONS ONLY.

FCC Statement

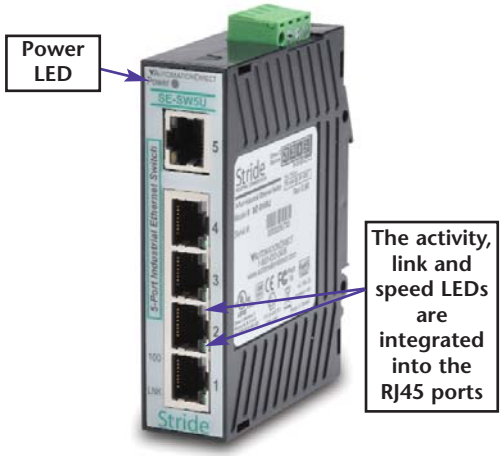
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna; Increase the separation between the equipment and receiver; Connect the equipment into an outlet on a circuit different from that to which the receiver is connected; Consult the dealer or an experienced radio/TV technician for help.

Note: *All information in this document is subject to change without notice.*

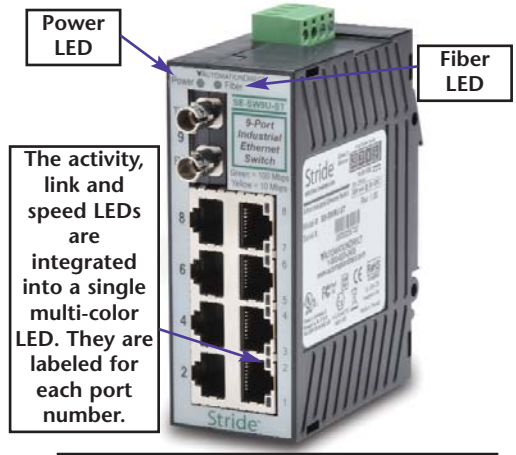
LED Indicators

Overview

All of the ***Stride*** Industrial Ethernet Switches and Media Converters have 1 or 2 communication LEDs for each port and a power LED. The fiber models also have one Fiber LED located next to the Power LED. The Fiber LED will be ON solid when you have made a proper connection. Refer to the sample pictures below for the location of these LEDs.



See the ACT/LNK and Speed 10/100 LED explanations that follow below & on next page



See the ACT/LNK/Speed LED explanation that follows on the next page.

Power LED

There is one power LED that is ON if either power input (P1 or P2) has power applied to it.

ACT/LNK LED

This is the **Yellow** LED on Models SE-SW5U* and SE-MC2U* with a yellow and a green LED per RJ45 port.

ON (yellow) (not flashing)	Indicates that there is a proper Ethernet connection (Link) between the port and another Ethernet device, but no communications activity is detected.
ON (yellow) (flashing)	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.

Explanation of LED Indicators continued on next page.

Speed 10/100 LED

This is the **Green** LED on Models SE-SW5U* and SE-MC2U* with two LEDs per RJ45 port.

ON (green)	A 100 Mbps (100BaseT) connection is detected.
OFF	A 10 Mbps (10BaseT) connection is detected.

ACT/LNK/Speed LED

This is a bi-color (**Green / Yellow**) LED on Models SE-SW8U* and SE-SW9U* with one LED per RJ45 port.

ON Solid (not flashing)	Indicates that there is a proper Ethernet connection (Link) between the port and another Ethernet device, but no communications activity is detected.
Flashing	Indicates that there is a proper Ethernet connection (Link) between the port and another Ethernet device, and that there is communications activity.
Green	A 100 Mbps (100BaseT) connection is detected.
Yellow	A 10 Mbps (10BaseT) connection is detected.
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.

Fiber LED

This is the **Green** LED on Models SE-SW5U* and SE-MC2U* with yellow and a green LED per RJ45 port.

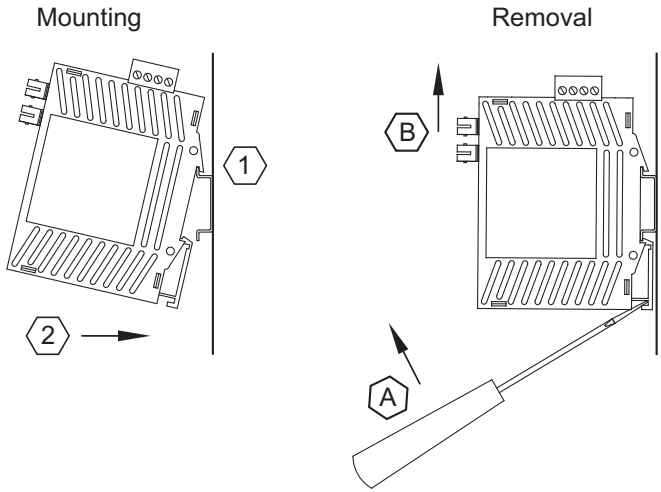
ON (green) (not flashing)	Indicates that there is a proper fiber connection (Link) between the port and another fiber device, but no communications activity is detected.
ON (green) (flashing)	Indicates that there is a proper fiber connection (Link) between the port and another fiber device, and that there is communications activity.
OFF	Indicates that there is not a proper fiber connection (Link) between the port and another fiber device. Make sure the fiber optic cable has been plugged securely into the ports at both ends.

Installation, Plastic Case Switches

Overview

These industrial Ethernet switches and media converters can be snapped onto a standard 35 mm x 7.5 mm height DIN rail (Standard: CENELEC EN50022). The switches and media converters can be mounted either vertically or horizontally. Refer to the mechanical drawings that follow for proper mounting.

Note: *Make sure to allow enough room to route your Ethernet copper or fiber optic cables.*



DIN Rail Mounting

DIN rail mounting steps:

1. Hook top back of unit over the DIN rail.
2. Push bottom back onto the DIN rail until it snaps into place.

DIN rail removal steps:

A. Insert screwdriver into DIN clip and pry until it releases from the DIN rail.

B. Unhook top of unit from DIN rail.

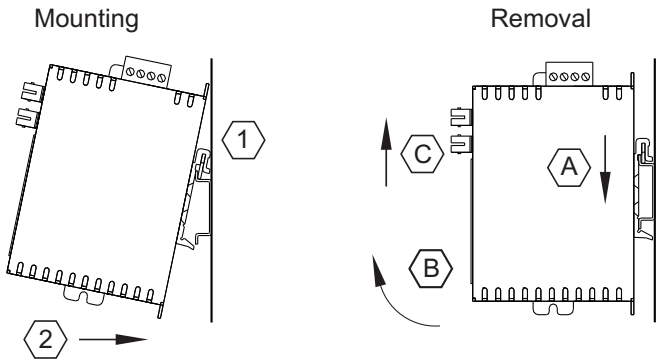
Installation, Metal Case Switches

Overview

These industrial Ethernet switches can be snapped onto a standard 35 mm x 7.5 mm height DIN rail (Standard: CENELEC EN50022). They can be mounted either vertically or horizontally. Refer to the mechanical drawings that follow for proper mounting.

Note: *Make sure to allow enough room to route your Ethernet copper or fiber optic cables.*

DIN Rail Mounting



DIN rail mounting steps:

1. Hook top back of unit over the DIN rail.
2. Push bottom back onto the DIN rail until it snaps into place.

DIN rail removal steps:

A. Push the unit down to free the bottom of the DIN rail.

B. Rotate the bottom of the unit away from the DIN rail.

C. Unhook top of unit from DIN rail.

Mounting Options

Stride switches with metal cases offer the following optional mounting methods.

A

B

C

A. Vertical DIN rail mount.

This mounting option allows for quickest installation and optimal utilization of rail space.

B. Vertical screw to panel mount.

This mounting option gives better shock and vibration resistance.

C. Flat screw to panel mount.

This mounting option offers a low profile orientation in shallow boxes plus the best shock and vibration resistance. The power connection terminal block is removable for access to the mounting tab.

Important Notes about Thermal Performance

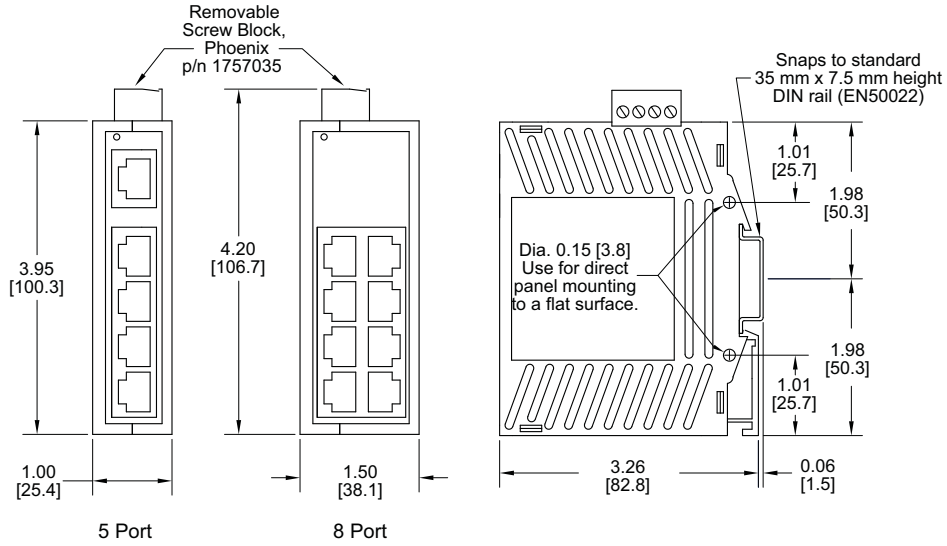
Stride switches with metal cases use an innovative technique to remove excess heat from the product and its components. This technique effectively utilizes the heavy gauge all-aluminum case as a large heat sink. Therefore, the case may be warm during operation, especially with heavy loads such as all ports linked and active. This is normal operation. For best performance, it is recommended that a DIN rail spacer such as end clamp, part number DN-EB35, be used between the switch and any adjacent device. This will leave an air gap for best heat dissipation off the case.

For best thermal performance when direct panel mounting to a metal surface, thermal compound may be used between the switch and mounting surface. This will reduce any air gaps and optimize the transfer of heat from the case to the mounting surface.

Mechanical Dimensions for 5 and 8-Port Models in Plastic Case

Inches [mm]

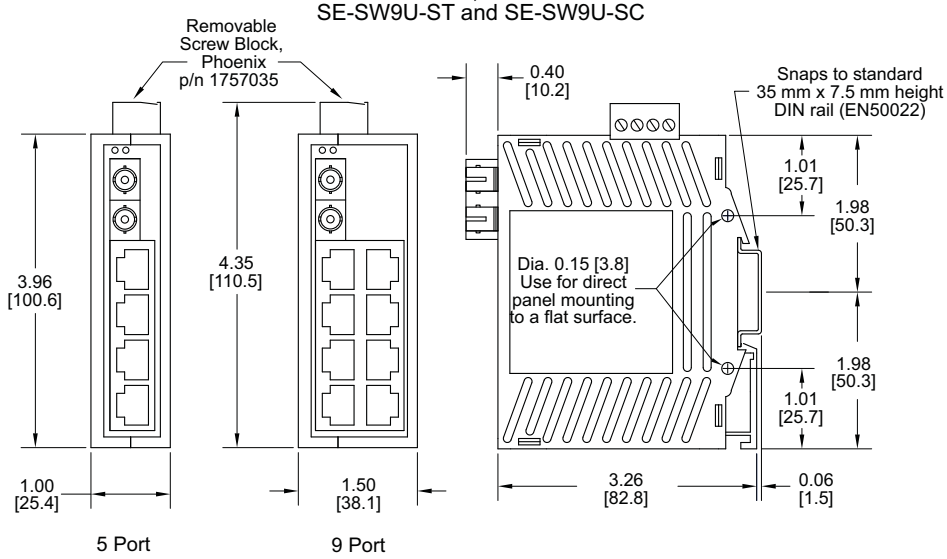
5 or 8 Port – SE-SW5U & SE-SW8U



Mechanical Dimensions for 5 and 9-Port Models with Fiber in Plastic Case

Inches [mm]

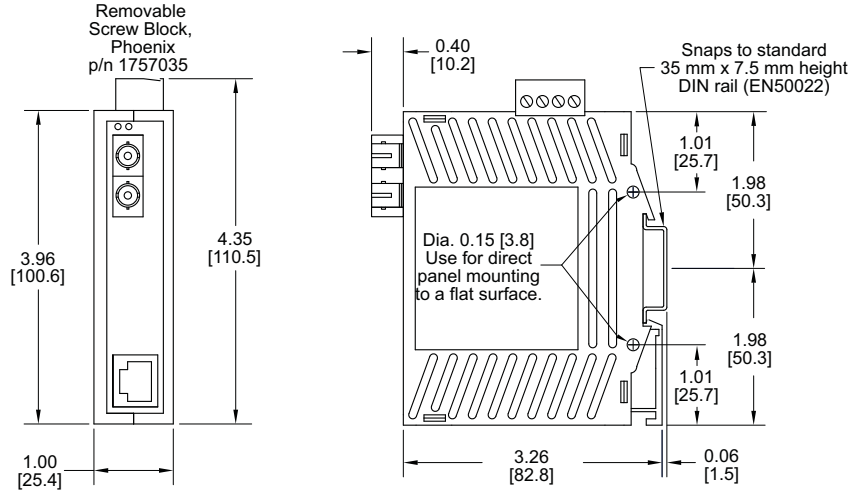
SE-SW5U-ST, SE-SW5U-SC
SE-SW9U-ST and SE-SW9U-SC



Mechanical Dimensions for 2-Port Media Converter in Plastic Case

Inches [mm]

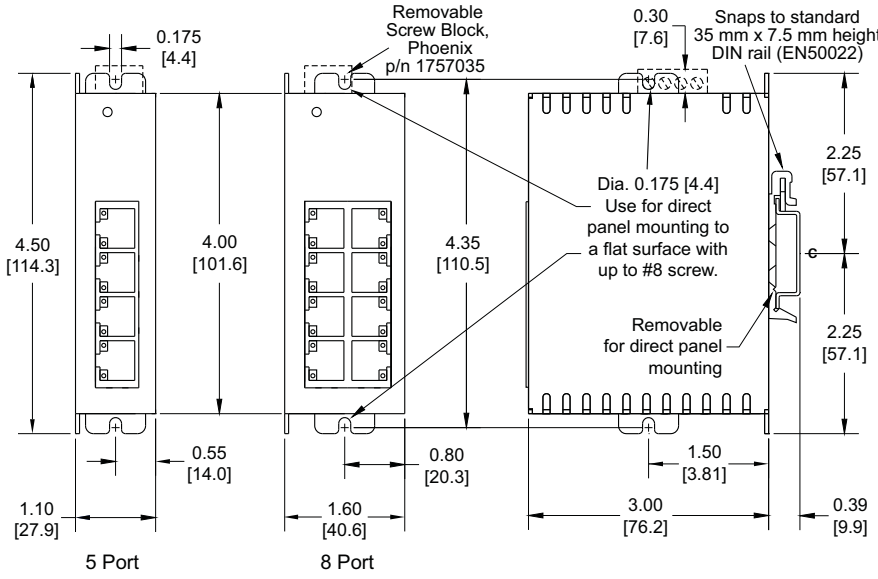
Media Converters – SE-MC2U-ST and SE-MC2U-SC



Mechanical Dimensions for 5 and 8-Port Models in Metal Case

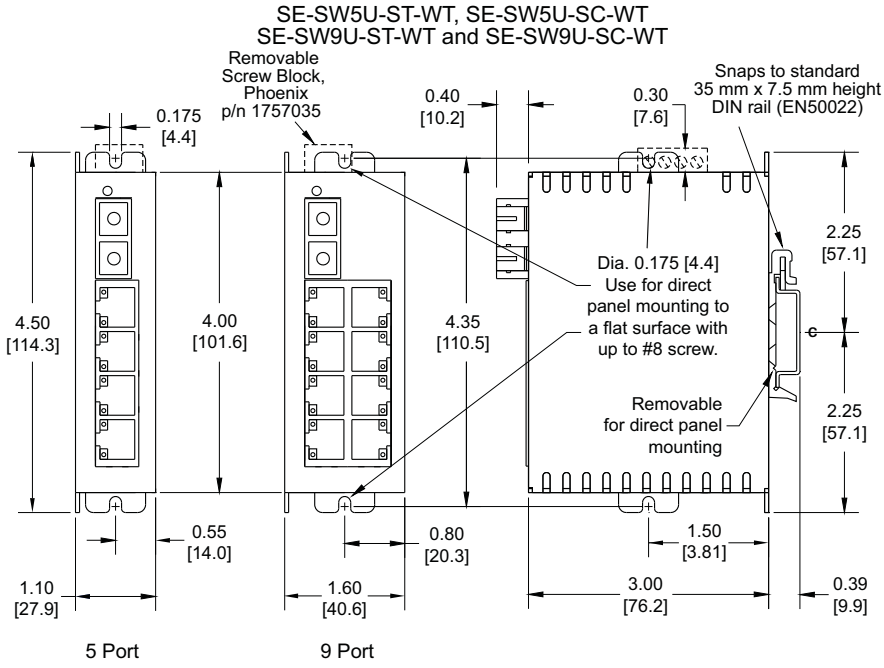
Inches [mm]

5 or 8 Port – SE-SW5U-WT & SE-SW8U-WT



Mechanical Dimensions for 5 and 9-Port models with Fiber in Metal Case

Inches [mm]

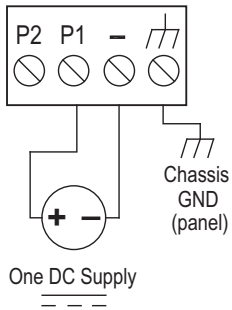


Power Wiring

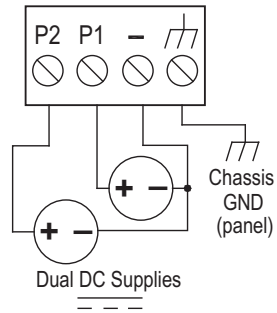
Overview

The industrial Ethernet switches and media converters can be powered from the same DC source that is used to power your other devices. To maintain the UL 508 listing, this must be a Class 2 power supply. DC voltage in the range of 10 to 30 VDC needs to be applied between the P1 (plus) terminal and the Minus terminal as shown below. The chassis screw terminal should be tied to panel or chassis ground. To reduce down time resulting from power loss, these industrial Ethernet switches can be powered redundantly with a second power supply as shown below.

Single DC Power



Redundant DC Power



Screw Torque

When tightening the screws be careful to tighten to a max. torque of 5 lb-in [0.57 Nm]. Wire size should be between 24 AWG and 12 AWG.

Before performing any wiring to these switches make sure…

- **The area is currently nonhazardous (especially when working in Class 1, Div 2 or Zone 2 hazardous locations).**
- **Power is off to the switch**
- **The screw terminal block is unplugged. This is especially important on the aluminum housed units as shown below. Connecting or disconnecting wires to the screw block when its in place and power is turned on can allow the screwdriver to short the power to the case**

Communication Ports Wiring

Overview

The industrial Ethernet switches and media converters provide connections to standard Ethernet devices such as PLCs, Ethernet I/O, industrial computers and much more. Two types of communication ports are available: RJ45 (copper) Ethernet ports, and one fiber optic Ethernet port on some models.

RJ45 Ethernet Wiring

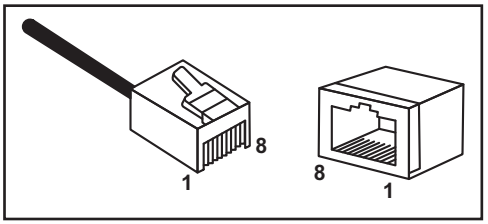
Use data-quality (not voice-quality) twisted pair cable rated category 5 (or better) with standard RJ45 connectors. Straight-through or crossover Ethernet cable can be used for all devices the switch is connected to as all the ports are capable of auto-mdi/mdix-crossover detection.

The RJ45 Ethernet port connector bodies on these products are metallic and connected to the Chassis GND terminal. Therefore, shielded cables may be used to provide further protection. To prevent ground loops, the cable shield should be tied to the metal connector body at one end of the cable only. Electrical isolation is also provided on the Ethernet ports for increased reliability.

Straight-thru Cable Wiring	
Pin 1	Pin 1
Pin 2	Pin 2
Pin 3	Pin 3
Pin 6	Pin 6

Cross-over Cable Wiring	
Pin 1	Pin 3
Pin 2	Pin 6
Pin 3	Pin 1
Pin 6	Pin 2

Note: *For reference only. Either cable wiring will work.*



Ethernet Plug & Connector Pin Positions

RJ45 Cable Distance

The maximum cable length for 10/100BaseT is 100 meters (328 ft.).

Ethernet Fiber Wiring Guidelines

The industrial Ethernet switches and media converters optionally have one pair of 100 Mbps (100BaseFX) multimode fiber ports. The maximum segment length is 4 km.

Each fiber optic port on the switch comprises a pair of ST or SC style connectors, depending on the model. For each fiber port there is a transmit (TX) and receive (RX) signal. When making the fiber optic connections, make sure that the transmit (TX) port of the switch connects to the receive (RX) port of the other device, and the receive (RX) port of the switch connects to the transmit (TX) port of the other device.

Use standard fiber optic wiring techniques (not covered by this manual) to make your connections. The corresponding ACT/LNK LED will be ON solid when you have made a proper connection.

See images below for typical fiber optic port placement.

Fiber Ports on Switches

Fiber Ports on Media Converters

Duplex Operation

The RJ45 ports will auto-sense for Full or Half duplex operation, while the fiber ports are configured for full duplex operation.

Note: *Fiber devices with half duplex settings will communicate with the switch in most situations.*

Network Device Check

The industrial Ethernet switches and media converters support 10/100BaseT on the RJ45 (copper) ports and 100BaseFX on the fiber optic ports. Make sure you connect the appropriate devices to each port.

Note: *The following* ***AutomationDirect*** *PLC Ethernet Modules are not compatible with the* ***Stride*** *Ethernet Switches and Media Converters with fiber optic connections because the modules have a speed of 10BaseF (fiber optic) only: Ethernet Communications Module, p/n H2-ECOM-F & H4-ECOM-F; Ethernet Base Controller Module, p/n H2-EBC-F & H4-EBC-F; Ethernet Remote Master Module, p/n H2-ERM-F & H4-ERM-F.*

Verifying Connectivity

After all Ethernet and/or fiber connections are made, check the LEDs corresponding to the ports that each of the devices are connected to. Ensure that for each port that is in use, the LED is on or blinking. If a port LED is off, go back and check for connectivity problems between that port and the network device connected to that port. In addition, the color of the LED should indicate the speed at which your device is connected (see prior section on LEDs).

Technical Specifications

Technical Specs

Here are the hardware technical specifications for the industrial Ethernet switches and media converters covered by this manual.

Copper RJ45 Ports:

Copper RJ45 Ports: (10/100BaseT)	
10/100BaseT ports	Shielded RJ45
Protocols supported	All standard IEEE 802.3
Ethernet compliancy	IEEE 802.3, 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	Yes, 10BaseT and 100BaseT
Auto-polarity	Yes, on the TD and RD pair
Flow control	Automatic
Ethernet isolation	1500 VRMS 1 minute
Plug and play	Yes
Cable requirements	Twisted pair (Cat. 5 or better) (shielded recommended)
Max. cable distance	100 meters

Fiber Ports:

Fiber Ports: (100BaseFX multimode)	
100BaseFX ports	1
Fiber port mode	Multimode (mm)
Fiber port connector	ST - models SE-*-ST and SE-*-ST-WT SC - models SE-*-SC and SE-*-SC-WT
Optimal fiber cable	50/125 or 62.5/125 µm
Center wavelength	1300 nm

Fiber ports continued on the next page.

Technical Specifications (cont'd)

Fiber Ports (cont'd):

Fiber Ports: (100BaseFX multimode) (cont'd)	
Multimode	Links up to 4 km typ.; 1300 nm; use with 50 or 62.5/125 um fiber > Transmitter power (dB): -21 min, -17 typ, -14 max > Receiver sensitivity (dB): -34 typ, -31 max
Nominal max. distance (full duplex)	4 km
Half and full duplex	Full duplex
Ethernet compliance	100BaseFX
Eye safety (laser)	IEC 60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11

General Specifications:

General Specifications	
Ethernet switch type	Up to 9 ports
Operating mode	Store & forward wire speed switching, non-blocking
Devices supported	All IEEE 802.3 compliant devices are supported
Standards	IEEE 802.3, 802.3u, 802.3x
MAC addresses	1024 addresses
Memory bandwidth	3.2 Gbps
Latency for 10 Mbps ports	16 us + frame time (typical)
Latency for 100 Mbps ports	5 us + frame time (typical)
Power input	Redundant Input Terminals
Input power (typical with all ports active at 100 Mbps)	2.0 W (2-port media converter with 1 fiber) SE-MC2U-ST and SE-MC2U-SC, 2.0 W (5-port w/o fiber) SE-SW5U, SE-SW5U-WT 3.0 W (5-port w/ 1 fiber) SE-SW5U-ST, SE-SW5U-SC, SE-SW5U-ST-WT and SE-SW5U-SC-WT 4.0 W (8-port w/o fiber) SE-SW8U, SE-SW8U-WT 5.0 W (9-port w/ 1 fiber) SE-SW9U-ST, SE-SW9U-SC, SE-SW9U-ST-WT and SE-SW9U-SC-WT
Input voltage (all models)	10-30 VDC (continuous) - Class 2 Power Supply
Reverse power protection	Yes
Transient protection	15,000 watts peak
Spike protection	5,000 watts (10x for 10 uS)
Ethernet isolation	1500 VRMS 1 minute

General specifications continued on the next page.

Technical Specifications (cont'd)

General Specifications (cont'd):

General Specifications (cont'd)		
Operating temperature range	SE-MC2U-ST SE-MC2U-SC SE-SW5U SE-SW8U SE-SW5U-ST SE-SW5U-SC SE-SW9U-ST SE-SW9U-SC	-10 to +60 °C (+14 to +140 °F), cold startup at -10 °C (+14 °F)
	SE-SW5U-WT SE-SW8U-WT SE-SW5U-ST-WT SE-SW9U-ST-WT SE-SW5U-SC-WT SE-SW9U-SC-WT	-40 to +85 °C (-40 to +185 °F), cold startup at -40 °C (-40 °F)
Storage temperature range	-40 to +85 °C [-40 to +185 °F]	
Humidity (non-condensing)	5 to 95% RH	
Environmental Air	No corrosive gasses permitted	
Vibration, shock & freefall	IEC68-2-6, -27, -32	
Electrical safety	UL508/CSA C22, EN61010-1	
EMI emissions	FCC part 15, ICES-003, EN55022	
EMC immunity	IEC61326-1	
Hazardous locations	UL1604, CSA C22.2/213 (Class I, Div.2) (file #E200031); EN50021/EN60079-15 (Zone2)	
RoHS and WEEE	RoHS (Pb free) and WEEE compliant	
Packaging and protection	SE-MC2U-ST SE-MC2U-SC SE-SW5U SE-SW8U SE-SW5U-ST SE-SW5U-SC SE-SW9U-ST SE-SW9U-SC	UL94VO Lexan, IP30
	SE-SW5U-WT SE-SW8U-WT SE-SW5U-ST-WT SE-SW9U-ST-WT SE-SW5U-SC-WT SE-SW9U-SC-WT	Aluminum IP30
Dimensions (L x W x H)	See mechanical diagrams for details	
Weights (typical)	SE-SW5U SE-SW5U-ST SE-SW5U-SC SE-MC2U-ST SE-MC2U-SC	4 oz (0.11 kg)
	SE-SW8U SE-SW9U-ST SE-SW9U-SC SE-SW5U-WT SE-SW5U-ST-WT SE-SW5U-SC-WT	6 oz (0.17 kg)
	SE-SW8U-WT SE-SW9U-ST-WT SE-SW9U-SC-WT	8 oz (0.23 kg)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