Stride PRO Series
Industrial Unmanaged Plus Ethernet Switches

User Manual

#SEP-USER-M

AUTOMATIONDIRECT.com

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Como mínimo, debe seguir las secciones aplicables del Código Nacional de Incendio, Código Nacional Eléctrico, y los códigos de (NEMA) la Asociación Nacional de Fabricantes Eléctricos de USA. Puede haber oficinas de normas locales o del gobierno que pueden ayudar a determinar cuales códigos y normas son necesarios para una instalación y operación segura.

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Stride PRO Series
Industrial Unmanaged Plus Ethernet Switches
User Manual

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

Publication History		
Issue	*Date*	*Description of Changes*
1st Edition	03/2026	Original release

Contents

Introduction

The Purpose of This User's Manual

Thank you for purchasing AutomationDirect.com's Stride® PRO series Industrial Unmanaged Plus Ethernet Switches. This manual describes the switches, their specifications, included components, and provides you with important information for installation, connectivity and setup.

This manual covers the following product families:

- Fast Ethernet Switches: SEP1-SW5U, SEP1-SW5U-T, SEP1-SW8U, SEP1-SW8U-T
- Gigabit Ethernet Switches with SFP: SEP1-SW5UG-1P-T, SEP1-SW6UG-1P-T, SEP1-SW7UG-2P-T, SEP1-SW10UG-2P-T, SEP1-SW12UG-2P-T
- PoE+ Gigabit Switches: SEP1-SWP2A5UG-T, SEP1-SWP2A8UG-T, SEP1-SWP2A10UG-2P-T

Please read this manual thoroughly before installing or operating your switch. Pay special attention to all warnings and cautions to ensure safe and reliable operation.

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Conventions Used

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 OR A CAUTION. THIS INFORMATION COULD PREVENT INJURY, LOSS OF PROPERTY, OR EVEN DEATH (IN EXTREME CASES). THE WORDS **WARNING** OR **CAUTION** IN BOLDFACE WILL MARK THE BEGINNING OF THE TEXT.*

General Information

Overview

The Stride® PRO series Industrial Ethernet Switches are designed for use in demanding industrial and commercial environments where reliable network connectivity is essential. These unmanaged switches provide plug-and-play operation with no configuration required, making them ideal for applications where simplicity and reliability are critical.

All Stride® PRO series switches feature industrial-grade construction with metal enclosures rated for IP30 protection. They are designed to operate in harsh conditions with exposure to electrical noise, temperature extremes, and vibration. The compact DIN-rail mountable design allows for easy installation in control cabinets and equipment racks.

Key features common to all Stride® PRO series switches include:

- Redundant DC power inputs (12–48 VDC or 12–55 VDC depending on model) with automatic failover
- Fault alarm relay contact for system monitoring
- Auto-negotiation and auto-MDI/MDI-X for simplified cabling
- Store-and-forward switching architecture
- DIN-rail and wall mounting options
- Wide operating temperature ranges (standard and extended temperature models available)
- CE, FCC, and UL certifications

The series is divided into three product families, each optimized for specific application requirements.

- Fast Ethernet models provide cost-effective 10/100 Mbps connectivity
- Gigabit models with SFP fiber ports enable long-distance connections and backbone applications
- PoE+ models deliver power and data over a single Ethernet cable, simplifying installations for IP cameras, wireless access points, and VoIP phones

Operation

Stride® PRO series switches employ store-and-forward switching technology, which examines each incoming packet for errors before forwarding it to the destination port. This method ensures data integrity and prevents defective packets from consuming network bandwidth. The switches automatically learn MAC addresses and build forwarding tables to efficiently direct traffic between connected devices.

Auto-Negotiation: All Ethernet ports support auto-negotiation, automatically detecting and configuring the optimal speed and duplex mode (10/100 Mbps for Fast Ethernet models, 10/100/1000 Mbps for Gigabit models). This eliminates the need for manual configuration and ensures compatibility with a wide range of network devices.

Auto-MDI/MDI-X: All copper Ethernet ports feature automatic MDI/MDI-X detection, allowing the use of either straight-through or crossover cables without manual configuration. This simplifies installation and reduces the possibility of cabling errors.

Flow Control: IEEE 802.3x flow control and back-pressure flow control mechanisms prevent packet loss during periods of network congestion. When a port's receive buffer approaches capacity, the switch signals the sending device to temporarily pause transmission, ensuring reliable data delivery.

SFP Fiber Support (Gigabit models): Models with SFP slots (SEP1-SW5UG-1P-T, SEP1-SW6UG-1P-T,

SEP1-SW7UG-2P-T, SEP1-SW10UG-2P-T, SEP1-SW12UG-2P-T, and SEP1-SWP2A10UG-2P-T) support 100BASE-FX and 1000BASE-X SFP (Small Form-factor Pluggable) transceivers. This allows for fiber optic connections over extended distances (up to 80km depending on SFP module) and provides immunity to electromagnetic interference.

Unmanaged Plus Features: While the Stride PRO switches are unmanaged and require no configuration for basic operation, select models include Unmanaged Plus features accessible via DIP switches. These features include Quality of Service (QoS), Broadcast Storm Protection (BSP), IGMP Snooping, VLAN, Port Mirror, and Port Alarm functions.

Security Considerations

While Stride PRO series switches provide reliable network connectivity, network security must be considered as part of your overall system design. As unmanaged switches, these devices do not provide authentication, encryption, or access control features.

In industrial control system applications, we recommend implementing a defense-in-depth security strategy with multiple layers of protection including firewalls, managed switches with VLAN segmentation, and network monitoring systems. The Stride PRO switches should be deployed within protected network segments and not directly exposed to untrusted networks.

When implementing any method of remote access to your equipment, you need to consider the security exposure in order to minimize the risks to your processes and your equipment. Security should always be carefully evaluated for each installation.

Class I Division 2 Hazardous Location Installation and Operation

The following Stride PRO series models are suitable for use in Class I, Division 2, Groups A, B, C, and D hazardous locations when installed and operated in accordance with the manufacturer's instructions:

- SEP1-SW5U
- SEP1-SW5U-T
- SEP1-SW8U
- SEP1-SW8U-T

These are open-type devices. Units rated for hazardous locations are meant to be installed in an enclosure which is only accessible with the use of a tool and suitable for the environment when installed in Class 1, Division 2 Hazardous Locations.

⚠️ **WARNING:** *THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, AND D OR NON-HAZARDOUS LOCATIONS ONLY.*

⚠️ **WARNING:** *EXPLOSION HAZARD — DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN REMOVED OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.*

⚠️ **WARNING:** *EXPLOSION HAZARD — SUBSTITUTION OF ANY COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

Safety Precautions

⚠️ **CAUTION:** *IF THE DC VOLTAGE IS SUPPLIED BY AN EXTERNAL CIRCUIT, PLEASE USE A PROTECTION DEVICE ON THE POWER SUPPLY INPUT. SUPPLY POWER FROM A UL LISTED INDUSTRIAL USE POWER SOURCE.*

Warning Labels

The caution label and hot surface warning label are reminders to check the manual for detailed information when working with the device.

Caution Label   Hot Surface Warning Label

FCC Statement

This equipment has been tested and found to comply with the limits for a Class-A 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. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions. 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: Modifications to this equipment will void the user's authority to operate the equipment.

CE Mark Warning

This is a Class-A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Product Overview

The Stride PRO series consists of industrial-hardened Unmanaged Plus Ethernet switches designed for demanding industrial environments. The Gigabit and PoE+ Gigabit switches feature **Rapid Provisioning Technology** with DIP switch configuration for essential network management features including:

- QoS (Quality of Service)
- BSP (Broadcast Storm Protection)
- IGMP Snooping
- VLAN support
- Port Mirroring
- Port Disconnect Alarm

Stride PRO Fast Ethernet switches do not include DIP switches, but have two Unmanaged Plus features always on: Broadcast Storm Protection (BSP) and Port Prioritization.

All Stride PRO switches are store-and-forward devices that comply with IEEE 802.3 standards for Ethernet communication. They feature:

- Dual redundant power inputs (12–48 VDC or 12–55 VDC depending on model)
- Built-in relay output warning for power failure
- IP30 rugged metal case design
- DIN-rail or wall mounting
- Operating temperature: -10 to +65 °C (standard) or -40 to +75 °C (extended temp models with -T suffix)

Stride PRO Fast Ethernet Unmanaged Plus Switches

| SEP1-SW5U | SEP1-SW5U-T | SEP1-SW8U | SEP1-SW8U-T |

Stride PRO Fast Ethernet Unmanaged Plus Switch Models				
Part Number	**RJ45 10/100**	**Input Power (Maximum)**	**IP Rating**	**Operating Temperature**
SEP1-SW5U	5	3.0W	IP30	-10 to +65 °C [+14 to +149 °F]
SEP1-SW5U-T		3.0W		-40 to +75 °C [-40 to +167 °F]
SEP1-SW8U	8	3.5W		-10 to +65 °C [+14 to +149 °F]
SEP1-SW8U-T		3.5W		-40 to +75 °C [-40 to +167 °F]

Stride PRO Gigabit Unmanaged Plus Switches with SFP Ports

SEP1-SW5UG-1P-T   SEP1-SW6UG-1P-T   SEP1-SW7UG-2P-T   SEP1-SW10UG-2P-T   SEP1-SW12UG-2P-T

Stride PRO Gigabit Unmanaged Plus Switch Models with SFP Ports					
Part Number	RJ45 GbE	Fiber	Input Power (Maximum)	IP Rating	Operating Temperature
SEP1-SW5UG-1P-T	4	1 SFP*	6.8W	IP30	-40 to +75 °C [-40 to +167 °F]
SEP1-SW6UG-1P-T	5		7.3W		
SEP1-SW7UG-2P-T		2 SFP*	7.8W		
SEP1-SW10UG-2P-T	8		13.5W		
SEP1-SW12UG-2P-T	10		15.0W		

* Optional SFP modules sold separately.

Stride PRO PoE+ Gigabit Unmanaged Plus Switches

SEP1-SWP2A5UG-T   SEP1-SWP2A8UG-T   SEP1-SWP2A10UG-2P-T

Stride PRO PoE+ Gigabit Unmanaged Plus Switch Models							
Part Number	RJ45 GbE PoE+	RJ45 GbE	SFP	PoE Max Power Budget	System Power (Maximum)**	IP Rating	Operating Temperature
SEP1-SWP2A5UG-T	4 (30W/port)	1	–	90W @ 12V 120W @ 24V 120W @ 36–55V	10.1W	IP30	-40 to +75 °C [-40 to +167 °F]
SEP1-SWP2A8UG-T	8 (30W/port)	–		90W @ 12V 150W @ 24V 200W @ 36V 240W @ 48–55V	11.7W		
SEP1-SWP2A10UG-2P-T	8 (30W/port)		2 SFP*	90W @ 12V 150W @ 24V 240W @ 36–55V	13.5W		

*   Optional SFP modules sold separately.
**   Does not include power supplied to PoE devices

SFP Transceivers

Stride SFP (small form-factor pluggable) modules, also called mini-GBIC, are compact, hot-swappable transceivers.

On models with SFP ports, optional Stride SFP transceivers can add LC fiber connectors for fiber connectivity at Fast Ethernet or Gigabit Ethernet speed or an RJ45 port for Gigabit Ethernet speed over Cat5e/6a cable.

SFP Fiber Transceivers				
Part Number	*Mode*	*Data Rate*	*Light Source*	*Maximum Transmission Distance*
SFP-4K-FMF	Multi-mode	Fast Ethernet (155 Mbps)	1310nm, FP	4km
SFP-30K-FSF	Single-mode			30km
SFP-500-GMF	Multi-mode	Gigabit (1.25 Gbps)	850nm, VCSEL	550m
SFP-2K-GMF			1310nm, FP	2km
SFP-10K-GSF	Single-mode			10km
SFP-30K-GSF			1310nm, DFB	30km

SFP Copper Transceiver				
Part Number	*Connector Type*	*Data Rate*	*Cable Type*	*Maximum Transmission Distance*
SFP-1GC-T	RJ-45	Gigabit Ethernet	Cat5e/6a	100m

Unmanaged Plus Features

What is "Unmanaged Plus"?

Stride PRO Gigabit and PoE+ Gigabit switches feature **Rapid Provisioning Technology**, which provides essential network management capabilities configured via simple 6-position DIP switches. No software configuration or web interface is required.

Stride PRO Fast Ethernet switches do not include DIP switches, but have two Unmanaged Plus features always on: Broadcast Storm Protection (BSP) and Port Prioritization.

DIP Switch Functions

The Unmanaged Plus features on Gigabit switches are controlled by the following six DIP switches:

DIP Switch Functions			
DIP Switch	*Function*	*ON*	*OFF*
1	QoS	Enable QoS function	Disable QoS function
2	BSP	Enable Broadcast Storm Protection	Disable BSP
3	IGMP Snooping	Enable IGMP Snooping	Disable IGMP Snooping
4	VLAN	Enable VLAN function	Disable VLAN function
5	Port Mirror	Enable Port Mirror function	Disable Port Mirror function
6	Port Alarm	Enable Port Alarm function	Disable Port Alarm function

Feature Descriptions

QoS (Quality of Service)

Prioritizes time-sensitive traffic for improved performance of real-time applications.

BSP (Broadcast Storm Protection)

Prevents network congestion by limiting broadcast traffic that could overwhelm the network.

IGMP Snooping

Optimizes delivery of multicast traffic within the LAN. Without IGMP snooping, switches treat multicast traffic like broadcast traffic, sending it to all connected devices and consuming unnecessary bandwidth. IGMP Snooping ensures multicast traffic is only sent to devices that have requested it.

- Bandwidth efficiency: Reduces unnecessary traffic
- Improved performance: Prevents network congestion
- Enhanced security: Limits multicast traffic to authorized devices

VLAN (Virtual LAN)

Enables network segmentation for improved security and traffic management. The Stride PRO switches use a port-based VLAN strategy. Each physical port on the network switch is assigned to a specific VLAN, creating isolated broadcast domains. This means devices connected to those ports can only communicate within their assigned VLAN, enhancing network security and performance.

Port-Based VLAN Configuration			
Part Number	**VLAN DIP OFF**	**VLAN DIP ON**	
	VLAN 1	**VLAN 1**	**VLAN 2**
SEP1-SW5UG-1P-T	Ports 1–5	Ports 1–2	Ports 3–5
SEP1-SW6UG-1P-T	Ports 1–6	Ports 1–2	Ports 3–6
SEP1-SW7UG-2P-T	Ports 1–7	Ports 1–2	Ports 3–7
SEP1-SW10UG-2P-T	Ports 1–10	Ports 1–5	Ports 6–10
SEP1-SW12UG-2P-T	Ports 1–12	Ports 1–6	Ports 7–12
SEP1-SWP2A5UG-T	Ports 1–5	Ports 1–2	Ports 3–5
SEP1-SWP2A8UG-T	Ports 1–8	Ports 1–4	Ports 5–8
SEP1-SWP2A10UG-2P-T	Ports 1–10	Ports 1–5	Ports 6–10

Port Mirror

Copies all network traffic from port 1 to port 2 for analysis by network monitoring tools. Both transmitted and received traffic is mirrored to port 2, so all traffic between port 1 and ports 3 and higher can be monitored. When port mirroring is enabled, port 2 cannot be used for normal network traffic.

- Network Monitoring: Provides visibility into network traffic for troubleshooting and performance analysis
- Security: Enables intrusion detection systems (IDS) to monitor network traffic for suspicious activity
- Troubleshooting: Helps diagnose network problems by capturing and analyzing network packets

Port Alarm

Continuously monitors the physical connection status of each port. The present link state is stored by pressing the AC/R button for 5s. Upon detection of a disconnection or link loss, the switch triggers an alert via the fault LED and relay contact disengagement.

- Improved Network Reliability: Enables rapid identification of connectivity issues from device failures or cable disconnections

Port Prioritization

Ports 3–5 for 5-port models and ports 6–8 for 8-port models are designated High Priority Ports.

Traffic entering through these ports will be scheduled using a higher weight defined by a 1:8 Weighted Round Robin (WRR) ratio.

Operational Behaviour:

- During normal operations with minimal congestion, all ports forward traffic at the line rate.
- When traffic exceeds the switch's forwarding capacity, the WRR scheduler allocates service time based on an 1:8 ratio.

  - High-priority ports receive significantly more transmission opportunities, ensuring critical data is delivered with reduced delays.
  - Low-priority ports share the remaining bandwidth and may experience increased latency under heavy load.

Applying Changes and Storing Configuration

When DIP switch settings are changed, the FAULT LED will flash green. To apply the changes, press and hold the "AC/R" button for 5 seconds. This button is located on the top of the device beside the DIP switches. The P1, P2 and FAULT LEDs will flash green and the device will reboot with the new settings.

This action also stores the current link status for each port. When a link is lost on a port whose state is stored with an active link, the port alarm will trigger if enabled.
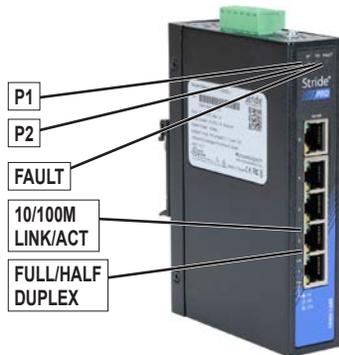
A power cycle will not store the changes.

Hardware Features

LED Indicators

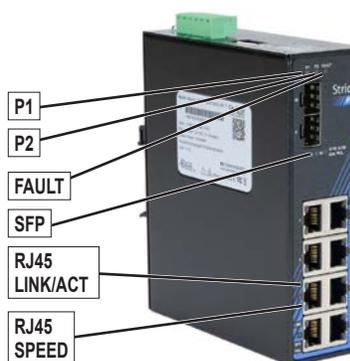### Fast Ethernet Models

- SEP1-SW5U
- SEP1-SW5U-T
- SEP1-SW8U
- SEP1-SW8U-T

SEP1-SW5U

Fast Ethernet Models LED Indicators			
LED	**Color**		**Description**
P1	Green	ON	Power input 1 is active
		OFF	Power input 1 is inactive
P2	Green	ON	Power input 2 is active
		OFF	Power input 2 is inactive
FAULT	Red	ON	Power input 1 or 2 is inactive
		OFF	Power input 1 and 2 are both functional
10/100M LINK/ACT	Green	ON	Connected to network
		Flash	Network is active
		OFF	Not connected to network
FULL/HALF DUPLEX	Amber	ON	Ethernet port full duplex
		Flash	Packet collision
		OFF	Ethernet port half duplex or not connected

Gigabit Ethernet SFP Models

- SEP1-SW5UG-1P-T
- SEP1-SW6UG-1P-T
- SEP1-SW7UG-2P-T
- SEP1-SW10UG-2P-T
- SEP1-SW12UG-2P-T

SEP1-SW10UG-2P-T

Gigabit Ethernet SFP Models LED Indicators			
LED	**Color**		**Description**
P1	Green	ON	Power input 1 is active
		OFF	Power input 1 is inactive
P2	Green	ON	Power input 2 is active
		OFF	Power input 2 is inactive
FAULT	Red	ON	Power input 1 or 2 is inactive or Port alarm is active
		OFF	Power input 1 and 2 are both functional or no power input
	Green	Flash	DIP switch changed, awaiting reset (hold AC/R button for 5s)
	Red ON Green Flash		Fault condition as above, AND awaiting reset after DIP switch change
P1, P2, FAULT	Green	Flash	AC/R button held for 5s or more, reset triggered and all three LEDs flash
SFP	Green or Amber	ON	Connected, Green=1 Gbps, Amber=100 Mbps
		Flash	Network is active
		OFF	Not connected to network
	Green & Amber Flash		Port link fail (when port alarm is enabled)
RJ45 LINK/ACT	Green	ON	Connected to network
		Flash	Network is active
		OFF	Not connected to network
RJ45 SPEED	Green	ON	Connected to network, 1000 Mbps
		Flash	Port link fail (when port alarm is enabled)
		OFF	Not connected to network, no port link fail
	Amber	ON	Connected to network, 10/100 Mbps
		Flash	Port link fail (when port alarm is enabled)
		OFF	Not connected to network, no port link fail

PoE+ Gigabit Ethernet Models

- SEP1-SWP2A5UG-T
- SEP1-SWP2A8UG-T
- SEP1-SWP2A10UG-2P-T
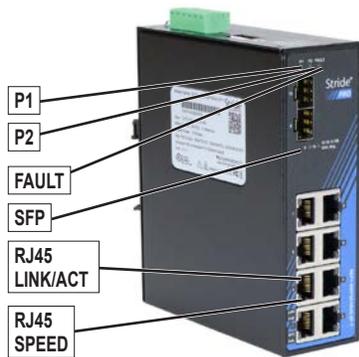
SEP1-SWP2A10UG-2P-T

PoE+ Gigabit Ethernet Models LED Indicators			
LED	**Color**		**Description**
P1	Green	ON	Power input 1 is active
		OFF	Power input 1 is inactive
P2	Green	ON	Power input 2 is active
		OFF	Power input 2 is inactive
FAULT	Red	ON	Power input 1 or 2 is inactive or Port alarm is active
		OFF	Power input 1 and 2 are both functional or no power input
	Green	Flash	DIP switch changed, awaiting reset (hold AC/R button for 5s)
	Red ON Green Flash		Fault condition as above, AND awaiting reset after DIP switch change
P1, P2, FAULT	Green	Flash	AC/R button held for 5s or more, reset triggered and all three LEDs flash
SFP[1]	Green or Amber	ON	Connected, Green=1 Gbps, Amber=100 Mbps
		Flash	Network is active
		OFF	Not connected to network
	Green & Amber Flash		Port link fail (when port alarm is enabled)
RJ45 LINK/ACT	Green	ON	Connected to network
		Flash	Network is active
		OFF	Not connected to network
	Amber[2]	ON	Power to PoE PD device
		Flash	Network is active and PoE supplying power to the powered device
		OFF	Not connected to network or PoE PD device
RJ45 SPEED	Green	ON	Connected to network, 1000 Mbps
		Flash	Port link fail (when port alarm is enabled)
		OFF	Not connected to network, no port link fail
	Amber	ON	Connected to network, 10/100 Mbps
		Flash	Port link fail (when port alarm is enabled)
		OFF	Not connected to network, no port link fail

1. SFP port on SEP1-SWP2A10UG-2P-T only
2. Power over Ethernet not available on Port 5 of SEP1-SWP2A5UG-T

Redundant Power Inputs

All Stride PRO series industrial Ethernet switches have dual redundant power inputs. Connecting two independent power sources reduces the risk of downtime resulting from power supply failure.

For information on wiring power to the industrial Ethernet switches, please see "Power Wiring" on page 16.

Fault Alarm

The Stride PRO series industrial Ethernet switches offer a power fault alarm contact to signal loss of power. The alarm is a normally open contact that is held closed by the presence of power on both power inputs. On loss of one or both power sources, the alarm contact will open. For proper operation of the alarm contact when using a single power input, jumper the two power inputs together. For information on wiring the power fault alarm contact, please see "Alarm Wiring" on page 17.

On models with the Port Alarm feature enabled (DIP switch 6 ON), the fault indicator and relay contact will also activate on a port link failure.

The fault alarm will reset when the alarm condition is cleared.

Mounting

The Stride PRO series switches can be DIN rail mounted or panel wall mounted. Each switch is shipped with all necessary brackets for either mounting option.

DIN Rail Mounting

The switches can be mounted on a standard 35 x 7.5mm height DIN rail (Standard: CENELEC EN50022) installed either vertically or horizontally.

Installing DIN rail bracket:

The switches are shipped with DIN rail bracket preinstalled. If it has been previously removed, attach the DIN rail bracket to the switch using the supplied hardware, as shown below.

Attach with provided screws

Attach with provided screws

Attach with provided screws

Attach with provided screws
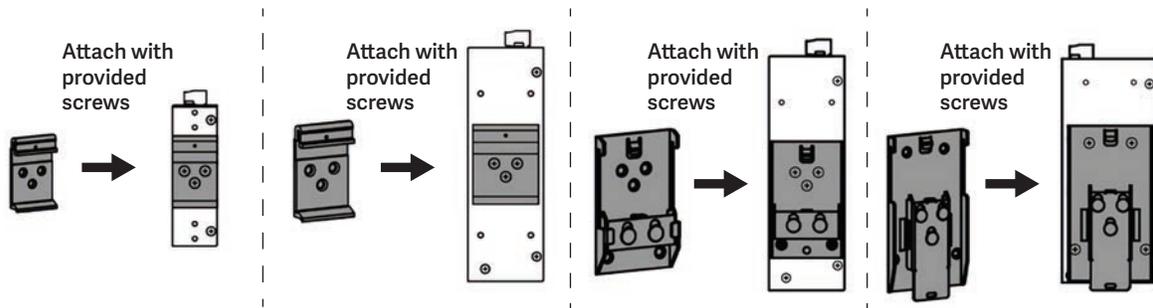
DIN rail mounting steps:

1. Hook top back of unit over the DIN rail.

2. Push bottom back onto the DIN rail until it snaps into place.
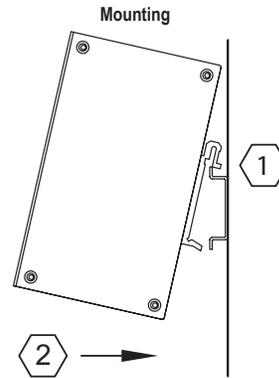
Mounting

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.

Removal

Wall Mounting

Follow the steps below to mount the switch using the wall mounting bracket. Bracket details and hole patterns differ between models.

Removing the DIN rail bracket

All Stride PRO series switches are shipped with DIN rail mounting brackets preinstalled. This bracket must be removed to mount the switch directly onto a panel wall.

There are several styles of DIN rail bracket in use across the Stride PRO product line. In all cases, remove the DIN rail mounting bracket by loosening several easily accessible screws.
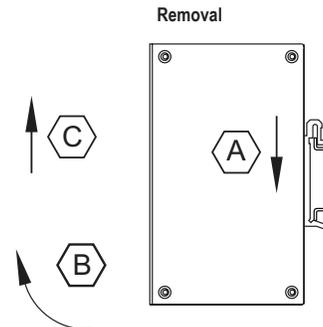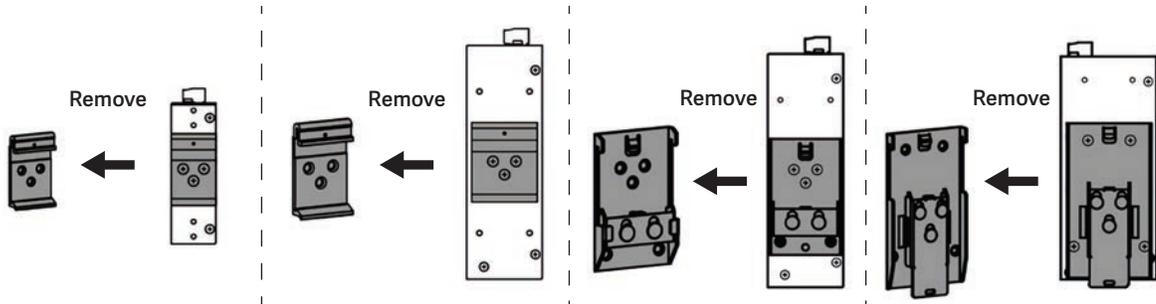
Attaching the wall mounting bracket

Attach the wall mounting brackets on the top and bottom of the switch using the supplied hardware. Specific mounting hole locations vary between models.
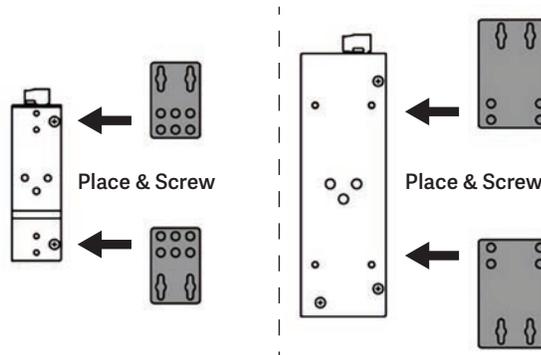
Mounting the switch to panel wall

Place screws in the panel wall based on the positions of the slotted screw holes on the mounting brackets and attach the switch to the wall.

Power and Alarm Wiring

Power Wiring

WARNING: *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 METAL HOUSED UNITS. CONNECTING OR DISCONNECTING WIRES TO THE SCREW BLOCK WHEN IT'S IN PLACE AND POWER IS TURNED ON CAN ALLOW THE SCREWDRIVER TO SHORT THE POWER TO THE CASE.*

Terminal Block Power Inputs

The switch can be powered from the same source that is used to power your other devices. To maintain the UL listing, this must be a Class 2 power supply. Power needs to be applied between the V1+ terminal and the V1- terminal as shown below. The chassis screw terminal should be tied to panel or chassis ground. To reduce down time resulting from power loss, the switch can be powered redundantly with a second power supply as shown below. The switch is equipped with reverse power protection, but care should be taken to connect the positive and negative terminals correctly. For the non-PoE models, a recommended DC power supply is AutomationDirect.com part number PSL-24-030.

Redundant DC Power

Power Details	
Power Input	Redundant input terminals, removable terminal block
Input Voltage	Class 2 power supply: 12–48 VDC (non-PoE models) 12–55 VDC (PoE+ models)
Reverse Power Protection	Yes
Wire Size and Torque	20–18 AWG, copper conductors only,125 °C; Wire strip length 7mm; Torque: 7 lb·in [0.79 N·m]
Power Consumption	Refer to Models tables on page 21.
Relay Contact	24 VDC, 1A resistive, open on fault
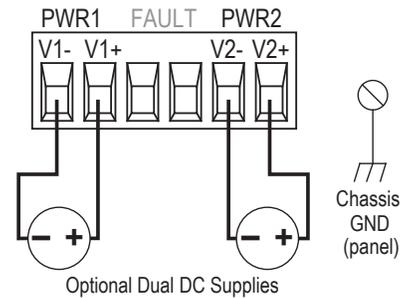
NOTE: If only one power supply is used, jumper V1+ to V2+ and V1- to V2- to eliminate power fault alarm.

Alarm Wiring

All Stride PRO series switches have a Power Fault alarm contact. Terminals for the alarm are located between the power inputs on the removable terminal block, as shown below. The alarm is a normally open contact that is held closed by the presence of power on both power inputs. On loss of one or both power sources, the alarm contact will open.

Power Fault Alarm Details	
Relay Contact	24 VDC, 1A resistive, open on fault

NOTE: If only one power supply is used, jumper V1+ to V2+ and V1- to V2- to eliminate power fault alarm.

Power Fault Alarm Wiring

PWR1   FAULT*   PWR2

V1- V1+   V2- V2+

LOAD

EXT PWR
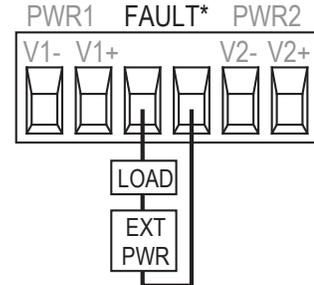
*Fault Contact opens when in a faulted state
(Not present on some models)

Grounding

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run a ground connection from the ground screw on the switch (⏚) to the grounding surface prior to connecting devices.

Communications Wiring

The industrial Ethernet switches provide connections to standard Ethernet devices such as PLCs, Ethernet I/O, industrial computers and much more. RJ45 Ethernet ports or fiber/SFP option ports are available depending on model.

Please see www.automationdirect.com for a wide range of cabling options.

RJ-45 Ethernet Connections

Use data-quality (not voice-quality) twisted pair cable rated category 5e (or better) with standard RJ45 connectors. Straight-through or crossover Ethernet cable can be used for all devices to which the switch is connected because all the ports are capable of auto-MDI/MDIX crossover detection. The maximum cable length for 10/100/1000BaseT is 100m [328ft].

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.

The RJ-45 ports are auto-sensing for 10Base-T, 100Base-TX or 1000Base-T device connections. See the figures below for straight-through and crossover cabling schematics.

10/100Base-T(X) RJ-45 Pin Assignments			
Crossover Cable		Straight-through Cable	
Pin Number / Signal	Pin Number / Signal	Pin Number / Signal	Pin Number / Signal
1 / RX+	3 / TX+	1 / RX+	1 / TX+
2 / RX-	6 / TX-	2 / RX-	2 / TX-
3 / TX+	1 / RX+	3 / TX+	3 / RX+
6 / TX-	2 / RX-	6 / TX-	6 / RX-

1000Base-T RJ-45 Pin Assignments			
Crossover Cable		Straight-through Cable	
Pin Number / Signal	Pin Number / Signal	Pin Number / Signal	Pin Number / Signal
1 / TP0+	3 / TP1+	1 / TP0+	1 / TP1+
2 / TP0-	6 / TP1-	2 / TP0-	2 / TP1-
3 / TP1+	1 / TP0+	3 / TP1+	3 / TP0+
4 / TP2+	7 / TP3+	4 / TP2+	4 / TP3+
5 / TP2-	8 / TP3-	5 / TP2-	5 / TP3-
6 / TP1-	2 / TP0-	6 / TP1-	6 / TP0-
7 / TP3+	4 / TP2+	7 / TP3+	7 / TP2+
8 / TP3-	5 / TP2-	8 / TP3-	8 / TP2-

Note: "+" and "-" signs represent the polarity of the wires that make up each wire pair.
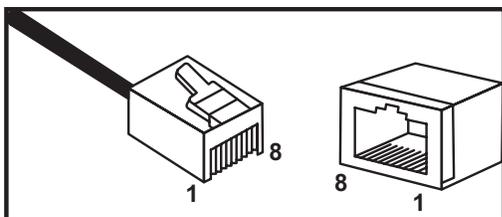
| PoE Switch Ethernet Port Pin Definitions			
Endspan, MDI Alternative A			
Pin		Pin	
1	V -	5	TRD2 -
2	V +	6	V -
3	V -	7	TRD3 +
4	TRD2 + (transmit / receive data)	8	TRD3 -

Ethernet Fiber Wiring Guidelines

Some switches include SFP ports which can be populated with an optical fiber SFP module. The following are general guidelines for Ethernet fiber connections. Please follow the specific instructions included with your SFP module.

For each fiber port there is a transmit (TX) and receive (RX) signal. When making your 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.
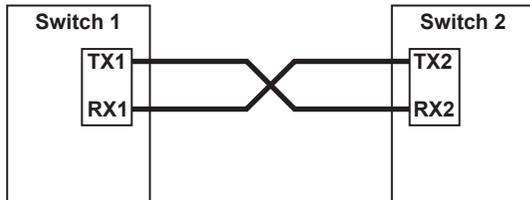
It is important to consider the output power and the receiver sensitivity for each end of each fiber connection, especially when the distances that each fiber transceiver in each switch are specified to support differ or when the transceivers (switches) are separated at a distance different than that which the transceivers are specified to support.

SFP Connections

The small form factor pluggable (SFP) is a compact transceiver used in telecommunication and data communication applications.

⚠️ **CAUTION:** *FOR FIBER APPLICATIONS, PLEASE EMPLOY AN OPTIONAL OPTICAL TRANSCEIVER THAT COMPLIES WITH IEC 60825-1 AND IS CLASSIFIED AS A CLASS 1 LASER PRODUCT.*

📝 **NOTE:** An SFP module with LC fiber connector is used here to illustrate the installation and removal procedures. The process is identical for RJ-45 copper transceivers.

To connect the transceiver and cable, insert the SFP transceiver module into the SFP slot as shown below. Notice that the triangle mark is at the bottom of the SFP slot. Then insert the cable connector into the transceiver.
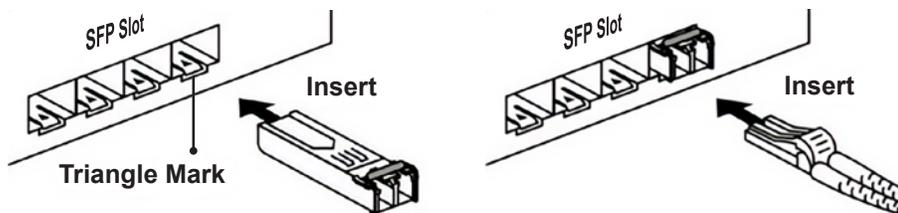
To remove a cable connector from the transceiver, press the retaining tab on the connector and pull the connector from the module as shown below.
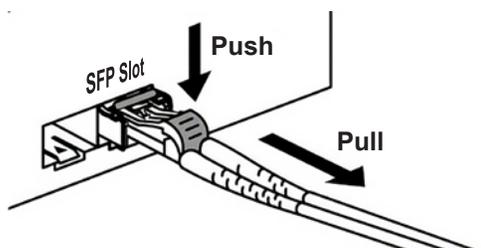
To remove an SFP module from the switch, push down the metal clasp and pull the transceiver out by the lever as shown below.
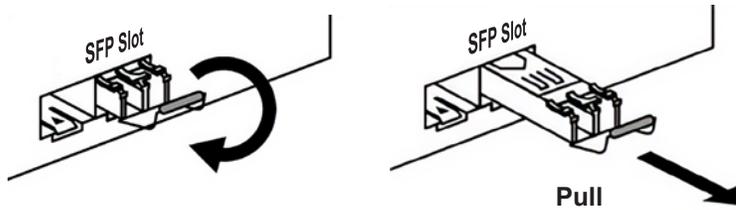
Verifying Connectivity

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

Technical Specifications

Stride PRO Unmanaged Models					
Part Number	**RJ45 10/100**	**RJ45 GbE**		**SFP**	**Input Power (Max.)**	**Operating Temperature**
		Non-PoE	**PoE**			
Fast Ethernet Switches						
SEP1-SW5U	5	–	–	–	3W	-10 to +65 °C [+14 to +149 °F]
SEP1-SW5U-T	5	–	–	–	3W	-40 to +75 °C [-40 to +167 °F]
SEP1-SW8U	8	–	–	–	3.5W	-10 to +65 °C [+14 to +149 °F]
SEP1-SW8U-T	8	–	–	–	3.5W	-40 to +75 °C [-40 to +167 °F]
Gigabit Ethernet Switches with SFP						
SEP1-SW5UG-1P-T	–	4	–	1*	6.8W	-40 to +75 °C [-40 to +167 °F]
SEP1-SW6UG-1P-T	–	5	–	1*	7.3W	
SEP1-SW7UG-2P-T	–	5	–	2*	7.8W	
SEP1-SW10UG-2P-T	–	8	–	2*	13.5W	
SEP1-SW12UG-2P-T	–	10	–	2*	15W	
PoE+ Gigabit Ethernet Switches						
SEP1-SWP2A5UG-T	–	1	4	–	10.1W	-40 to +75 °C [-40 to +167 °F]
SEP1-SWP2A8UG-T	–	–	8	–	11.7W	
SEP1-SWP2A10UG-2P-T	–	–	8	2*	13.5W	
* Optional SFP modules sold separately.						

General Specifications

Specification	Fast Ethernet Models	Gigabit Models	PoE+ Models
Ethernet Standards	IEEE 802.3, 802.3u	IEEE 802.3, 802.3u, 802.3ab, 802.3z	IEEE 802.3, 802.3u, 802.3ab, 802.3af/at
Processing Type	Store and forward		
MAC Addresses	2K	8K	8K
Memory Buffer	448 kbit	4 Mbit	4 Mbit
Switching Fabric	1–1.6 Gbps	10–24 Gbps	10–24 Gbps
Packet Forwarding Rate	14.88 kpps for Ethernet ports 148.8 kpps for Fast Ethernet ports 14,888 kpps for Gigabit Ethernet ports		
Jumbo Frame Support	NA	9.6 kbyte	9.6 kbyte
Packaging and Protection	Metal case, IP30		
Mounting	DIN rail, panel mount		
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 Part 15 Subpart B Class A, CE EN55032/EN61000-6-4 Class A		
EMS	CE EN55035/EN61000-6-2 Class A: IEC61000-4-2 (ESD), IEC61000-4-3 (RS), IEC61000-4-4 (EFT), IEC61000-4-5 (Surge), IEC61000-4-6 (CS), IEC61000-4-8 (Magnetic Field)		
RoHS	RoHS (Pb free) compliant		
Hazardous Locations (Class I, Div.2)	ANSI/ISA 12.12.01	N/A	
Agency Approvals	SEP1-SW5U / SEP1-SW5U-T: CE, FCC, UL 508 All others: CE, FCC, UL 61010-1, UL 61010-2-201		

Power Details

Power Input	Redundant input terminals, removable terminal block
Input Voltage	Class 2 power supply: 12–48 VDC (non-PoE models) 12–55 VDC (PoE+ models)
Reverse Power Protection	Yes
Power Consumption	See Models table
Relay Contact	24 VDC, 1A resistive, open on fault

PoE Details

| Part Number	SEP1-SWP2A5UG-T	SEP1-SWP2A8UG-T	SEP1-SWP2A10UG-2P-T
PoE Ports	4	8	8
Max Power per Port	30W		
PoE Budget	90W @ 12V 120W @ 24V 120W @ 36–55V	90W @ 12V 150W @ 24V 200W @ 36V 240W @ 48–55V	90W @ 12V 150W @ 24V 240W @ 36–55V
PoE Standard	IEEE 802.3af/at (PoE+)		
PoE Pinout	V+, V+, V-, V-, for pin 1, 2, 3, 6 (Endspan, MDI Alternative A)		
PD (Powered Device) Detection	Yes - the switch port will detect the presence of a PoE enabled device before sending power. If a non-PoE device is detected, power will not be sourced on that port but Ethernet communications will be permitted.		
PoE Overload Protection	Yes		
Reverse Protection	Yes		
Redundancy Protection	Yes		

RJ45 Ports

Ethernet Compliance	IEEE 802.3 for 10Base-T Ethernet IEEE 802.3u for 100Base-TX Ethernet IEEE 802.3ab for 1000Base-T Gigabit Ethernet IEEE 802.3af or 802.3at for Power over 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	IEEE 802.3x flow control, back pressure flow control
Cable Requirements	10BaseT: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100Ω (100m) 100BaseTX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100Ω (100m) 1000BaseTX: UTP/STP Cat.5e/6a cable; EIA/TIA-568 100Ω (100m)
Max. Cable Distance	100m [328ft]

SFP Ports

Ethernet Compliance	IEEE 802.3, 802.3u, 802.3x for 10/100 Ethernet IEEE 802.3ab, 802.3z for Gigabit Ethernet

SFP (pluggable) ports accept 100/1000 Mbps Mini-GBIC (SFP) transceivers.
See SFP module datasheet for optional transceiver specifications

Dimensions				
Part Number	**Weight** **kg [lb]**	**Width (A)**	**Depth (B)**	**Height (C)**
		mm [in]		
SEP1-SW5U	0.45 [0.99]	30 [1.18]	95 [3.74]	140 [5.51]
SEP1-SW5U-T				
SEP1-SW8U				
SEP1-SW8U-T				
SEP1-SW5UG-1P-T	0.68 [1.5]	30 [1.18]	120 [4.72]	142 [5.59]
SEP1-SW6UG-1P-T				
SEP1-SW7UG-2P-T				
SEP1-SW10UG-2P-T	0.91 [2.0]	46 [1.81]		
SEP1-SW12UG-2P-T				
SEP1-SWP2A5UG-T	1.00 [2.2]	46 [1.81]	120 [4.72]	142 [5.59]
SEP1-SWP2A8UG-T	1.04 [2.3]			
SEP1-SWP2A10UG-2P-T	1.09 [2.4]			

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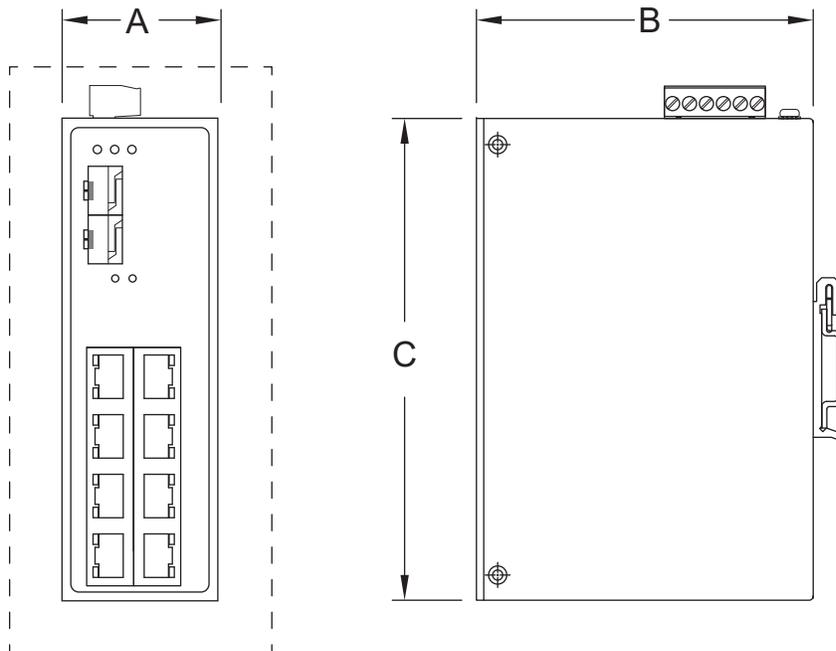
Troubleshooting

Power

- If the power indicator LED does not illuminate when power is applied, check for loose power connections.
- Verify that you have an appropriate power supply. Never use a power supply with a non-compliant DC output voltage.
- If the Fault LED is on and you have only one power supply connected, make sure to jumper the two power connections as described in the Installation section. If you have two power supplies connected, check the output voltage of each and check for loose power connections.

Copper Ethernet

- Use the proper UTP or STP cable when constructing the network. Use a 100Ω Category 5e unshielded twisted-pair (UTP) or shielded twisted-pair (STP) cable for RJ-45 connections for 10/100/1000 Mbps. Also be sure that the length of any twisted-pair connection does not exceed 100m [328ft].
- If the industrial switch LED indicators are normal and the connected cables are correct but the packets still cannot transmit, please check the configuration or status of the system's Ethernet devices.
- The SFP-1GC-T Gigabit copper transceiver can only be used in a Gigabit SFP port.

Fiber Ethernet

- Make sure that the speeds of devices at both ends of a link match: a 100 Mbps SFP on one switch must connect to a 100 Mbps connection on the other switch or end device. Fiber ports do not negotiate speed.
- Ensure that the cable type you are using matches the transceiver type. That is, multi-mode cable requires multi-mode transceivers, and single-mode cable requires single-mode transceivers.
- Make sure that all of your connectors are clean. Even a tiny amount of dust, dirt or grease on a connector face can significantly degrade a fiber signal. This includes the main fiber optic link as well as any patch cables that you may be using. When cleaning, it is important to use lint free swabs or wipes, preferably of a clean room quality. These can be used dry or wet (with 99% isopropyl alcohol solutions). It is not necessary to scrub the end face, rather to just gently wipe it clean and then double-check the link. If additional cleaning is required, simply repeat this process

⚠️ **WARNING:** *MAKE CERTAIN THAT YOU ARE NOT CLEANING AN ACTIVE FIBER, AS THE LASER CAN CAUSE PERMANENT DAMAGE TO YOUR EYES SHOULD YOU LOOK INTO THE END FACE.*

- Make sure that all connectors are plugged completely into their proper ports. If end faces are not lined up correctly with transceivers and/or mated fiber ends, the system may fail due to excess attenuation.
- Make sure that the transmit cable at the near end is the receive cable at the far end. There needs to be a crossover for a fiber link to work correctly. Be sure to factor in all patch cords that may be used.

📝 **NOTE:** The physical connectors on the ends of a fiber cable do NOT need to match: a link may use an LC connector on one end and an SC connector on the other

- Evaluate the transmitter output power, fiber loss and receiver sensitivity of your fiber network link, and add an optical attenuator if necessary.

Please contact AutomationDirect for technical support service if the problem persists.

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PRO

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