# **VAUTOMATION DIRECT**

# **Communications**





Stride

**Achie ∀**e<sup>™</sup>











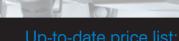


Stride



Stride





www.automationdirect.com/pricelist

www.automationdirect.com/support

#### **FREE Videos:**

www.automationdirect.com/videos

#### **FREE Documentation:**

www.automationdirect.com/documentation

55555

#### FREE CAD drawings:

www.automationdirect.com/cad









## **Practical Control and Data Communications**

STRIDE communication products provide reliable connectivity to your industrial controllers and field devices. Whether it's providing secure remote access through the StrideLinx platform, Ethernet

connectivity through STRIDE unmanaged switches, or serial connectivity with our Modbus gateways and serial converters, you'll find STRIDE offers the industrial performance that you can



- Secure VPN
- Remote Access
- Cloud Data Logging



#### Industrial Ethernet Switches & Media Converters



#### Media Converters



#### MQTT Gateway



Communication Cables & Accessories







#### Coordinated control

Communication links between controllers can be used to create robust, modular control systems. Sharing data between separate operations enables each local controller to better contribute to the system's overall performance. Whether separated by feet or by miles, your controllers can access what's going on in the world

#### Data sharing

Run a more effective business by making use of the valuable information within your process controllers. The business needs to know what manufacturing is doing whether you call it ERP, MES, SCM, or just plain common sense.

#### Remote support

Remotely access machine or process controllers for troubleshooting, configuring, updating or monitoring the system. Whether it's your production facility or your controller in a customer's facility, having convenient and secure remote access ensures maximum production with minimal support costs.

#### Commercial Grade vs. Industrial Grade

Before you take a risk with commercial-grade products to save a few bucks, ask yourself how much just one field failure will cost you in service time, reputation, and money. Communication products not designed to operate in the heat, cold, or humidity of an industrial site or products not ruggedized for power spikes and vibration don't have to completely guit working to cause headaches. Communication products, along with cables and connectors, are notorious for causing those irritating intermittent control system bugs that inevitably absorb loads of troubleshooting man hours over a few dollars in parts. Neither your customer nor your family wants you onsite resolving a late night or weekend communication link issue.

Sometimes commercial grade will do, but for those times when you and your customer need rock-solid reliability, AutomationDirect has the best values in industrial communication products.

## **Remote Access Solution**

#### Service, monitor and troubleshoot remotely from multiple devices

\$400<u>.00</u>

N G V V C 0 1 2 3 20 4 5 6 7 20 8 9 10 11 40 12 13 14 15 10 0 10 1

0 1 2 3 20 4 5 6 7 30 8 9 10 11 40 12 13 14 15 50 16 17 18 19 10 0 1 2 mmmmm hommmm.

Cloud connect any of your Ethernet-ready devices at a price even the smallest OEM, machine builder or system integrator can afford! With StrideLinx you get secure, reliable access over the "industrial internet" to your field devices for the remote visibility needed to compete in today's connected world.

wired and WiFi \$621.00

wired and 4G **\$679.00** 

For the latest prices, please check AutomationDirect.com.

Stri'deLinx

Stride

\*\*Optional subscriptions including data logging and alarming are available.

Click here to check out the StrideLinx Solutions brochure

Click here to check out the STRIDE Pocket Portal brochure





#### Make any device an edge device

The STRIDE Pocket Portal is a simple, low-cost cloud data logging and storage solution that will gather and store data directly to the cloud from any device including analog sensors, actuators, and Modbus-capable controllers.



#### Industrial Ethernet Patch Cables (starting at \$6.75/3 ft.)

Industrial-grade Ethernet cables are designed to reduce the effects of (EMI) electromagnetic interference which can cause delays or complete communication loss in extremely noisy

Cat6a Ethernet Patch Cables

- RJ45 male connectors on both ends, with lengths up to 14 ft.
- STP shielded twisted pair (with overall foil shield)
- Blue PVC cable jacket
- 30W Power over Ethernet (PoE+)
- Support transmission speeds up to 10 Gbps full duplex

Cat5e Ethernet Patch and Crossover Cables

- RJ45 male connectors on both ends, with lengths up to 50 ft.
- STP shielded twisted pair (with overall foil shield)
- PVC cable jacket in 9 colors (crossover cables in orange only) • Support transmission speeds of 10 / 100 / 1000 Mbps

#### M12 Ethernet Cables

- High-flex industrial shielded Ethernet cables
- Cat5e D-coded cables support 10 / 100 Mbps full duplex
- Cat6a X-coded cables support up to 10 Gbps full duplex
- TPE (thermoplastic elastomer) jacket for harsh industrial applications
- M12 Q/D connector to a variety of termination styles, including pigtail,

1 - 8 0 0 - 6 3 3 - 0 4 0 5

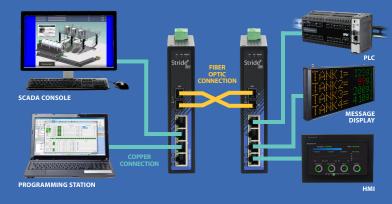
· Lengths from 0.6m (1.9ft) to 15m (49.2ft)

## Fiber Optic Patch Cables

(starting at \$7.25/3.2 ft.)

AchieVe brand fiber optic patch cables provide reliable multimode fiber connections for way less than the competition. With fiber optic connections you get faster transmission speeds than copper plus no detrimental effects from electrical noise.

- 250 $\mu$ m multi-mode fiber cables in lengths up to 10m (32.8 ft.)
- OM1, OM2, OM3, and OM4 fiber types available
- Numerous connector options including: LC duplex to LC duplex, SC duplex to LC duplex, ST duplex to ST duplex, and LC duplex to ST duplex
- LSZH jacket material complies with UL 94V-0



mCMP-2 Communication Products

**VAUTOMATION DIRECT** 

www.automationdirect.com/communications

**Communication Products** 

mCMP-3

# Stride Ethernet Switches & Media Converters













STRIDE Unmanaged Ethernet Switches starting at: \$78.00

#### **Industrial Strength Ethernet**

STRIDE is our line of industrial grade Ethernet switches and media converters. Designed with our PLC, HMI, and drive customers in mind, STRIDE Ethernet switches are specifically built for industrial environments. With a STRIDE industrial Ethernet switch on an isolated control LAN, you can reduce data collisions that slow down your network. Install STRIDE switches and your Ethernet control network will maintain more consistent cycle times even under heavy I/O and data exchange.

#### **Extreme Temperatures**

For industrial applications where temperatures change from freezing to sweltering heat, the STRIDE line offers Ethernet switches designed for standard industrial environments, as well as the most extreme industrial environments. The rugged metal housing models offer superior EMC performance and corrosion-resistance while also allowing you to choose various mounting methods for your application.

### PoE+ and Fiber Optic Support

STRIDE offers models with a variety of fiber optic connections and models with PoE+ capability. PoE+ models provide both power and Ethernet communication to connected devices allowing even more savings in your network design. The STRIDE PoE+ switches will auto-detect the presence of a PoE enabled device and provide up to 120W of DC power along with Fast or Gigabit Ethernet communication speeds to the powered device.

Fiber optic cables are immune to electrical and magnetic interference and cannot be damaged by induced voltage transients. Fiber optic cabling not only enhances reliability, it also greatly increases network distances. Select STRIDE Ethernet switches provide ST, SC, or SFP fiber port options.

### Washdown Applications

STRIDE IP67-rated unmanaged switches provide dependable communication and protection from water intrusion. Perfect for food and beverage or any other application that requires regular washdown of equipment.

## **Features**

#### **Advanced Hardware**

- All copper ports are auto-detecting, auto-crossover
- Redundant power inputs with industrial surge, spike, and reverse power protection
- Fiber optic ports available on certain models
- SFP transceiver modules on selected models offer additional fiber options

#### **Real-time Performance**

- PoE+ & Gigabit Ethernet options available
- Models with up to 16 ports
- Store and Forward wire speed switching no delays
- Full-duplex operation with flow control (no collisions!)

#### **True Industrial Design**

- UL, cUL, CE
- Hazloc rated for Class 1, Div 2
- DIN rail or panel mount options
- 12, 24, 48 VDC or 24 VAC input power
- 5 year warranty on SE3 series
- IP67 (washdown) rating available with EN50155 & EN50121 approvals













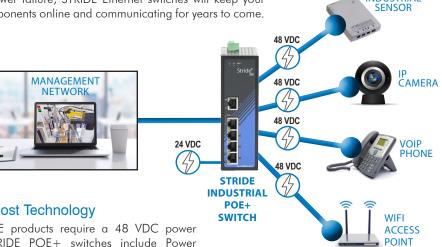
1 - 8 0 0 - 6 3 3 - 0 4 0 5



# **V**AUTOMATIONDIRECT € Gigabit speed Stride<sup>®</sup> @ Megabit prices

#### Connections you can rely on

STRIDE unmanaged switches deliver reliable Ethernet connections between various control devices including PLCs, HMIs, VFDs, and many others. Featuring 10/100/1000 Mbps speeds, a small form factor, low power consumption, supreme port resilience to electrical noise, and a redundant power input with alarming to notify of power failure, STRIDE Ethernet switches will keep your system components online and communicating for years to come.





#### **Power Boost Technology**

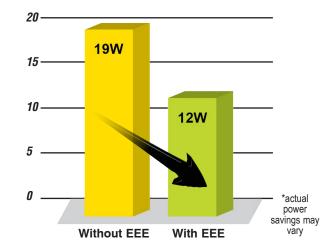
Typical POE products require a 48 VDC power supply. STRIDE POE+ switches include Power Boost Technology that allows the switch to be powered by 24 VDC but still power devices at standard POE voltages. This removes the need to have multiple power supplies, resulting in more cost savings.

#### **Energy Efficient Ethernet (EEE)**

The STRIDE SE3-SW5UG-1P-T switch has been designed to meet the IEEE 802.3 Ethernet standard. This standard's primary objective is to curtail power usage during periods of reduced data activity or idleness. Established in 2010, the IEEE 802.3 standard has been seamlessly integrated into diverse Ethernet hardware components, including network interface cards, switches, routers, and other integral networking equipment.

By dynamically adapting power consumption according to actual data traffic demands, EEE can enhance the energy efficiency of network devices, resulting in notable energy savings and lowered operational expenses.

#### Power Consumption (W)



mCMP-4 **Communication Products** 

www.automationdirect.com/communications

**Communication Products** 

# Stride Media Converters



## STRIDE Ethernet/Fiber Media Converters

STRIDE Ethernet media converters easily convert signals transmitted using Ethernet-over-copper to/from signals transmitted over fiber optic cabling.

Fiber cabling offers many benefits including immunity to electrical noise interference and greatly increased transmission distances due to minimal signal attenuation.

Ethernet media conversion is done using the built-in fiber ports on STRIDE Ethernet switches or with the optional SFP plug-in transceiver module.

#### Features:

- Multi-mode SC 100FX or ST 100FX fiber optic connections
- Redundant power inputs with surge and spike protection
- Supports Store & Forward wire speed switching and fullduplex with flow control
- · DIN rail mounting
- · UL, CSA (CUL), & CE

#### Ethernet vs. Fiber Optic

| Feature                  | Ethernet   | Fiber Optic  |
|--------------------------|--|--|
| Speed                    | Most commonly<br>10/100/1000 Mbps  | Average speed is<br>around 1000 Mbps<br>but much higher<br>speeds possible |
| Distance                 | Up to 100 meters<br>(328 feet) without a<br>repeater   | Up to 2 kilometers<br>(1.2 miles) without a<br>repeater                    |
| Immunity to interference | Susceptible to<br>electromagnetic<br>interference (EMI)<br>and radio frequency<br>interference (RFI) | Immune to EMI and<br>RFI   |
| Cost                     | Less expensive   | More expensive   |
| Installation             | Easier to install  | More difficult to install  |
| Durability               | More durable   | Less durable   |
| Compatibility            | Compatible with most devices   | Not compatible with all devices  |
| Construction             | Copper wires   | Glass or plastic fibers  |
| Security                 | Less secure  | More secure since its difficult to tap into                                |

# Stride MQTT Gateways



# MQTT

### STRIDE MQTT Gateway

The MQTT protocol is ideal for applications where bandwidth and available power are a concern. It's highly efficient with minimal overhead and performs well in unreliable networks making it a primary protocol for the Industrial IoT. The STRIDE MQTT gateway converts Modbus RTU/TCP signals to MQTT in order for Modbus devices to easily communicate with MQTT/ IIoT capable networks.

# **GATEWAY** ooëoë'

#### **CLOUD** MQTT BROKER

CUSTOM HMI/

- DATABASE
- CUSTOM HMI
- ETC...

**STRIDE MOTT** 

MQTT

**Modbus®** 

TCP/IP

SOCOMEC **POWER METER** (MODBUS RTU)







#### Features:

· Wired or Wi-Fi models available

Configurable

through the

convenient

web interface!

Baud Rai 9600

- Ideal for IIoT/cloud-based data collection systems
- Compatible with various MQTT brokers including AWS, Mosquitto and more
- · Provides bidirectional communication between Modbus-capable field equipment and Cloud software platforms
- Converts Modbus RTU on RS485 or Modbus TCP over Ethernet to MQTT with SSL / TLS client certificate authentication

mCMP-6