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Practical Control and Data Communications

AUTOMATIONDIRECT’s 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 managed and unmanaged switches, or serial connectivity with our Modbus gateways and serial converters, you’ll find STRIDE offers the industrial performance that you can count on.

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 around them.

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.

Industrial Communications Products

- IoT Solutions (Secure VPN, Remote Access, Cloud Data Logging)
- Industrial Ethernet Switches & Media Converters
- Modbus Gateways & Media Converters
- MQTT Gateway
- Communication Cables & Accessories

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 quit 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 customers 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.

No matter the industry, STRIDE IIoT Solutions can provide the remote access and cloud data you need for less!

- OEM/Machine Builders
- Oil and Gas
- Package/Material Handling
- Power/Utilities
- Water and Wastewater
- Food and Beverage
- Building Automation
- Agriculture

The possibilities are endless!

www.automationdirect.com/communications

For the latest prices, please check AutomationDirect.com.

mCMP-2 Communication Products
1-800-633-0405

mCMP-3 Communication Products
**Industrial Strength Ethernet**

STRIDE is our line of managed and unmanaged 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 30W 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. STRIDE Ethernet switches provide ST, SC or SFP fiber port options.

**Washdown Applications**

STRIDE IP65-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**
  - Switch management with EtherNet/IP and Profinet
  - All copper ports are auto-detecting, auto-crossover and auto-polarity
  - 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 38 RMS 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
  - 2, 24, 48 VDC or 24 VAC input power
  - 5 year warranty on SE2 series
  - IP65 (washdown) rating available with EN6155 & EN61558 approvals

**Network Security:**

The STRIDE managed switches have several security features that help to support a secure network strategy.
- Port Control (disables unused ports)
- Remote Access Security

**Modbus TCP & EtherNet/IP Management:**

STRIDE switches provide controlling devices on the network with both diagnostic status and management access through Modbus TCP/UDP or EtherNet/IP to indicate the health or make changes to the network.

**Modbus TCP & EtherNet/IP:**

It is common, in a control system, to see a large amount of Modbus packets. These packets cannot be filtered out by an unmanaged switch. The STRIDE managed switch can intelligently "learn" whether certain Modbus packets should be sent to the devices on its ports and will filter them or not filter them appropriately.

**Traffic Priority (QoS/CoS):** Using the Quality of Service feature, the STRIDE switch can apply tags to a packet coming into the switch to give that packet a higher priority going to another switch.

**VLAN Support:** A VLAN is a logical way to separate networks in ways that used to require physical separation. VLAN groups can be configured through software instead of physically relocating devices or connections. This reduces wiring costs and allows for devices to be grouped together even if they are not located on the same network switch.

**Troubleshooting Tools:**

- **Port Mirroring:** With the Port Mirroring feature you simply specify which ports' data you want to view and where to send that data. Plug your PC into that port and use Ethernet sniffing software (such as Wireshark) and you can monitor the data being sent back and forth.

- **Network Statistics:** By looking at the type of packets coming in and out of the switch, you can determine what action needs to be taken to make your network perform better.
Modbus Gateways & Media Converters

STRIDE Modbus Gateways

Modbus is one of the most popular communication protocols in the automation industry because it supports both traditional RS-232/422/485 devices and industrial Ethernet devices. Many industrial devices use Modbus as their standard communication protocol. However, the Modbus protocols running over serial and Ethernet are different and require a communication gateway to bridge these two networks. The STRIDE® Modbus Gateway provides that bridge between Modbus RTU/ASCII (Serial) products and Modbus TCP (Ethernet) products. The gateway converts bidirectionally between Modbus RTU or Modbus ASCII protocols and Modbus TCP. In addition to its compact size, the gateway features up to two 10/100 Mbps Ethernet ports and up to four RS232/422/485 serial ports.

Features:
- Industrial 1, 2, or 4 serial port, and 1 or 2 Ethernet port Modbus Gateways
- Bidirectional Modbus Communication between Modbus RTU/ASCII and Modbus TCP
- Automatic read function “Agent Mode”
- Ethernet ports each support up to 16 TCP devices, client or server
- Serial ports each support up to 128 slave devices or 1 master device
- DIP switch selectable termination resistor for RS-485 mode
- High Serial Isolation Voltage - 2kV
- UL61010 with Class 1 Div 2 HazLoc
- Metal housing with wide temperature rating (-40 to +75 deg C)

MQTT Gateways

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.

Features:
- Wired or Wi-Fi models available
- Ideal for IoT/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 or Modbus TCP over Ethernet to MQTT with SSL/TLS client certificate authentication

Configurable through the convenient web interface!

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