Rockwell Automation Remote I/O to IEC 60870-5-103 Master Gateway

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5601-RIO-103M

The RIO-103M modules are the ideal solution for the many applications where IEC 103 Master connectivity can be used to integrate a Remote I/O master or slave device into a system. The IEC60870-5-103 Master gateway is a powerful module designed with Master support, enabling easy connection to other IEC 103 devices. In combination with the Remote I/O device support, the module provides a very powerful interface to the many Remote I/O master or slave devices which are in use in the industrial marketplace today. Applications for the module are found in most industries, especially Manufacturing, Oil and Gas, Electrical Power and Food Processing.

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5601-RIO-103M
The ProLinx Rockwell Automation Remote I/O Adapter to IEC60870-5-103 Master Gateway creates a powerful connection between devices on an IEC 103 network and a Remote I/O network. This stand-alone DIN-rail mounted protocol gateway provides one Remote I/O port and one IEC 103 Master configurable serial port.

The RIO interface is an adapter (slave) which can be connected to a scanner (master) that controls the data transfer. The module also supports limited high speed data transfer via the Input and Output images.

The IEC 60870-5-103 Master protocol driver works as a master to monitor and control up to 16 slaves. The serial port is user-configurable, providing a very powerful and flexible host or device interface solution.

Rockwell Automation Remote I/O
The RIO interface is an adapter (slave) and is connected to a scanner (master) that controls the data transfer. For example, the master/slave relationship can be accomplished using the RIO module (adapter/slave unit) with a Rockwell Automation PLC5 (scanner/master unit). Ladder logic must be programmed into a PLC to perform BTR/BTW commands to receive and transmit data between the module and the PLC. The module also supports limited high speed data transfer via the input and output images.

Software Configurable Parameters	
Rack Number Addressing	0 to 63
Rack Size	¼-rack, ½-rack, ¾-rack and full rack
Starting Group	0,2,4,6
Last Rack	Yes or No
Baud Rate	57.6K, 115K, 230K

Functional Specifications
Supports block-transfers of data with scanner
Supports I/O data movement. Amount determined by rack size configuration
BTW Command – up to 64 words
BTR Command – up to 63 words

Physical Connection	
Remote I/O connector	Standard 3-screw termination connector

IEC 60870-5-103 Master

The IEC 60870-5-103 Master driver provides extensive support for Master implementations of the protocol. The serial port on the gateway is user-configurable to support the IEC protocol (Master, Error Checking, Baud rate, etc).

The module supports:

- 16 slaves (sessions with distinct Data Link Addresses)
- Each slave (session) supports up to 3 sectors (with distinct Common ASDU Addresses)
- Configurable Time Sync and General Interrogation messages during initialization
- Supports General Interrogation, General Command and Time Synchronization Commands.

General Parameters	
Communication parameters	Baud Rate: 110 to 19200 baud Stop Bits: 1 or 2 Data Size: 5 or 8 bits Parity: None, Even, Odd RTS Timing delays: 0 to 65535 ms

IEC 60870-5-103 Master	
Configurable Parameters	Baud Rate Parity RTS On RTS Off Minimum Delay Receive Timeout Data Link Address Common ASDU Address

General Specifications

The ProLinx Communication Modules provide connectivity for two or more dissimilar network types. The modules, encased in sturdy extruded aluminum, are stand-alone DIN-rail mounted protocol gateways, providing communication between many of the most widely used protocols in industrial automation today.

Hardware Specifications

Specification	Description
Power Supply	24 VDC nominal 18 to 36 VDC allowed Positive, Negative, GND Terminals 2.5 mm screwdriver blade
Current Load	500 mA max@ 24 VDC
Operating Temperature	–20 to 50°C (–4 to 122°F)
Storage Temperature	–40 to 85°C (–40 to 185°F)
Relative Humidity	5 to 95% (non-condensing)
Dimensions	Standard: 5.20H x 2.07W x 4.52D in. (13.2cmH x 5.25cmW x 11.48cmD) Extended: 5.20H x 2.73W x 4.52D in. (13.2cmH x 6.934cmW x 11.48cmD)

Specification	Description
LED Indicators	Power and Module Status Application Status Serial Port Activity LED Serial Activity and Error LED Status
Configuration Serial Port	DB-9M RS-232 only No hardware handshaking
Ethernet Port (Ethernet modules only)	RJ45 Connector Link and Activity LED indicators
Application Serial Ports	RS-232/422/485 RS-232 handshaking configurable RS-422/485 screw termination included
Serial Port Isolation	2500V RMS port signal isolation per UL 1577 3000V DC min. port to ground and port to logic power isolation
Shipped with Each Unit	Mini-DIN to DB-9M serial cables 4 ft RS-232 configuration cable 2.5mm screwdriver CD (docs and Configuration utility) RS-422/485 DB-9 to Screw Terminal Adaptor (1 or 4, depending on ports)

ProSoft Configuration Builder

ProSoft Configuration Builder (PCB) provides a quick and easy way to manage module configuration files customized to meet your application needs. PCB is not only a powerful solution for new configuration files, but also allows you to import information from previously installed (known working) configurations to new projects.

Additional Products

ProSoft Technology offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms.

Visit our web site at http://www.prosoft-technology.com for a complete list of products.

Ordering Information

To order this product, please use the following:

5601-RIO-103M Rockwell Automation Remote I/O to IEC 60870-5-103 Master Gateway

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft distributors near you, go to http://www.prosoft-technology.com

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May 03, 2007