Rockwell Automation Remote I/O to IEC 60870-5-101 Slave Gateway
5601-RIO-101S

The RIO-101S modules are the ideal solution for the many applications where IEC 101 Slave connectivity can be used to integrate a Remote I/O master device into a system. The IEC60870-5-101 Slave gateway is a powerful module designed with Slave support, enabling easy connection to IEC 101 master devices. In combination with the Remote I/O device support, the module provides a very powerful interface to the many Remote I/O master 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.

How to Contact Us: Sales and Support
All ProSoft Technology® products are backed with unlimited technical support. Contact our worldwide Technical Support team directly by phone or email:

Asia Pacific
+603.7724.2080, asiapc@prosoft-technology.com
Languages spoken include: Chinese, Japanese, English

Europe – Middle East – Africa
+33 (0) 5.34.36.87.20, support.EMEA@prosoft-technology.com
Languages spoken include: French, English

North America
+1.661.716.5100, support@prosoft-technology.com
Languages spoken include: English, Spanish

Latin America (Sales only)
+1.281.298.9109, latinam@prosoft-technology.com
Languages spoken include: Spanish, English

Brasil
+55-11.5084.5178, eduardo@prosoft-technology.com
Languages spoken include: Portuguese, English

Rockwell Automation Remote I/O to IEC 60870-5-101 Slave Gateway

5601-RIO-101S
The ProLinx Rockwell Automation Remote I/O Adapter to IEC60870-5-101 Slave Gateway creates a powerful connection between devices on an IEC 101 network and a Remote I/O network. This stand-alone DIN-rail mounted protocol gateway provides one Remote I/O port and one IEC 101 Slave 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 60870-5-101 Slave protocol driver supports Slave implementations of the protocol. 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 60870-5-101 Slave

The 101S module acts as an input/output module between the IEC 60870-5-101 and other protocols and networks, as well as several proprietary interfaces.

General specifications include:

- User-definable module memory usage
- Storage of IEC time used in module is available in the database
- Protocol implementation conforms to the IEC 60870-5-101 specification with fully configurable parameters
- Priority Queues
- Invalid Bit Monitoring
- Supports Balanced and Unbalanced Mode
- Supports CP24 and CP56 time formats for events
- Event generation configurable per point or data type

General Parameters	
Communication parameters	Baud Rate: 110 to 19,200 baud Stop Bits: 1 or 2 Data Size: 5 or 8 bits Parity: None, Even, Odd RTS Timing Delays: 0 to 65535 ms

IEC 60870-5-101 Slave	
Configurable Parameters	Data link address length Common Address of ASDU length Inform. Object Address length Select/Operate Timeout Event Scan delay Use Balanced Mode Short Pulse Time Long Pulse Time Time DB Offset

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-101S   Rockwell Automation Remote I/O to IEC 60870-5-101 Slave 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

Distributors:
Place your order by email or fax to:
North American / Latin American / Asia Pacific
orders@prosoft-technology.com,
fax to +1 661.716.5101
Europe
europe@prosoft-technology.com,
fax to +33 (0) 5.61.78.40.52