

4601/5601-RIO-MCM 4602/5602-RIO-MCM4

A-B Remote I/O to Modbus Master/Slave Gateways

The ProLinx A-B Remote I/O to Modbus Master/Slave Gateways create a powerful connection between devices on a Remote I/O network and Modbus devices. The module provides one Remote I/O port and up to four serial ports.

Allen-Bradley Remote I/O

The RIO interface is an adapter (slave) and is connected to a scanner (master) that controls the data transfer.

As an example, the master/slave relationship can be accomplished using the 460X-RIO-XXX module (adapter/slave unit) with an Allen-Bradley 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.
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Modbus Master/Slave

The Modbus driver provides extensive support for both the Master and the Slave implementations of the protocol. The serial port(s) on the gateway can be individually configured to support the Modbus protocol (Master or Slave, RTU or ASCII, Baud rate, etc).

General Parameters – Modbus Protocol

Communication parameters	Baud Rate: 110 to 115K baud Stop Bits: 1 or 2 Data Size: 7 or 8 bits Parity: None, Even, Odd RTS Timing delays: 0 to 65535 ms
Error Checking	RTU mode (binary) with CRC-16 ASCII mode with LRC error checking
Floating Point	Floating point data movement supported, including configurable support for Enron implementation
Function Codes	1: Read Output Status 2: Read Input Status 3: Read Multiple Data Registers 4: Read Input Registers 5: Write Single Bit 6: Write Single Data Register 15: Write Multiple Bits 16: Write Multiple Data Register

Modbus Master

Command List	Up to 100 command per master port, each fully configurable for function, slave address, register to/from addressing and word/bit count
Polling of command list	Configurable polling of command list, including continuous and on change of data, and dynamically user or automatic enabled.

Modbus Slave

Type	Specifications
Node address	1 to 247 – software selectable