DATASHEET

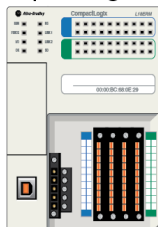## EtherNet/IP™ to Modbus® Serial Communication Gateway
PLX31-EIP-MBS

ProSoft Technology's EtherNet/IP™ to Modbus® Serial communication gateway allows high-speed bi-directional data transfers between EtherNet/IP™ PACs or devices and Modbus®-enabled PACs or devices.

EtherNet/IP™ PACs include Rockwell Automation® ControlLogix® and CompactLogix™, as well as several Schneider Electric® controllers. Modbus® Serial devices are widely used in nearly every industry and include SCADA systems and Power Monitors.

The gateway includes several features that allow for simplified integration, reduced commissioning time and optimized performance.

Features

♦ Data prioritization: Multiple I/O connections allow you to set RPIs for status and/or control data, optimizing Ethernet bandwidth.

♦ Includes an embedded EDS Add-On Profile, allowing for simplified integration and reduced commissioning time.

♦ Includes a SD card slot (SD card optional) for storing configuration files. This can be used for disaster recovery.

♦ ProSoft Discovery Service: This utility allows your PC to see the gateway and change its default IP address without being on the same subnet.

♦ Secure module configuration via module switch (v1.04 and greater).

♦ Up to 10,000 16-bit registers can be used to exchange large amounts of data.

Specifications

EtherNet/IP Specifications

Specification	Description
Number of Class 3 Server Connections	5
Supported PLC Types	PLC2, PLC5, SLC, CLX, CMPLX, MICROLX
Supported Message Types	PCCC and CIP
Class 3 Client Connections	Connected: 2 Unconnected: 1
Number of Class 1 I/O Connections	2
I/O connection sizes	248/248
Max RPI time	5 ms per connection
CIP Services Supported	0x4C - CIP Data Table Read 0x4D - CIP Data Table Write CIP Generic
Command List	Support for 100 commands per Client, each configurable for command type, IP address, register to/from addressing and word/bit count.
Command Sets	PLC-2/PLC-3/PLC5 Basic Command Set PLC5 Binary Command Set PLC5 ASCII Command Set SLC500 Command Set

Modbus Serial Specifications

Specification	Description	
Command List	Up to 100 commands per Master port, each fully configurable for Function Code, slave address, register to/from addressing and word/bit count.	
Supported Modbus Function Codes	1: Read Coil Status 2: Read Input Status 3: Read Holding Registers 4: Read Input Registers 5: Force (Write) Single Coil 6: Preset (Write) Single Holding Register	15: Force (Write) Multiple Coils 16: Preset (Write) Multiple Holding Registers 22: Mask Write Holding Register (Slave Only) 23: Read/Write Holding Registers (Slave Only)
Software configurable communication parameters	Baud rate: 110 baud to 115.2 kbps Parity: None, Even, Odd Data Size: 7 or 8 bits Stop bits: 1 or 2 RTS on/off delay: 0 to 65535 milliseconds Modbus RTU mode (binary) with CRC-16 Modbus ASCII mode with LRC error checking Floating Point Data Floating point data movement supported, including configurable support for Enron and Daniel implementations	
Polling of Command List	Configurable polling of command list, including continuous and on change of data, and dynamically user or automatic enabled.	
Status Data	Error codes available on an individual command basis. In addition, a slave status list is maintained	
Node Address	1 to 247 (software selectable)	
RS Interface	RS232, RS422, and RS485	
Transmit and Receive Buffer Size	255 byte Transmit character length with 0 to 65535 millisecond delay between each transmitted character	

Hardware Specifications

Specification	Description
Power Supply	24 VDC nominal 10 to 36 VDC allowed Positive, Negative, GND Terminals
Current Load	24 VDC nominal @ 300 mA 10 to 36 VDC @ 610 mA maximum
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Shock	IEC 60068-2-27; 15G @ 11ms, 3-Axis (Operational) IEC 60068-2-27; 30G @ 18ms, 3-Axis (Non-Operational)
Vibration	IEC 60068-2-6; 5G @ 10 to 150 Hz
Relative Humidity	5% to 95% RH with no condensation
Dimensions (H x W x D)	5.38 x 1.99 x 4.38 in 13.67 x 5.05 x 11.13 cm
LED Indicators	Configuration (CFG), Error (ERR), Power (PWR), Hardware Fault (FLT), Network Status (NS), EtherNet/IP™ Class I or Class III Connection Status (EtherNet/IP Only) Module Status (MS), Module Configuration Status (EtherNet/IP Only) Ethernet Communication Port Link/Activity, and 100 mbit Serial Communication Port Receive (RX) and Transmit (TX)
Ethernet Port	10/100Mbit full- and half-duplex RJ45 Connector Electrical Isolation 1500 Vrms at 50 to 60 Hz for 60 seconds, applied as specified in section 5.3.2 of IEC 60950: 1991 Ethernet Broadcast Storm Resiliency is less than or equal to 5000 [ARP] frames-per-second and less than or equal to 5 minutes duration
Number of Serial Ports	1
Serial Port Isolation	2500 Vrms port signal isolation per UL 1577. Serial port communication signal uses RF (Radio Frequency) modulation signal as isolation media.
Shipped With Each Unit	2.5 mm screwdriver J180 Power Connector (1) RJ45-DB9M Serial Adapter Cable (serial protocol) (1) DB9 to Screw Terminal Adapter (serial protocol)
Enclosure Rating	IP20, NEMA/UL Open Type, DIN Rail

Agency Approvals and Certifications

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PLC/DCS Cabling Cross Reference – Cable reference guide for Rockwell Automation, Schneider Electric, Siemens and over 20 other device manufacturers.

General Industrial Automation – Ethernet, Serial, Fieldbus cable selection guide for industrial applications.