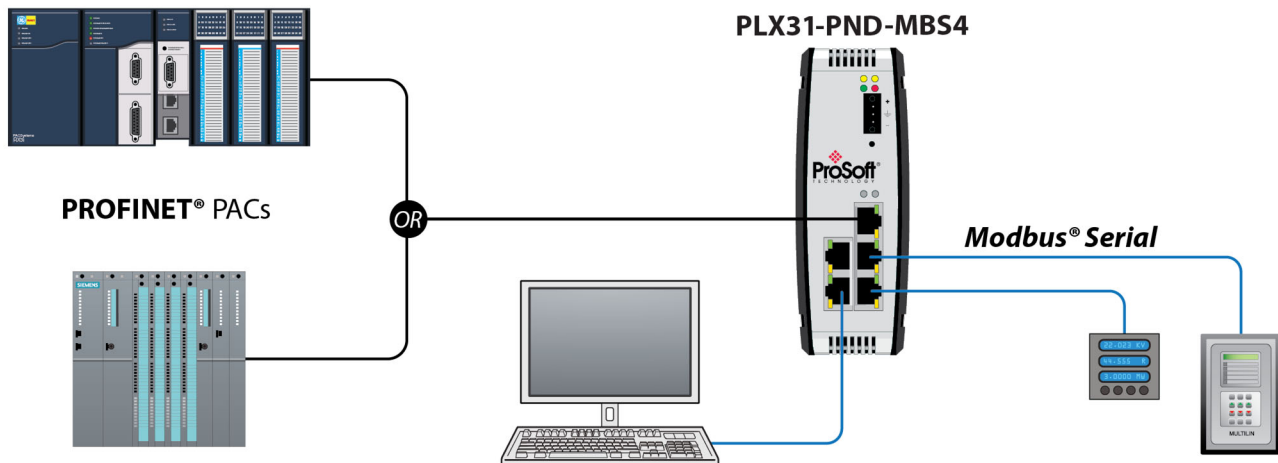# DATASHEET

PROFINET® Device to Modbus® Serial Gateway with four serial ports
PLX31-PND-MBS4

The PROFINET device to Modbus Serial gateway offers bi-directional data transfers between a PROFINET Controller and Modbus serial (RTU and ASCII) devices. Each Modbus serial port can be configured as either a Modbus master or slave. The PROFINET interface operates as a PROFINET Class A device (slave).

The PLX31-PND-MBS4 gateway is a stand-alone DIN-rail mounted unit that provides Ethernet connectivity for network communications, remote configuration, and diagnostics. The onboard SD Card slot (SD card optional) is used for storing configuration files that can be used for recovery, transferring the configuration to another gateway, or general configuration backup.

PLX31-PND-MBS4

PROFINET® PACs

Modbus® Serial

Features

- ♦ PROFINET v2 certification with PROFINET class A compliance.
- ♦ Field-proven with thousands of Modbus serial devices, and multiple PROFINET controllers from multiple vendors.
- ♦ Remotely view and diagnose Modbus and PROFINET networks.
- ♦ Remote configuration via the free, intuitive, ProSoft Configuration Builder (PCB) software.
- ♦ Each Modbus serial port supports master or slave mode.
- ♦ 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.

PROFINET Specifications

Specification	Description
Driver Type	Class A Device
PROFINET I/O Data	1440 bytes IN, 1440 bytes OUT
Exchange Types	Cyclic Real-time (RT) and Acyclic Data

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 Modes: RTU with CRC-16 or ASCII with LRC error checking Floating Point Data supported, support for Enron and Daniel
Polling of Command List	Configurable polling of command list, including continuous and on change of data
Status Data	Error codes available on an individual command basis. In addition, a slave status list is maintained per serial port
Node Address	1 to 247 (software selectable)
RS Interface	RS232, RS422, and RS485

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)
Relative Humidity	5% to 95% RH with no condensation
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
Dimensions	5.38 x 1.99 x 4.38 in, 13.67 x 5.05 x 11.13 cm (H x W x D)
LED Indicators	For configuration and protocol status errors
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 - less than or equal to 5000 [ARP] frames-per-second and less than or equal to 5 minutes duration
Number of Serial Ports	4
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 (4) DB9 to Screw Terminal Adapter (4) RJ45-DB9M Serial Adapter Cable
Enclosure Rating	IP20, NEMA/UL Open Type, DIN Rail

Agency Approvals and Certifications
Please visit our website: www.prosoft-technology.com