

ProtoNode

LONWORKS®, BACnet®, Metasys® N2,
Multi-Protocol Device Server



ProtoNode is an external, high performance, low cost **Building and Industrial Automation multi-protocol gateway** for OEMs wanting to provide protocol translation between Serial-Serial, Serial-Ethernet and Ethernet-Ethernet devices using LONWORKS®, BACnet®, Metasys® N2 by JCI, Modbus, DNP3, and more.

ProtoNode is designed to be used by OEM customers who need to quickly and easily enable their new or legacy devices to interface with other protocols. The extensive FieldServer driver library, coupled with the FieldServer experience in protocol translation gateways provides the OEM customer with confidence that their products will meet the interface requirements for foreign networks.

Each of the four models includes the hardware and software necessary to enable the customer's products to interface to various networks. ProtoNode is provided with the necessary protocol drivers and multiple drivers can be installed on a single ProtoNode.

For quick and simple installation the ProtoNode RAR, RER, and LER have DIP switches for setting the Node-ID, MAC address and Baud-Rate (Auto-Baud for BACnet® MS/TP is supported).

The **ProtoNode RAR** is particularly designed for cost sensitive high volume applications that support RS-485 to RS-485 conversion (for Modbus RTU, BACnet® MS/TP or Metasys® N2 conversion), and can support 100-150 Modbus RTU registers. The protocol mapping is programmed at the factory and cannot be changed in the field.

A Sierra Monitor Company



ProtoNode RER

ProtoNode LER



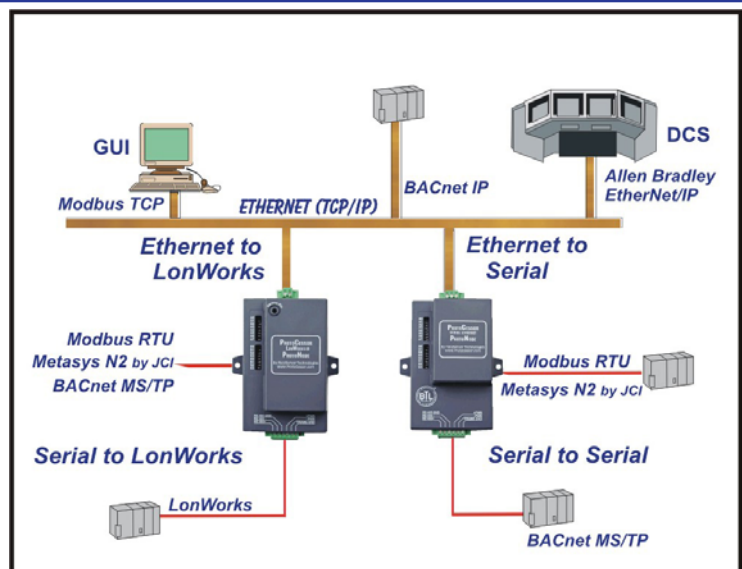
ProtoNode RER is based on an ARM9 processor for fast performance includes two RS-485 and one Ethernet port. The device can be programmed in the field or pre-programmed in the factory. BACnet® BTL certified (B-ASC).

ProtoNode LER includes a LONWORKS® port plus Ethernet and RS-485 ports. BACnet® BTL pending.

ProtoNode BRE includes two serial ports that can be configured as RS-232 or RS-485 plus an Ethernet port. (see separate ProtoNode BRE datasheet)

Features/Benefits

- ✓ The most flexible and versatile multi-protocol Device Server on the market.
- ✓ BACnet® International's BTL certified for the ProtoNode RER.
- ✓ BACnet® COV support provides fast data communication while reducing the traffic over a BACnet® network.
- ✓ Supports virtual nodes allowing multiple OEM controllers to connect to a single ProtoNode and seen as separate controllers on the various field networks.
- ✓ Interfaces to over 85 Building and Industrial Automation Protocols.
- ✓ Easily supports OEM's custom proprietary host serial or Ethernet protocols.
- ✓ Multi-Client and Multi-Server support ensures interoperability between any Industrial and or Building Automation protocols.
- ✓ Flash upgradeable.



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LONWORK® is a registered trademark of Echelon Corp.

BACnet® is a registered trademark of ASHRAE.

Specifications

Supported Electrical Connections:

ProtoNode Serial (Model RER or RAR):

- 1 - 6 pin Phoenix Connector
 - ✓ 1 RS-485 +/- Ground port
 - ✓ Power +/- Frame Ground port
- 1 - 3 pin connector RS-485 Phoenix
 - ✓ 1 RS-485 +/-Ground port
- 1 Ethernet -10/100 Ethernet port (not available on RAR)

ProtoNode LonWORKS (Model LER):

- 1 Phoenix 6 pin Connector
 - ✓ 1 RS-485 +/- Ground port
 - ✓ Power +/- Frame Ground port
- 1 Ethernet -10/100 Ethernet port
- 1 FTT-10 LonWorks port

Operating

Power Requirements: 9-30 VDC or VAC or 5 VDC

Current draw @ 12V

RER @ 12V = 150 mA

RAR @ 12V = 101 mA

LER @ 12V = 279 mA

Environmental

Operating Temp.: -40°F to 187°F (-40°C to 85°C)

Relative Humidity: 5-90% RH, non-condensing

Enclosure

Dimensions: 4.37 x 2.75 x 1.50 inches (L x W x H)
(11.10 x 7.00 x 3.81 cm)

Approvals

BACnet® Testing Labs (BTL) B-ASC on ProtoNode RER

Warranty

Warranty: Two years return to factory

Supported protocols:

- LonWORKS® (ProtoNode LER only)
- **Serial** (RS-485) Protocols (All ProtoNodes)
 - Allen Bradley DF1
 - BACnet®MS/TP
 - DNP 3.0 Serial
 - JBus
 - Metasys® N2
 - Modbus RTU
 - TL1

Ethernet Protocols (ProtoNode LER and RER only)

- Allen Bradley EtherNet/IP
- Allen Bradley CSP
- BACnet®IP
- BACnet® Ethernet
- Modbus TCP/IP
- DNP3 over Ethernet 6/2010
- GE-EGD
- GE-SRTP
- OPC
- SNMP
- XML

FieldServer Technologies has a full library of over 80 drivers so check with ProtoCessor sales to determine what additional protocols are available to meet specific application needs.

