

# ProtoNode

LonWorks, BACnet, Metasys N2,  
Multi-Protocol Device Server



A Sierra Monitor Company

ProtoNode is an external **Building and Industrial Automation multi-protocol device server** for OEMs wanting to provide protocol translation between Serial-Serial, Serial-Ethernet and Ethernet-Ethernet devices using LonWorks®, BACnet, Metasys® N2, Modbus and more.

The 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.

There are three models available. All three models include all the hardware and software necessary to enable the customer's products to interface to various networks. Each ProtoNode is provided with the necessary protocol drivers and multiple drivers can be installed on a single ProtoNode.

The **ProtoNode RAR** is particularly designed for cost sensitive high volume applications that support RS-485 to RS-485 conversion (for Modbus RTU, BACnet MSTP 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. There are DIP switches provided for setting Node-ID, MAC address and Baud-Rate (Auto-Baud for BACnet MSTP is supported).



Model RER

Model LER

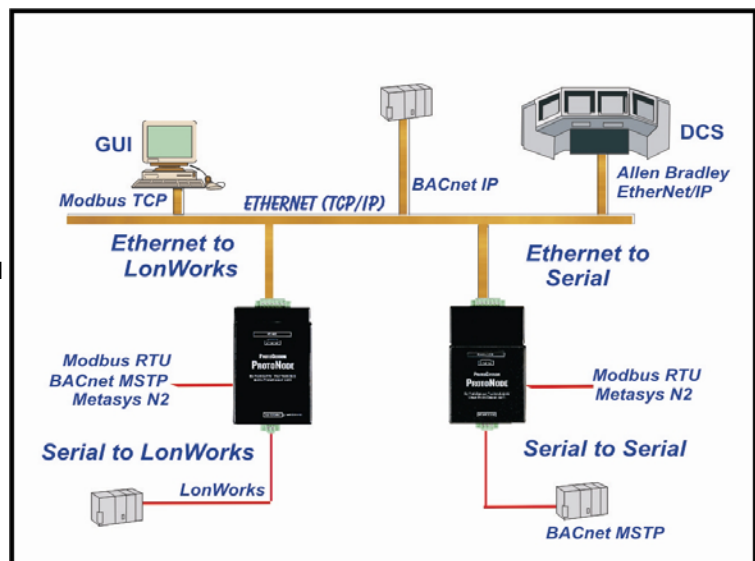
**ProtoNode RER** includes two RS-485 and one Ethernet port and can be programmed in the field or pre-programmed in the factory.

**ProtoNode LER** includes a LonWorks port plus Ethernet and RS-485 ports to link to LonWorks devices.

**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.
- ✓ Supports virtual nodes allowing multiple OEM controllers to connect to a single ProtoNode and seen as separate controllers on the various field networks.
- ✓ TRUE protocol translation and not Protocol packet Encapsulation.
- ✓ Interfaces to over 85 Building and Industrial Automation Protocols.
- ✓ Can easily support OEM's custom 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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## Specifications

### Supported Electrical Connections:

#### ProtoNode Serial (Model RER or RAR):

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

#### ProtoNode LonWorks (Model LER):

- ◆ 1 RS-485 - Phoenix 6 pin Connector
- ◆ 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) pending

### Warranty

Warranty: Two years



### Supported protocols:

- ◆ LonWorks (*ProtoNode LER only*)

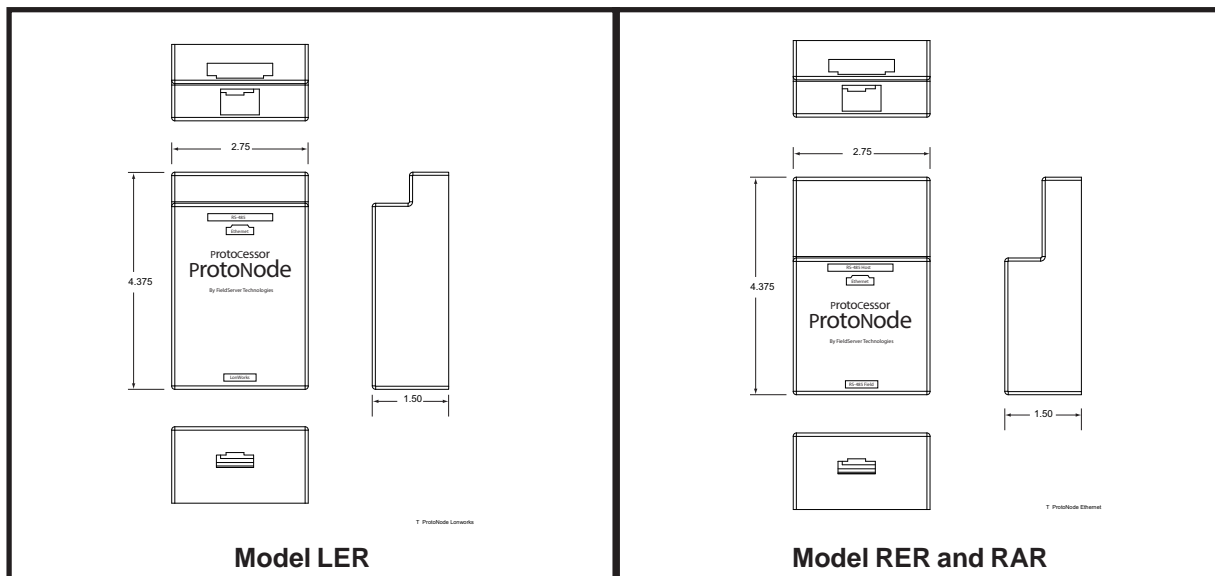
#### Serial (RS-485) Protocols (*All ProtoNodes*)

- ◆ Allen Bradley DF1
- ◆ BACnet MS/TP
- ◆ DNP 3.0
- ◆ JBus
- ◆ Metasys N2
- ◆ Modbus RTU
- ◆ TL1
- ◆ Telnet

#### Ethernet Protocols (*ProtoNode LER and RER only*)

- ◆ Allen Bradley EtherNet/IP
- ◆ Allen Bradley CSP
- ◆ BACnet IP
- ◆ BACnet Ethernet
- ◆ Modbus TCP/IP
- ◆ GE-EGD
- ◆ GE-SRTP
- ◆ OPC
- ◆ SNMP

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.



Mounting Dimensions