

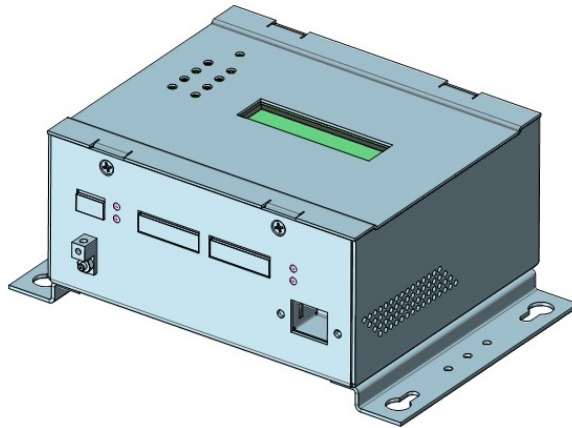


ProtoBeamer Product Series DATA SHEET

BACnet Router

The BACnet Router, a BACnet/IP to MS/TP Router product, from ProtoSense Technologies, serves the industry needs for converging towards the ever popular BACnet/IP standard and the widely used Ethernet networking standard. Presently in the Building Automation and Process Control fields there are diverse networking and protocol standards in use. The various networking and protocols standards have been and are being selected to suit the control system needs specific to a building, electricity sub-station, water treatment plant etc. But the latest trend and actually a necessity in today's business environment is to have all these different control systems talking different protocols to be integrated in one central system which could be a Building Management System(BMS), SCADA or HMI. The ProtoBeamer products enables system integrators and control system designers to converge various physical and data-link layer standards(like RS-485, Wireless) and application layer protocol standards(like Modbus, ZigBee, M-Bus etc.) to BACnet protocol which is becoming a de-facto standard in the BMS area.

The BACnet Router product enables integrating I/O devices and Controller devices which talk BACnet MS/TP protocol into a BACnet/IP Client based BMS system. The Router can interface with both BACnet MS/TP slave devices as well as master devices. The Router routes the BACnet data between the BACnet/IP network devices and BACnet MS/TP network devices. This facilitates a fast and transparent communication link between BACnet devices on different physical/data-link segments.



FEATURES

- Embedded fan-less and rugged system for industrial applications.
- Compact aluminum enclosure with provisions for both DIN-rail and wall mounting.
- Support for both 24V DC and 24V AC power source.
- Minimal power consumption design at the given CPU speed.
- Fast, efficient and full-featured BACnet protocol stack.
- Two isolated RS-485 serial ports allow connecting up to 60 BACnet MS/TP devices.
- RS-485 serial ports Baud-rate support: 9600, 19200, 38400, 57600 and 115200.
- Easy to use Web based UI for device configuration, setup and status display.

Technical Specifications

HARDWARE PLATFORM

- SoC with CPU core running at 800 MHz.
- 128 MB RAM and 512 MB Flash.
- Watchdog timer for reliable operation.
- Battery backed Real-Time Clock.

SOFTWARE PLATFORM

- Real-time Embedded Operating System.
- Multi-threaded and fast response application architecture.
- Embedded web server.

COMMUNICATION PORTS

- Up to two Isolated RS-485 serial ports with built-in ADDC support.
 - Isolation barrier withstands 1600V_{RMS} (1 minute) or 2000V_{RMS} (1 second).
 - +/- 15kV ESD protection.
- 10/100 Mbps Ethernet port.
- Phoenix Contact screw-terminal connectors for easy connection.

USER INTERFACE

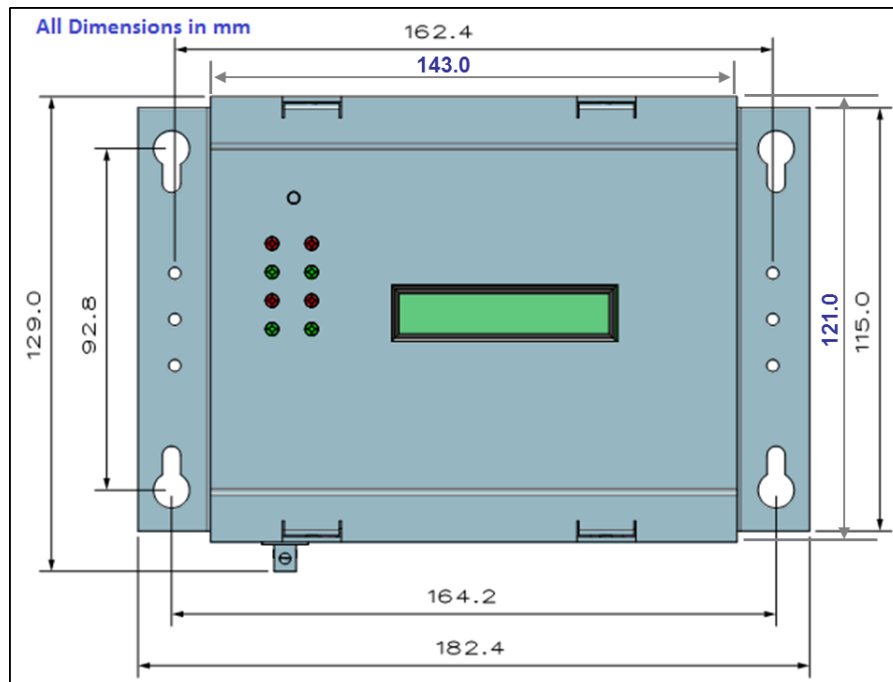
- Rx and Tx activity status LEDs for each RS-485 serial port.
- BACnet/IP and BACnet-MS/TP activity status and error indication LEDs.
- Push-button for easy 'Reset to factory defaults' operation.

POWER SUPPLY

- 20V to 28V DC, 175mA@24V.
- 24V AC.
- Screw-terminal connector.

MECHANICAL

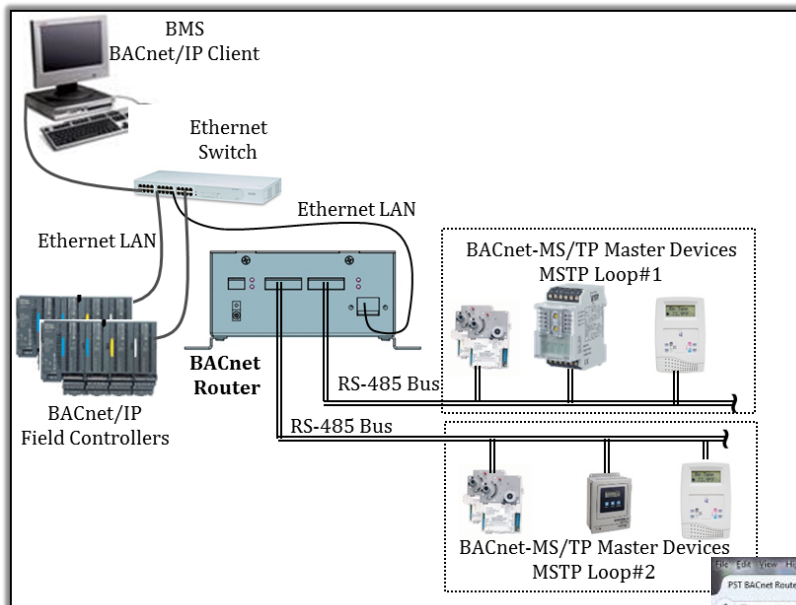
- Aluminum enclosure with DIN-rail and wall-mount options.
- Dimensions: 143mm x 121mm x 65mm (Width x Height x Depth).
- Good EMI protection and EMC adherence.



ENVIRONMENTAL

- Operating temperature: 0 to 40 degree Celsius.
- Humidity: 10-90% non-condensing.

Product Information & Ordering

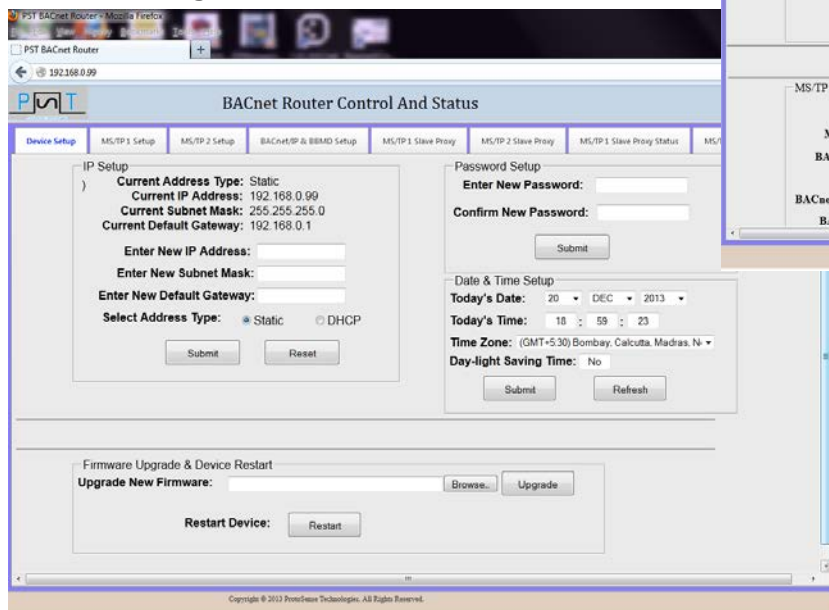


A typical application scenario with BACnet MS/TP field controller devices connected to two multi-drop RS-485 serial link segments is as shown. The starting point of each segment, which will be one of the end-point of the RS-485 multi-drop network, is connected to the RS-485 Ports of the BACnet Router. The BACnet/IP Client/Server devices on the Ethernet/IP network(LAN) can fully access the data-points in the BACnet-MS/TP devices on the RS-485 network and vice-versa.

The product is supplied with a built-in HTTP web server serving easy-to-use web pages for

product configuration/control and for viewing status/statistics.

The tool provides for configuring the two MS/TP port protocol setup parameters, setting up the BACnet/IP and BBMD configuration, communication links



start/stop control.

Some extended features provided are BBMD function and Slave Proxy function with manual slave proxy control. The Web based UI also provides for remote upgrade of the product firmware and last but not the least setting the IP Address parameters and Password settings in the Router product device.

Product Type

BACnet MSTP Router with 2 isolated RS-485 serial ports.

Product Code

RTR-BIP-MSTP2

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