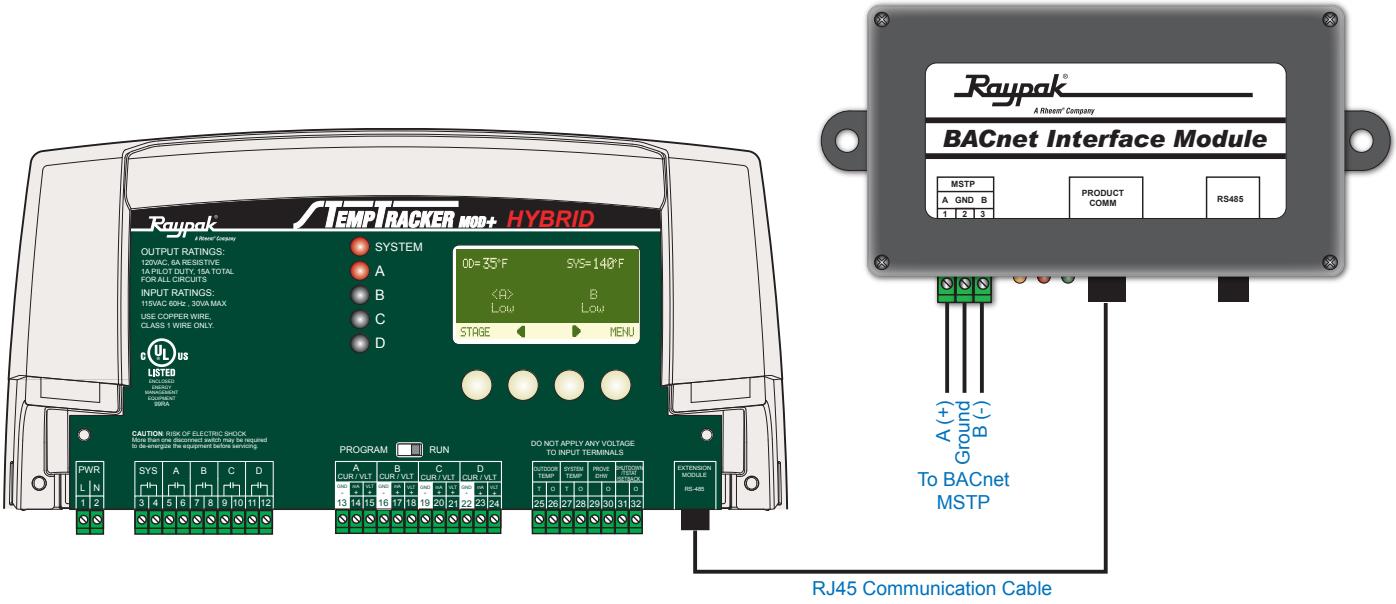
Installation and Operation Manual

Adds BACnet MSTP Capability to TempTracker mod+ Hybrid Controls

BACnet Interface Module



WARNING

This Raypak control is strictly an operating control; it should never be used as a primary limit or safety control. All equipment must have its own certified limit and safety controls required by local codes. The installer must verify proper operation and correct any safety problems prior to the installation of this Raypak control.

Raypak® A Rheem® Company

HT# HT# 059119-00B

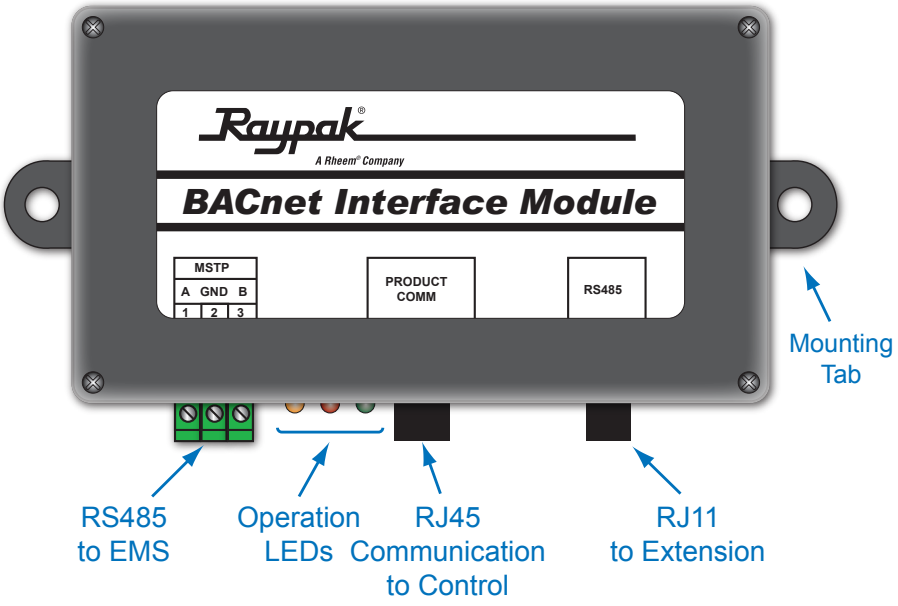
Cat.# 5000.71 05/01/11

P/N 241441 REV.1

CONTENT

OVERVIEW

The BACnet Interface Module adds BACnet MS/TP communication capability to the Raypak TempTracker mod+ Hybrid (Hybrid) control. It does that by connecting to both, the control and the BACnet MS/TP network. All the BACnet settings are configured through the control. The BACnet Interface Module has LEDs that can help in displaying communication status.



ITEM LIST

- BACnet Interface Module,
- RJ45 cables (Ethernet Cable),

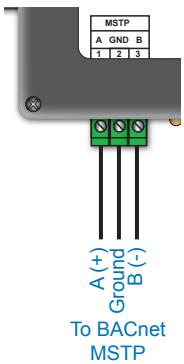
INSTALLATION

The BACnet Interface Module communicates with the Raypak Hybrid control using the RJ45 cable. Thus, it needs to be installed in close proximity to the control.

- Mount the BACnet Interface Module on a flat surface next to the control.
- The module can be mounted horizontally or vertically.
- Keep the module away from extreme heat, cold, or humidity.
- Screw the module to the flat surface using the two side tabs with holes.
- No need to remove the BACnet Interface Module cover.

WIRING

- No power wiring is required for the BACnet Interface Module. It gets its power through the control's RJ45 connection.
- The module's MS/TP terminals are of the removal type. That facilitates easy wiring. Just unscrew the terminal block side screws to remove the full terminal block.



BACnet MS/TP Wiring

- Use 18# AWG Twisted Pair cable. The cable length must not exceed 3500 feet.
- Connect the MS/TP cable coming from the BACnet MS/TP network to the MS/TP terminals on the BACnet Interface Module. Communication on the BACnet MS/TP network is polarity sensitive.
- The ground terminal (GND) MUST be connected to the BMS Ground.

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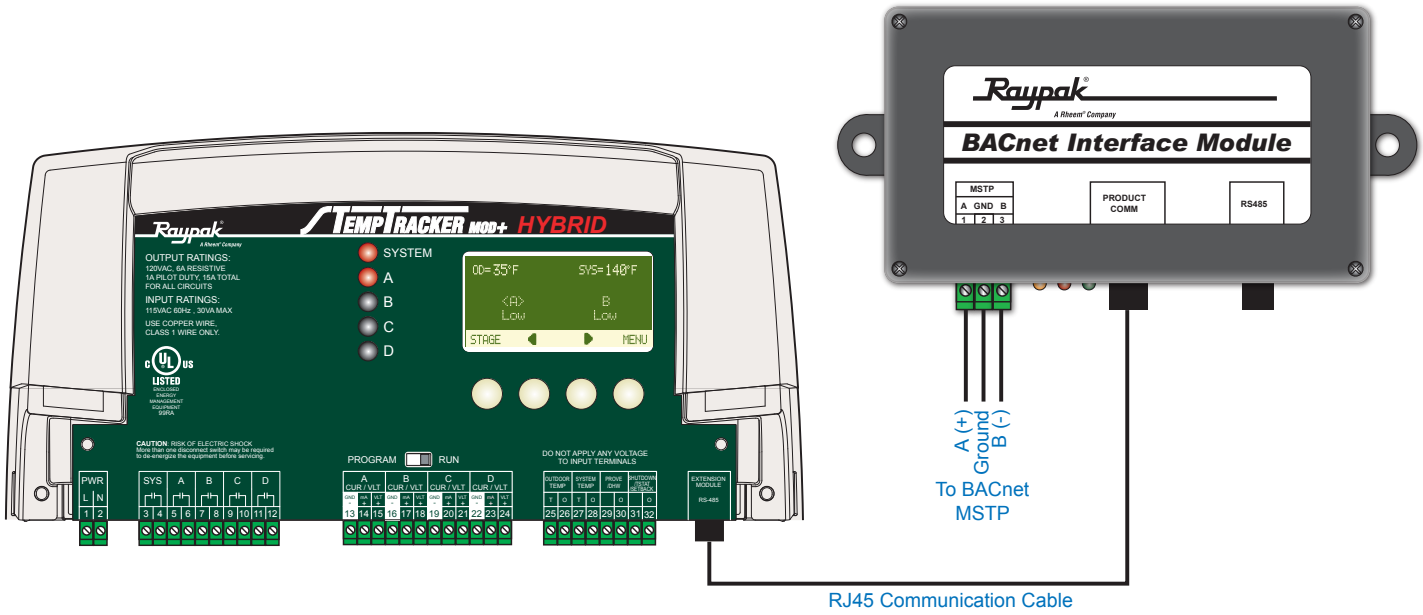


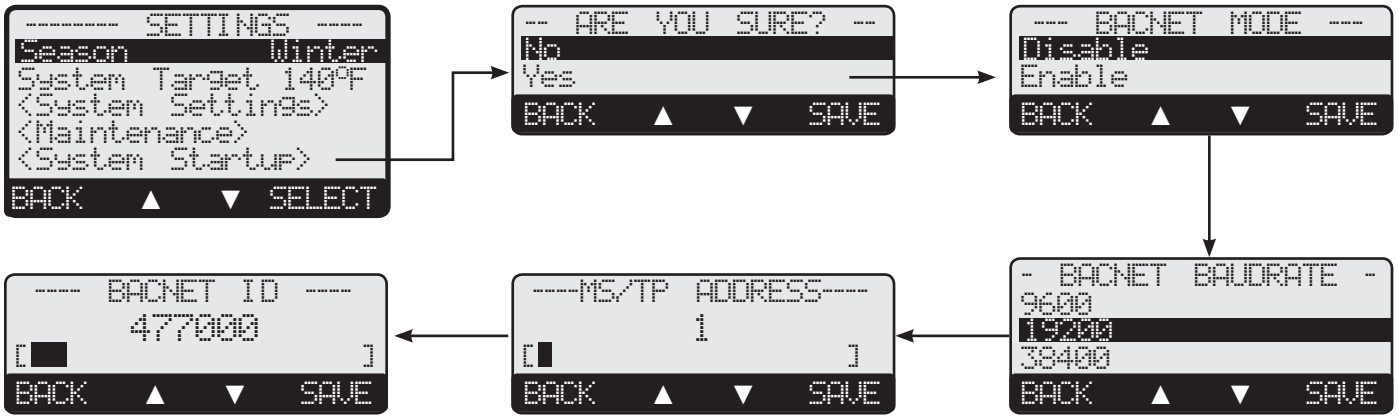
Connecting to Control

- The BACnet Interface Module communicates all of its information to the control using RJ45 cable (the cable is provided with the module).
- Both the BACnet Interface Module and the control have RJ45 sockets.

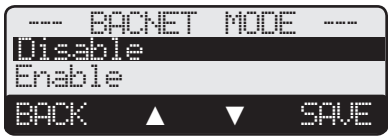
Connecting to Extension

- Unlike the Hybrid control, the extension has a RJ11 Socket. In addition, each extension is packaged with an RJ11 cable to connect to the control. See "Wiring to Control and Extension" on page 7.
- If an extension is being used, use the RJ11 (RS485) socket on the BACnet module to connect to the extension. See "Item List" on page 3.

BACNET STARTUP MENU SETUP



BACnet Mode

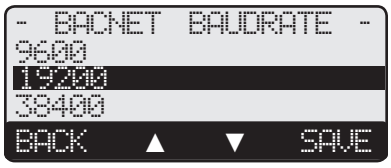


Enable, Disable **Default: Disable**

Button: *MENU/<System Startup>/.... Sensor Fault/BACnet Mode*

- This menu option enables or disables the BACnet MSTP capability. When enabled, additional BACnet settings shall be available for further customizing.

BACnet Baud Rate

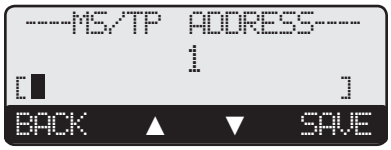


9600, 19200, 38400 **Default: 19200**

Button: *MENU/<System Startup>/.... Sensor Fault/BACnet Mode/BACnet Baudrate*

- For the control to communicate over a BAcnet MS/TP network, it must use the same Baud rate as the rest of the network. The control offers three Baud Rates.
- If communication was not successful, the baud rate could be the cause. Check with the network administrator for the network baud rate. Then match it on the control.

MS/TP Address



1 to 127 **Default: 64**

Button: *MENU/<System Startup>/.... /BACnet Mode/BACnet Baudrate/ MSTP Address*

- Each device on the MS/TP network must have a unique address.
- This is the MS/TP address on a RS485 network. Its MS/TP range is 1 though 127.
- The MS/TP address must be provided by the Network Administrator.

BACnet ID

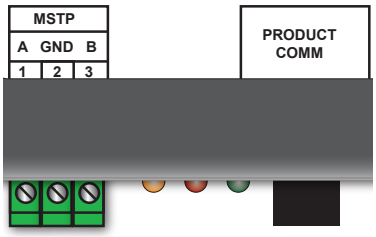
1 to 4,000,000 **Default: 477,000**

Button: *MENU/<System Startup>/.... / MSTP Address / BACnet ID*

- The BACnet ID is a unique 32 bit number that identifies the control within the BACnet network. No two ID shall be the same even if dealing across networks.
- It must be provided by the BACnet Network Administrator.

LED

Yellow LED	Flashes on communication between the BACnet Interface Module and the control.
Green LED	Flashes on communication between the BACnet Interface Module and the BACnet network.
Red LED	Flashes steadily to indicate the BACnet Interface Module is operational.



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TROUBLESHOOTING

No LED Lights

- The RJ45 connection to the control powers the BACnet Interface Module. If all LEDs are off, then check the cable connecting the module to the control. The cable consist of 8 wires. Check each of the color-coded wires continuity in the cable using a continuity meter.

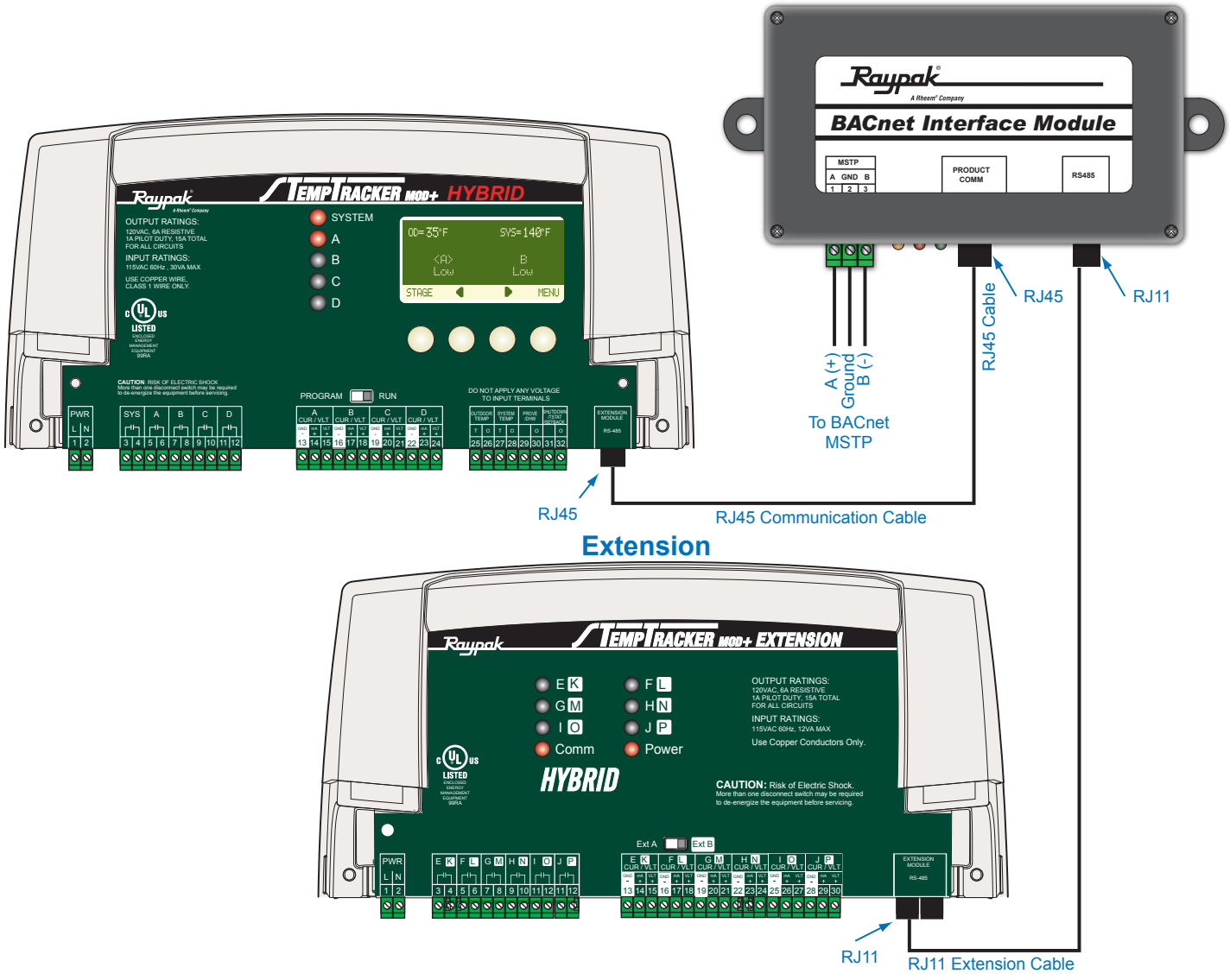
No Communication

- Check the Yellow and Green LEDs. If the Yellow LED is continuously On or Off, then check the cable connecting the module to the control.
- If the Green LED is continuously On or Off, then check the cable connecting the module to the BACnet network.
- Make sure that the control's Baud Rate and the BACnet Network's are the same. See "BACnet Baud Rate" on page 5.

SPECIFICATION

Control Communication	RJ45 to control (Cable is provided)
BACnet MS/TP Communication	3-wire
Extension Communication	RS485 (RJ11) to Extension (Cable packaged with Extension)
LEDs	Red, Yellow, and Green
Dimension	6-¾" x 3-⅝" x 1"
Weight	1 Pound

WIRING TO CONTROL AND EXTENSION



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