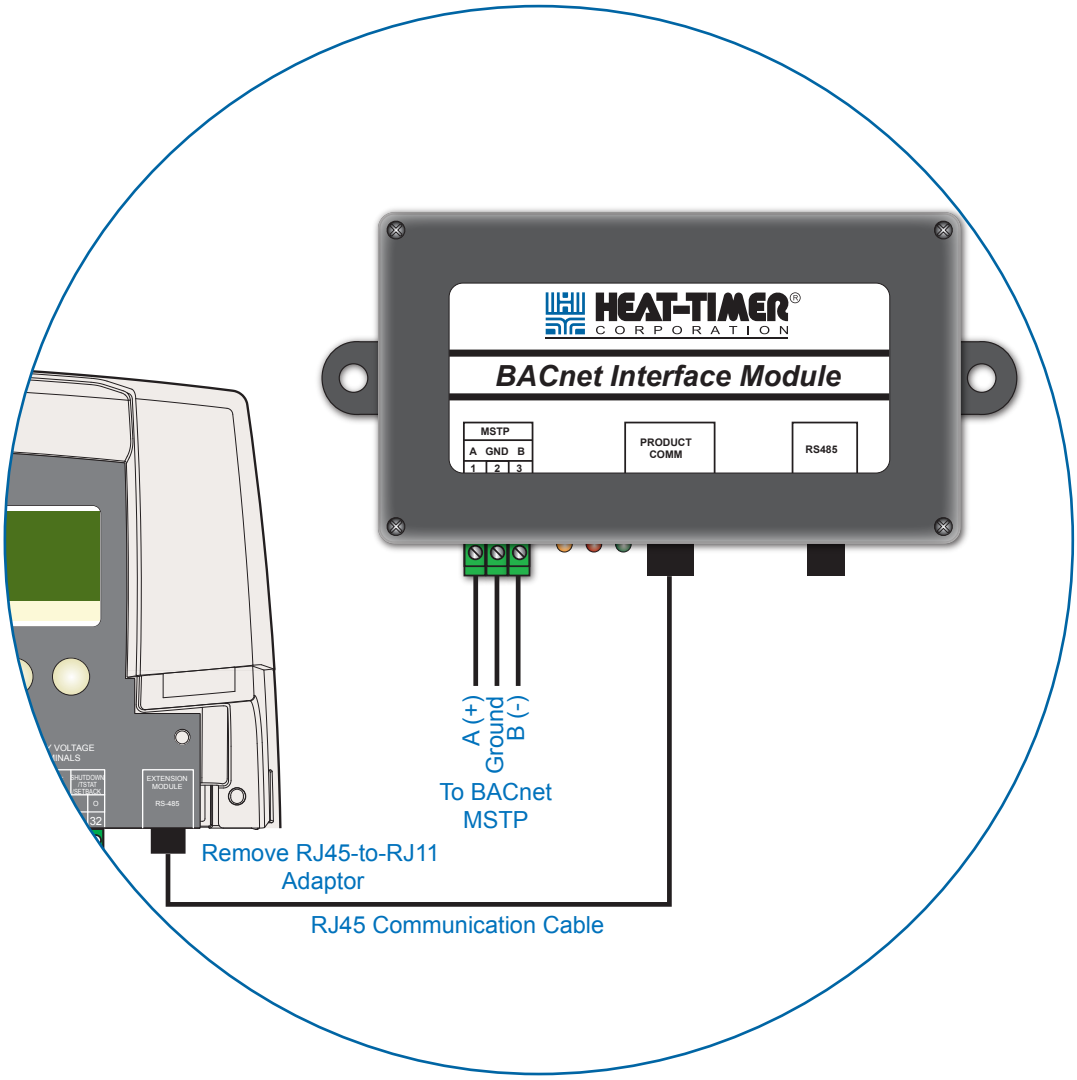
Installation and Operation Manual

Adds BACnet MSTP Capability to Heat-Timer Controls

BACnet Interface Module



HEAT-TIMER® CORPORATION

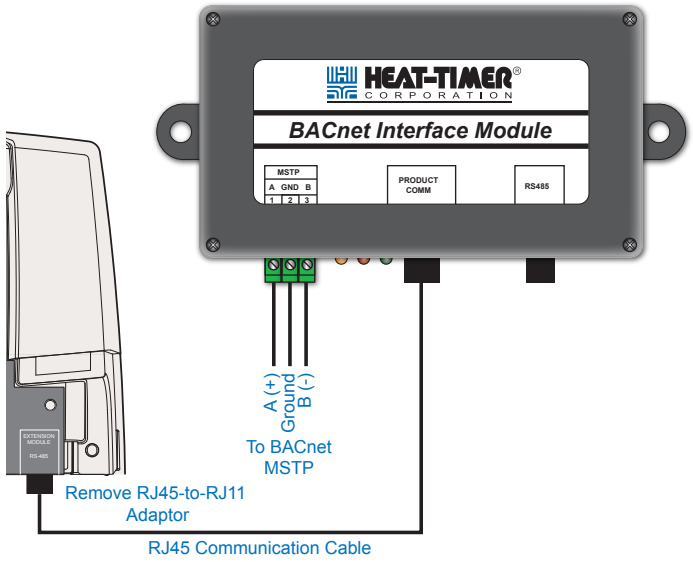
HT# 059099-00 B

CONTENT

Overview . . . 3
Item List . . . 3
Installation . . . 3
Wiring . . . 3
BACnet MS/TP Wiring . . . 3
Connecting to Control . . . 4
Connecting to Extension . . . 4
BACnet Startup Menu Setup . . . 5
BACnet Mode . . . 5
BACnet Baud Rate . . . 5
MS/TP Address . . . 5
BACnet ID . . . 5
LED . . . 6
Troubleshooting . . . 6
No LED Light . . . 6
No Communication . . . 6
Specification . . . 6
Warranty . . . 7
Wiring to Control and Extension . . . 8

OVERVIEW

The BACnet Interface Module adds BACnet MS/TP communication capability to several Heat-Timer controls. 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),

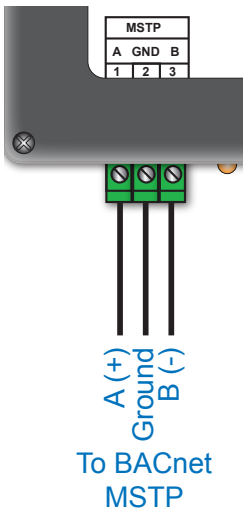
INSTALLATION

The BACnet Interface Module communicates with the Heat-Timer 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.
- Do not remove the BACnet Interface Module cover.

WIRING

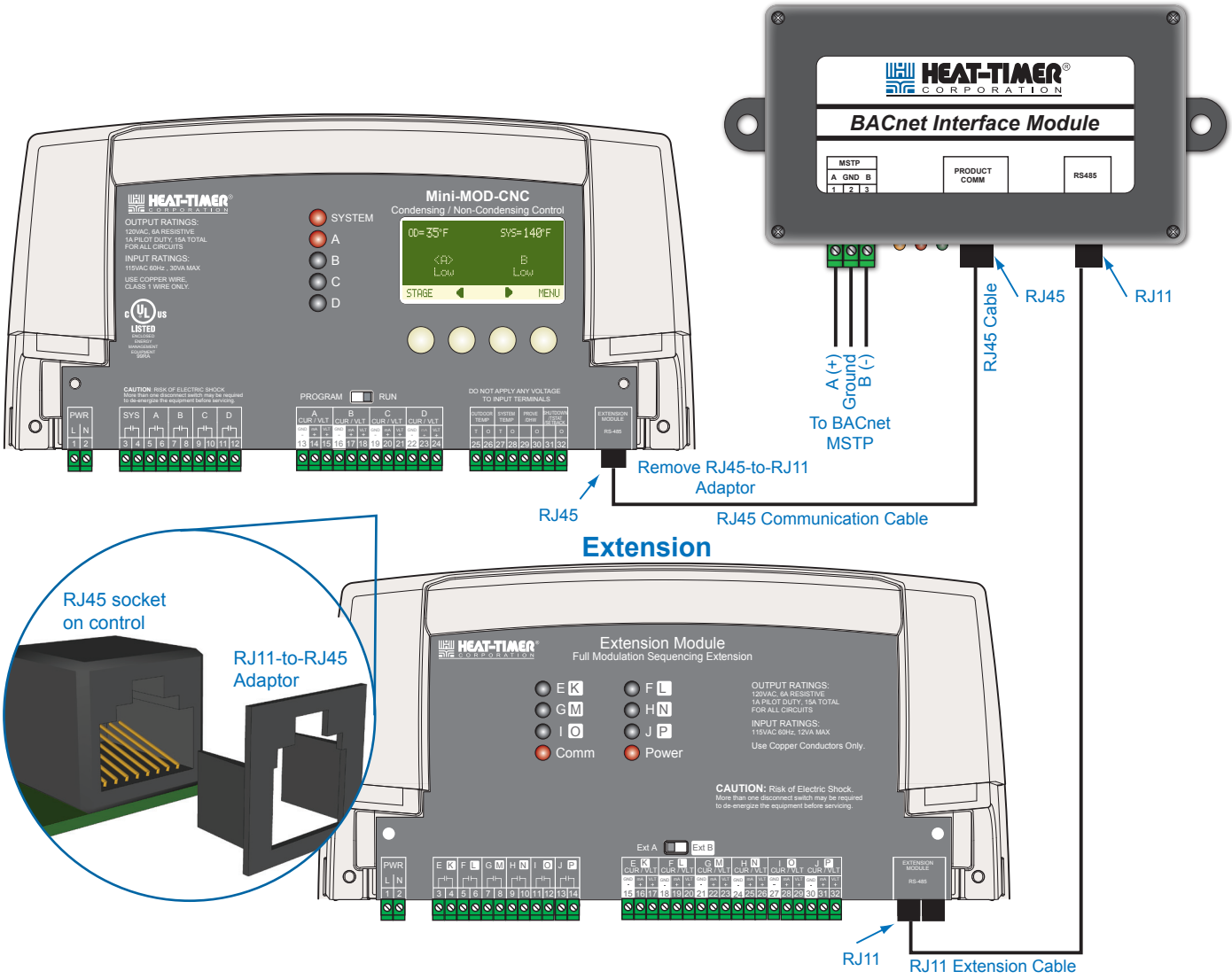
- No power wiring is required for the BACnet Interface Module. It gets its power through the control's RJ45 connection.
- The module's MS/TP terminals are of the removal type. That facilitates easy wiring. Just unscrew the terminal block side screws to remove the full terminal block.



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.

HT# 059099-00 B



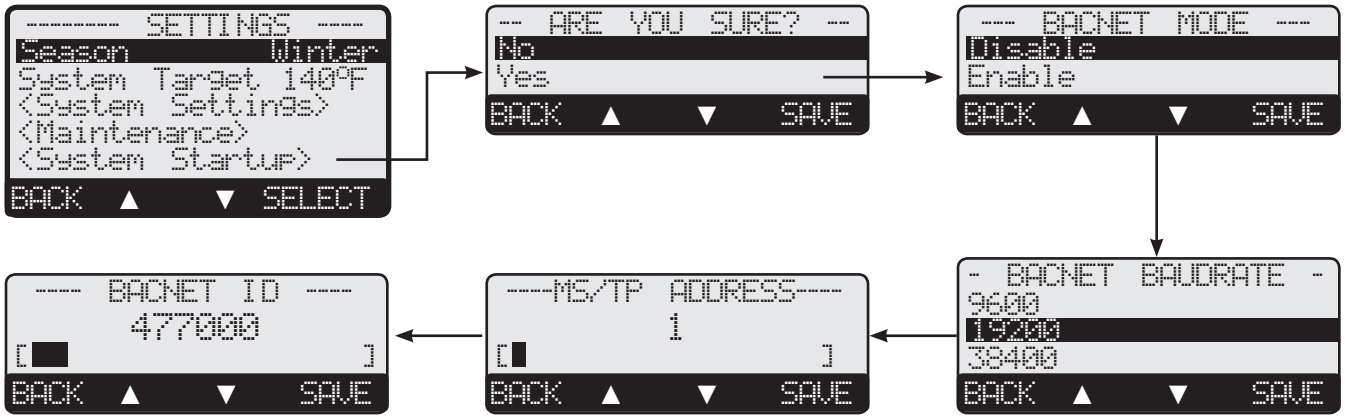
CONNECTING TO CONTROL

- 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. Depending on the control used the control's RJ45 may have a RJ11-to-RJ45 Adaptor that must be removed.

CONNECTING TO EXTENSION

- If the control used can connect to an extension, then, unlike the heating 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 8.
- 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.

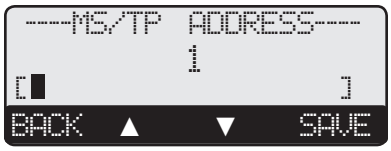
BACNET BAUD RATE

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: 248,000**

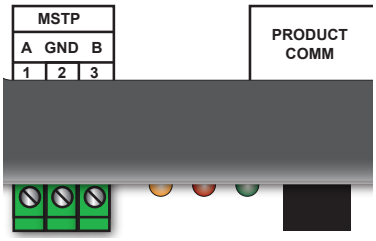
Button: *MENU/<System Startup>/.... / MSTP Address / BACnet ID*

- 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.

HT# 059099-00 B

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.



TROUBLESHOOTING

NO LED LIGHT

- 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

WARRANTY

WARRANTIES AND LIMITATIONS OF LIABILITY AND DAMAGE: Heat-Timer Corporation warrants that it will replace, or at its option, repair any Heat-Timer Corporation manufactured product or part thereof which is found to be defective in material workmanship within one year from the date of installation only if the warranty registration has been properly filled out and returned within 30 days of the date of installation. Damages to the product or part thereof due to misuse, abuse, improper installation by others or caused by power failure, power surges, fire, flood or lightning are not covered by this warranty. Any service, repairs, modifications or alterations to the product not expressly authorized by Heat-Timer Corporation will invalidate the warranty. Batteries are not included in this warranty. This warranty applies only to the original user and is not assignable or transferable. Heat-Timer Corporation shall not be responsible for any maladjustments of any control installed by Heat-Timer Corporation. It is the users responsibility to adjust the settings of the control to provide the proper amount of heat or cooling required in the premises and for proper operation of the heating or cooling system. Heat-Timer Corporation shall not be required to make any changes to any building systems, including but not limited to the heating system, boilers or electrical power system, that is required for proper operation of any controls or other equipment installed by Heat-Timer Corporation or any contractor. Third Party products and services are not covered by this Heat-Timer Corporation warranty and Heat-Timer Corporation makes no representations or warranties on behalf of such third parties. Any warranty on such products or services is from the supplier, manufacturer, or licensor of the product or service. See separate Terms and Conditions of Internet Control Management System (“ICMS”) services, including warranties and limitations of liability and damages, for ICMS services.

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HT# 059099-00 B