

## **Modbus**

All HeatNet controls have the ability to interface with other networks (i.e. a Building Management System) using the Modbus RTU protocol on a 2-wire (twisted pair) RS-485 serial line. This option is standard on every HeatNet™ control. The following communications parameters can be changed to meet the specific needs of the application.

- 1) Baud Rate – 9600 and 19200 are available. The default value is 19200<sup>1</sup>.
- 2) Parity – Even and None are available. The default value is Even<sup>1</sup>.
- 3) Address – The device (slave) address can be changed to any value between 1 and 247<sup>1</sup> inclusive. The default value is 1.

Please consult the appropriate Installation and Operation Manual (IOM) to change any of these parameters on your specific HeatNet™ control. The Modbus Registers are listed in the IOM and are also available as separate Modbus Registers document specific to each product.

## **HeatNet™ Bridge**

For those applications that require a protocol other than Modbus, we can provide a HeatNet™ bridge that translates the Modbus registers into several of the most common Building Automation protocols. This option is available at an additional cost. Please contact your customer service representative to discuss price and availability.

The following sections describe the protocols that are available on the HeatNet™ Bridge. On each protocol, some of the communications settings can be factory programmed to meet specific needs of the application. If needed, please submit a completed “HeatNet™ Bridge Addressing Worksheet” with your order. The bridges can also be programmed in the field, but this is best done by someone that is very computer literate and has had some TCP/IP networking experience.

### **BACnet IP**

This version of the bridge allows a HeatNet™ control to interface with a BACnet IP network. Most of the Modbus registers are translated to BACnet objects. To maintain current values, the bridge must continuously read all of the translated Modbus Registers. For efficiency reasons, a few of the less important registers may not be available on the BACnet IP HeatNet™ Bridge. Please consult the appropriate “BACnet Objects” document for your product for a complete list of available objects.

The BACnet IP Bridge is shipped with the following default address and communication settings:

- 1) IP Address = 192.168.1.24
- 2) IP Subnet Mask = 255.255.255.0
- 3) BACnet MAC Address = 11
- 4) BACnet Node = 11

<sup>1</sup> As defined by the Modbus Specification.

**BACnet MSTP**

This version of the bridge allows a HeatNet™ control to interface with a BACnet MSTP network. Most of the Modbus registers are translated to BACnet objects. To maintain current values, the bridge must continuously read all of the translated Modbus Registers. For efficiency reasons, a few of the less important registers may not be available on the BACnet MSTP HeatNet™ Bridge. Please consult the appropriate “BACnet Objects” document for your product for a complete list of available objects.

The BACnet MSTP Bridge is shipped with the following default address and communication settings:

- 1) BACnet MAC Address = 11
- 2) BACnet Node = 11
- 3) Baud Rate = 38400

**LonWorks (LonTalk)**

This version of the bridge allows a HeatNet™ control to interface with a LonWorks network. Most of the Modbus registers are translated to LonWorks/LonTalk Network Variables. To maintain current values, the bridge must continuously read all of the translated Modbus Registers. For efficiency reasons, a few of the less important registers may not be available on the LonWorks HeatNet™ Bridge. Please consult the appropriate “LonWorks Network Variables” document for your product for a complete list of available network variables.

LonWorks devices can be automatically addressed when the device is commissioned by software (i.e. LonMaker) so factory addressing will probably not be necessary.

Though the bridge adds the ability to interface to a LonWorks network, it does not meet the LonMark Boiler Controller Functional Profile (SFPTboilerController).

<sup>1</sup> As defined by the Modbus Specification.