



REMOTE PROBE STRAP-ON NETWORK TEMPERATURE SENSOR TNRP Series

The single point remote probe network temperature sensor incorporates a precision sensor encapsulated in a 6 mm (0.236") OD, 304 stainless steel probe and is available in various lengths. All probes provide excellent heat transfer, fast response and resist moisture penetration. The transmitter provides a BACnet® or Modbus signal for network connection. A compact ABS enclosure with a hinged and gasketed cover is provided for ease of installation.



SPECIFICATION:

Power Supply **BACnet®:** 24 Vac/dc ±10% (non-isolated half-wave rectified)
Modbus: 24 Vac/dc ±20% (non-isolated half-wave rectified)

Consumption **BACnet®:** 25 mA max @ 24 Vdc
Modbus: 10 mA max @ 24 Vdc

Protection Circuitry..... Reverse voltage protected and over voltage protected

Operating Environment... -40 to 50°C (-40 to 122°F), 10 to 95 %RH non-condensing

Probe Material 304 series stainless steel

Probe Diameter 6mm (0.236")

Wire Length 1.524m (5')

Wire Material PVC insulated, parallel bonded (22 AWG)

Wiring Connections..... Screw terminal block (14 to 22 AWG)

Enclosure ABS - UL94-V0, IP65 (NEMA4X)
 E style includes thread adapter (1/2" NPT to M16) and cable gland fitting

Country of Origin..... Canada

Temperature

Sensing Element..... NTC thermistor

Accuracy ±0.2°C (±0.36°F) @ 0 to 70°C (32 to 158°F)

Probe Sensing Range..... -20 to 100°C (-4 to 212°F)

Resolution 0.1°C/°F

BACnet® Communications Interface

Hardware 2 wire RS-485

Software..... Native BACnet® MS/TP protocol

Baud Rate 9600, 19200, 38400, 57600, 76800, or 115200 (auto-detect)

Network Address Range.. Locally set to 0-127

Serial Configuration..... 8N1

Modbus Communications Interface

Hardware 2 wire RS-485

Software..... Native Modbus MS/TP protocol (RTU)

Baud Rate 9600, 19200, 38400, 57600, 76800, or 115200 (auto-detect)

Network Address Range.. Locally set to 1-255

Parity None

Stop Bits 1

Error Checking..... A001 (CRC-16 reverse)

Serial Configuration..... 8N1

PART NUMBER SELECTED

PRODUCT SELECTION INFORMATION:

MODEL	Product Description
TNRP	Remote Probe Strap-On Network Temperature Sensor

CODE	Enclosure
A	ABS, with hinged & gasketed cover
E	Same as A, with thread adapter & cable gland fitting

CODE	Sensor
20	NTC Thermistor, ±0.2°C

CODE	Probe Length
A	50mm (2")
B	100mm (4")
C	150mm (6")
D	200mm (8")

CODE	Communication Output
B	BACnet®
M	Modbus

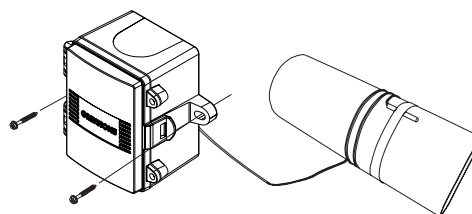
Greystone Energy Systems, Inc. reserves the right to make design modifications without prior notice.

TYPICAL INSTALLATION:

For complete installation and wiring details, please refer to the product installation instructions.

For best results, thermal conductive compound should be applied to pipe prior to mounting the probe.

Find a suitable location along the pipe where both the probe and remote enclosure can be mounted. If necessary, remove a section of insulation from pipe. Position probe directly on the pipe and secure using a pipe clamp. For added security, make 1 to 3 loops of the sensor cable around the pipe and feed through wire hole on the enclosure and secure using the supplied grommet. If applicable, the pipe insulation can be re-applied to the pipe over the probe.



BACnet® COMMUNICATION

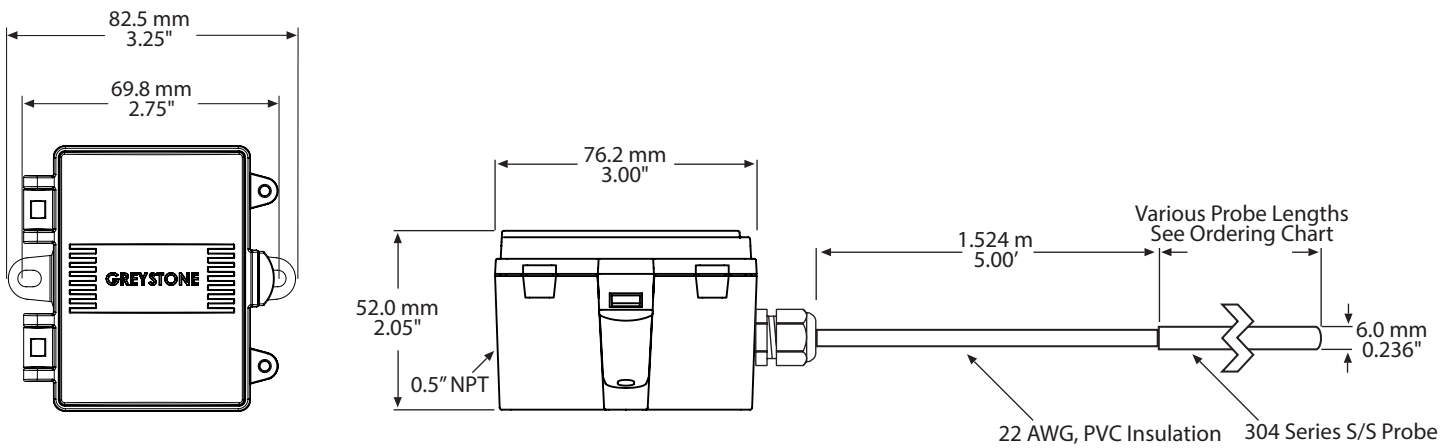
BACnet® is a data communication protocol for building automation and control networks. The sensor communicates on a standard 2-wire RS-485 MS/TP network designed to run at speeds from 9600 to 115200 baud over twisted pair wiring.

BACnet® is a registered trademark of ASHRAE. ASHRAE does not endorse, approve or test products for compliance with ASHRAE standards. Compliance of BACnet® listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet® International (BI). BTL is a registered trademark of BI.

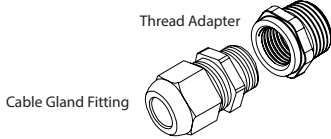
MODBUS COMMUNICATION

Modbus is a network protocol for industrial manufacturing environments. The sensor communicates on a standard Modbus network using the RTU (Remote Terminal Unit) transmission mode. The hardware interface is RS-485.

DIMENSIONS:



Included with E style enclosure




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Greystone Energy Systems Inc. is one of North America's largest ISO registered manufacturers of HVAC/R sensors and transmitters for Building Automation Management Systems. We have conscientiously established a worldwide reputation as an industry leader by maintaining leading-edge design technology, prompt technical support, and a commitment to on-time deliveries. We take pride in our Quality Management System which is ISO 9001 certified, assuring our customers of consistent product reliability.

GREYSTONE HAS AN ISO 9001 REGISTERED QUALITY SYSTEM