GREYSTONE
ENERGY SYSTEMS INC

GLASS NETWORK TEMPERATURE SENSOR

82.5 mm
3.25"

69.8 mm
2.75"

76.2 mm
3.00"

52.0 mm
2.05"

1.5 m
5'

31.75 mm
1.25"

9.525 mm
0.375"

1/2" NPT

22 AWG, PVC Insulation
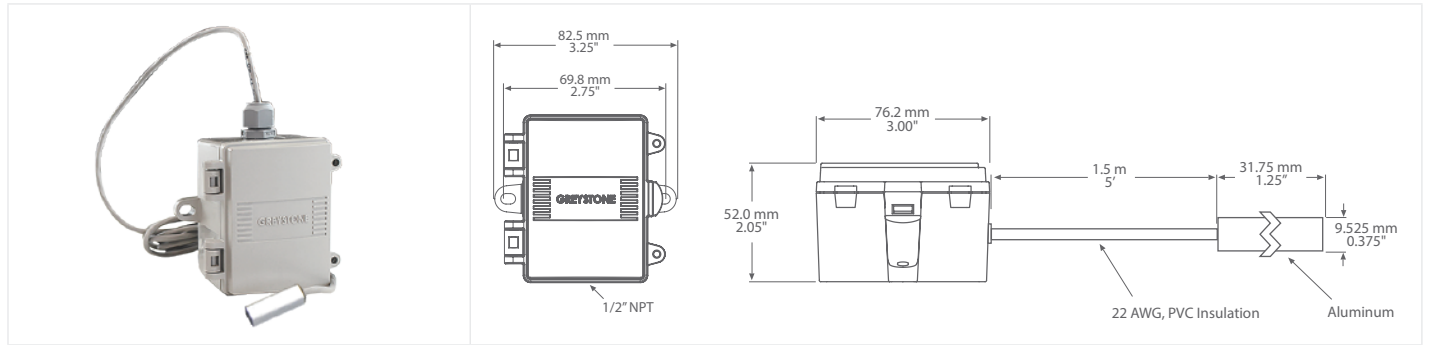
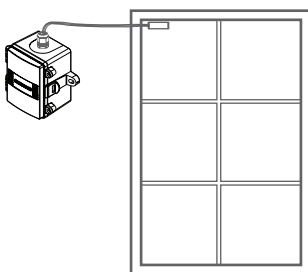Aluminum

TNGL SERIES

PRODUCT DESCRIPTION

The single point glass network temperature sensor incorporates a precision sensor encapsulated in a 31.75 mm L x 9.525 mm W x 9.525 mm H (1.25" x .375" x .375") Aluminum probe. Standard wire length is 1.5 m (5'). All probes are constructed to provide excellent heat transfer, fast response and are potted to 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.

TYPICAL INSTALLATION

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

Find a suitable location on an exterior window where both the probe and enclosure can be mounted. On one side apply epoxy compound and press firmly against the glass. Hold in place until the epoxy has set.

Encloure provides mounting tabs for ease of installation.

SPECIFICATIONS

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
OPERATING ENVIRONMENT	-40 to 50°C (-40 to 122°F), 5 to 95 %RH non-condensing
PROBE MATERIAL	Aluminum
PROBE DIMENSIONS	31.75mm L x 9.525mm W x 9.525mm D (1.25" x 0.375" x 0.375")
WIRE MATERIAL	PVC insulated, parallel bonded (22 AWG)
WIRE LENGTH	1.5m (5')
WIRING CONNECTIONS	Screw terminal block (14 to 22 AWG)
ENCLOSURE	**A:** ABS, UL94-V0, IP65 (NEMA 4X) **E:** Same as A, with 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:** -40 to 100°C (-40 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 (switch selectable) **Parity:** None **Stop Bits:** 1 **Error Checking:** A001 (CRC-16 reverse)
INPUT VOLTAGE EFFECT	Negligible over specified operating range
PROTECTION CIRCUITRY	Reverse voltage protected and transient protected

ACCESORIES - INCLUDED WITH E ENCLOSURE OPTION

CABLE GLAND FITTING   THREAD ADAPTER 1/2" NPT TO M16
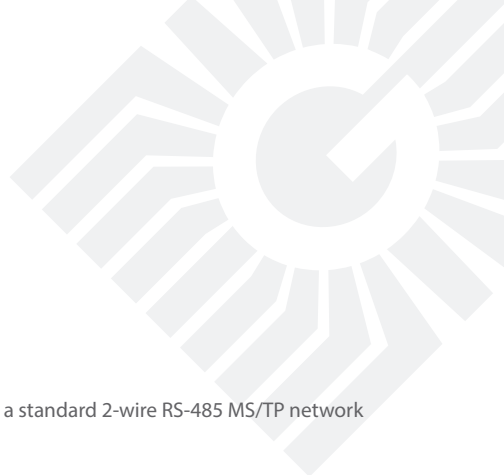
BACnet® COMMUNICATION

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.

ORDERING			PART NUMBER	
PRODUCT	TNGL	Glass Network Temperature Sensor	TNGL	
ENCLOSURE	A E	ABS, with hinged and gasketed cover Same as A, with thread adapter (1/2" NPT to M16) and cable gland fitting		
SENSOR	20X	NTC Thermistor, ±0.2℃		
COMMUNICATION OUTPUT	B M	BACnet® Modbus		

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