GREYSTONE
ENERGY SYSTEMS INC

ALL PURPOSE NETWORK TEMPERATURE SENSOR

82.5 mm 3.25"
69.8 mm 2.75"
76.2 mm 3.00"
0.5" NPT

52.0 mm 2.05"
Various Probe Lengths See Specifications
6 mm (0.236")
304 Series S/S Probe
Foam Gasket
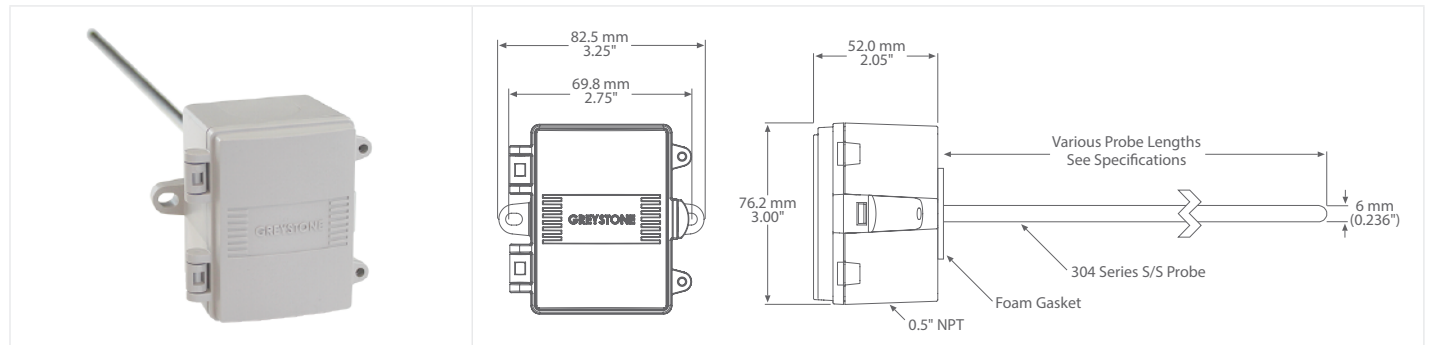
TNAP SERIES

PRODUCT DESCRIPTION

The all purpose single point network temperature sensor utilizes a precision sensor encapsulated in a 6 mm (0.236") OD, 304 series stainless steel probe and is available in various lengths. All probes provide excellent heat transfer, fast response and resistance to 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.

The duct type probes are installed through a hole in the side of the duct to monitor a single point temperature within the duct. Since the probes are tip sensitive, select a probe length that places the sensor well into the duct. Install the probe in a straight section of duct at a suitable distance downstream from any heating, cooling, or humidification devices.
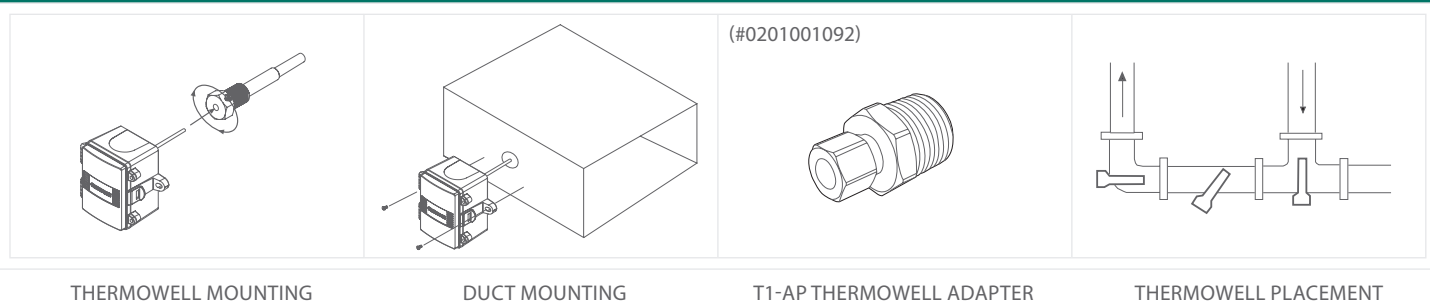
The enclosure provides mounting tabs for ease of installation.

NOTE: For immersion applications, T2 series thermowell is required. When using a T1 series thermowell an adapter will be required (#0201001092).

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	304 series stainless steel
PROBE DIAMETER	6 mm (0.236")
STANDARD LENGTHS	50, 100, 150, 200, 300, and 450 mm (2", 4", 6", 8", 12", and 18")
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	Negligble over specified operating range
PROTECTION CIRCUITRY	Reverse voltage protected and transient protected

MOUNTING STYLES

(#0201001092)

| THERMOWELL MOUNTING | DUCT MOUNTING | T1-AP THERMOWELL ADAPTER | THERMOWELL PLACEMENT |

ACCESSORIES - INLCUDED 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	**TNAP**	Network All Purpose Duct/Immersion Temperature Sensor	**TNAP**
ENCLOSURE	**A** **E**	ABS, with hinged and gasketed cover Same as A, with thread adapter and cable gland fitting	
SENSOR	**20**	NTC Thermistor, ±0.2°C	
PROBE LENGTH	**A** **B** **C** **D** **E** **F**	50mm (2") 100mm (4") 150mm (6") 200mm (8") 300mm (12") 450mm (18")	
COMMUNICATION OUTPUT	**B** **M**	BACnet® Modbus	
ACCESSORY	**0201001092**	T1-AP Thermowell Adapter	

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