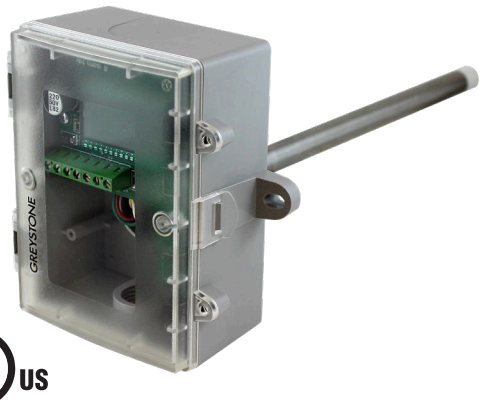


c UL us LISTED

DUCT DEWPOINT TRANSMITTER

The duct dewpoint transmitter is designed for use in environmental monitoring and control systems where high performance and stability are demanded. The state-of-the-art design combines digital linearization and temperature compensation with a highly accurate and reliable humidity sensor and curve-matched NTC thermistor temperature sensor for reliability and accuracy in the most critical applications.

The dewpoint series has five measurement variables which include dewpoint, dry-bulb temperature, wet bulb temperature, relative humidity and enthalpy which are available by either an analog, BACnet® or Modbus signal to provide the most efficient monitoring and control solution. A Polycarbonate hinged and gasketed enclosure is provided for ease of installation.

SPECIFICATIONS

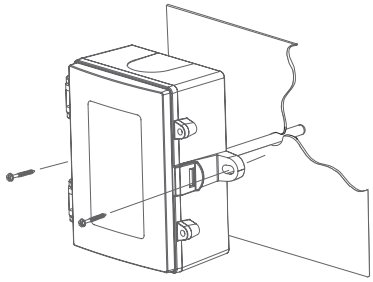
MEASUREMENT RANGE	**Relative Humidity:** 0 to 100 %RH **Dry Bulb Temperature:** -30 to 50°C (-22 to 122°F)
CALCULATED VALUES	**Dewpoint Temperature:** -30 to 50°C (-22 to 122°F) **Wet Bulb Temperature:** -30 to 50°C (-22 to 122°F) **Enthalpy:** 0 to 340 kJ/kg (0 to 146 BTU/lb)
ACCURACY	**Relative Humidity (RH):** ±2 %RH, 10 to 90 %RH @ 25°C **Dry Bulb Temperature (T):** ±0.2°C (±0.4°F) @ 0 to 50°C (32 to 122°F) **Dewpoint Temperature (Td):** ±1.0°C (±1.8°F) @ 40 %RH / 25°C **Wet Bulb Temperature (Tw):** ±1.0°C (±1.8°F) @ 50 %RH / 25°C **Enthalpy:** ±2 kJ/kg (±1 BTU/lb) @ 50 %RH / 25°C
LCD DISPLAY VALUES	**Relative Humidity:** 0 to 100% RH (1% Resolution) **Temperature:** -30.0 to 50.0°C (0.5°C res) or -22 to 122°F (1°F res) **Dewpoint:** -30.0 to 50.0°C Td (0.5°C res) or -22 to 122°F Td (1°F res) **Wet Bulb:** -20.0 to 50.0°C Tw (0.5°C res) or -4 to 122°F Tw (1°F res) **Enthalpy:** 0 to 340 kJ/kg (1 kJ/kg res) or 0 to 146 BTU/lb (1BTU/lb res)
BACnet® PROTOCOL	MS/TP, 2-wire RS-485, 0-127 slave address range *Baud rate* - 9600, 19200, 38400, 57600, or 115200
MODBUS PROTOCOL	RTU, 2-wire RS-485, 1-255 slave address range *Baud rate* - 300, 600, 1200, 2400, 4800, 9600, 19.2K, or 38.4K
OPERATING CONDITIONS	-30 to 60°C (-22 to 140°F), 0 to 95 %RH non-condensing
STORAGE CONDITIONS	-40 to 70°C (-40 to 158°F), 0 to 95 %RH non-condensing
WIRING CONNECTIONS	14 to 22 AWG screw terminal block
POWER SOURCE UL	24Vac/Vdc SELV (Class 2) 22 to 27Vdc or 16 to 27Vac, non-isolated, half wave rectified Consumption… **Current:** 50mA @ 24Vdc, 1.5VA max **Voltage:** 30mA @ 24vdc, 1VA @ 24Vac
OUTPUTS	**Analog (2X):** 4-20 mA, 0-5Vdc, 0-10Vdc (field selectable) **Impedance @ 24 Vdc:** Current: 500Ω max, Voltage: 10KΩ min, Limited Energy < 15W **Network Communication:** BACnet® or Modbus
PROTECTION CLASS	III
UL MODEL	MRHLDTCSH
CERTIFICATION	UL 60730 & CSA E60730, (UL E539555 file#)
UL 2043 / CSA/ULC S142 COMPLIANT	Suitable for Use in Air Handling Spaces in Accordance with Section 300.22, (C) of the National Electrical Code
PURPOSE OF CONTROL	Operating Control
TYPE OF ACTION	Type 1
IMPULSE VOLTAGE	330V
POLLUTION DEGREEE	2
ENCLOSURE	**B:** IP65 (NEMA 4X), Grey Polycarbonate UL94-V0 **F:** Same as B w/thread adapter (1/2" NPT to M16) & cable gland fitting Liquid tight cable gland cord grip 1.7-5.8mm (0.067-0.228") **Dimension:** 112.5 W x 116.5 H x 53.7mm D (4.43 x 4.58 x 2.11") **Probe: 230 L x 12.7mm D (9 x 0.5"), 304 S/S with porous filter**
EU CONFORMITY / APPROVALS	CE
COUNTRY OF ORIGIN	Canada

Copyright © Greystone Energy Systems Inc. All Rights Reserved

Greystone Energy Systems, Inc.
321 Desbrisay Avenue, Moncton,
New Brunswick, Canada E1E 0J2

Ph: +1 (506) 853-3057 Fax: +1(506) 853-6014
North America: 1-800-561-5611
E-mail: mail@greystoneenergy.com

TYPICAL INSTALLATION

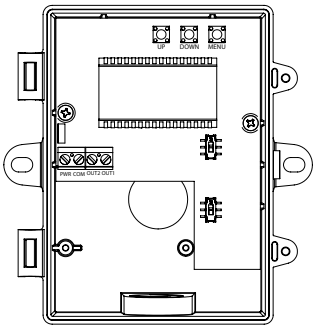


For complete installation and wiring details, please refer to the product installation instructions.

The transmitter installs directly into any air duct with a minimum width/ diameter of 25.5 cm (10"). Select a suitable installation area in the middle of the duct wall. To achieve the best reading, do not place in an area where air stratification may be present.

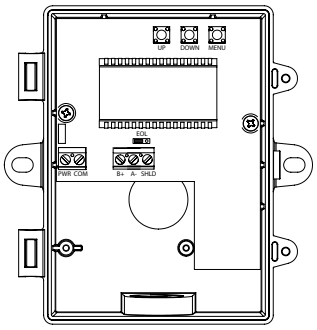
The enclosure provides mounting tabs for ease of installation.

WIRING INFORMATION



ANALOG WIRING

TERMINAL	FUNCTION
PWR	24 Vac/dc of controller or power supply
COM	To GND or COMMON of controller
OUT2	Analog Output 2
OUT1	Analog Output 1

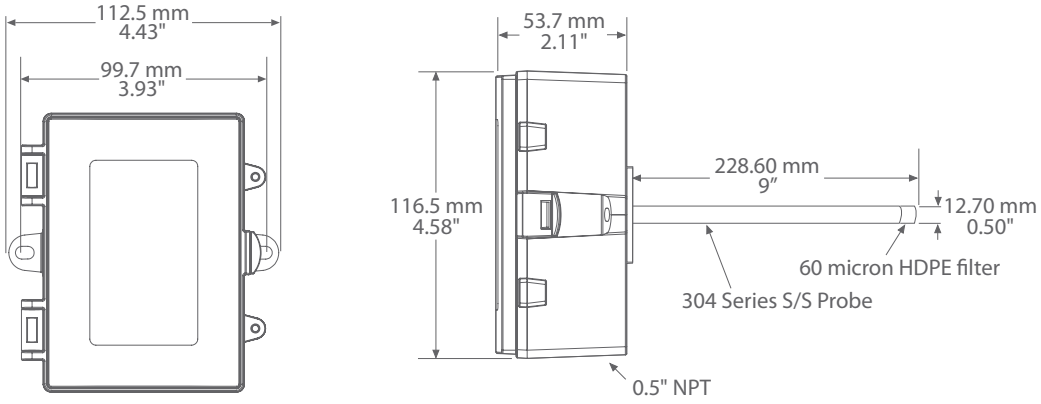


NETWORK WIRING

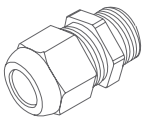
TERMINAL	FUNCTION
PWR	24 Vac/dc of controller or power supply
COM	To GND or COMMON of controller
B +	Network Output
A -	Network Output
SHLD	Network Output

Copyright © Greystone Energy Systems Inc. All Rights Reserved

DIMENTIONS



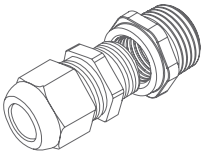
ACCESSORIES - INCLUDED WITH F ENCLOSURE OPTION



CABLE GLAND FITTING



THREAD ADAPTER 1/2" NPT TO M16



ORDERING

PRODUCT	**DWDT**	Duct Dewpoint Transmitter
ENCLOSURE	**B**	Polycarbonate, with hinged and gasketed cover
	F	Same as B, with thread adapter and cable gland fitting
OUTPUT	**A**	Analog 4-20 mA, 0-5, 0-10 Vdc, field selectable
	B	BACnet® communications
	M	Modbus communications

PART NUMBER

DWDT

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

Copyright © Greystone Energy Systems Inc. All Rights Reserved

Greystone Energy Systems, Inc.
321 Desbrisay Avenue, Moncton,
New Brunswick, Canada E1E 0J2

Ph: +1 (506) 853-3057 Fax: +1(506) 853-6014
North America: 1-800-561-5611
E-mail: mail@greystoneenergy.com