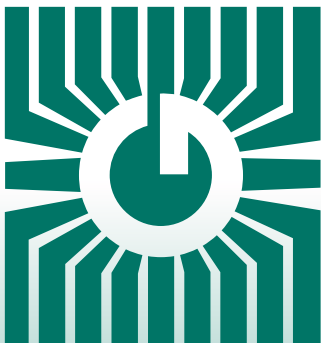


# GREYSTONE ENERGY SYSTEMS INC



## ULTRA LOW PRESSURE TRANSMITTERS ULP Series



### Precision low pressure control/sensing

#### FEATURES:

- Ranges between -0.125" WC and 1" WC (-30 Pa and 250 Pa)
- Analog output or BACnet® communications
- 8 switch selectable pressure ranges on analog model
- 2 selectable pressure ranges on BACnet® model
- 3 switch selectable current or voltage outputs
- Optional LCD display (Standard on BACnet® model)
- Optional alarm relay output (Standard on BACnet® model)

*Peace of mind  
through reliable  
pressure monitoring*

GREYSTONE HAS AN ISO 9001 REGISTERED QUALITY SYSTEM

## DESCRIPTION:

The ULP Series Ultra Low Pressure Transmitter is used to measure differential pressure in the range of -0.125 to 1"WC (-30 to 250 Pa) and is available in two models, analog output or BACnet® communications. It combines precision high sensitivity silicon sensing capabilities and the latest ASIC technology to substantially reduce offset errors due to changes in temperature, stability to warmup, long term instability and position sensitivity.

It is ideal for monitoring pressure for air or other clean inert gas. It features several field selectable uni- or bi-directional pressure ranges for the most flexible application. The device has an on-board auto-zero function as well as a connection for remote zeroing.

Options include an LCD to display the pressure value and an alarm relay with a variable trip point. The LCD and alarm relay are standard on the BACnet® model.

## SPECIFICATIONS:

Pressure Ranges.....	<b>Analog Model</b> ULP(*)1 ..... ±1" WC, 0-1" WC, ±0.5" WC, 0-0.5" WC, ±250 Pa, 0-250 Pa, ±125 Pa, 0-125 Pa ULP(*)2 ..... ±0.25" WC, 0-0.25" WC, ±0.125" WC, 0-0.125" WC, ±60 Pa, 0-60 Pa, ±30 Pa, 0-30 Pa <b>BACnet® Model</b> ULP1BAC ..... ±1" WC or ±250 Pa ULP2BAC ..... ±0.25" WC or ±60 Pa
Accuracy.....	± 1% FS of selected range
Stability.....	± 1% FS (1 year)
Thermal Effect.....	± 2% FS max , 10 - 40°C (50 - 104°F)
Response Time.....	<b>Analog Model:</b> 5 or 30 Seconds, switch selectable <b>BACnet® Model:</b> 1 to 60 Seconds, menu or BACnet selectable
Proof Pressure.....	100 "WC (24.9 kPa) for ULP1, 40 "WC (9.96 kPa) for ULP2
Burst Pressure.....	200 "WC (49.8 kPa) for ULP1, 80 "WC (19.9 kPa) for ULP2
Operating Conditions.....	0 - 60°C (32 - 140°F), 0 - 90 %RH non-condensing
Storage Temperature.....	-40 - 95°C (-40 - 203°F)
Media Compatibility.....	Dry air or inert gas
Zero Adjust.....	<b>Analog Model:</b> Pushbutton or digital input auto-zero <b>BACnet® Model:</b> Pushbutton or via BACnet
Power Supply.....	24 Vac/dc ± 10%
Power Consumption.....	<b>Analog Model:</b> 55 mA max. with relay option <b>BACnet® Model:</b> 50 mA max.
Input Voltage Effect.....	Negligible over specified operating range
Protection Circuitry.....	Reverse voltage protected and output limited
Wiring Connections.....	Screw terminal block (14 to 22 AWG)
Pressure Connections.....	Barbed ports for 1/8" to 3/16" ID tubing
Conduit Connection.....	Access hole for 1/2" NPT conduit or cable gland
Enclosure.....	Grey ABS with gasket, IP65 (NEMA 4X) UL94-5VB 145 W x 101 H x 63 D mm (5.7" x 4.0" x 2.5")
Weight.....	260 g (9.2 oz)

### ANALOG OUTPUT

Output Signal.....	4-20 mA (3-wire), 0-5 or 0-10 Vdc (3-wire), field selectable
Output Drive.....	750 Ω max (4-20 mA), 2 KΩ min (voltage)

### BACnet COMMUNICATIONS

Communications.....	2-wire RS-485, BACnet® MS/TP protocol
Baud Rate.....	Locally set to 9600, 19200, 38400 or 76800
MAC Address Range.....	Locally set to 0-127 (factory default is 3)

### LCD DISPLAY (Standard on BACnet Model)

Display Size.....	38.1 x 16.5 mm (1.5" x 0.65")
Digit Height.....	11.43 mm (0.45")
Symbols.....	" WC, Pa
Backlight.....	Enable/disable (switch selectable)

### ALARM FUNCTIONS (Standard on BACnet Model)

Alarm Relay Output.....	N.O. contact, 2 Amps @ 120 Vac or 30 Vdc
Alarm Relay Trip Point.....	<b>Analog Model:</b> Adjustable over the pressure range (forward or reverse acting) <b>BACnet® Model:</b> Upper and Lower alarms adjustable over the pressure range
Alarm Relay Delay.....	<b>Analog Model:</b> 10 or 60 Seconds, switch selectable <b>BACnet® Model:</b> 0 to 10 Minutes, menu or BACnet® selectable

## ANALOG PRODUCT ORDERING INFORMATION:

MODEL	Product Description
ULP	Ultra Low Pressure Transmitter
CODE	Display
A	No display
B	LCD Display
CODE	Pressure Ranges - Switch Selectable
1	$\pm 1$ "WC, 0-1 "WC, $\pm 0.5$ "WC, 0-0.5 "WC, $\pm 250$ Pa, 0-250 Pa, $\pm 125$ Pa, 0-125 Pa
2	$\pm 0.25$ "WC, 0-0.25 "WC, $\pm 0.125$ "WC, 0-0.125 "WC, $\pm 60$ Pa, 0-60 Pa, $\pm 30$ Pa, 0-30 Pa
CODE	Alarm Relay Output
-	None (Leave blank)
R	Alarm relay, N.O. 2 Amps @ 120 Vac or 30 Vdc
<b>ULP</b>	<b>B</b>
<b>1</b>	<b>R</b>

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

## BACnet® PRODUCT ORDERING INFORMATION:

MODEL	Product Description
ULP	Ultra Low Pressure Transmitter
CODE	Pressure Ranges - Selectable
1	$\pm 1$ "WC or $\pm 250$ Pa
2	$\pm 0.25$ "WC or $\pm 60$ Pa
CODE	Communications
BAC	BACnet® Communications
<b>ULP</b>	<b>1</b>
<b>BAC</b>	

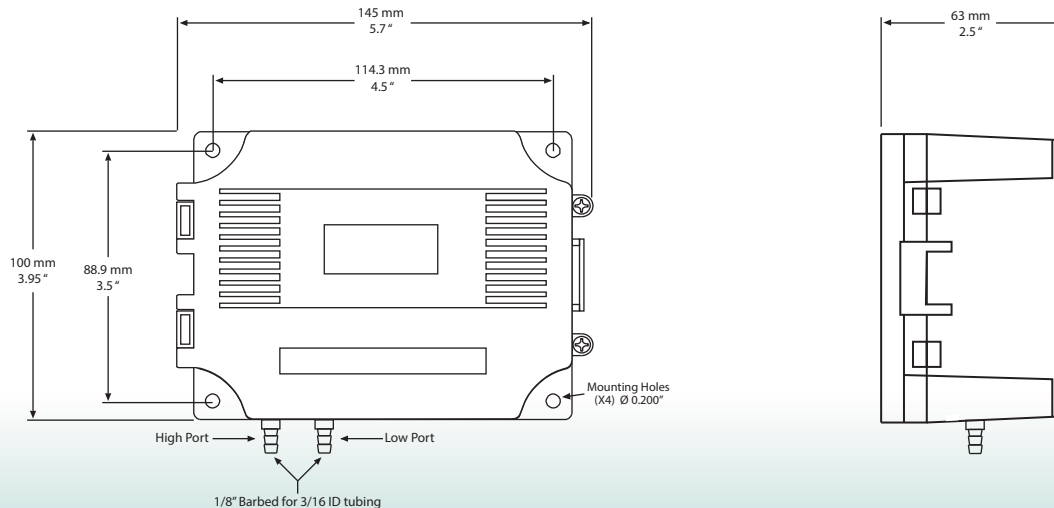
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## BACnet® COMMUNICATION

BACnet® is a data communication protocol for building automation and control networks. The detector communicates on a standard 2-wire RS-485 MS/TP (master-slave/token-passing) network designed to run at speeds from 9600 to 76800 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 listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet International (BI).

## DIMENSIONS:



## ACCESSORIES:



### RPV Stainless Steel Pick-up Port

The RPV is a stainless steel wall plate that incorporates a filtered port with a 1/8" barb connection for pneumatic tubing. It can be mounted on a standard junction box or directly to a wall or ceiling and used in conjunction with a low pressure transmitter to monitor room pressure.



### CPV Continental ABS Pick-up Port

The CPV is a low profile, decorative ABS enclosure that incorporates a port with a 3/16" barb fitting for connection of 0.17" ID pneumatic tubing. It can be mounted on a standard junction box or directly to a wall and used in conjunction with a low pressure transmitter to monitor room pressure.



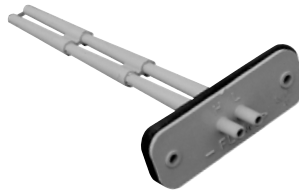
### OPV Outside Pick-up Port

The OPV, is a weatherproof ABS enclosure with wind shield that incorporates a port with a 3/16" barb fitting for connection of 0.17" ID pneumatic tubing. It can be mounted on the side of a building and used in conjunction with a low pressure transmitter to monitor building pressure.



### FPP & SPP Series Pitot Tube

The FPP and SPP series are used to sense velocity pressure or static pressure respectively. Constructed of 304 stainless steel probes with an ABS mounting bracket, they are available in 150 mm (6") or 300 mm (12") lengths. Kits are available for differential and static that are complete with pneumatic tubing.



### DPFS Series Differential Pressure Probe

The DPFS series Averaging Flow Sensor is ideal for sensing differential pressure in the inlet section of variable air volume terminal units and fan terminal units. Units can also be used to sense differential pressure at other locations in the main or branch duct systems. They are made of ABS/polycarbonate (UL94-5V) and available in lengths from 100 mm (4") to 560 mm (22")



### MP Series Differential Pressure Probes

The MP series Air Velocity Pitot Tubes are used in conjunction with a DP transmitter to calculate airflow in larger ducts or in areas of turbulent airflow. The units come in pairs in either ABS or 316 S/S and are available in various lengths from 610 mm (24") to 2000 mm (80"). Gasketed mounting collars for both probes are included.



*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.*

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