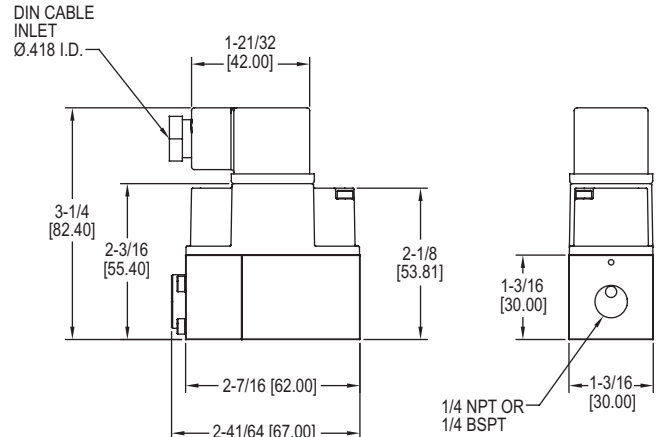




# Series 629HLP Differential Pressure Transmitters

## Specifications - Installation and Operating Instructions



The **Series 629HLP Differential Pressure Transmitters** are suitable for measuring over-pressure, under-pressure, and differential pressure in compatible gases and liquids with 1% accuracy. The 629HLP is suitable for all measuring tasks in commercial, industrial or sanitary applications. Its single diaphragm design, allows it to measure small increment pressure changes, and converts them to a linear analog output signal from 4-20 mA or 0-10VDC.

**Installation**  
**Location/Mounting**

The transmitter can be mounted in various locations as long it is not subject to excessive vibration, shock, or extreme temperature (see Specifications). The tubing feeding the pressure port may be of any length, but longer lengths will increase the response time slightly. Avoid sharp bends, and depending on the vibration and shock it is recommended to install attenuating components. To facilitate installation, mounting bracket A-629HLP-BKT, is available as accessory.

**Position/Orientation**

The transmitter is not sensitive to installation position. However, factory calibration is performed with the unit in a vertical position and horizontal pressure connections.

**Pressure Connections**

Pressure connections are 1/4" female NPT or 1/4" female BSPT. Avoid excess sealant and ensure the pressure passages are not blocked.

The piping should allow removal and reinstallation of the transmitter without shutdown of the pressure system. Especially in applications where the differential pressures are measured at high static line pressures that are above the overpressure limit of the transmitter. It is recommended to install the 629HLP transmitter with a 3 way manifold and a bypass valve (see Figure 1).

The manifold with the bypass valve will help to balance the pressure between the low and high side of the transmitter.

Dwyer offers a 3-way Block manifold option for this purpose.

Close the drain valve and open the bypass valve. Then both shutoff valves are opened to apply line pressure equally to both sides of the transducer. Finally, close the bypass valve. To remove the transducer, open the bypass valve, close the shutoff valves and open the drain valve.

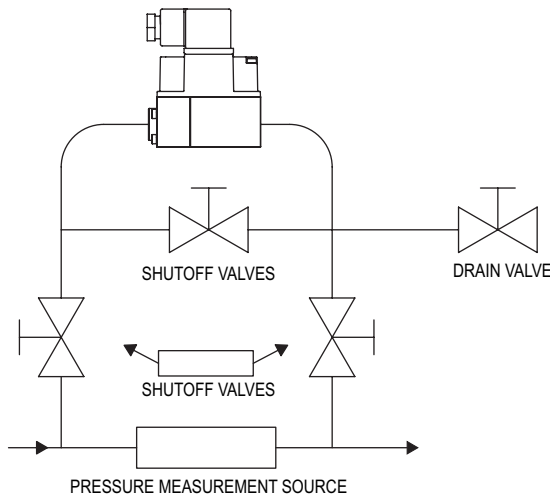


Figure 1

**SPECIFICATIONS**

**Service:** Compatible gases or liquids.  
**Wetted Material:** 304 SS.  
**Housing Material:** ABS.  
**Enclosure Rating:** IP65.  
**Accuracy:** ±1% from -5 to 60°C (23 to 140°F).  
**Stability:** ±1% FS/year.  
**Temperature Limits:** Ambient: -10 to 60°C (14 to 122°F); Process: -10 to 80°C (14 to 176°F).  
**Relative Humidity:** 10% to 90% non-condensing.  
**Installation Position:** Not position sensitive.  
**Pressure Limits:** See Pressure Range Limits chart.  
**Burst Pressure:** See Pressure Range Limits chart.  
**Static Pressure Limits:** See Pressure Range Limits chart.  
**Output Signal:** 4-20 mA, 0-10 VDC.  
**Response Time:** 50 ms.  
**Rated Supply Voltage:** 0-10 VDC Output: 12-36 VDC or 12-32 VAC (@ Max load of 2k Ω) 4-20 mA output: 8-36 VDC.  
**Max Loop resistance:** (Supply Voltage – 8 V) / 0.02 for 4-20 mA output.  
**Power Consumption:** V<sub>out</sub> = 13 mA max, I<sub>out</sub> = 24 mA max.  
**Electrical Connections:** Form A DIN 43650.  
**Process Connections:** 1/4" female NPT, 1/4" female BSPT.  
**Weight:** 1 lb 4 oz (567 g).  
**Approvals:** CE, RCM.

**MODEL CHART**

Example	629HLP	-01	-P2	-S1	-FC	629HLP-01-P2-S1-FC
<b>Series</b>	629HLP					Differential pressure transmitter
<b>Range</b>		01 02 04 06 15 30 60 90				0 to 1 bar 0 to 2.5 bar 0 to 4 bar 0 to 6 bar 0 to 15 psi 0 to 30 psi 0 to 60 psi 0 to 90 psi
<b>Process Connections</b>			P2 P4			1/4" female NPT 1/4" female BSPT
<b>Output Signal</b>				S1 S5		4-20 mA 0-10 VDC
<b>Options</b>					FC NIST	Factory calibration NIST certificate

**Note:** PSI ranges available upon request. Contact factory for details.

**PRESSURE RANGE LIMITS**

Pressure Range	Maximum Static Pressure	*Maximum Differential Over Pressure	**Burst Differential Pressure
0 to 1 bar	25 bar	5 bar	8 bar
0 to 2.5 bar	25 bar	5 bar	8 bar
0 to 4 bar	25 bar	12 bar	18 bar
0 to 6 bar	25 bar	12 bar	18 bar
0 to 15 psi	360 psi	70 psi	115 psi
0 to 30 psi	360 psi	70 psi	115 psi
0 to 60 psi	360 psi	174 psi	260 psi
0 to 90 psi	360 psi	174 psi	260 psi

**Note:** \*The differential pressure limit, between high and low ports, that the transmitter can withstand without affecting transmitter performance  
**\*\*Differential pressures between high and low ports that exceed overpressure limits will result in permanent diaphragm deformation, and any pressure higher than the burst pressure limits will rupture the diaphragm.**

## Electrical Connections

### CAUTION

This unit is not designed for 120 or 240 VAC line operation. Do not exceed specified supply voltage rating. Permanent damage not covered by warranty may result.

To make the electrical connections to the transmitters remove the top screw and lift the connector housing (Figure 2). The terminal block is located inside (Figure 3).



Figure 2



Figure 3

## Terminal Wiring

Wire as shown in Figure 4a or Figure 4b depending on the output signal required.

### WIRING - VOLTAGE OUTPUT

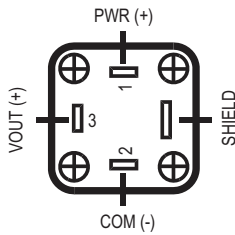


Figure 4a (0-10 VDC)

### WIRING - CURRENT OUTPUT

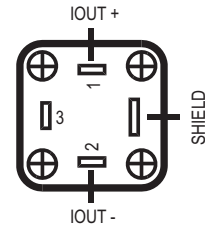


Figure 4b (4-20 mA)

**Note:** Shielded cable is required. Cut the shield wire at the power supply end of the cable.

**Wire Length:** The maximum length of wire connecting the transmitter and receiver is a function of wire size and receiver resistance. Wiring should not contribute more than 10% of the receiver resistance to total loop resistance. For extremely long runs (over 1000 feet), choose receivers with lower resistance to minimize the size and cost of connecting leads. Where wiring length is under 100 feet, wire as small as 22 AWG can be used.

### MAINTENANCE/REPAIR

Upon final installation of the 629HLP, no routine maintenance is required. The 629HLP is not field serviceable and it is not possible to repair the unit. Field repair should not be attempted as this may violate the warranty.

### WARRANTY/RETURN

Refer to "Terms and Conditions of Sale" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.