MODEL DPTA DIFFERENTIAL PRESSURE TRANSDUCER INSTALLATION & MAINTENANCE SHEET

ProSense™

⚠ WARNING! READ ⚠ BEFORE INSTALLATION

1. GENERAL:
A failure resulting in injury or damage may be caused by excessive overpressure, excessive vibration or pressure pulsation, excessive instrument temperature, corrosion of the pressure containing parts, or other misuse. Consult Automation Direct, Cumming, GA, USA at 1-800-633-0405 before installing if there are any questions or concerns.

2. OVERPRESSURE:
Pressure spikes in excess of the rated overpressure capability of the transducer may cause irreversible electrical and/or mechanical damage to the pressure measuring and containing elements.

3. STATIC ELECTRICAL CHARGES:
Any electrical device may be susceptible to damage when exposed to static electrical charges. To avoid damage to the transducer the operator/installer should follow proper ESD (electrostatic discharge) protection procedures before handling the pressure transducer.

DESCRIPTION

The Prosense Model DPTA is a low differential pressure transmitter to be used on clean, dry, non-corrosive gases. Both unidirectional (e.g. 0 to +1.0 IW) or bi-directional (e.g. ±2.0 IW) models are available. A green LED located on the front of the transmitter indicates power and operational status. The LED light intensity increases as pressure increases.

SPECIFICATIONS

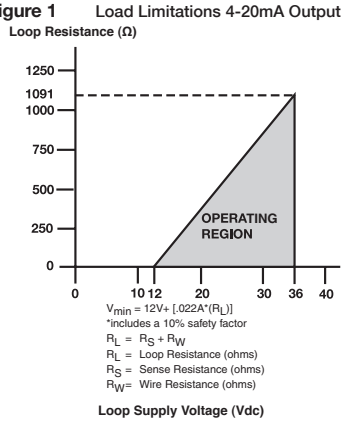
- Proof / Burst Pressure Rating:

ProSense DPTA Proof & Burst Pressures		
	Proof	**Burst**
Max. Static Line	15 psid	25 psid

Output Signal:
- 4-20ma (For symmetric bidirectional ranges 0IW= 12mA)

Supply Voltage:
- 12-36 Vdc (no regulation required)

Figure 1 Load Limitations 4-20mA Output



Determine Maximum Loop Resistance
VL - 12Vdc
_____ = RL
0.022 amps
For example:
[(24Vdc – 12Vdc)/0.022 amps] = 546Ω

Reverse Wiring Protected

Electrical Connection: unpluggable terminal block accepts 12-26 AWG

Operating Temperature: 0-160°F

Enclosure:
NEMA 1 Fire-retardant ABS Meets UL 94-5VA

Weight: Approx. 2.5 oz.

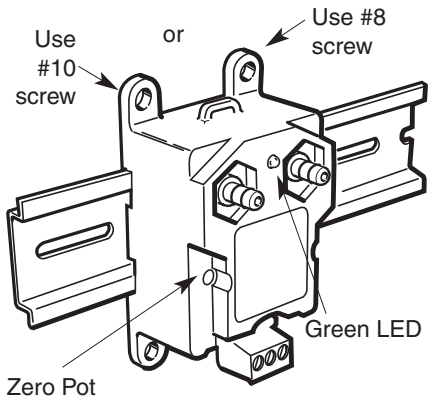
Pressure Connection:
¼˝ Brass Barbs

INSTALLATION

Mounting:

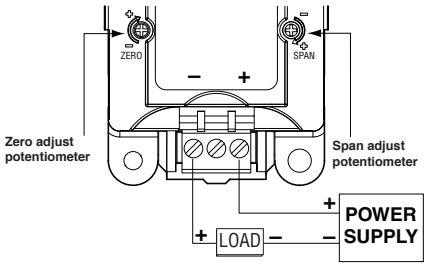
The transmitter can be mounted on a 35 mm DIN rail or with #8 or #10 screws using the 4 mounting holes provided. Torque limits on the mounting holes provided is 6 inch-pounds.
(see Figure 3)

Figure 3



Electrical Wiring:

1. The use of sheilded cable is recommended for optimum performance. Connect the shield to the guard terminal on the reading instrument (meter, etc.) if available or to ground.
2. Remove the terminal block on the front of the transmitter.



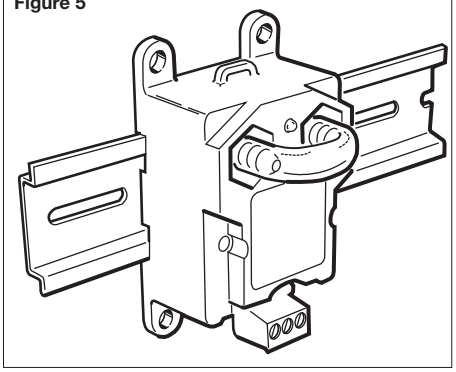
3. Available electrical version is:
   CURRENT 4-20mA; black terminal block.
   Follow the terminal block label markings on the DPTA to identify the terminals.
   - **4-20mA Ouput:** The left, negative (-), and right, positive (+) terminals are used, ignore the center terminal which is not used. Connect the power supply positive lead to the DPTA positive terminal, connect the negative power supply lead to the negative terminal of the load 4-20mA input.
     Last, connect the (-) negative terminal on the DPTA to the (+) positive load input.
4. Firmly reinstall the terminal block plug to its mating connector.

Set Up:

The transmitters are calibrated at the factory in the vertical position. Mounting in the horizontal position can cause a zero shift of as much as ±1% F.S. in ranges below 1 IW dp. Any minor zero offset can be minimized using the zero adjust potentiometer located on the front, left side of the instrument.

To find true zero differential pressure, pneumatically connect the high and low pressure connections together using the tubing provided with the transmitter. The barbed connection accept ¼˝ O.D. ⅛˝ I.D. tubing.
(see Figure 5)

Figure 5



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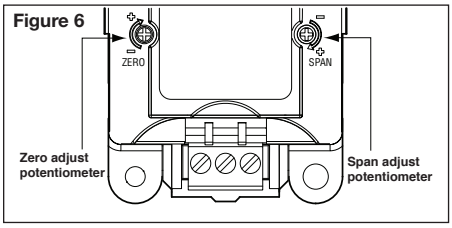
Zero potentiometer adjustment requires using a 3/32″ or 2.5 mm slotted or phillips screwdriver. The tubing should remain in place until the transmitter is to be connected to the actual sense tubing. **(see Figure 6)**

Zero and Span Potentiometers

Figure 6



Routine Maintenance:

The DPTA is a very stable and reliable transmitter incorporating a proven, micro-machined silicon capacitive sensor and a new, state-of-the-art application specific integrated circuit (ASIC). All calibration and temperature compensation functions are done with a microprocessor and digital routines.

To troubleshoot or verify performance, it is recommended to pneumatically connect the pressure ports to each other and establish a zero offset reading in the as-installed position. **Adjusting zero will not affect span calibration.**

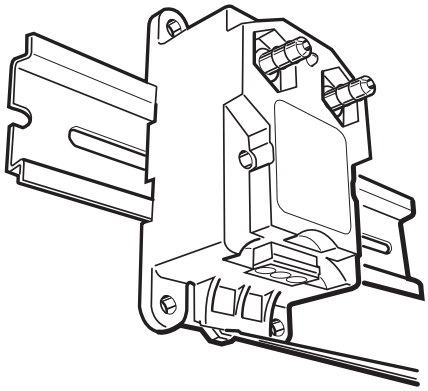
Adjusting span should only be attempted when a high accuracy pressure standard and high quality electrical meter are able to be used.

DIN Rail Transmitter Removal:

In order to remove the transmitter when it is installed on a DIN rail, it is necessary to first unplug the wiring terminal block from the transmitter.

Insert a small slotted screwdriver into the black plastic clip extending slightly below the transmitter case. **(see Figure 7)**

Figure 7



Next, raise the screwdriver handle up thereby forcing the spring clip down.

If questions or concerns need to be addressed, the technical support group can be contacted at 1-800-633-0405 or visit our website at www.automationdirect.com.

GENERAL DIMENSIONS FOR MODEL DPTA (in inches)

¼″ BARB FITTINGS