



DPT-4001 & -4003 DIFFERENTIAL PRESSURE TRANSDUCERS

Description

The **DPT-4001 & -4003** differential pressure transducer sensors operate on the capacitance principal and are capable of sensing ultra low differential pressures. In the capacitance cell, a very lightweight, responsive diaphragm deflects a small amount when pressure is applied. This deflection results in a change in capacitance, which is then detected and processed electronically into an output signal linear to the differential pressure.

Features

- The DPT-4001 is a loop powered two wire transducer with a 4-20 mA output
- The DPT-4003 is a three wire transducer with a 0-5 VDC or optional 0-10 VDC output
- $\pm 1\%$ F.S. accuracy
 $\pm 0.5\%$ F.S. accuracy (optional)
- Full scale ranges as low as 0.10 inches of water differential pressure
- Can be operated continuously in temperature ranges of 0 to 160 °F
- Can be stored in temperature ranges of -40 to 180 °F
- Zero shift of only $\pm 0.025\%$ F.S. per °F
- Span shift of only $\pm 0.025\%$ F.S per °F
- 25 psi maximum static line pressure
- Differential overpressure of 5 psi proof and 10 psi burst
- Vibration less than 0.05% F.S. temporary effect with 5g's, 0-60 Hz
- Non-corrosive dry gas pressure media
- Pneumatic ¼" barb process input connection
- Enclosure constructed of stainless steel



DPT-4001 & -4003 Technical Specifications

1. AVAILABLE FULL SCALE RANGES

No.	Inches W.C.
1	0.10
2	0.25
3	0.50
4	0.75
5	1.00
6	2.00
7	3.00
8	5.00
9	10.0

2. PROCESS INPUT CONNECTION

Pneumatic 1/4" barb

3. ENCLOSURE

Stainless Steel/Lexan

4. PRESSURE MEDIA

Non-Corrosive dry gases

5. OPERABLE LINE PRESSURE

25 psi maximum static line pressure

6. DIFFERENTIAL OVERPRESSURE

5 psi proof and 10 psi burst pressure

7. VIBRATION

<0.05% F.S. temporary effect with 5g's, 0-60 Hz.

8. FULL SCALE ACCURACY DATA AT 70°F

	<u>Standard</u>	<u>Optional</u>
Combined accuracy	±1.00%	±0.50%
Terminal point nonlinearity	±0.80%	±0.40%
Hysteresis	±0.05%	±0.02%
Non-repeatability	±0.10%	±0.05%

9. ENVIRONMENTAL ATTRIBUTES

Storage	-40 ~ 180°F	-40 ~ 82°C
Operating	0 ~ 160°F (10-95% R.H. non-condensing)	-18 ~ 71°C
Compensation Range	40 ~ 125°F	4 ~ 52°C
Zero shift	±0.025%FS/°F	±0.025%FS/½°C
Span shift	±0.025%FS/°F	±0.025%FS/½°C

10. ELECTRICAL INFORMATION

DPT-4001

Output	4 ~ 20mA (2 Wire)
Supply Power	12 ~ 36 volts DC $V_{min} = 12 + (0.022 \times R_{LOAD})$
Connections	Screw Terminals
External Load	1090 Ω max. @ 36 VDC

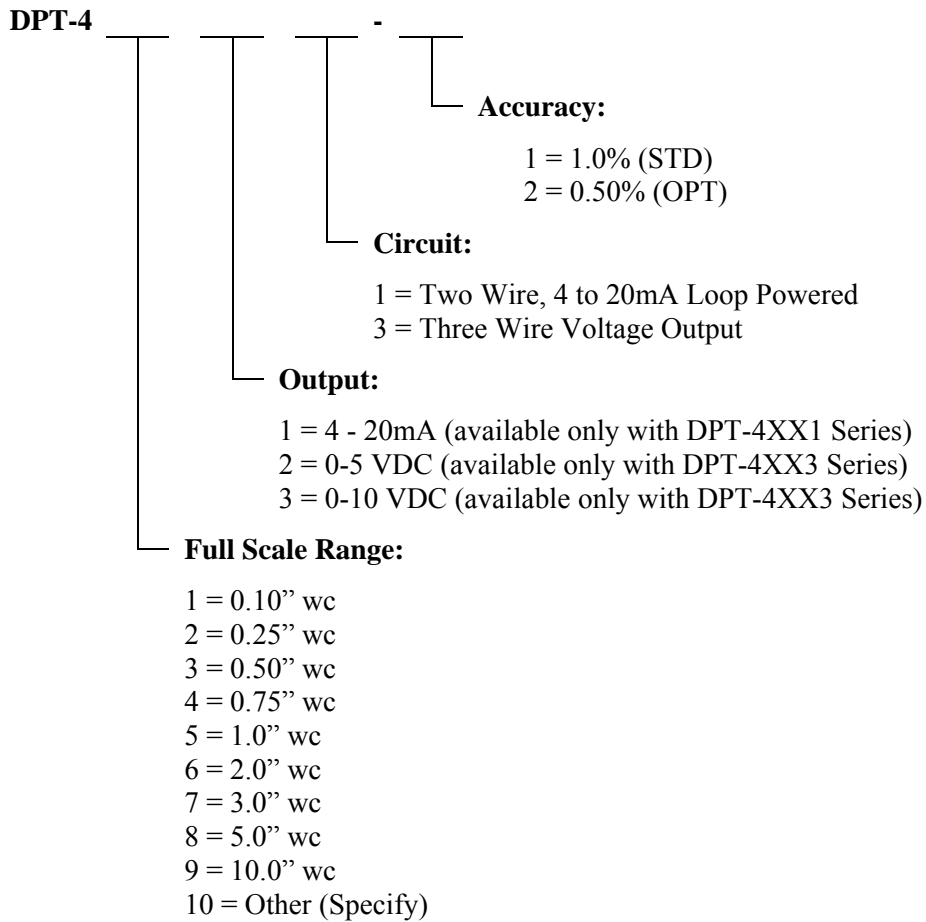
DPT-4003

Output	0 ~ 5 VDC (3 Wire)
Supply Power	12 ~ 36 volts DC
Connections	Screw Terminals

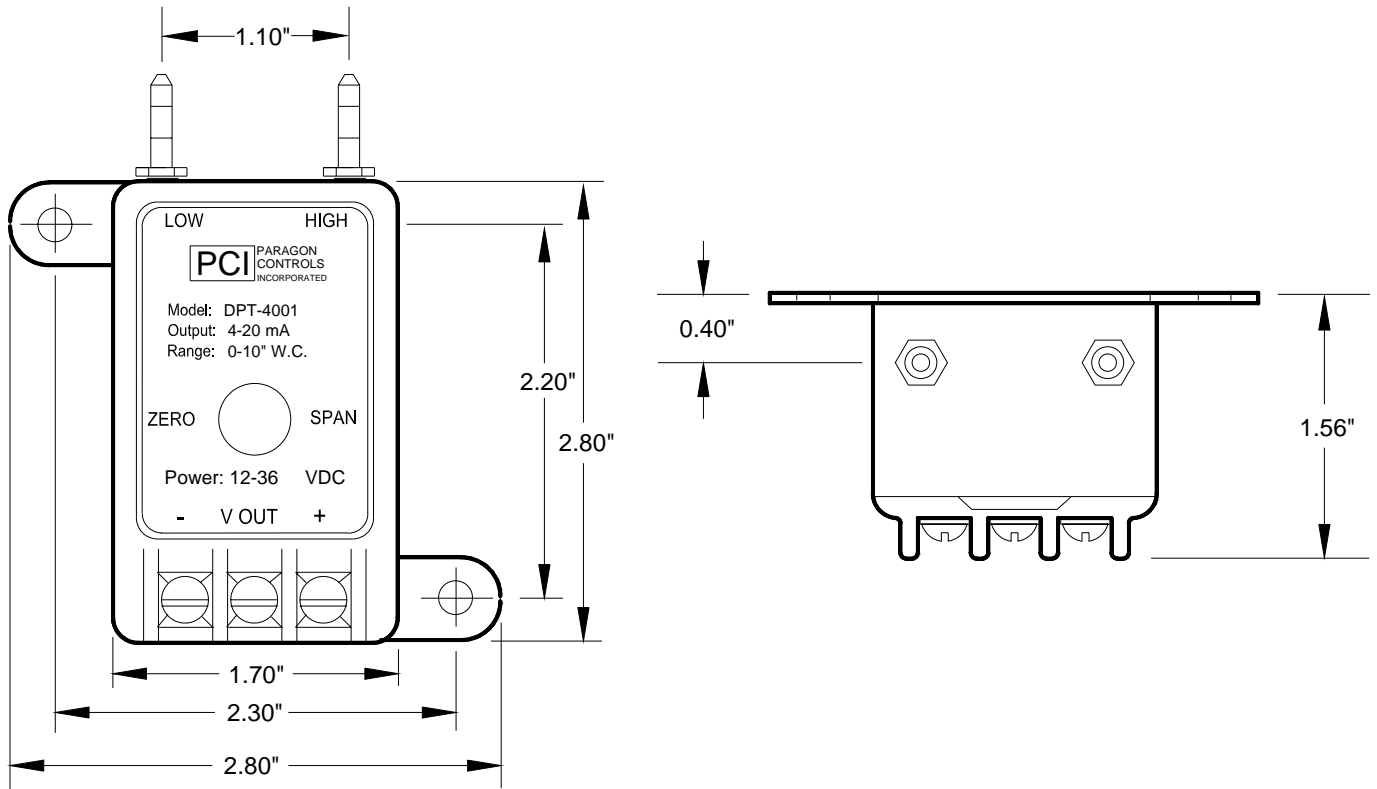
11. APPROXIMATE WEIGHT

6 OZS

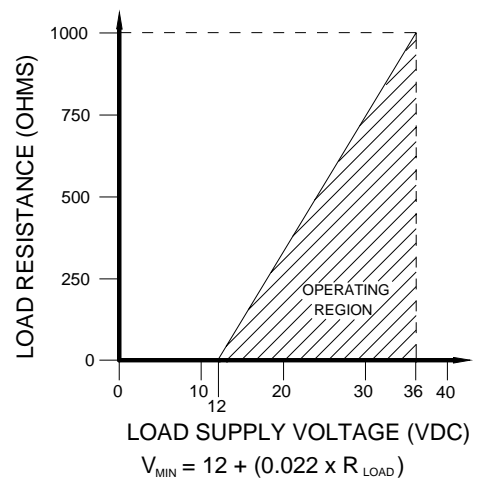
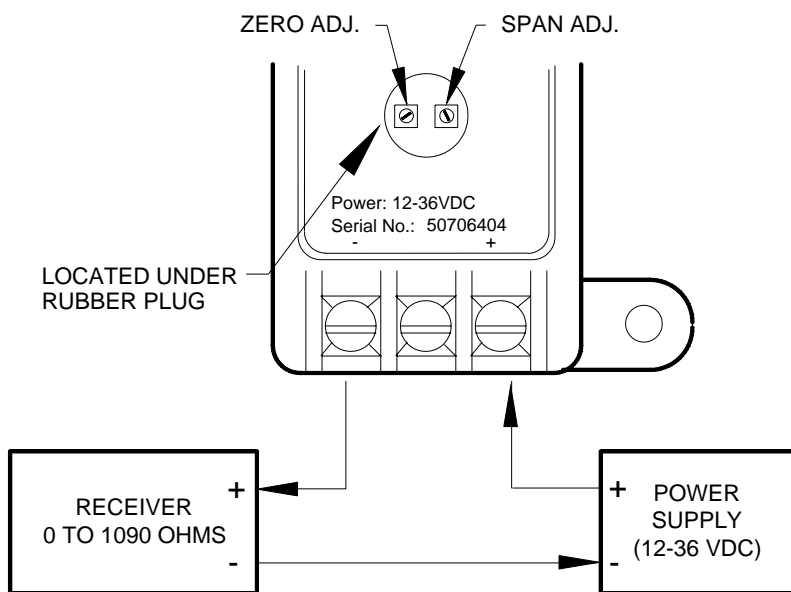
DPT-4001 & -4003 Ordering Information



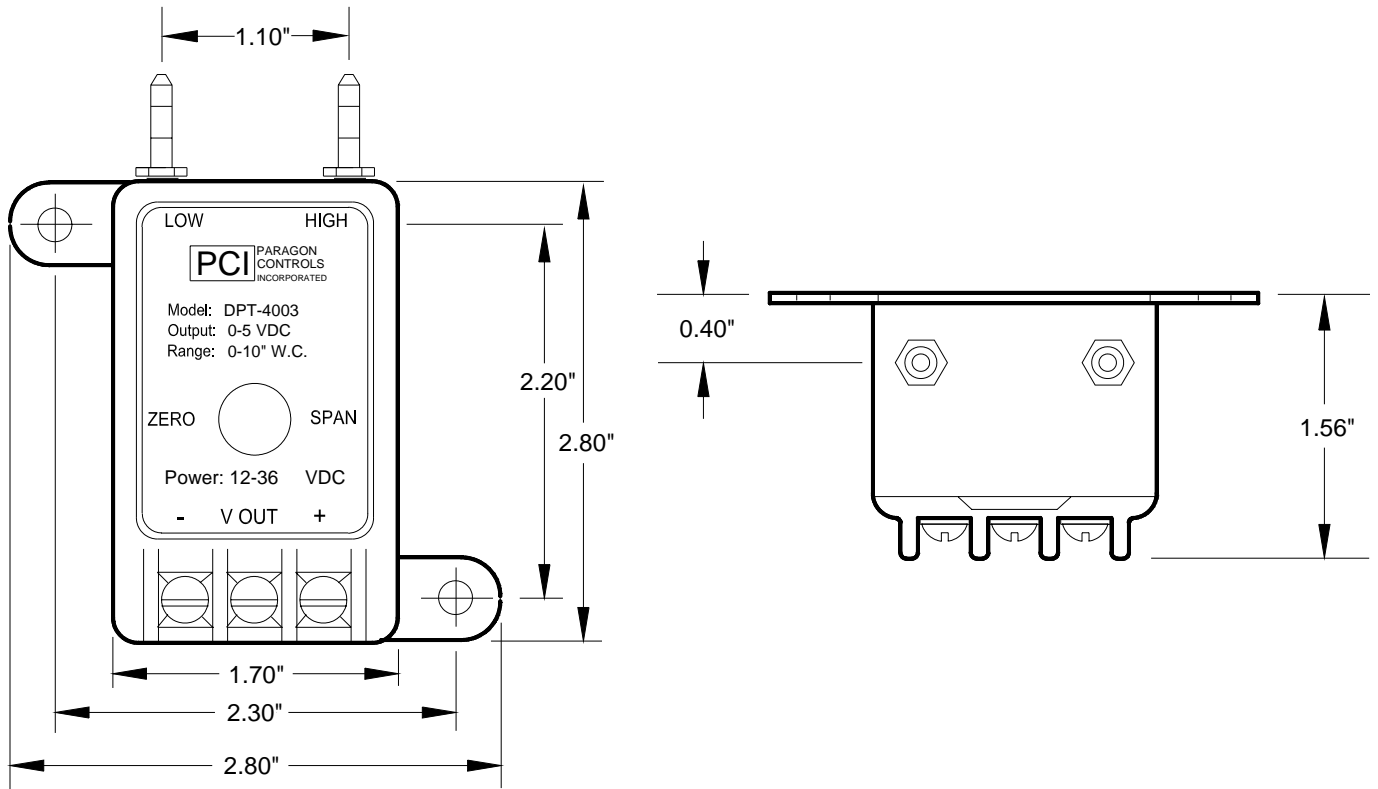
DPT-4001 Dimensions



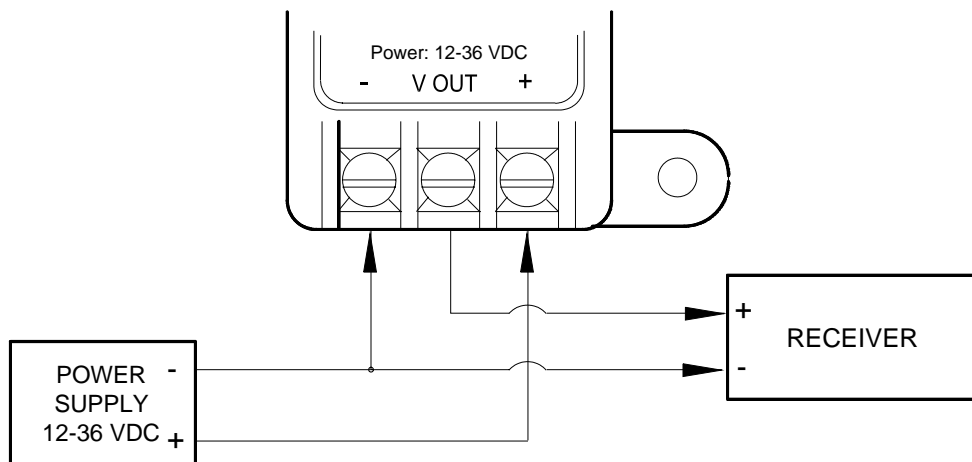
DPT-4001 Field Connections and Load Limitations



DPT-4003 Dimensions



DPT-4003 Field Connections



DPT-4001 & -4003 Specification Guide

Electronic Transducers

1. Provide individual differential pressure transducers, selected for the required spans of each application.
2. The transducer(s) shall be solid-state electronic type, with infinite output resolution, capable of performing dedicated pressure control functions. Microprocessor based transducers with time-sharing of multiple inputs are not acceptable.
3. Each transducer's output shall not be adversely affected by direction of mounting (attitude) or external vibrations, and shall be furnished with a factory-calibrated span that matches the application.
4. Transducer performance shall be equal to or better than the following:
Accuracy: 0.5% F.S. (Terminal Point) / 0.35% F.S. (BFSL)
Temperature Effects: <0.03% F.S./°F
Over-pressure: 5 PSIG Proof / 10 PSIG Burst
Response: <0.25 seconds for full span input
Noise Filtration: Low Pass Filter, factory set @ 3.2Hz

Labeling

1. An identification label shall be placed on each transducer listing the model number, flow elements served, full scale value, and identifying tag number.

Manufacturer

1. Electronic transducers shall be Paragon Controls Inc. Model [DPT-4001] [DPT-4003] or equal as approved by the Engineer.
2. Naming of a manufacturer does not automatically constitute acceptance of this standard product nor waive the responsibility of the manufacturer to comply totally with all requirements of the proceeding specification.