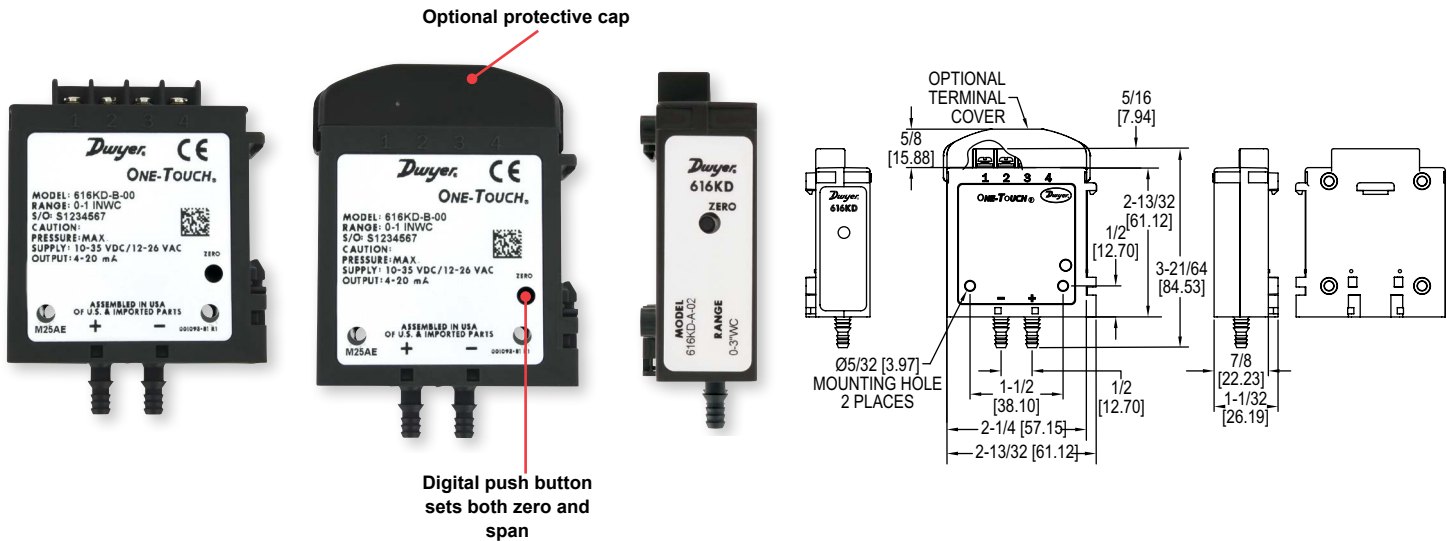




Series 616KD One-Touch® Differential Pressure Transmitter

Specifications - Installation and Operating Instructions



The **Series 616KD One-Touch® Differential Pressure Transmitter** senses the pressure of air and compatible gases and sends a standard 4-20 mA or optional voltage output signal. A wide range of models are available factory calibrated to specific ranges. A single push button properly adjusts both zero and span. New enclosure enables the 616KD-A/B to be mounted on a 35 mm DIN rail either via its side or back DIN rail clips.

INSTALLATION

1. Location

Select a clean, dry mounting location free from excess vibration where the temperature will remain between 20 and 122°F (-6.7 and 50°C). The tubing supplying pressure to the instrument can be practically any length required, but long lengths will increase response time slightly.

2. Position

A vertical position, with pressure connections pointing down, is recommended. That is the position in which all standard models are calibrated at the factory. Consult factory for other position orientations.

3. Pressure Connections

Two integral barbed tubing connections are provided. They are dual-sized to fit both 1/8 and 3/16" (3.12 and 4.76 mm) I.D. tubing. Be sure the pressure rating of the tubing exceeds that of the operating ranges. An optional 1/8" NPT connection block is also available. When installing the NPT unit be sure to hold the connection block to avoid separating the sensor housing from the connection block.

4. Electrical Connections:



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

Electrical connections are made to the terminal block located on the top of the transmitter. Terminals are marked 1, 2, 3 and 4 as shown below. Determine which of the following circuit drawings applies to your application and wire accordingly. Shielded cable is recommended. Ground the shield at the power supply end only.

SPECIFICATIONS

Service: Air and non-combustible, compatible gases.

Wetted Materials: Consult factory.

Accuracy: 616KD-A: $\pm 0.25\%$ FS; 616KD-B: $\pm 1\%$ FS, 616KD: $\pm 2\%$ FS.

Stability: $\pm 1\%$ FS/year.

Temperature Limits: 0 to 140°F (-17.8 to 60°C).

Compensated Temperature Range: 20 to 122°F (-6.67 to 50°C).

Pressure Limits: 2 psig (ranges 5 in w.c. or lower); 5 psig (ranges 10 to 40 in w.c.).

Thermal Effect: 616KD-A: $\pm 0.02\%$ FS/°F; 616KD-B: $\pm 0.04\%$ FS/°F; 616KD: $\pm 0.06\%$ FS/°F, includes zero and span.

Power Requirements: 4-20 mA output: 10-35 VDC (2-wire) or 12-26 VAC (4-wire); 5 V output: 10-35 VDC (3-wire) or 12-26 VAC (4-wire); 10 V output: 13-35 VDC (3-wire) or 12-26 VAC (4-wire) for 616KD A and B. 16-36 VDC (2-wire or 3-wire): 20-28 VAC (3-wire) for 616KD.

Output Signal: 4-20 mA or option with field selectable 0-10, 0-5, 2-10, 1-5 V.

Zero and Span Adjustments: Push button.

Loop Resistance: 4-20 mA output (DC): 0 to 1250 Ω max. $R_{max} = 50$ (VpsDC -10) Ω ; 4-20 mA output (AC): 0 to 1200 Ω max. $R_{max} = 50$ (1.4 VpsAC -12) Ω ; Voltage output: 5 k Ω minimum.

Current Consumption: 24 mA max for 616KD A and B. 21 mA max for 616KD.

Electrical Connections: Screw-type terminal block.

Process Connections: Barbed, dual size to fit 1/8" and 3/16" (3 mm and 5 mm) ID rubber or vinyl tubing.

Enclosure Rating: NEMA 1 (IP20), tested to UL 2043 for plenum applications.

Mounting Orientation: Vertical with pressure connections pointing down.

Weight: 1.8 oz (51 g).

Compliance: CE.

4.1: 4-20 mA OUTPUT CONNECTIONS

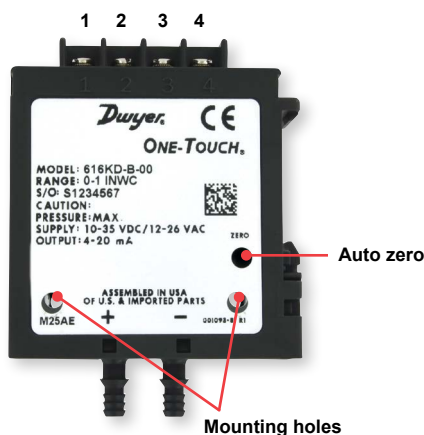


Figure 1

4.2: VOLTAGE OUTPUT CONNECTIONS

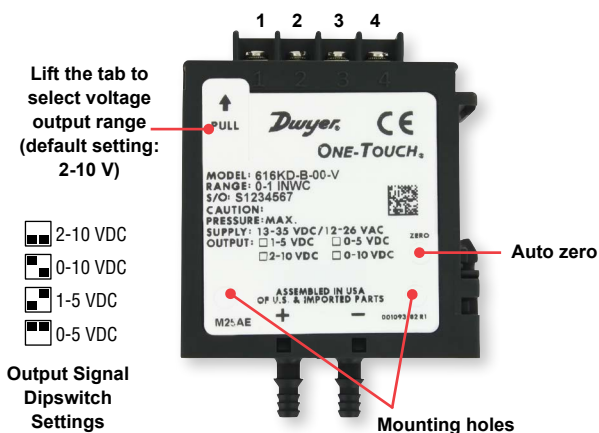


Figure 3

2-WIRE CONNECTIONS [4-20 mA]

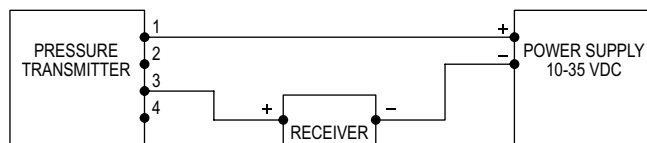


Figure 2

3-WIRE CONNECTIONS [VOLTAGE OUTPUT]

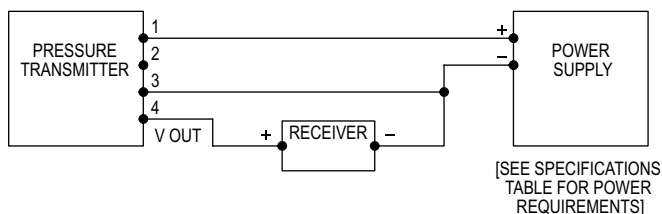
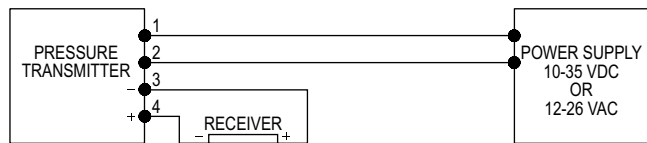
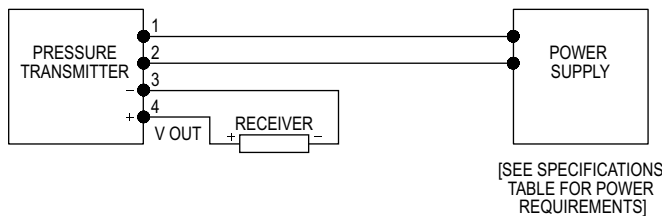


Figure 4

4-WIRE CONNECTIONS [4-20 mA]



4-WIRE CONNECTIONS [VOLTAGE OUTPUT]



ZERO ADJUSTMENT

A single push button is provided to zero the transmitter. For A and B models a side mounted zero push button is provided in addition to the standard push button. The zero calibration can be set by applying zero pressure to both the pressure ports and pressing the zero button for 2 seconds. Span is factory calibrated to the range specified on the label. There is no user span adjustment necessary.

CHANGING OUTPUT SIGNAL

To change output signal see dipswitch settings in Figure 3 – OUTPUT SIGNAL DIPSWITCH SETTINGS.

MAINTENANCE/REPAIR

Upon final installation of the Series 616KD no routine maintenance is required. The Series 616KD is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.



This symbol indicates waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

WARRANTY/RETURN

Refer to "Terms and Conditions of Sales" 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.