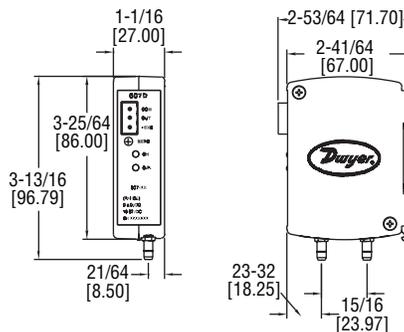




## Series 607D DIN Rail Differential Pressure Transmitter

### Specifications - Installation and Operating Instructions



The Series 607D DIN Rail Mount Differential Pressure Transmitter senses the pressure of air and compatible gases and sends a standard 4 to 20 mA output signal. The 607D housing is specifically designed to mount on a 35 mm DIN rail in a panel. This mounting style allows for several units to be mounted closely together reducing required space. A wide range of models are available factory calibrated to 0.25% full scale accuracy in ranges from the very low 0.1 in w.c. to 25 in w.c. The zero control is for field calibration. Units also include red/green LED status of proper transmitter operation. Versatile circuit design enables operation in 2-wire current loops.

#### INSTALLATION

##### 1. Location

Select a clean, dry mounting location free from excess vibration where the temperature will remain between 20 and 170°F (-7 and 77°C). Distance from the receiver is limited only by total loop resistance. See Electrical Connections below. The tubing supplying pressure to the instrument can be practically any length required, but long lengths will increase response time slightly.

##### 2. Position

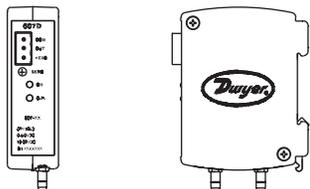
A vertical position, with pressure connections pointing down, is recommended. That is the position in which all standard models are spanned and zeroed at the factory. They can be used at other angles, but final zeroing must be done while transmitter is in that alternate position.

#### Pressure Connections

Integral barbed tubing connections are sized to fit 1/8" (3.12 mm) or 3/16" (4.76 mm) ID tubing. Be sure the pressure rating of the tubing exceeds that of the operating ranges.

#### NOTICE

Do not exceed specified supply voltage ratings. Permanent damage not covered by warranty will result. This unit is not designed for 120 or 240 volts AC line operation. Electrical connections are made to the terminal block located in front of the transmitter. Terminals are marked (+) and (-).



#### SPECIFICATIONS

**Service:** Air and non-conductive, non-corrosive gases.

**Wetted Materials:** 302 SS, glass, nickel, silicone rubber and brass.

**Accuracy:** ±0.25% FS\* at room temperature. \*RSS includes non-linearity, hysteresis and non-repeatability.

**Stability:** ±1% FS/yr.

#### Temperature Limits:

Operating and compensated: 0 to 170°F (-18 to 77°C);

Storage: -65 to 185°F (-54 to 85°C).

**Pressure Limits:** 15 psi (100 kPa).

**Thermal Effects:** (Includes zero and span) ±0.01 FS/°F, 20 to 170°F (-7 to 77°C).

**Power Requirements:** 16 to 32 VDC.

**Output Signal:** 4 to 20 mA.

**Zero Adjustment:** Potentiometer for zero.

**Response Time:** Approximately 10 ms.

**Max. Loop Resistance:** DC: 0 to 800 Ω.

**Electrical Connections:** Screw-type removeable terminal block.

**Process Connections:** Barbed fittings for 1/8" (3.12 mm) ID rubber or vinyl tubing.

**Mounting Orientation:** Vertical, on a 1.378" (35 mm) DIN rail.

**Weight:** 7.0 oz (198 g).

**Agency Approval:** CE.

Model	Range (in w.c.)
607D-01	0 to 0.1
607D-02	0 to 0.25
607D-03	0 to 0.5
607D-04	0 to 1
607D-05	0 to 2.5
607D-06	0 to 5
607D-07	0 to 10
607D-08	0 to 25
607D-11	0 to ±0.05
607D-12	0 to ±0.1
607D-13	0 to ±0.25
607D-14	0 to ±0.5
607D-15	0 to ±1

## ELECTRICAL CONNECTIONS

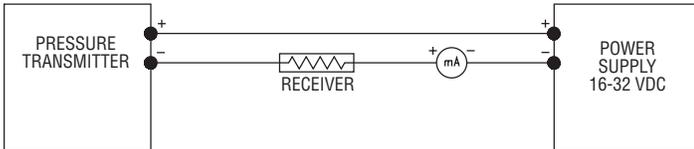
### Wire Length

The maximum length of wire connecting 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 of wiring (over 1000 feet), choose receivers with lower resistance to minimize size and cost of connecting leads. Where wiring length is under 100 feet, wire as small as 22 AWG can be used.

### 2-Wire Operation

An external power supply delivering 16 to 32 VDC with minimum current capability of 30 mA DC (per transmitter) must be used to power the control loop. Shielded two wire cable is recommended for control loop wiring. If grounding is required, use the negative side of the control loop after the receiver. It is not necessary to observe polarity of control loop connections.

Wiring Diagram



### Calibration Check

Each Series 607D Transmitter is factory calibrated to the range given in the model chart. To check calibration and adjust if necessary, the following procedure should be used. For purposes of clarification in these instructions, range is defined as that pressure which, applied to the transmitter, produces 20 milliamps of current in the loop. Zero pressure is always assumed to be 4 milliamps except on bidirectional models.

1. With the transmitter connected to the companion receiver, insert an accurate multimeter in series with the current loop. The multimeter full scale range should be 30 mA or greater.
2. Connect a controllable pressure source to one leg of a tee with the other two legs connected to the high pressure port of the transmitter and the third leg to an accurate test gage or manometer, in an appropriate range. The low pressure port should be vented to atmosphere. Calibration must be performed with the unit in the same position in which it will be mounted.
3. Apply electrical power to the unit and allow it to stabilize for 10 minutes.
4. With no pressure applied to the transmitter, adjust ZERO control so that loop current is 4 mA. Bi-directional zero pressure is 12 mA.

### Voltage Output

Series 607D Transmitters can be easily adapted for receivers requiring 1 to 5 or 2 to 10 VDC inputs. Insert a 249 ohm, (1 to 5 VDC) or 499 ohm (2 to 10 VDC) resistor of the proper power rating in series with the current loop but in parallel with the receiver input. Locate this resistor as close as possible to the input. Because resistor accuracy directly influences output signal accuracy, we recommend use of a precision  $\pm 0.1\%$  tolerance resistor to minimize this effect.

### MAINTENANCE

Upon final installation of the Series 607D Transmitter, no routine maintenance is required. The Series 607D is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.