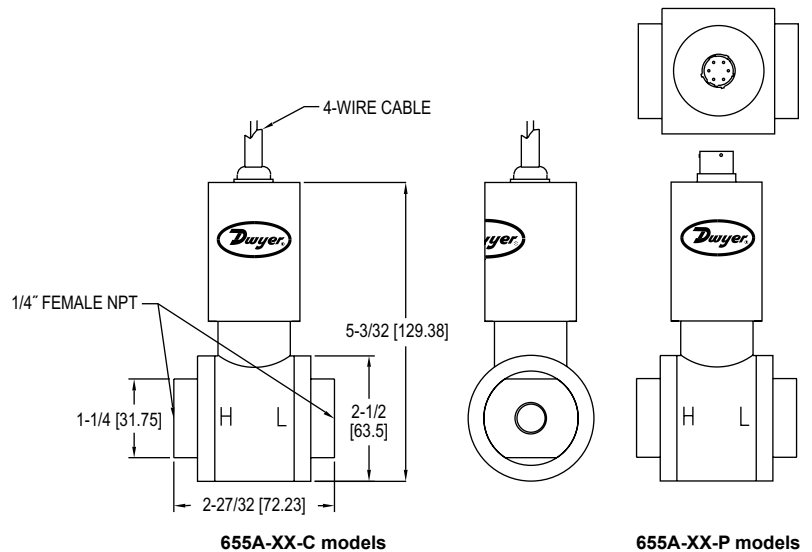




## Series 655A Wet/Wet Differential Pressure Transmitter

### Specifications - Installation and Operating Instructions



The **Series 655A Wet/Wet Differential Pressure Transmitter** converts a positive differential pressure measurement into a standard 4-20 mA output signal. Designed for use as a wet/wet differential pressure transmitter, it can be used to measure gas or liquid pressure compatible with 316L stainless steel wetted parts. With an accuracy of  $< \pm 0.25\%$  (BFSL, RSS), the Series 655A Pressure Transmitter can measure low differential pressures, but can withstand working pressures to a maximum of 1000 psi (68.95 bar), 3000 psi (206.8 bar) burst.

#### INSTALLATION

##### Location

Select a location where the temperature of the transmitter will be between  $-20$  to  $200^{\circ}\text{F}$  ( $-29$  to  $93^{\circ}\text{C}$ ). Distance from the receiver is limited only by total loop resistance. Tubing or piping of extended lengths will increase response time slightly.

##### Position

The transmitter is not position sensitive. However, all standard models are originally calibrated with the unit in a vertical position and with the pressure connections at horizontal. Although they can be used at other angles, for best accuracy it is recommended that zeroing and spanning be done while unit is in the alternative position.

##### Pressure Connections

Pressure connections are  $1/4$ " female NPT. Use a small amount of plumbers thread tape or other suitable sealant to prevent leaks. Be sure the pressure passage inside the port is not blocked.

#### SPECIFICATIONS

**Service:** Compatible gases or liquids.

**Wetted Materials:** 316L SS.

**Accuracy:**  $\pm 0.25\%$  BFSL, RSS (combined effect of non-linearity, hysteresis, and repeatability).

**Stability:**  $\leq \pm 0.25\%$  FSO/yr.

**Temperature Limits:**  $-20$  to  $200^{\circ}\text{F}$  ( $-29$  to  $93^{\circ}\text{C}$ ).

**Compensated Temperature Limits:**  $0$  to  $170^{\circ}\text{F}$  ( $-17.8$  to  $76.7^{\circ}\text{C}$ ).

**Pressure Limits:** 1000 psi (68.95 bar) continuous; 3000 psi (206.8 bar) burst.

**Thermal Effects:**  $\leq \pm 1.5\%$  FS oven comp. temperature range.

**Power Requirements:** 8-38 VDC.

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

**Static Pressure Effects:** On zero:  $\leq \pm 0.25\%$  FSO per 1000 psi; on span:  $\leq \pm 0.5\%$  of reading per 1000 psi.

**Response Time:**  $< 10$  ms.

**Loop Resistance:** 1500  $\Omega$ .

**Electrical Connections:** Cable exit with 24" cable; optional 6-pin connector.

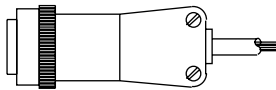
**Process Connections:**  $1/4$ " NPT female.

**Enclosure Rating:** Designed to meet NEMA 4X (IP66).

**Mounting Orientation:** Mount in vertical position: zero shifts up to  $\pm 1$  in w.c. depending on orientation.

**Weight:** 18 oz (510 g).

**Electrical Connections**

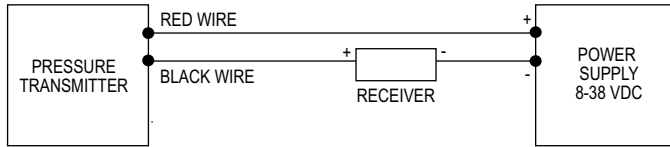


A-232 CONNECTOR END  
 OPPOSITE END IS SIX WIRES  
 COLORS: RED POSITIVE,  
 BLACK NEGATIVE,  
 GREEN CASE GROUND

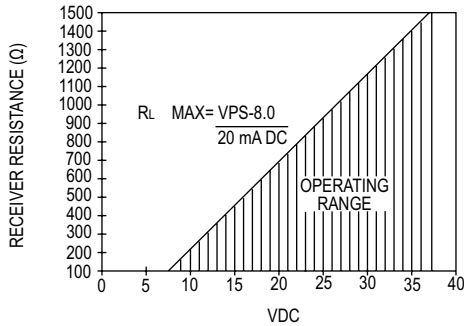
Use A-232 with 6" pin connection models

**2-wire operation**

An external power supply delivering 8-38 VDC with minimum current capability of 40 mA DC (per transmitter) is required to power the control loop. The range of appropriate receiver load resistance for the DC power supply voltage available is expressed by the formula and graph below. Shielded 2-wire cable is recommended for control loop wiring.



2-wire connection



Power supply voltage - VDC

**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 (305 m)), choose receivers with lower resistance to minimize the size and cost of connecting leads. Where wiring length is under 100 feet (30.5 m), wire as small as 22 AWG can be used.

**MAINTENANCE**

Upon final installation of the Series 655A Differential Pressure Transmitter, no routine maintenance is required. A periodic check of system calibration is recommended. The Series 655A 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