



# LXP Explosion Proof Transmitter, Current Output Model Installation and Maintenance Instructions

## Calibration Reference Conditions

**Ambient Temperature:** 75°F (24°C)  
**Relative Humidity:** 40 to 60%  
**Barometric Pressure:** 29.92 in. Hg.

## Performance Characteristics

**Accuracy (LH&R):** ±0.25%, Best Fit Straight Line (BFSL)

@ 75°F

**Long Term Stability:** Will repeat within ±0.25% FSO of original calibration curve for 1 year

**Proof Pressure:** 2 times rated pressure range, or 13,000 psi, whichever is less

**Vibration:** 15 g's, 10 to 2000 Hz (MIL-STD-202, M204, Cond. B)

**Shock:** 50 g's, 11 ms (MIL-STD-202, M213, Cond. G)

**Wetted Materials:** 316 sensor and 17-4 PH stainless steel process connection

**Pressure Cavity Volume:** 0.075 inches maximum

## Calibration

All models are tested to meet or exceed the published specifications. The calibration and testing were done using instrumentation and standards traceable to the National Institute of Standards and Technology (NIST). Also tested in accordance with MIL-STD-45662A.



UL and c-UL Listed Pressure Transmitter for use in Hazardous Locations. Class I, Div. I, Groups A, B, C & D, Class II, Groups E, F & G.

For Canadian installations a secondary conduit seal is not required for all pressure ranges up to 6,000 psi, which are single seal compliant to ANSI/ISA-12.27.01-2003. The operational temperature range on the primary process seal of these is -40°C to +71°C. All other installations, including the 7,500 psi & 10,000 psi pressure range models, require an appropriate conduit connector and/or stopping box certified as Flameproof "d". Dust Ignition Protection "tb" and IP66 rated. System design considerations, installation instructions, and all local and national safety requirements must be observed and carefully followed in accordance with the regulations for conformity.

## CURRENT OUTPUT MODEL

**Excitation:** 12 to 30 Vdc

**Output:** 4 to 20 mA

**Zero Output:** 4 mA, ± 2% of FSO @ 75°F

**Full Scale Output:** 20 mA, ± 1% @ 75°F

**Protection:** Reverse polarity protected

**Loop Resistance:** See loop resistance chart on back page

**Temperature Range:** Compensated: 0°F to 160°F (-18°C to 71°C)  
Operating: -40°F to 160°F (-40°C to 71°C)

**Temperature Error:** ± 1.0% of FSO max over compensated range

**Weight:** 16 oz (454 grams)

**Wiring (2-wire):** Red = +Excitation  
Black = -Excitation  
Drain = Case Ground

Consult Sales Drawing & EN/IEC 6100-4 for appropriate Electromagnetic Compatibility (EMC) requirements.

## WARNING! READ BEFORE INSTALLATION

Fluid hammer and surges can destroy any pressure transmitter and must always be avoided. A pressure snubber should be installed to eliminate the damaging hammer effects. Fluid hammer occurs when a liquid flow is suddenly stopped, as with quick closing solenoid valves. Surges occur when flow is suddenly begun, as when a pump is turned on at full power or a valve is quickly opened.

Winters LXP pressure transmitters having a pressure range 2,000 psi and higher have a built in pressure surge protection in the input port. The design is such that an orifice is made an integral part of the pressure port. Designed with the upstream side of the orifice as a sharp corner, it acts as a very effective protection. Other orifice devices can be installed upstream of the pressure transmitter in the piping system for extra protection where the system engineer requires it.

Liquid surges are particularly damaging to pressure transmitters if the pipe is originally empty. To avoid damaging surges, fluid lines should remain full (if possible), pumps should be brought up to power slowly, and valves opened slowly. To avoid damage from both fluid hammer and surges, a surge chamber should be installed, and a pressure snubber should be installed on every transmitter.

Symptoms of fluid hammer and surge's damaging effects:

1. Pressure transmitter exhibits an output at zero pressure (large zero offset). If zero offset is less than 10% FS, user can usually re-zero meter, install proper snubber and continue monitoring pressures.
2. Pressure transmitter output remains constant regardless of pressure.
3. In severe cases there will be no output.

### TORQUE REQUIREMENTS:

Apply pipe compound sparingly to male pipe threads only. Avoid pipe strain on transmitter housing by properly supporting and aligning piping. Apply wrench to the hex flats of fittings only, then tighten the connection. Adequate support of piping and proper mounting of the pressure transmitter should be made to avoid excessive shock and vibration.

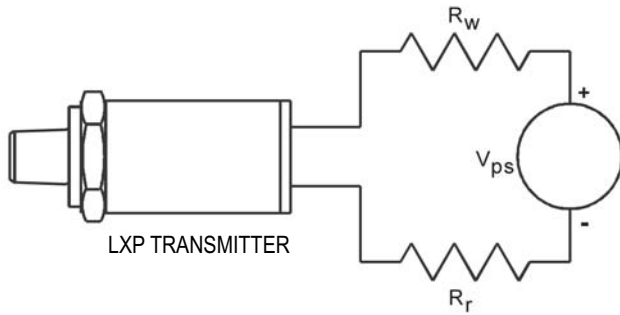
TORQUE TO 125 - 150 pound inches.

**CAUTION:** For steam service, install a condensate loop (pigtail or steam siphon tube) between the steam line and the pressure transmitter.

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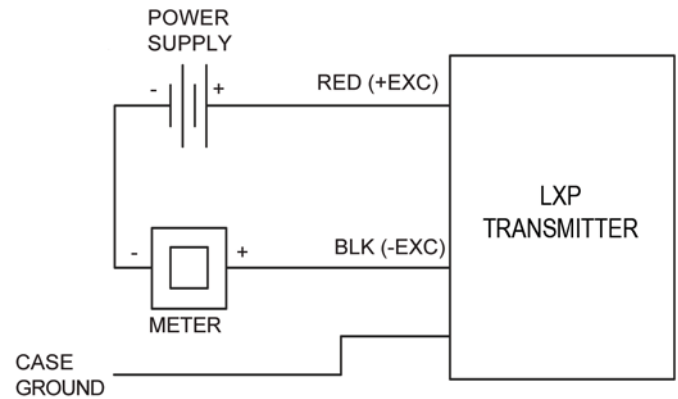


## TYPICAL APPLICATION SCHEMATIC FOR LXP SERIES TRANSMITTER

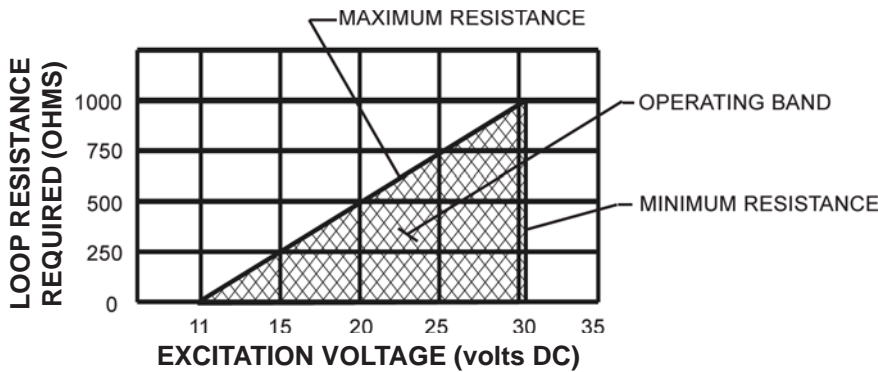


$R_t = R_w + R_r =$  Required total loop resistance  
 $R_w =$  External wiring resistance (wire + resistor)  
 $R_r =$  Internal resistance of user's receiver  
 $V_{ps} =$  System power supply voltage  
 $R_t = 50(V_{ps} - 12)$  maximum  
 $R_t = 50(V_{ps} - 30)$  minimum  
 Note:  $R_t$  must not exceed 1000 ohms.

## WIRING CURRENT OUTPUT



## LOOP RESISTANCE CHART



## DIMENSIONS

1/2 - 14 NPT MALE CONDUIT CONNECTION  
 USE HAZARDOUS LOCATION CERTIFIED IP66  
 RATED METALLIC CONDUIT CONNECTOR  
 AND/OR STOPPING BOX

