



**WARNING! READ BEFORE INSTALLATION**

## 1. GENERAL:

If the LPPT25 series is used in a manner not specified by Automation Direct, the protection provided by the unit may be impaired. A failure resulting in injury or damage may be caused by excessive overpressure, excessive vibration or pressure pulsation, excessive instrument temperature, corrosion of the pressure containing parts, or other misuse. Contact Automation Direct, Cumming, GA, USA at 1-800-633-0405 before installing if there are any questions or concerns.

## 2. OVERPRESSURE:

Pressure spikes in excess of the rated overpressure capability of the transducer may cause irreversible electrical and/or mechanical damage to the pressure measuring and containing elements.

Fluid hammer and surges can destroy any pressure transducer 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. Liquid surges are particularly damaging to pressure transducers 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.

Symptoms of fluid hammer and surge's damaging effects:

- Pressure transducer exhibits an output at zero pressure (large zero offset).
- Pressure transducer output remains constant regardless of pressure
- In severe cases, there will be no output.

ProSense LPPT25 Proof & Burst Pressures		
Overpressure Full Scale (FS) Range	Proof	Burst
<100 psi	2 X Range	50 X Range
≥100 to 3,000 psi	2 X Range	5 X Range
≥3,000 to 5,000 psi	1.5 X Range	4 X Range

## FREEZING:

Prohibit freezing of media in pressure port. Unit should be drained (mount in vertical position with electrical termination upward) to prevent possible overpressure damage from frozen media.

## 3. STATIC ELECTRICAL CHARGES:

Any electrical device may be susceptible to damage when exposed to static electrical charges. To avoid damage to the transducer observe the following:

- Ground the body of the transducer BEFORE making any electrical connections.
- When disconnecting, remove the ground LAST!

Note: If using a shielded cable, the shield and drain wire in the cable is not connected to the transducer body, and is not a suitable ground.

## DESCRIPTION

The LPPT25 series pressure transducers are high performance instruments intended for use in industrial applications where the process media is compatible with the 17-4PH Stainless steel sensor material and 304 Stainless steel process connection.

## MECHANICAL INSTALLATION

### Environmental

The LPPT25 series pressure transducer can be stored and used within the temperature limits of -40 °C to 125 °C (-40 °F to 257 °F). Ingress protection ratings of the units with M12 4-pin molded connector are IP67 / NEMA 6X.

### Note:

All IP ratings listed have been self-certified by the manufacturer.

### Mounting

The LPPT25 series pressure transducers require no special mounting hardware and can be mounted in any orientation with negligible position error. Although the units can withstand considerable vibration without damage or significant output effects, it is always good

practice to mount the transducer where there is minimum vibration.

Apply sealing tape or an equivalent sealant to the threads before installing. When installing or removing the unit apply a wrench to the hex wrench flats, located above the pressure fitting.

**DO NOT** tighten by using a pipe wrench on the housing. A 27mm (1 1/8") wrench can be used on the wrench flats of the hex.

## Electro-Magnetic Interference

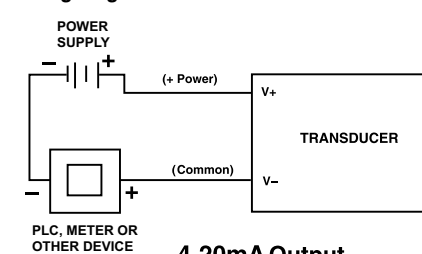
The circuitry of the LPPT25 series pressure transducers are designed to minimize the effect of electromagnetic and radio frequency interference. To minimize susceptibility to noise, avoid running the termination wiring in a conduit which contains high current AC power cables. Where possible avoid running the termination wiring near inductive equipment.

## Field Adjustments

The LPPT25 series pressure transducers are precisely calibrated and temperature compensated at the factory to ensure long and stable performance. There are no field accessible adjustments on the transducers.

## ELECTRICAL INSTALLATION

### Wiring Diagram



## Power Supply Requirements:

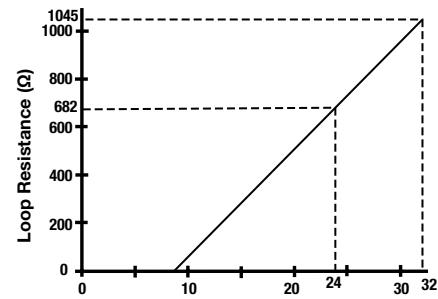
Output Signal	Min Supply	Max Supply
4-20 mA	9 Vdc	32 Vdc

For transmitters with 4-20 mA output signal, the minimum voltage at the terminals is 9 Vdc. However, the minimum supply voltage should be calculated using the following graph and formula.

Note: Where shielded wiring is being used; Connect the drainwire to the guard terminal on the read out device or measuring instrument if available. In all other cases connect to the ground of the power supply negative terminal.

## ELECTRICAL INSTALLATION (cont.)

### Power Supply Voltage vs Loop Resistance



$$V_{MIN} = 9V + [0.022A \times (R_L)]$$

(\*includes a 10% safety factor)

$$R_L = R_S + R_W$$

$R_L$  = Loop Resistance (Ohms)  
 $R_S$  = Sense Resistance (Ohms)

## 4. MEDIA COMPATABILITY & GALVANIC COMPATIBILITY

Selected materials should be carefully reviewed by the user of this product for both individual chemical compatibility with the process media, as well as combined use to avoid galvanic corrosion.

For additional guidance on dissimilar metals in electrolytic solutions, please reference:

### MIL-STD-889C

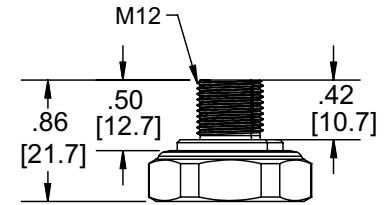
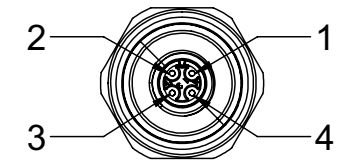
“Department of Defense Standard Practice, Dissimilar Metals”

### Baboian, Robert.

“Galvanic Corrosion.” ASM Handbook: Volume 13A: Corrosion: Fundamentals, Testing and Protection, ASM International, Materials Park, Ohio, 2003, pp. 210–213.

## ELECTRICAL TERMINATIONS AND WIRING

M12 (4 Pin) Molded Thread  
(Pin 3 Common)



M12-4P Plastic Pin-out	
Pin #	Current Function
1	V+
2	Ground
3	V-
4	V-

IP67 / NEMA 6X Ingress rating

\* Use either V- termination

