



Description & Features:

- Developed for use in general industry and OEM applications, where versatility and economy are requirements
- Compact stainless steel construction with ceramic sensor
- Available ranges include in/Hg up to 5,000 psi
- Wide range of mechanical and electrical connections
- $\pm 0.5\%$ accuracy
- NEMA 4X / IP65 and IP67
- CE, CSA and RoHS compliant
- Approved for outdoor use
- Customizable
- 5 year warranty

Applications:

- Suitable for all process and automation control, hydraulics and pneumatic sensing, pump and compressor monitoring, refrigeration and HVAC

Specifications	
Output Signal	Standard 2-wire: 4-20 mA / $V_s = 8-32$ Vdc Optional 3-wire: 0-10 V / $V_s = 14-30$ Vdc Optional 3-wire ratiometric: $V_{sig} = 0.5-4.5 V_s / V_s = 5 \pm 0.5$ Vdc
Accuracy	$\pm 0.5\%$ FSO
Permissible Load	2-wire: $R_{max} = [(V_s - V_{s min}) / 0.02]$ Ohm 3-wire: $R_{min} = 10$ kOhm
Influence Effects	Supply: 0.05% FSO / 10 V Load: 0.05% FSO / kOhm
Response Time	2-wire: <10 ms 3-wire: <3 ms
Measuring Rate	1 kHz
Thermal Error	< $\pm 0.5\%$ FSO / 10K
Permissible Temperatures	Medium: -13°F to 257°F (-25°C to 125°C) Electronics environment: -13°F to 185°F (-25°C to 85°C) Storage: -40°F to 185°F (-40°C to 85°C)
Short-circuit Protection	Permanent 3-wire ratiometric: None
Reverse Polarity Protection	No damage. No function.
Electromagnetic Protection	Emission and immunity according to EN 61326
Stability	Vibration: 10 g, 25 Hz to 2 kHz according to DIN EN 60068-2-6 Shock: 500 g / 1 ms according to DIN EN 60068-2-27
Pollution Degree	4, electrical equipment for outdoor use
Pressure Port / Housing	304 SS
Wetted Parts	Seals: FKM Diaphragm: Ceramic Al_2O_3 96%
Weight	120 g
Current Consumption	2-wire: 25 mA max 3-wire voltage: 5 mA (short-circuit current 20 mA) 3-wire ratiometric: 1.5 mA
Long-term Stability	< $\pm 0.3\%$ FSO/yr at reference conditions
Operation Life	>100 x 10 ⁶ cycles
CE Conformity	EMC directive: 2004/108/EC Pressure equipment directive: 97/23/EC (module A). Valid for devices with max permissible overpressure > 3,000 psi

LE3 General Purpose Transmitter, Installation and Maintenance Instructions



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.



CAN/CSA-C22.2 No. 61010-1-04 - Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use, Part 1: General 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.

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:

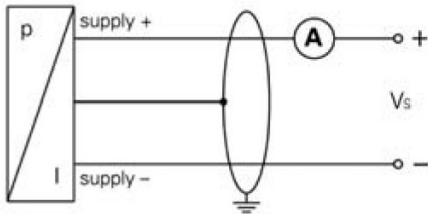
Apply pipe compound sparingly to male pipe threads only. Avoid pipe strain on transmitter housing by properly supporting and aligning piping. Apply wrench to the hex flats of fittings only, then tighten the connection. Adequate support of piping and proper mounting of the pressure transmitter should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

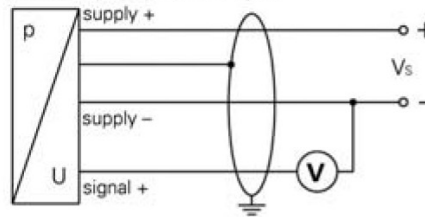
Wiring Diagram Standard

2-wire-system (current)



Optional

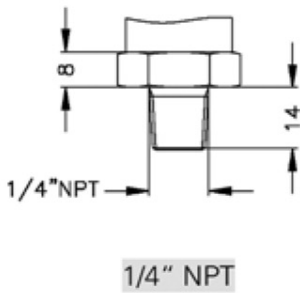
3-wire-system (voltage)



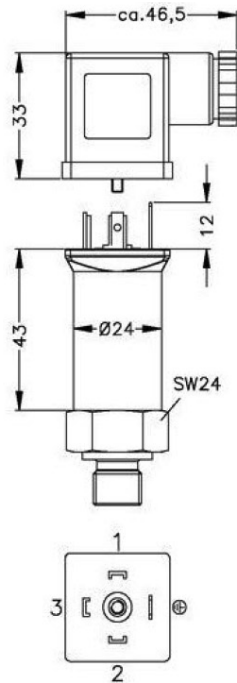
Pin Configuration

Electrical Connection	ISO 4400	Micro (contact distance 9.4mm)	M12x1 (4 pin), plastic	Cable Colours (DIN 47100)
Supply+	1	1	1	White
Supply-	2	2	2	Brown
Signal+ (for 3-wire)	3	3	3	Green
Shield	Ground pin	Ground pin	4	Green/yellow

Mechanical Connection Standard



Electrical Connection Standard



ISO 4400
(IP 65)

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FAULT	POSSIBLE CAUSE	ACTION
No output signal	<ul style="list-style-type: none"> No voltage supply Transmitter polarity reversed Open circuit in electrical wiring 	<ul style="list-style-type: none"> Check voltage supply Connect correctly Check electrical output connection & wiring
Divergent zero point signal	<ul style="list-style-type: none"> Diaphragm is damaged Operating temperatures are too high/too low 	<ul style="list-style-type: none"> Contact the manufacturer; replace the device if necessary Keep to the permitted temperatures shown on the data sheet
Constant output signal with changing pressure	<ul style="list-style-type: none"> Mechanical overload due to over pressure Electrical fault 	<ul style="list-style-type: none"> Replace the device; in case of repeated failure, consult the manufacturer
Fluctuating signal span	<ul style="list-style-type: none"> There may be a source of EMC interference in the surrounding area (e.g. a frequency converter) 	<ul style="list-style-type: none"> Remove the source of interference
Signal span drops / is too small	<ul style="list-style-type: none"> Damage to the diaphragm, e.g. due to impacts, abrasive / aggressive medium; corrosion on the diaphragm / pressure connection; transmission medium not present. 	<ul style="list-style-type: none"> Contact the manufacturer and replace the device