

#### FEATURES

- Pressure Ranges up to 15,000 psi (103 MPa)
- Accuracy of  $\pm 0.50\%$  FS
- Analog Outputs of 4-20 mA, 0-5 VDC, or mV
- Welded 316 SS
- Variety of Pressure Connections
- Custom Cable Lengths



#### APPLICATIONS

- Engine Test
- System Test
- Air Brakes
- Compressors
- Hydraulics
- Injection Molding

The Series 200 pressure transducers are specifically designed for demanding industrial applications where the primary criteria are reliability and economy. These units provide repeatable, precision measurements under the most hostile conditions. Capable of measuring pressure as high as 15,000 psi (103 MPa), these transducers can meet most any high pressure industrial application.

All KPSI Transducers utilize a highly accurate pressure sensor assembly specifically designed for hostile fluids and gases. The assembly is integrated with supporting electronics in a durable housing constructed of 316SS. A wide variety of electrical and pressure connections are available to accommodate most any system interface.

The Series 200 is CE compliant to EN 61000-6-4:2001 and EN 61000-6-2:2001.

**Sensing the Environment™**

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Order on-line!

[www.LevelandPressure.com](http://www.LevelandPressure.com)

ISO-9001:2000 Certified

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Specifications subject to change without notice.

Parameter	200	Units	Comments
<b>PRESSURE RANGES</b>			
Full Scale Pressure Ranges <sup>1</sup>	2000 thru 15000 (13.80 thru 103.4)	psi (MPa)	Sealed gage and absolute reference
Proof Pressure	1.5	x FS	
Burst Pressure	2.0	x FS	
<b>STATIC PERFORMANCE</b>			
Static Accuracy <sup>2</sup>	±0.50	%FSO	BFSL method
Resolution	Infinitesimal		
<b>ENVIRONMENTAL</b>			
Wetted Materials	316 SS, Viton®		Viton® is a registered trademark of DuPont.
Compensated Temp Range	-10 to 80	°C	
Thermal Error <sup>3</sup>	±0.05	%FSO/°C	worst case
Operating Temp Range	-30 to 105	°C	
<b>ELECTRICAL</b>			
Excitation	9 - 30 2.5 - 10	VDC	for mA, VDC and non-ratiometric mV output for ratiometric mV output
Input Current	20 3.5	mA max	for mA output for VDC output
Output	4 - 20 0 - 5 0 - 100 2.5 - 10	mA VDC mV mV / V	options available <sup>4</sup> non-ratiometric ratiometric (range dependent)
Zero Offset	±0.12 < 0.1 ±0.6	mA VDC mV	for mA output for VDC output for mV output
Output Impedance	See Loop Resistance diagram on page 3 <10 3000 - 5000	ohm	for mA output for VDC output for mV output
Insulation Resistance	100	mega ohm	at 50 VDC
Circuit Protection	Polarity, surge/shorted output		
<b>PHYSICAL</b>			
Approximate Weight	0.82 (371)	lbs (g)	

**Notes:**

- Intermediate pressure ranges are available.
- Static accuracy includes the combined errors due to nonlinearity, hysteresis and nonrepeatability on a Best Fit Straight Line (BFSL) basis, at 25°C per ISA S51.1.
- Thermal error is the maximum allowable deviation from the Best Fit Straight Line due to a change in temperature, per ISA S51.1.
- Custom VDC output levels can be provided up to 2.5 VDC less than the excitation supply voltage.

### Unamplified mV Output Signal Versions (Ratiometric vs. Non-ratiometric)

In addition to the amplified VDC and mA output signal versions, two unamplified millivolt output versions are offered depending on the available excitation supply voltage and the capabilities of the system to which the transducers are connected.

The ratiometric mV output version is used when the excitation is externally regulated or the system interfaced with the transducer is capable of compensating for fluctuations from an unregulated excitation supply. Such variations to the supply will cause the output signal to fluctuate, and must therefore be measured and compensated. The benefit of a ratiometric design is that the output signal can also be compensated for temperature changes to the pressure sensor if the voltage output sense lines are employed.

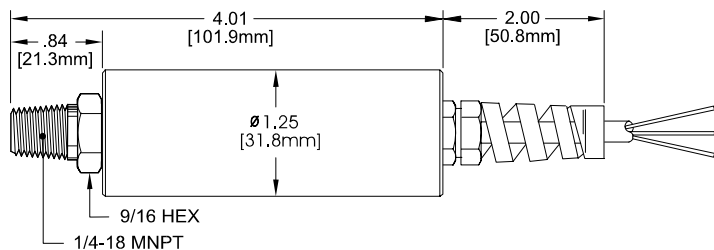
The non-ratiometric mV output version is used when the excitation voltage cannot be externally regulated or the system is incapable of compensating for changes to the excitation voltage.

### Display Meter

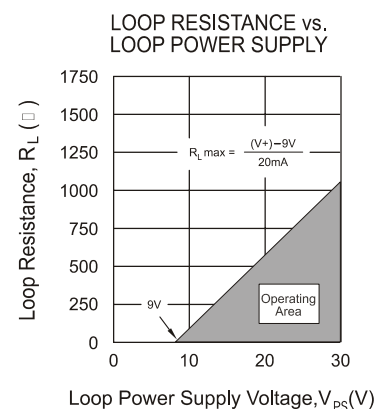
Pressure Systems offers two types of Display Meters to provide a visual readout of a single KPSI transducer having mA or VDC output. Both varieties utilize a red 0.54" LED display with 4 active characters to indicate a numeric range of -1999 to 9999. The units operate from 115 VAC power and provide a 24 VDC supply for power to the transducer.

The Model 3019 Digital Readouts provide a sophisticated display of the transducer output with six 14-segment LED's for display of true alphanumeric characters; the last two used for process descriptors. These readouts offer programmable input configuration, isolated transducer power supply, selectable 2-point scaling or up to 17-point linearization, optional 4-20 mA retransmission, and two or four optional 10-amp SPDT alarm contacts for control. The 3019 has a NEMA 4X front panel with a polycarbonate bezel and a 1/8 DIN aluminum housing measuring 1.9375" H x 3.75" W x 6.5" D.

The Model 3620 Pump Controllers provide a more rugged package specifically designed to operate external pumps via two 10-amp SPDT alarm contacts. The 3620 provides front panel scaling, operates from -20 to 70°C, and uses 120 or 240 VAC. The NEMA 4X rated enclosure can be surface or panel mounted and measures 3.2" H x 5.5" W x 2.7" D.



ELECTRICAL TERMINATION		
22AWG CONDUCTORS IN A SHIELDED CABLE WITH PVC JACKET		
4-20 mA	RED BLACK	+ EXCITATION - EXCITATION
0-5 VDC	RED BLACK WHITE	+ EXCITATION - EXCITATION + SIGNAL
mV	RED BLACK WHITE GREEN	+ OUTPUT + EXCITATION - EXCITATION - OUTPUT
ALL	DRAIN WIRE	SHIELD



MODEL		INDUSTRIAL PRESSURE TRANSDUCER																																			
2	0	0	±0.50% FSO Static Accuracy																																		
↓	↓	↓	MATERIAL																																		
			S	Stainless Steel																																	
			↓	REFERENCE FORMAT																																	
				3	Sealed gage																																
				4	Absolute																																
				↓	OUTPUT																																
				2	mV, non-ratiometric																																
				3	0-5 VDC																																
				4	4-20 mA																																
				5	mV, ratiometric																																
				E	Custom VDC output																																
				↓	PRESSURE CONNECTION																																
				2	1/4" - 18 NPT male fitting																																
				5	1/4" - 37° male flare fitting																																
				8	7/16" - 20SAE/MS o-ring boss																																
				9	9/16 - 18 SAE/MS o-ring boss																																
				F	G 1/4 male fitting																																
				G	M14 x 1.5 - 60° internal cone male fitting																																
				↓	ELECTRICAL CONNECTION																																
				1	Strain-relieved cable with flying leads																																
				↓	PRESSURE RANGE (at MAX output) <sup>1 2</sup>																																
					x	x	x	x	.	x	x																										
					↓	↓	↓	↓	↓	↓	↓																										
					PRESSURE RANGE (at MIN output) <sup>1</sup>																																
					x	x	x	x	.	x	x																										
					↓	↓	↓	↓	↓	↓	↓																										
					CABLE TYPE																																
					3	PVC jacket																															
					↓	CABLE LENGTH																															
						x	x	x	x	(in feet)																											
						↓	↓	↓	↓																												
						LABEL <sup>3</sup>																															
						A	psi																														
						B	kPa																														
						C	mbar																														
						↓																															
2	0	0	S															A	3																		

**Notes:**

**1** The part number requires two pressure range limits, corresponding to the maximum and minimum analog outputs of the transducer, to be specified in pounds per square inch (psi) to two decimal places. The lower pressure range is typically 000.000 unless otherwise required. For reverse output requirements, enter the lower pressure range for the maximum output signal and the upper range for the minimum output.

Example: 2000 psi (enter 2000.00)

For sealed gage reference add local atmosphere or, for absolute reference, add standard atmosphere (14.700). Contact PSI for assistance.

Example: 2000 psi + 14.700 = 2014.7 (enter 2014.7)

**2** For pressure ranges >10,000 psi should be expressed in the format (xxxxx.x)

Example: 11,500 psi (enter 11500.0)

**3** Units of measure on standard PSI label. Contact PSI if private labeling is required.

Warranty: The Series 200 is warranted against defects in material and workmanship for 2 years from date of shipment. Products not subjected to misuse will be repaired or replaced. THE FOREGOING IS IN LIEU OF ANY OTHER EXPRESSED OR IMPLIED WARRANTIES. We reserve the right to make changes to any product herein and assume no liability arising out of applications or use of any product or circuit described. Products described in this Specification are not intended for life support applications.