



KPSI 27

- ◆ Non-Submersible Pressure Transducer
- ◆ $\pm 0.25\%$ FSO Static Accuracy
- ◆ Multiple Pressure Connections
- ◆ Two Year Warranty

The KPSI 27 is a non-submersible pressure transducer 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 vacuum to pressure as high as 2000 psi (13,790 kPa), these transducers can meet most any industrial pressure measurement requirement and are available with an overmolded cable exit option for splash down applications (IP 67).

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 or Titanium. A wide variety of electrical and pressure connections are available to accommodate most any system interface.

Features

- ◆ Custom Cable Lengths
- ◆ Welded 316SS or Titanium Body
- ◆ Custom Pressure Ranges up to 2000 psi
- ◆ Analog Outputs of 4-20 mA or VDC
- ◆ Optional Lifetime Lightning Protection

Applications

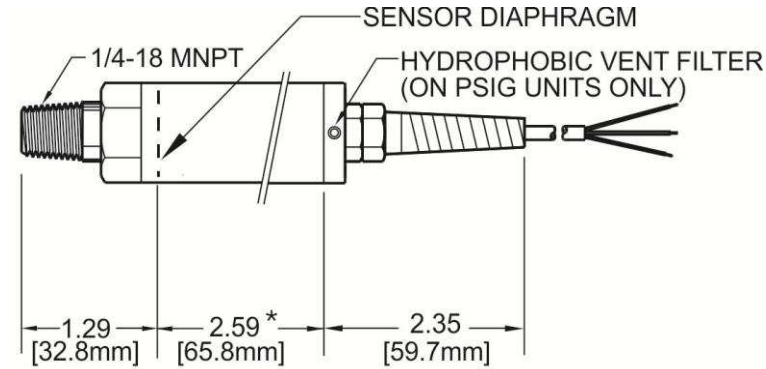
- ◆ Tank Level
- ◆ Pump Control
- ◆ Bubbler Systems
- ◆ Compressors

Specifications

PARAMETER	COMMENT	
PRESSURE RANGES		
Full Scale Pressure Ranges (intermediate pressure ranges are available)	1 thru 300 psi (7 thru 2070 kPa)	Vented Gage Reference
	5 thru 2000 psi (34 thru 13790 kPa)	Sealed Gage Reference
	15 thru 2000 psi (103 thru 13790 kPa)	Absolute Gage Reference
Proof Pressure	1.5 x FS	
Burst Pressure	2.0 x FS	
STATIC PERFORMANCE		
Static Accuracy (combined effects of non-linearity, hysteresis and repeatability, best fit straight line method)	$\pm 0.25\%$ FSO	BFSL method
Resolution	+0.0001% FS	

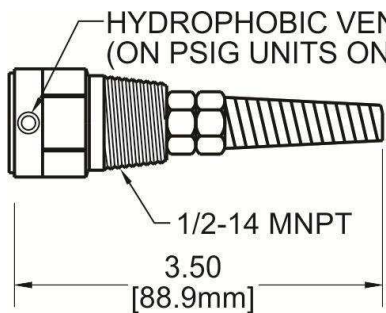
ENVIRONMENTAL		
Wetted Materials	316 SS or Titanium; FKM; Polyurethane or ETFE	
Compensated Temp Range	0 to 50°C	
Thermal Error (maximum allowable deviation from the Best Fit Straight Line due to a change in temperature)	±0.05% FSO/°C ±0.1% FSO/°C	Worse case over compensated temperature range for ranges < 5 psi (34 kPa)
Operating Temp Range	-20 to 60 °C	
Protection Rating	IP 67	When the overmold option (0) is ordered
ELECTRICAL		
Excitation	9-28V – VDC output 9-28V – mA output 15-28V – VDC output 10-28V – VDC output	0-5V, 0-2.5V, 0-4V 4-20 0-10V 1.5-7.5V
Input Current	20 mA max, 3.5 mA max	For mA output, for VDC output
Output	4-20mA, 0-5 VDC, 0-2.5VDC, 0-4VDC, 0-10VDC, 1.5-7.5VDC	For ranges > 100 psi (690 kPa) only 4-20mA output is available
Zero Offset	±0.12 mA for mA output < 0.25 VDC for VDC output	
Output Impedance	See loop diagram for mA output 20 ohms for VDC output	
Insulation Resistance	100 mega ohms at 50 VDC	
Circuit Protection	Polarity, surge/shorted output	
CERTIFICATIONS		
	CE compliant	EN 61326-1:2013 and 61326-2-3:2013
	UL, CUL and FM	Class I, II, III, Div. 1, Groups A,B,C,D,E,F&G
	WEEE/RoHS	Waste from Electrical and Electronic Equipment (WEEE) and Restrictions on the use of Hazardous Substances (RoHS)
PHYSICAL		
Approximate Weight	0.44 lbs. (198 g) transducer 0.05 lbs./ft. (79 g/m) cable	
TEMPERATURE OUTPUT OPTION (not intrinsically safety approved)		
Temperature Range	-20 to 60°C	Available for 4-20mA output versions only
Output Signal	4-20mA	
Temperature Measurement Accuracy	±4°C	
LIGHTNING PROTECTION (power supply needs to be limited to 150mA to avoid lock up of the gas tube after a suppression event)		
Life Expectancy	>1,000 Operations	
Peak Clamping Voltage	36 Volts	
Response Time	<10 nsecs	
Shunts	20,000 Amperes	

Dimensions

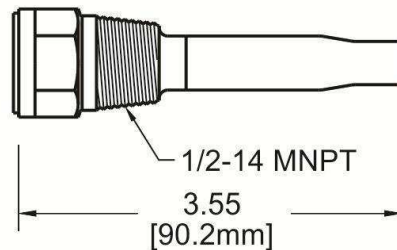


*ADD 2.95 FOR LIGHTNING PROTECTION OPTION

Strain Relief - PVC Cable



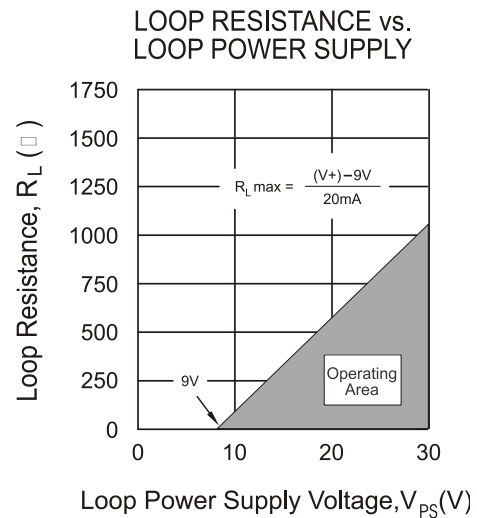
Strain relief with 1/2" Conduit Fitting



Molded Cable Seal with 1/2" Conduit Fitting

Electrical Termination

ELECTRICAL TERMINATION		
22AWG CONDUCTORS IN A SHIELDED CABLE WITH VENT TUBE		
4-20 mA	RED	+ EXCITATION
	BLACK	- EXCITATION
0-5 VDC	RED	+ EXCITATION
	BLACK	- EXCITATION
	WHITE	+ SIGNAL
ALL	DRAIN WIRE	SHIELD



Ordering Information

MODEL	INDUSTRIAL PRESSURE TRANSDUCER
2 7	±0.25% FSO Static Accuracy
↓ ↓	MATERIAL
	S Stainless Steel
	T Titanium
↓ ↓	REFERENCE PRESSURE FORMAT
	1 Vented gage
	3 Sealed gage
	4 Absolute
↓ ↓	OUTPUT
	3 0-5 VDC
	F 0-2.5 VDC
	G 0-4 VDC
	H 0-10 VDC
	J 1.5-7.5 VDC
	4 4-20 mA
	6 4-20 mA, temp. measurement option, -20 to 60°C (not IS approved)
↓ ↓	PRESSURE CONNECTION
	1 1/4" - 18 NPT female fitting
	2 1/4" - 18 NPT male fitting
	7 1/2" - 14 NPT male fitting
↓ ↓	ELECTRICAL CONNECTION
	1 Strain-relieved cable with flying leads
	4 Strain-relieved with 1/2" - 14 NPT male conduit fitting
	0 Molded Cable Seal with 1/2" - 14 NPT male conduit fitting (300 PSI MAX)
	A Gland Seal
	B Gland Seal with 1/2" - 14 NPT male conduit fitting
↓ ↓	LIGHTNING PROTECTION
	A None
	B Full Lightning Protection
↓ ↓	PRESSURE RANGE (at MAX output)^{1 2}
	# # # . # # #
	↓ ↓ ↓ ↓ ↓ ↓ ↓
	PRESSURE RANGE (at MIN output)¹
	# # # . # # #
	↓ ↓ ↓ ↓ ↓ ↓ ↓
	MOISTURE PROTECTION
	A None
	B Vent Filter
	D Stainless Steel Vent Filter
↓ ↓	CABLE TYPE
	1 Polyurethane (Connection 0, A, or B Only)
	2 ETFE - (Electrical Connection A or B Only)
	3 PVC Jacketed - (Electrical connection 1 or 4 Only)
↓ ↓	CABLE LENGTH
	# # # # (in feet)
	↓ ↓ ↓ ↓
	LABEL³
	A psi
	B kPa
	C mbar
	↓
2 7	

- Notes:**
- 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 three 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: 50 psi (enter 050.000)**
For sealed gage reference add local standard atmosphere (14.700 typical). Contact MEAS for assistance. **Example: 150 psi + 14.700 = 164.700 (enter 164.700)**
 - For pressure ranges >=1000 psi should be expressed in the format (xxxx.xx)
 - Units of measure on standard MEAS label. Contact Measurement Specialties if private labeling is required.

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