

## MEAS KPSI® 27



- Non-Submersible Pressure Transducer
- $\pm 0.25\%$  FSO Static Accuracy
- Multiple NPT Fitting Sizes
- Two Year Warranty



### DESCRIPTION

The MEAS 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 optionally available with an overmolded cable exit for splash down applications (IP 68).

All MEAS 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
- 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
<b>PRESSURE RANGES</b>	
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

# MEAS KPSI® 27

## SPECIFICATIONS

### STATIC PERFORMANCE

Static Accuracy (combined effects of non-linearity, hysteresis and repeatability, best fit straight line method)	±0.25% FSO	BFSL method
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Resolution	+0.0001% FS	
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### ENVIRONMENTAL

Wetted Materials	316 SS or Titanium; FKM	
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Compensated Temp Range	0 to 50°C	
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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	worst case over compensated temperature range for ranges < 5 psi (34 kPa)
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Operating Temp Range	-20 to 60 °C	
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Protection Rating	IP 68, NEMA 6P Only for Electrical Connection option "0" and Cable Type option "1"	
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### ELECTRICAL

Excitation	9-28V – VDC output	0-5V, 0-2.5V, 0-4V
	9-28V – mA output	4-20
	15-28V – VDC output	0-10V
	10-28V – VDC output	1.5-7.5V

Input Current	20 mA max	for mA output
	3.5 mA max	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
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Zero Offset	±0.12 mA for mA output < 0.25 VDC for VDC output	
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Output Impedance	See loop diagram for mA output 20 ohm for VDC output	
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Insulation Resistance	100 mega ohm at 50 VDC	
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Circuit Protection	Polarity, surge/shorted output	
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### CERTIFICATIONS

	CE compliant	EN 61326-1:2001 and 61326-2-3:2006
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	UL, CUL and FM	Class I, II, III, Div 1, Groups A,B,C,D,E,F&G
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	WEEE/RoHS	Waste from Electrical and Electronic Equipment (WEEE) and Restrictions on the use of Hazardous Substances (RoHS)
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### 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
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Output Signal	4-20mA	
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Temperature Measurement Accuracy	±4°C	
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### 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	
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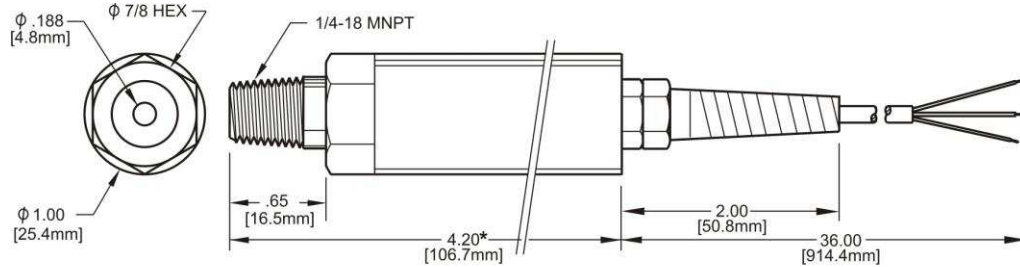
Peak Clamping Voltage	36 Volts	
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Response Time	<10 nsecs	
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Shunts	20,000 Amperes	
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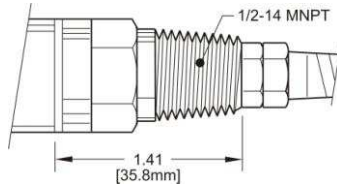
# MEAS KPSI® 27

## DIMENSIONS

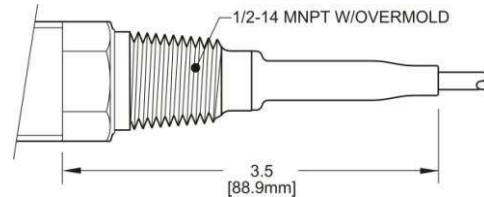


\*ADD 1.95" FOR LIGHTNING PROTECTION OPTION

### PVC Cable



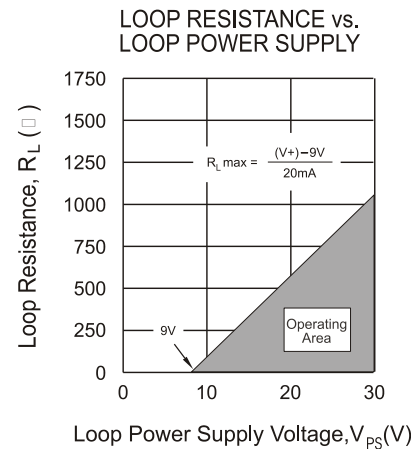
1/2" Conduit Fitting



1/2" Conduit Fitting with Molded Cable Seal

## ELECTRICAL TERMINATION / LOOP RESISTANCE / CERTIFICATIONS

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



# MEAS KPSI® 27

## ORDERING INFORMATION

<b>MODEL</b>	<b>INDUSTRIAL PRESSURE TRANSDUCER</b>											
2	7	±0.25% FSO Static Accuracy										
↓	↓	<b>MATERIAL</b>										
		S	Stainless Steel									
		T	Titanium									
		↓	<b>REFERENCE PRESSURE FORMAT</b>									
		1	Vented gage									
		3	Sealed gage									
		4	Absolute									
		↓	<b>OUTPUT</b>									
		4	4-20 mA									
		3	0-5 VDC									
		F	0-2.5 VDC									
		G	0-4 VDC									
		H	0-10 VDC									
		J	1.5-7.5 VDC									
		6	4-20 mA, temp. measurement option, -20 to 60°C (not IS approved)									
		↓	<b>PRESSURE CONNECTION</b>									
		1	1/4" - 18 NPT female fitting									
		2	1/4" - 18 NPT male fitting									
		7	1/2" - 14 NPT male fitting									
		↓	<b>ELECTRICAL CONNECTION</b>									
		1	Strain-relieved cable with flying leads - standard									
		0	Overmolded Cable Seal with 1/2" conduit - rated to a maximum of 300 psi									
		4	1/2" - 14 NPT male conduit fitting									
		↓	<b>LIGHTNING PROTECTION</b>									
		A	None									
		B	Full Lightning Protection									
		↓	<b>PRESSURE RANGE (at MAX output)<sup>1,2</sup></b>									
			#	#	#	.	#	#	#			
			↓	↓	↓	↓	↓	↓	↓			
			<b>PRESSURE RANGE (at MIN output)<sup>1</sup></b>									
			#	#	#	.	#	#	#			
			↓	↓	↓	↓	↓	↓	↓			
			<b>MOISTURE PROTECTION</b>									
		A	None									
		B	Vent Filter (with electrical connection option "0" only)									
		↓	<b>CABLE TYPE</b>									
		1	Polyurethane (with electrical connection option "0")									
		3	PVC jacket									
		↓	<b>CABLE LENGTH</b>									
			#	#	#	#	(in feet)					
			↓	↓	↓	↓	↓					
			<b>LABEL<sup>3</sup></b>									
			A	psi								
			B	kPa								
			C	mbar								
		↓										

**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)  
Example: 1500 psi (enter 1500.00)
- Units of measure on standard MEAS label. Contact Measurement Specialties if private labeling is required.

### NORTH AMERICA

Measurement Specialties, Inc.  
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