



KPSI 710

- Submersible level transducer
- $\pm 0.50\%$ FSO static accuracy
- Custom built in two days
- Two year warranty

The KPSI 710 is a submersible hydrostatic level transducer specifically designed to meet the rigorous environments encountered in liquid level measurement and control. It can be configured to perform to specifications under most adverse, reactive conditions.

Every KPSI Transducer utilizes a highly accurate pressure sensor assembly specifically designed for hostile fluids and gases. The assembly is integrated with supporting electronics in a durable waterproof housing constructed of 316 stainless steel or titanium. The attached electrical cable is custom manufactured and includes para-aramid synthetic fiber members to prevent errors due to cable elongation, and a unique water block feature that self-seals in the event of accidental cuts to the cable. Each vented reference transducer is shipped with a SuperDry Vent Filter that prevents moisture from entering the vent tube for at least one year without maintenance, even in the most humid environments.

Features

- Custom polyurethane or ETFE cable lengths
- Welded 316SS or titanium body
- Custom level ranges up to 700 ft. (210 m) H₂O
- Multiple analog outputs
- Multiple nose piece styles
- Optional lifetime lightning protection
- Long life vent filter or aneroid bellows
- Available molded cable seal

Applications

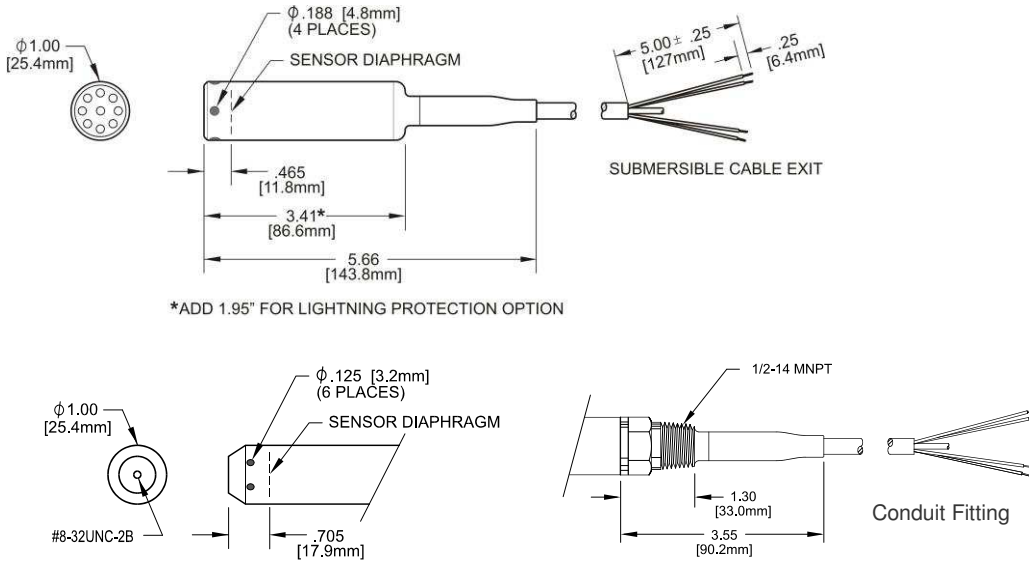
- Lift stations
- Pump control
- Level control
- Surface water monitoring
- Landfill leachate
- Well monitoring
- Groundwater monitoring

Specifications

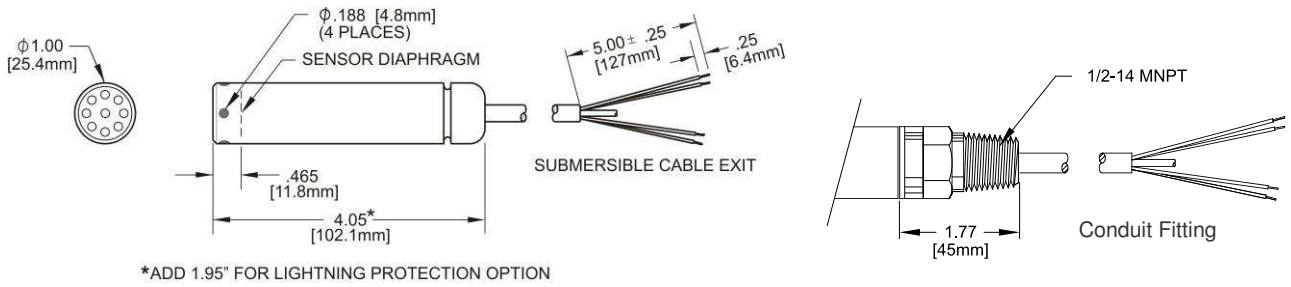
PARAMETER	COMMENT	
LEVEL RANGES		
Full Scale Level Ranges (Intermediate level ranges are available)	2.3 thru 700 ft. H ₂ O (0.70 thru 210 m H ₂ O)	Vented Gage Reference
	10 thru 700 ft. H ₂ O (3 thru 210 m H ₂ O)	Sealed Gage Reference
	35 thru 700 ft. H ₂ O (10 thru 210 m H ₂ O)	Absolute Gage Reference
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)	$\pm 0.50\%$ FSO	BFSL method
Resolution	+0.0001% FS	

ENVIRONMENTAL		
Wetted Materials	316 SS or Titanium; POM; 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 < 12 ft. (4 m) H ₂ O
Operating Temp Range	-20 to 60 °C	When attached to polyurethane cable
Protection Rating	IP 68, NEMA 6P	
ELECTRICAL		
Excitation	9-28 V – VDC output 9-28 V – mA output 15-28 V – VDC output 10-28 V – VDC output	0-5 V, 0-2.5 V, 0-4 V 4-20 0-10 V 1.5-7.5 V
Input Current	20 mA max. 3.5 mA max.	For mA output For VDC output
Output	4-20 mA, 0-5 VDC, 0-2.5 VDC, 0-4 VDC, 0-10 VDC, 1.5-7.5 VDC	For ranges < 5 ft. (1.5m) H ₂ O, only 4-20mA output is available
Zero Offset	±0.25 mA for mA output < 0.25 VDC for VDC output	
Output Impedance	See loop diagram for mA output 20 ohm for VDC output	
Insulation Resistance	100 mega ohm at 50 VDC	
Circuit Protection	Polarity, surge/shorted output	
CERTIFICATIONS		
	CE compliant	EN 61326-1:2001 and 61326-2-3:2006
	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	
Cable Jacket Material	Polyurethane (Standard) ETFE (Optional)	
Cable Pull Strength	200 lbs. (90 kg)	Polyurethane
Cable Number of Conductors	4 max.	
Cable Conductor Size	22 AWG	
Cable Seal	Molded Polyurethane FKM Gland	For polyurethane cable For ETFE cable
TEMPERATURE OUTPUT OPTION (Not intrinsically safety approved)		
Temperature Range	-20 to 60°C	Available for 4-20mA output versions only
Output Signal	4-20 mA	
Temperature Measurement Accuracy	±4°C	±1°C with single point calibration
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



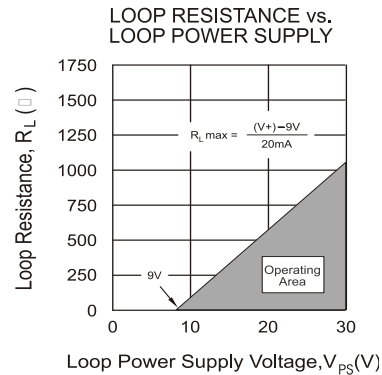
Molded Cable Seal Configuration for Polyurethane Cable



Gland Cable Seal Configuration for ETFE Cable

Electrical Termination / Loop Resistance

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		SUBMERSIBLE LEVEL TRANSDUCER	
7	1	0	±0.50% FSO Static Accuracy
↓	↓	↓	
MATERIAL			
S	Stainless Steel		
T	Titanium		
↓			
REFERENCE FORMAT			
1	Vented gage		
3	Sealed gage		
4	Absolute		
↓			
OUTPUT			
3	0-5 VDC		
F	0-2.5 V		
G	0-4 V		
H	0-10 V		
J	1.5-7.5V		
4	4-20mA		
6	4-20mA temperature measurement option		
↓			
PRESSURE CONNECTION			
A	Open-face nose cap		
B	Ported nose cap		
E	Piezometer nose cap		
2	1/4" - 18 NPT male fitting		
7	1/2" - 14 NPT male fitting		
↓			
ELECTRICAL CONNECTION			
0	Molded cable seal		
4	1/2" - 14 NPT male conduit fitting with molded cable seal		
A	Gland cable seal		
B	1/2" - 14 NPT male conduit fitting with gland cable seal		
↓			
LIGHTNING PROTECTION			
A	None		
B	Full Lightning Protection		
↓			
LEVEL RANGE (at MAX output)¹			
#	#	#	#
↓	↓	↓	↓
LEVEL RANGE (at MIN output)¹			
#	#	#	#
↓	↓	↓	↓
MOISTURE PROTECTION			
A	None (sealed/absolute only)		
B	Vent Filter		
C	Aneroid Bellows		
D	Stainless Steel Vent Filter		
↓			
CABLE TYPE			
1	Polyurethane		
2	ETFE (Electrical Connection "A" or "B" Only)		
↓			
CABLE LENGTH			
#	#	#	#
↓	↓	↓	↓
(in feet)			
LABEL²			
A	psi		
B	Ft. H ₂ O		
C	m H ₂ O		
↓			

Notes: 1 The part number requires two level 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 level range is typically 000.000 unless otherwise required. For reverse output requirements, enter the lower level range for the maximum output signal and the upper range for the minimum output. Use the following conversion factors: **Ft. H₂O / 2.3073 = psi // m H₂O / 0.703265 = psi**
Examples: 10 ft. H₂O / 2.3073 = 4.334 psi (Enter 004.334 in the part number), 10 m H₂O / 0.703265 = 14.219 psi (Enter 014.219 in the part number)
 For sealed gage reference add local atmosphere when converting to psi. Contact PSI for assistance.
Example: 10 ft. H₂O / 2.3073 + 14.7 = 19.034 psi (Enter 019.034 in the part number)

2 Units of measure on standard MEAS label. Contact Measurement Specialties if private labeling is required.

NORTH AMERICA
 Measurement Specialties, Inc.,
 a TE Connectivity company
 1000 Lucas Way
 Hampton, VA 23666
 Tel : 1-757-766-1500
 Fax : 1-757-766-4297
 Toll Free: 1-800-745-8008
 Email: WL.Sales@te.com

EUROPE
 Measurement Specialties (Europe), Ltd.,
 a TE Connectivity company
 26 Rue des Dames
 78340 Les Clayes-sous-Bois, France
 Tel : +33 (0) 130 79 33 00
 Fax : +33 (0) 134 81 03 59
 Email: customercare.lcsb@te.com

ASIA
 Measurement Specialties (China), Ltd.,
 a TE Connectivity company
 No. 26 Langshan Road
 Shenzhen High-Tech Park (North)
 Nanshan District, Shenzhen 518057 China
 Tel : +86 755 3330 5088
 Fax : +86 755 3330 5099
 Email: customercare.shzn@te.com

te.com/sensorsolutions

Measurement Specialties Inc., a TE Connectivity company.
 Measurement Specialties (MEAS), American Sensor Technologies (AST), TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.
 The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.
 © 2016 TE Connectivity Ltd. family of companies All Rights Reserved.