MEAS KPSI 735

- **Submersible Level Transducer**
- **±0.05% FSO Static Accuracy**
- **Two Year Warranty**

DESCRIPTION

The MEAS KPSI 735 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.

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 waterproof housing constructed of 316 stainless steel or titanium. The attached electrical cable is custom manufactured and includes Kevlar® 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 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
- Custom Level Ranges up to 700 ft (210m) H2O
- Multiple Analog Outputs
- Multiple Nose Piece Styles
- Optional Lifetime Lightning Protection
- Shipped with Long Life Vent Filter

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)	6 thru 700 ft H2O (1.8 thru 210 m H2O)	Vented Gage Reference
	N/A	Sealed Gage Reference
	N/A	Absolute Gage Reference
Proof Pressure	1.5 x FS	
Burst Pressure	2.0 x FS	

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SPECIFICATIONS

STATIC PERFORMANCE		
Static Accuracy (combined effects of non-linearity, hysteresis and repeatability, best fit straight line method)	±0.05% FSO	BFSL method
Resolution	+0.0001% FS	
ENVIRONMENTAL		
Wetted Materials	316 SS or Titanium; Delrin®; polyurethane or Viton®	Delrin® and Viton® are registered trademarks of DuPont.
Compensated Temp Range	0 to 50ºC	
Thermal Error (maximum allowable deviation from the Best Fit Straight Line due to a change in temperature)	±0.05% FSO/ºC ±0.1% FSO/ºC	worst case over compensated temperature range for ranges < 12 ft (4 m) H_2O
Operating Temp Range	-20 to 60 ºC	when attached to polyurethane cable
Protection Rating	IP 68, NEMA 6P	
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	
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)	ETFE is a fluoropolymer derivative material, Tefzel® or equivalent. Tefzel® and Kevlar® are registered trademarks of DuPont.
Cable Pull Strength	200 lbs (90 kg)	
Cable Number of Conductors	4	
Cable Conductor Size	22 AWG	
Cable Seal	Molded Polyurethane Viton® Gland	for polyurethane cable for ETFE cable
TEMPERATURE OUTPUT OPTION (not intrinsically safety approved)		
Temperature Range	-20 to 60ºC	available for 4-20mA output versions only
Output Signal	4-20mA	
Temperature Measurement Accuracy	±4ºC	
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	

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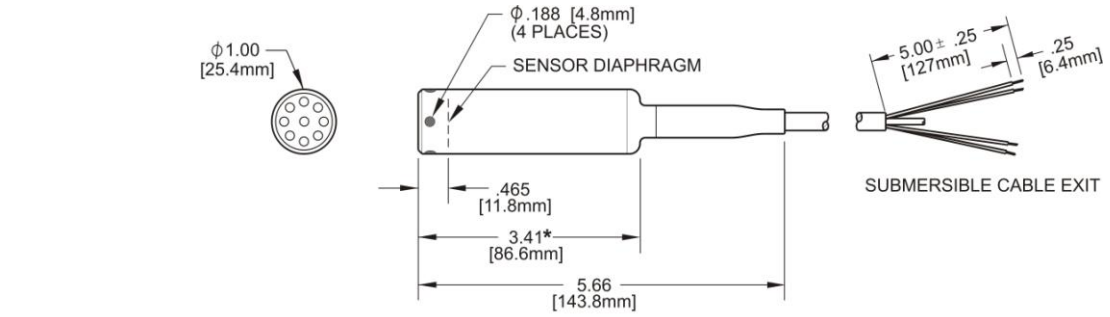
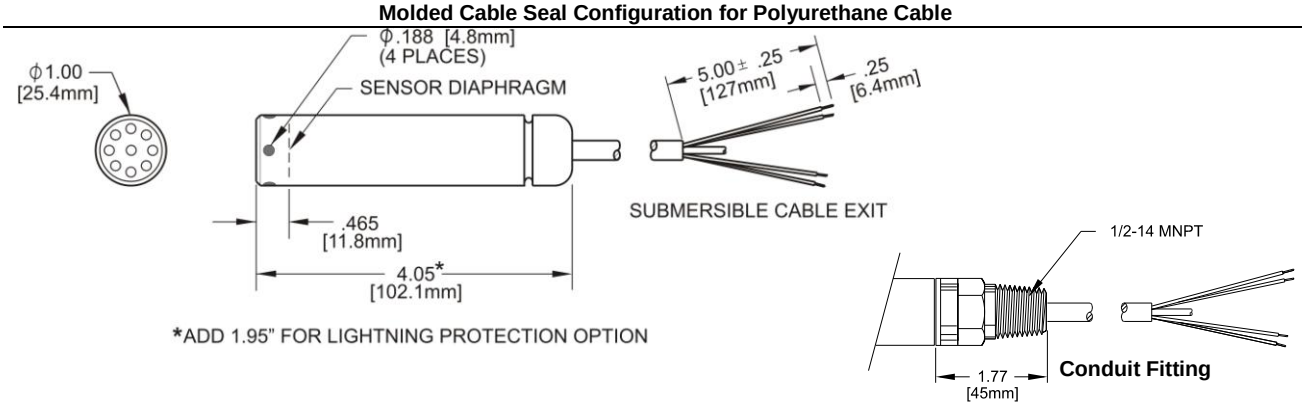
DIMENSIONS



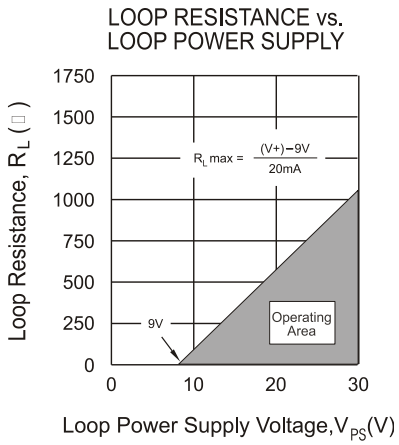
Molded Cable Seal Configuration for Polyurethane Cable



Gland Cable Seal Configuration for ETFE cable

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



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ORDERING INFORMATION

MODEL	SUBMERSIBLE LEVEL TRANSDUCER
7 3 5	±0.05% FSO Static Accuracy
↓	**MATERIAL**
	S Stainless Steel
	T Titanium
↓	**REFERENCE FORMAT**
	1 Vented gage
↓	**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 nosecap
	B Ported nose cap
	E Piezometer nosecap
	2 1/4" - 18 NPT male fitting (secure using Loctite® Threadlocker Blue 242®)
	7 1/2" - 14 NPT male fitting (secure using Loctite® Threadlocker Blue 242®)
↓	**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
↓	**CABLE TYPE**
	1 Polyurethane
	2 ETFE
↓	**CABLE LENGTH**
	# # # # (in feet)
	↓ ↓ ↓ ↓ **LABEL**[2]
	A psi
	B ft H_2O
	C m H_2O
	↓
7 3 5	

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 H_2O / 2.3073 = psi — Examples: 10 ft H_2O / 2.3073 = 4.334 psi (enter 004.334 in the part number)

m H_2O / 0.703265 = psi — 10m H_2O / 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 H_2O / 2.3073 +14.7 = 19.034 psi (enter 019.034 in the part number)

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

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