MEAS KPSI 500

- **SDI-12 Submersible Level Transducer**
- **±0.05% FS Total Error Band**
- **Optional Lifetime Lightning Protection**
- **Two Year Warranty**
- **1” Diameter**

DESCRIPTION

The MEAS KPSI 500 submersible hydrostatic level transducer represents the leading edge of level sensing technology available today. Incorporating a highly stable media-isolated sensor, the MEAS KPSI 500 features SDI-12 serial-digital interface. SDI-12 is a standard for interfacing data recorders with microprocessor-based sensors, especially in the environmental monitoring field. The MEAS KPSI 500 is intended for applications with requirements that include battery-powered operation with minimal current drain, low system cost, and use of a single recorder with multiple sensors “daisy-chained” on one cable. It will accommodate cable lengths between sensors and recorder up to 200 feet.

FEATURES

- Custom Polyurethane or ETFE Cable Lengths
- Welded 316SS or Titanium
- Custom Level Ranges up to 230 ft (70m) H2O
- Shipped with Long Life Vent Filter

APPLICATIONS

- Surface Water Monitoring
- Tailrace and Forebay Monitoring
- Oceanographic Research
- Groundwater Monitoring
- Down Hole

SPECIFICATIONS

Parameter		Comment
LEVEL RANGES		
Full Scale Level Ranges (intermediate level ranges are available)	10 thru 230 ft (3 thru 70 m) H20	Vented Gage Reference
Proof Pressure	1.5 x FS	
Burst Pressure	2.0 x FS	

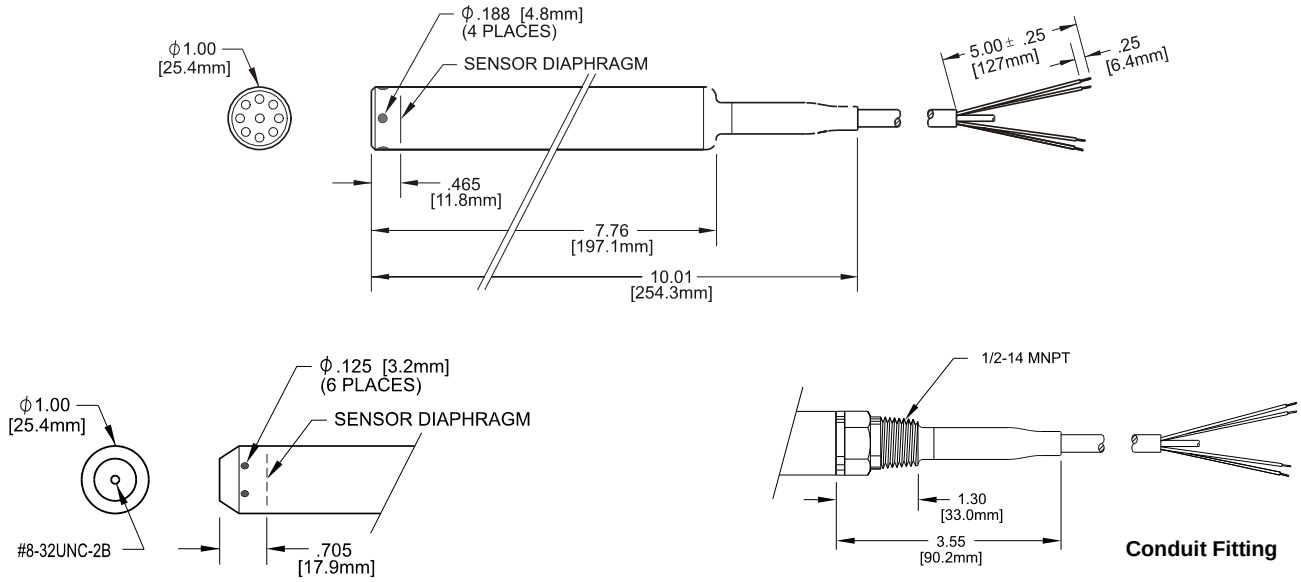
MEAS KPSI 500

SPECIFICATIONS

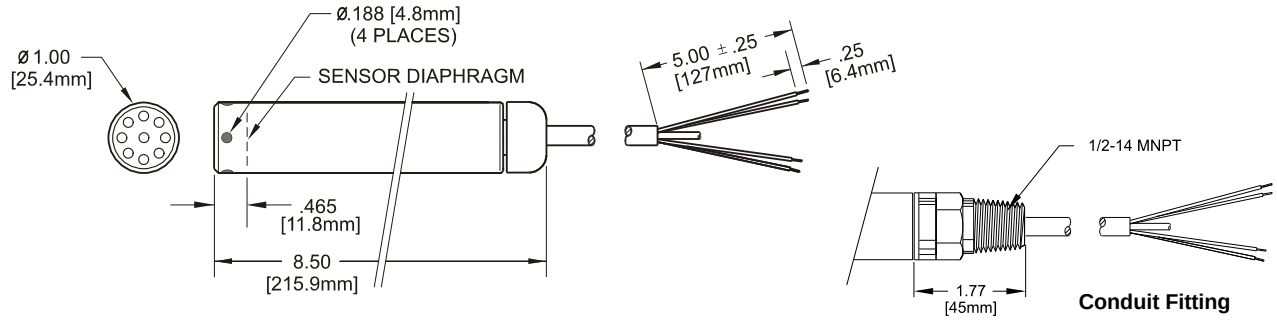
STATIC PERFORMANCE (Combined Errors Due to Nonlinearity, Hysteresis, Nonrepeatability, and Thermal Effects over the Compensated Temperature Range)		
Level	±0.05% FS TEB ±0.10% FS TEB	for level ranges > 10 ft (3m) H_2O for level ranges <= 10 ft (3m) H_2O
Temperature	+0.5ºC	
Excitation	±0.5 VDC	8 to 28 volts
Resolution	+0.0001% FS	
MEASUREMENT RESOLUTION		
Level	±0.0001% FS	
Temperature	±0.001ºC	
Excitation	±0.1 VDC	
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	
Operating Temp Range	-20 to 60 ºC	when attached to polyurethane cable
Protection Rating	IP 68, NEMA 6P	
ELECTRICAL		
Excitation	6-28V – VDC output	
Input Current	8 mA max 1.0 mA	average current during data acquisition quiescent
Interface	SDI-12, version 1.3 RS-485	SDI-12 protocol
CERTIFICATIONS		
	CE compliant	EN 61326-1:2001 and 61326-2-3:2006
PHYSICAL		
Approximate Weight	0.75 lbs (340 g) transducer 0.05 lbs/ft (79 g/m) cable	
Cable Jacket Material	Polyurethane (standard) ETFE (optional)	ETFE is a fluoropolymer 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
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	

MEAS KPSI 500

DIMENSIONS



Molded Cable Seal Configuration for Polyurethane Cable



Gland Cable Seal Configuration for ETFE cable

ELECTRICAL TERMINATION

ELECTRICAL TERMINATION		
22AWG CONDUCTORS IN A SHIELDED CABLE WITH VENT TUBE		
SDI-12	RED	+ SUPPLY
	BLACK	- SUPPLY
	WHITE	SIGNAL
RS-485	RED	+ SUPPLY
	BLACK	- SUPPLY
	WHITE	RS485-A
	GREEN	RS485-B
ALL	DRAIN WIRE	SHIELD

MEAS KPSI 500

ORDERING INFORMATION

MODEL			SUBMERSIBLE LEVEL TRANSDUCER
5	0	0	±0.05% TEB Static Accuracy
↓	↓	↓	**MATERIAL**
			S Stainless Steel
			T Titanium
			↓ **REFERENCE FORMAT**
			1 Vented gage
			↓ **OUTPUT**
			C SDI – 12
			D RS 485 w/SDI-12 protocol
			↓ **PRESSURE CONNECTION**
			A Open-face nosecap
			B Ported nose cap
			E Piezometer nosecap
			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**
			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
			↓
5	0	0	1 B

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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