



KPSI 600/601 TRANSDUCER

- Ceramic Diaphragm SDI-12 / RS-485 Submersible Transducer
- $\pm 0.05\%$ FS Total Error Band or USGS OSW Specification
- Optional Lifetime Lightning Protection
- Two-year warranty
- 1" Diameter

Features

- Ceramic Diaphragm for Tough Applications
- Custom Polyurethane or ETFE Cable Lengths
- Custom Level Ranges up to 230 ft. (70m) H₂O
- Shipped with Long-Life Vent Filter
- Removable Cable Options

Applications

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

The KPSI 600/601 submersible hydrostatic level transducer represents the leading edge of ceramic level sensing technology available today. The KPSI 600 has $\pm 0.05\%$ fs accuracy and the KPSI-601 meets the USGS OSW requirement. Incorporating a highly stable media-isolated sensor, the KPSI 600/601 features SDI-12 and RS-485 serial-digital interface standards. SDI-12 is a commonly used standard for interfacing data recorders with microprocessor-based sensors in the environmental monitoring field. The KPSI 600/601 is an excellent solution for applications with requirements that require minimal current drain. It will accommodate cable lengths between sensor and recorder of up to 1000 feet.

Specifications

PARAMETER	COMMENT	
LEVEL RANGES		
Full Scale Level Ranges (intermediate level ranges are available)	10 thru 230 ft. (3 thru 70m) H ₂ O	Vented Gage Reference
Proof Pressure	2.5 x FS	
Burst Pressure	5.0 x FS	
STATIC PERFORMANCE (Combined Errors Due to Nonlinearity, Hysteresis, Non-repeatability, and Thermal Effects over the Compensated Temperature Range)		
KPSI-600 Level	±0.05%FS TEB ±0.10%FS TEB	For level ranges > 10 ft. (3m) H ₂ O For level ranges ≤ 10 ft. (3m) H ₂ O
KPSI-601 Level	±0.01 ft. H ₂ O ±0.10% reading	For reading ≤ 10 ft. (3m) H ₂ O For reading > 10 ft. (3m) H ₂ O
Temperature	+0.5°C	
MEASUREMENT RESOLUTION		
Level	±0.0001%FS	
Temperature	±0.001°C	
ENVIRONMENTAL		
Wetted Materials	Ceramic; Stainless Steel POM; FKM; polyurethane or ETFE	
Compensated Temp Range	0 to 50°C	
Operating Temp Range	-20 to 60 °C	When attached to polyurethane cable
ELECTRICAL		
Supply Voltage	6-28VDC	
Current Draw	10 mA max 3.0 mA	Average current during data acquisition Quiescent
Interface	SDI-12, version 1.3 RS-485 Half Duplex	SDI-12 protocol
CERTIFICATIONS		
	CE compliant	EN 61326-1:2013 and 61326-2-3:2013
PHYSICAL		
Approximate Weight	0.35 lbs. (160 g) transducer 0.05 lbs./ft. (79 g/m) cable	
Cable Jacket Material	Polyurethane; ETFE	
Cable Pull Strength	200 lbs. (90 kg)	Polyurethane
Cable Number of Conductors	4	
Cable Conductor Size	22 AWG	
Cable Seal	Molded Polyurethane FKM 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	

Ordering Information

MODEL	SUBMERSIBLE CERAMIC LEVEL TRANSDUCER
6 0 0	±0.05% TEB Static Accuracy
↓ ↓ ↓	USGS-OSW Specification
	MATERIAL
S	Stainless Steel
	REFERENCE FORMAT
1	Vented gage
	OUTPUT
C	SDI - 12
D	RS 485 w/SDI-12 protocol (No Lightning Protection Option)
	PRESSURE CONNECTION
A	Open-face nose cap
2	1/4" - 18 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
R	Removable Cable
	LIGHTNING PROTECTION
A	None
B	Full Lightning Protection (SDI-12 Output Only)
	LEVEL RANGE (at MAX output in PSI)¹
# # # . # # #	
↓ ↓ ↓ ↓ ↓ ↓ ↓	
	LEVEL RANGE (at MIN output in PSI)¹
# # # . # # #	
↓ ↓ ↓ ↓ ↓ ↓ ↓	
	MOISTURE PROTECTION
A	None (Electrical Connection "R" Only)
B	Vent Filter
D	Stainless Steel Vent Filter
	CABLE TYPE
0	Removable
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
	↓
6 0 0	S 1

Notes: 1 The part number requires two level range limits, corresponding to the maximum and minimum 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. 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)

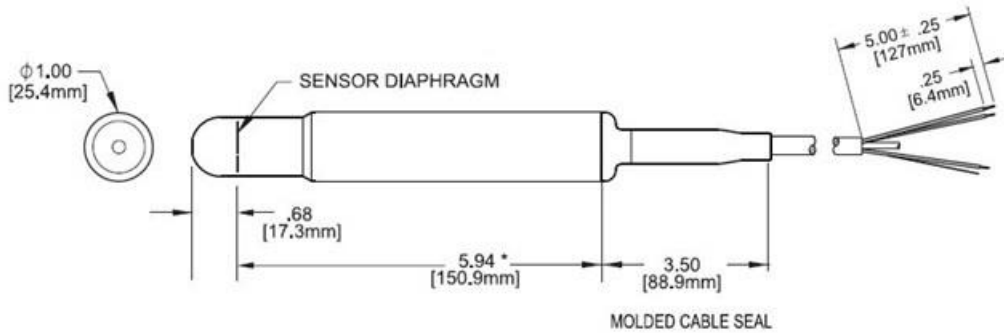
2 Units of measure on standard MEAS label. Contact Measurement Specialties if private labeling is required.

Electrical Termination and Removable Cable Options

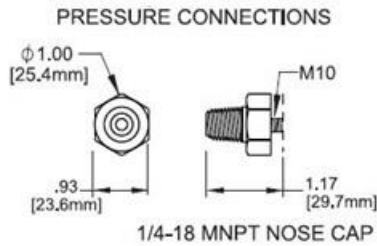
ELECTRICAL TERMINATION		
22AWG CONDUCTORS IN A SHIELDED CABLE WITH VENT TUBE		
SDI-12	RED	+ SUPPLY
	BLACK	- SUPPLY
	WHITE	SIGNAL
RS-485	RED	+ SUPPLY
	BLACK	- SUPPLY
	WHITE	RS485-A
	GREEN	RS485-B
ALL	DRAIN	SHIELD
	WIRE	

MODEL	REMOVABLE CABLE
8 5 9	
↓ ↓ ↓	
	MATERIAL
S	Stainless Steel
	OUTPUT
C	SDI-12
D	RS 485 w/SDI-12 protocol
	ELECTRICAL CONNECTION
0	Molded cable seal
A	Gland cable seal
	CABLE TYPE
1	Polyurethane
2	ETFE (Connection A Only)
	CABLE LENGTH
# # # #	(in feet)
↓ ↓ ↓ ↓	
8 5 9	S

Dimensions



*ADD 4.30 FOR LIGHTNING PROTECTION OPTION



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