



## KPSI 705

- ◆ Non-fouling submersible level transducer
- ◆ Non-Clogging PTFE coated elastomeric diaphragm
- ◆  $\pm 0.25\%$  FS static accuracy
- ◆ Two year warranty

### Features

- ◆ Custom polyurethane or ETFE cable lengths
- ◆ Welded 316SS or titanium body
- ◆ Custom level ranges up to 115 ft. (35 m) H<sub>2</sub>O
- ◆ PTFE coated elastomeric diaphragm
- ◆ Optional lifetime lightning protection
- ◆ Available molded cable seal

### Applications

- ◆ Lift stations
- ◆ Wastewater
- ◆ Slurry Tanks
- ◆ Pump control

The KPSI 705 is a submersible hydrostatic level transducer specifically designed to meet the adverse environments encountered in wastewater applications. This suitably-sized transducer features a wide sensing area comprised of a PTFE coated elastomeric diaphragm for reliable operation in highly viscous or slurry environments.

All KPSI Transducers utilize a highly accurate pressure sensor assembly. The assembly is integrated with supporting electronics in a durable waterproof housing constructed of 316 stainless steel or titanium. The attached polyurethane or ETFE electrical cable are custom manufactured to specifications 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 our latest SuperDry Vent Filter that prevents moisture from entering the vent tube for at least one year without maintenance, even in the most humid environment.

### Specifications

| PARAMETER  | COMMENT   |                       |
|--|---|-----------------------|
| <b>LEVEL RANGES</b>  |   |                       |
| Full Scale Level Ranges  | 6 thru 115 ft. H <sub>2</sub> O (2 thru 35 m H <sub>2</sub> O)  | Vented Gage Reference |
| (intermediate level ranges are available)  | 10 thru 115 ft. H <sub>2</sub> O (3 thru 35 m H <sub>2</sub> O) | Sealed Gage Reference |
| Proof Pressure   | 1.5 x FS  |                       |
| Burst Pressure   | 2.0 x FS  |                       |
| <b>STATIC PERFORMANCE</b>  |   |                       |
| Static Accuracy  | $\pm 0.25\%$ FSO  | BFSL method           |
| (Combined effects of non-linearity, hysteresis and repeatability, best fit straight line method) |   |                       |
| Resolution   | +0.0001% FS   |                       |

**ENVIRONMENTAL**

|  |   |  |
|--|---|--|
| Wetted Materials   | 316 SS or Titanium; FKM; PTFE; Polyurethane or ETFE |  |
| Compensated Temp Range   | 0 to 50°C   |  |
| Thermal Error<br><small>(maximum allowable deviation from the Best Fit Straight Line due to a change in temperature)</small> | ±0.10% FSO/°C                                       | Worse case for level ranges > 23' (7 m) H <sub>2</sub> O prorated for level ranges ≤23' (7 m) H <sub>2</sub> 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<br>9-28 V – mA output<br>15-28 V – VDC output<br>10-28 V – VDC output              | 0-5 V, 0-2.5 V, 0-4 V<br>4-20<br>0-10 V<br>1.5-7.5 V |
| Input Current         | 20 mA max.<br>3.5 mA max.  | For mA output<br>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  |  |
| Zero Offset           | Rezero after installation for optimum accuracy. Span is not affected (See application note on website) |  |
| Output Impedance      | See loop diagram for mA output<br>20 ohm for VDC output  |  |
| Insulation Resistance | 100 mega ohm at 50 VDC   |  |
| Circuit Protection    | Polarity, surge/shorted output   |  |

**CERTIFICATIONS**

|  |                |  |
|--|----------------|--|
|  | CE compliant   | EN 61326-1:2013 and 61326-2-3:2013   |
|  | 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         | 0.5 lbs. (227 g) transducer<br>0.05 lbs./ft. (79 g/m) cable |  |
| Cable Jacket Material      | Polyurethane (Standard)<br>ETFE (Optional)                  |  |
| Cable Pull Strength        | 200 lbs. (90 kg)  |  |
| Cable Number of Conductors | 4   |  |
| Cable Conductor Size       | 22 AWG  |  |
| Cable Seal                 | Molded Polyurethane<br>FKM Gland                            | For polyurethane cable<br>For ETFE cable |

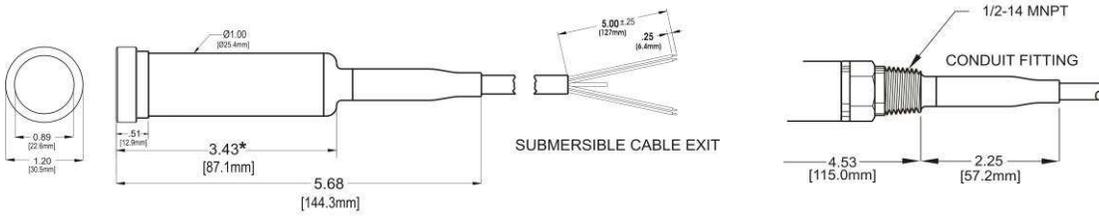
**TEMPERATURE OUTPUT OPTION** (Not intrinsically safety approved)

|                                  |             |  |
|----------------------------------|-------------|--|
| Temperature Range                | -20 to 60°C | Available for 4-20 mA 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)

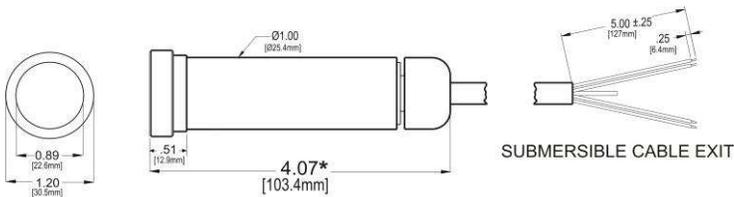
|                       |                   |  |
|-----------------------|-------------------|--|
| Life Expectancy       | >1,000 operations |  |
| Peak Clamping Voltage | 36 volts          |  |
| Response Time         | <10 nsecs         |  |
| Shunts                | 20,000 amperes    |  |

Dimensions



\*ADD 1.95" FOR LIGHTNING PROTECTION OPTION

Molded Cable Seal Configuration for Polyurethane Cable



\*ADD 1.95" FOR LIGHTNING PROTECTION OPTION

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       |

