



## KPSI 380

- SDI-12 Submersible Temperature Transducer
- Accuracy of  $\leq 0.1^{\circ}\text{C}$
- Nickel RTD
- Highly Stable
- Optional Lightning Protection Available

### Features

- Custom Polyurethane Cable Lengths
- Welded 316SS Body Construction
- Optional Lifetime Lightning Protection

### Applications

- Stream Gauging
- Surface Water Monitoring
- Aquifer Characterization and Groundwater Monitoring
- Storm Water
- Dam Operations
- Thermo Electric Water Discharge
- Aquaculture and Egg Hatcheries

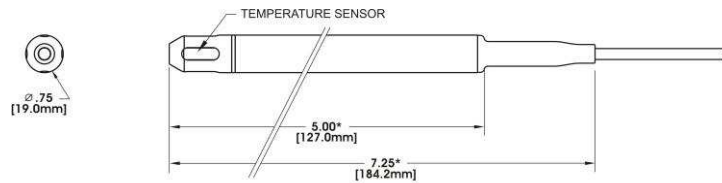
### Specifications

The KPSI 380 submersible temperature transducer represents the leading edge of temperature sensing technology available today. Incorporating a highly stable media-isolated sensor, the KPSI 380 features a SDI-12 or RS-485 Communication Interface option. SDI-12 is a standard for interfacing data recorders with microprocessor-based sensors, especially in the environmental monitoring field. It is an excellent solution for applications that require minimal current drain. This Nickel RTD, highly stable temperature transducer consists of a welded 316 Stainless Steel body construction with custom polyurethane cable lengths and optional lifetime lightning protection. The KPSI 380 calibration is traceable to the National Institute of Standards and Technology (NIST).

| PARAMETER                     | COMMENT                     |   |
|-------------------------------|-----------------------------|---|
| <b>MEASUREMENT ACCURACY</b>   |                             |   |
| Temperature                   | $\pm 0.1^{\circ}\text{C}$   | Programmable non-volatile calibration coefficients            |
| Response Time                 | 2 min                       | (63.2%) for $25^{\circ}\text{C}$ submersion step at 1m/s flow |
| Stability                     | $\pm 0.05^{\circ}\text{C}$  | Per 12 months   |
| Supply Voltage                | $\pm 0.5$ VDC               |   |
| <b>MEASUREMENT RESOLUTION</b> |                             |   |
| Temperature                   | $\pm 0.01^{\circ}\text{C}$  |   |
| Supply Voltage                | $\pm 0.1$ VDC               |   |
| <b>ENVIRONMENTAL</b>          |                             |   |
| Wetted Materials              | 316 SS; POM; polyurethane   |   |
| Calibrated Temp Range         | -5 to $45^{\circ}\text{C}$  |   |
| Operating Temp Range          | -20 to $60^{\circ}\text{C}$ |   |
| <b>ELECTRICAL</b>             |                             |   |
| Supply Voltage                | 6-28 VDC                    | 10 second power-on boot-up delay                              |
| Current Draw                  | 10 mA                       | Average current during measurement                            |
|                               | 1.5 mA                      | Quiescent   |
| Communication Interface       | SDI-12 or RS-485            | Protocol compliant to SDI-12 version 1.3                      |
| <b>CERTIFICATIONS</b>         |                             |   |

|  |  |
|--|--|
| CE   | EN 61000-4-2 [-3, -4, -5, -6, -8], CISPR11                   |
| IP-68, NEMA6P  |  |
| <b>PHYSICAL</b>  |  |
| Approximate Weight   | 0.75 lbs. (340 g) transducer<br>0.05 lbs./ft. (79 g/m) cable |
| Cable Jacket Material  | Polyurethane (standard)                                      |
| Cable Pull Strength  | 200 lbs. (90 kg)   |
| Cable Number of Conductors   | 4  |
| Cable Conductor Size   | 22 AWG   |
| Cable Seal   | Molded Polyurethane  |
| <b>LIGHTNING PROTECTION</b> (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**

**Ordering Information**

| MODEL         | SUBMERSIBLE TEMPERATURE TRANSDUCER                                      |
|---------------|---|
| 3 8 0         | SDI-12  |
| ↓ ↓ ↓         | <b>MATERIAL</b>   |
| S             | Stainless Steel   |
| ↓             | <b>OUTPUT</b>   |
| C             | SDI-12  |
| D             | RS-485, SDI-12 protocol   |
| ↓             | <b>NOSEPIECE</b>  |
| H             | Slotted nose cap  |
| ↓             | <b>ELECTRICAL CONNECTION</b>  |
| 0             | Molded cable seal   |
| ↓             | <b>LIGHTNING PROTECTION</b>   |
| A             | None  |
| B             | Full Lightning Protection (only available with OUTPUT option C: SDI-12) |
| ↓             | <b>CABLE TYPE</b>   |
| 1             | Polyurethane  |
| ↓             | <b>CABLE LENGTH</b>   |
| # # # #       | (in feet)   |
| 3 8 0 S H 0 1 |   |

**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**

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