

TempVueTM50

SDI-12 Digital Water Temperature Sensor

Rugged and Reliable

For years of scientific-grade water and soil temperature measurements



Overview

The TempVueTM50 is a high-precision digital water and soil temperature sensor that extends the high performance of the TempVue product line into the water. The TempVue 50 is a rugged and reliable sensor that exceeds United States

Geological Survey (USGS) Office of Surface Water (OSW) specifications. The sensor is also plug-and-play with the Aspen ecosystem of Internet of Things (IoT) edge devices.

Benefits and Features

- Submersible and watertight sensor and cable
- Highly accurate silicon sensor providing reliable and stable measurements in all conditions
- Strong anchor loop to pull through conduit or secure to weights
- Calibration certificate provided
- Simplified installation and programming with SDI-12 outputs
- Calibration information stored within the sensor and automatically applied to raw values to eliminate the need for coefficient calculations
- Intelligent, digital sensor offering less complex wiring and fewer data logger channels
- Compatible with all SDI-12 data loggers



Detailed Description

The TempVue 50 is a fully digital water temperature sensor that uses the latest silicon bandgap technology to provide the market's highest level of accuracy and repeatability. The all-digital design minimizes self-heating, reduces complexity, and can be used to measure scientific-grade temperatures in both water and soil.

Specifications

Sensor Description	Digital silicon bandgap
Time Constant in Air	35 s (1 tau)
Measurement Interval	> 15 s (recommended)
Temperature Range	-40° to +60°C
Measurement Uncertainty	0.1°C (-10° to +60°C)
Temperature Resolution	0.01°C
Housing Material	Acetal homopolymer (Delrin 500P)
Maximum Submergence	30 m (98.4 ft) depth
Recommended Recalibration Interval	1 y
Diameter	17 mm (0.67 in.)
Length	95 mm (3.74 in.)

The measurement electronics are surge protected and environmentally sealed with a fully encapsulated Delrin™ housing to provide years of reliable measurements in all environments.

Power

Average Current	150 µA
Active Current	< 3 mA
Input Voltage	6 to 16 V

Communications

SDI-12 Version	1.4
SDI-12 Address	0 (default)

Cable

-NOTE-

This device is capable of fitting through a standard 2.5 cm (1 in.) conduit with a 20.3 cm (8 in.) factory bend.

Jacket Material	Watertight, UV-resistant, 1.1 mm (0.045 in.) polyurethane
Maximum Cable Length	150 m (492.1 ft)
Maximum Pull Strength (Load)	450 N (100 lb)
Maximum Weight Load	2.25 kg (4.96 lb)

