# TempVue™10

Pt100 Analog Temperature Sensor

## A Market-Leading, Analog, Ambient Air Temperature Sensor

Easy to use


## Overview

The TempVue™10 represents the next generation of air temperature measurement sensors, meeting all relevant World Meteorological Organization (WMO) temperature recommendations.

Designed with the customer in mind, the TempVue 10 easily interfaces with Campbell Scientific or third-party data loggers and fits a wide range of passive solar radiation shields. The sensor comes with a short, attached cable and terminates with an M12 connector, which provides exceptional convenience, environmental protection, and data integrity for use in a variety of applications.

## Benefits and Features

- Meets WMO step change response time at 1 m/s (3.28 ft/s)
- Maintains high measurement stability over both time and temperature
- Incredibly easy to install or remove for calibration checks
- Highly durable, providing sensor element protection in even the harshest environmental conditions
- Able to be wired with a two-, three-, or four-wire Platinum Resistance Thermometer (PRT) configuration
- Allows for cable length adjustments without the need for calibration changes
- Includes calibration certificate

# Detailed Description

The sensor consists of a wire-wrapped, four-wire Pt100 Resistance Temperature Detector (RTD) element encapsulated in an epoxy-filled, stainless-steel housing. The thin yet robust housing, combined with the Pt100 sensing element, result in a sensor that meets the WMO guideline for step response time (20 seconds) with an ambient wind speed of only 1 m/s (3.3 ft/s).

The TempVue 10 has a maximum measurement uncertainty of only 0.3 Kelvin over the entire measurement range of -80° to +60°C, with only 0.1 Kelvin over the most common temperature range of -40° to +40°C.

# Specifications

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| **Sensor Description** | Platinum Resistance Thermometer (Pt100) |
| **Measurement Uncertainty** | ▪ ±0.3 Kelvin over -80° to +60°C (-112° to +140°F) range<br>▪ ±0.1 Kelvin over -40° to +40°C (-40° to +104°F) range |
| **Temperature Measurement Range** | -80° to +60°C (-112° to +140°F) |
| **Time Constant in Air** | 20 s for a wind speed of 1 m/s (3.3 ft/s) |
| **Resolution** | Three decimal places (0.001°C) |
| **Connector Type** | M12 (to extend beyond 1 m [3 ft] standard cable length) |

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| **Probe Diameter** | 1.9 cm (0.75 in.) maximum |
| **Probe Length** | 12.1 cm (4.75 in.) tip to end of cable gland |
| **Extended Probe Length** | 18.1 cm (7.125 in.) tip to end of extender piece |
| **Total Length** | 97.16 cm (38.25 in.) tip to end of connector |
| **Weight** | 70 g (0.15 lb) for probe with extender piece, including standard 1 m (3 ft) cable with M12 connector |