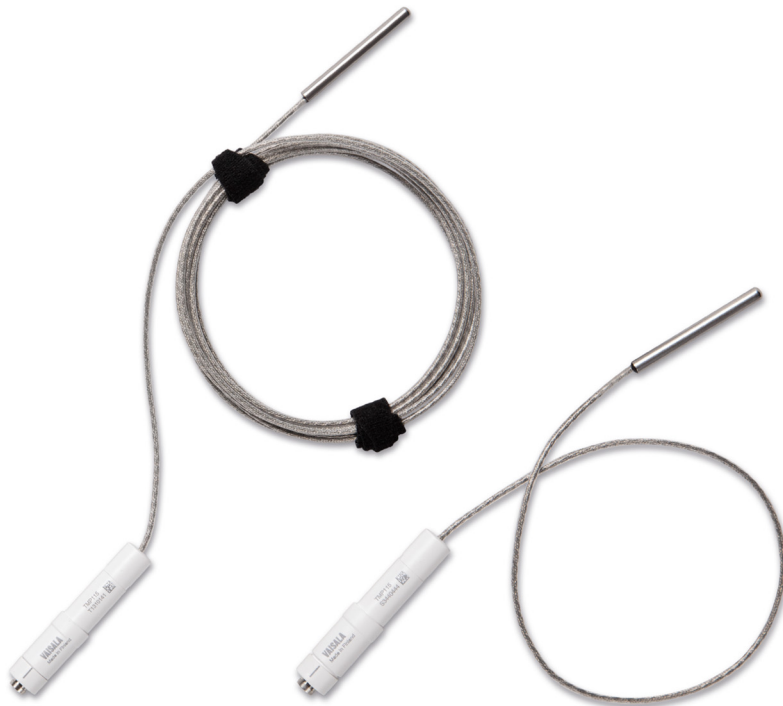




TMP115 Wide-Range Temperature Probe



Features

- Temperature probe designed for use with RFL100 and CWL100 data loggers
- Measurement range
-196 ... +90 °C (-320 ... +194 °F)
- Platinum RTD temperature sensor for superior measurement stability
- Available as 0.5 m (1 ft 7.7 in) and 3 m (9.8 ft) long versions
- Can be calibrated with HM40 handheld meter, MI70 indicator, and Insight PC software
- Traceable calibration certificate

Wide-Range Temperature Probe TMP115 is ideal for use in temperature-controlled chambers, cryogenic applications, incubators, LN₂ tanks, and blood/tissue banks. TMP115 uses a platinum RTD temperature sensor for superior measurement stability. TMP115 is designed for use with RFL100 and CWL100 wireless data loggers.

Designed for RFL100 and CWL100 wireless data loggers

The probe body of TMP115 integrates easily with the data logger housing. It can also be connected using a cable for remote probe use. The probe is available in two lengths: 0.5 m (1 ft 7.7 in) and 3 m (9.8 ft). The length includes probe body and sensor tip.

The operating temperature range of the probe body is -40 ... +60 °C (-40 ... +140 °F). It is usually best to leave the probe body outside the measured environment, and just insert the probe tip and some cable.

Low power consumption

TMP115 is suitable for battery-powered applications due to its very low power consumption. It also has an extremely fast start-up time.

Features for cold storage applications

Some cold storage applications may require slowing down the naturally fast response time of the probe. You can easily accomplish this by adding more thermal mass to the sensor tip. The thermal dampener block accessory (item code 236310SP) is designed for this purpose. The damping effect of the block is equivalent to that of 40 ml of glycol.

The 4.8 mm (0.19 in) diameter sensor tip withstands immersion in glycol and liquid nitrogen.

Flat cables are available as accessories for the compatible data loggers in case door seal insertion to chambers and freezers is required.

Variety of calibration options

A quick field calibration can easily be carried out using a handheld meter, for example Vaisala Handheld Meter HM40. Alternatively, the probe can be calibrated using a PC with Vaisala Insight software and a compatible USB connection cable, or sent to Vaisala for calibration. Vaisala Service Centers offer both ISO 9001 and ISO 17025 calibrations.

Technical data

Measurement performance

Temperature

| | |
|---|------------------------------------|
| Measurement range | -196 ... +90 °C (-320 ... +194 °F) |
| Accuracy over temperature range ¹⁾ | |
| at -196 ... -90 °C (-320 ... -130 °F) | ±2.5 °C (±4.5 °F) |
| at -90 ... -30 °C (-130 ... -22 °F) | ±0.75 °C (±1.35 °F) |
| at -30 ... 0 °C (-22 ... +32 °F) | ±0.5 °C (±0.9 °F) |
| at 0 ... +50 °C (+32 ... +122 °F) | ±0.25 °C (±0.45 °F) |
| at +50 ... +90 °C (+122 ... +194 °F) | ±0.75 °C (±1.35 °F) |
| Temperature sensor | Pt100 RTD Class A IEC 751 |
| Typical factory calibration uncertainty | |
| at -90 °C (-130 °F) | ±0.08 °C (±0.144 °F) |
| at -45 °C and warmer | ±0.06 °C (±0.128 °F) |

¹⁾ Includes non-linearity, hysteresis, and repeatability.

Operating environment

| | |
|-------------------------------------|------------------------------------|
| Operating temperature of sensor tip | -196 ... +90 °C (-320 ... +194 °F) |
| Operating temperature of probe body | -40 ... +60 °C (-40 ... +140 °F) |
| IP rating of sensor tip | IP67 |
| IP rating of probe body | IP65 |

Inputs and outputs

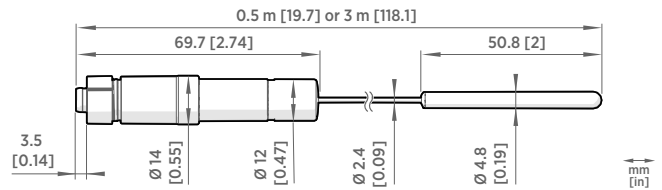
| | |
|-------------------|--|
| Operating voltage | 5 ... 28 V DC |
| Start-up time | 1 s |
| Digital output | RS-485 2-wire half duplex, supports Modbus RTU |
| Output parameters | Temperature (°C) |

Mechanical specifications

Cable connector 4-pin male M8 (IEC 60947-5-2)

| | |
|------------------|----------------------------|
| Materials | |
| Probe body | PC/ABS blend |
| Cable | FEP |
| Sensor tip | Stainless steel (AISI 316) |

| | |
|---|---|
| Dimensions | |
| Probe length including cable and sensor tip | 0.5 m (1 ft 7.7 in) or 3 m (9 ft 10.1 in) |
| Probe body diameter | 14 mm (0.55 in) |
| Sensor tip length | 50.8 mm (2 in) |
| Sensor tip diameter | 4.76 mm (0.19 in) |



TMP115 dimensions

Accessories

| | |
|--|-------------|
| Thermal dampener block for 3/16" probes (4.8 mm) | 236310SP |
| Probe holder (5 pcs) | ASM213382SP |
| USB cable for PC connection | 219690 |
| Connection cable for MI70 indicator | 219980SP |