

Self-Describing Temperature Sensor (SD-TEMP-x) Manual

For use with HOBO® MX1104 and MX1105 data loggers

Specifications

Air/Water/Soil Temperature Probe (SD-TEMP-xx)

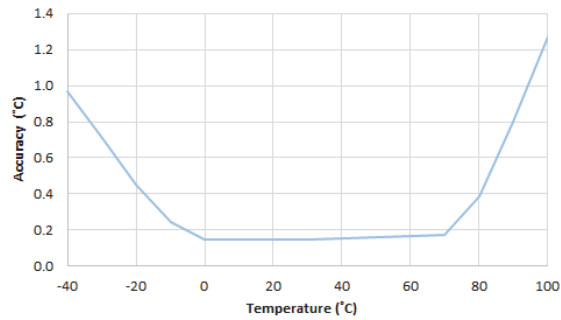
Measurement Range	-40° to 50°C (-40° to 122°F) in water; -40° to 100°C (-40° to 212°F) in air
Accuracy	±0.15°C from 0° to 50°C (±0.27°F from 32° to 122°F), insert probe 2.3 cm (0.9 inches) minimum; see Plot A
Resolution	0.002° at 25°C (0.003° at 77°F)
Drift	<0.1°C (<0.2°F) per year
Response Time in Air	2 minutes typical to 90% in air moving 1 m/s (2.2 mph)
Response Time in Stirred Water	30 seconds typical to 90%
Operating Range	Sensor tip and cable immersion in fresh water up to 50°C (122°F) for 1 year
Probe Housing	Copper-plated sensor tip
Probe Dimensions	5.1 x 33 mm (0.2 x 1.3 inches)
Cable Length	SD-TEMP-01: 0.3 m (1 ft) SD-TEMP-06: 1.8 m (6 ft) SD-TEMP-20: 5.1 m (20 ft) SD-TEMP-50: 15.2 m (50 ft)

Stainless Steel Temperature Probe (SD-TEMP-SS-06)

Measurement range	-40° to 100°C (-40° to 212°F)
Accuracy	±0.15°C from 0° to 50°C (±0.27°F from 32° to 122°F), insert probe 5.08 cm (2 inches) minimum; see Plot A
Resolution	0.002° at 25°C (0.003° at 77°F)
Drift	<0.1°C (<0.2°F) per year
Response Time in Air	3 minutes typical to 90% in air moving 1 m/s (2.2 mph)
Response Time in Stirred Water	15 seconds typical to 90%
Probe Diameter	3.2 mm ±0.25 mm (0.12 inches ±0.01 inches)
Probe Length	10.2 cm (4 inches)
Probe Housing	Food-grade stainless steel (#316 stainless steel) Note: The stainless steel probe is waterproof, but the handle is not intended for prolonged use in water or moist environments, especially those with temperatures greater than 30°C (86°F).
Cable Length	1.8 m (6 ft)

Pipe Temperature Probe (SD-TEMP-P-06)

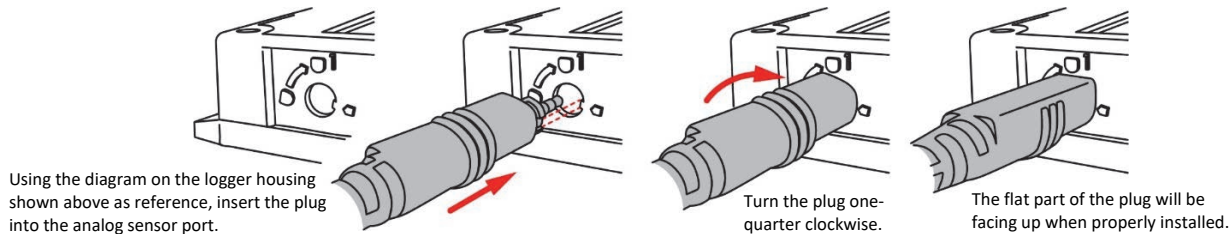
Measurement Range	-40° to 100°C (-40° to 212°F)
Accuracy	±0.15°C from 0° to 50°C (±0.27°F from 32° to 122°F), insert probe 2.3 cm (0.9 inches) minimum; see Plot A
Resolution	0.002° at 25°C (0.003° at 77°F)
Drift	<0.1°C (<0.2°F) per year
Response Time in Air	2 minutes typical to 90% in air moving 1 m/s (2.2 mph)
Response Time on a Pipe	Typically 2 times faster than the SD-TEMP-xx air/water/soil temperature probe; typically less than 1 minute to 90%
Probe Housing	Copper-plated sensor tip
Probe Dimensions	0.9 x 5.8 cm (0.38 x 2.3 inches)
Cable Length	1.8 m (6 ft)



Plot A: Accuracy
(Accuracy outside the 0 to 50°C range is typical)

Using the Sensor with the HOBO MX Analog/Temp/RH/Light (MX1104) or HOBO MX 4-Channel Analog (MX1105) Data Logger

1. Insert the plug into an analog sensor port on the logger. Turn the sensor plug one-quarter clockwise until it stops.



2. In HOBOMobile, connect to the logger and tap Configure. The sensor type will be selected automatically. Set any other logger settings and tap Start. See the HOBOMobile User's Guide

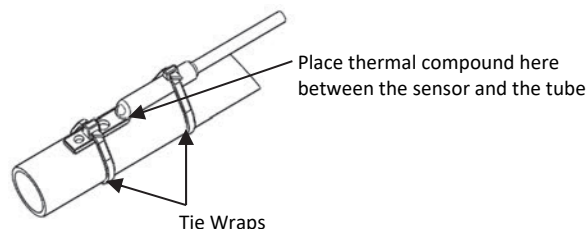
Mounting Guidelines

Air/Water/Soil Temperature Probe (SD-TEMP-xx):

- When measuring air temperature, mount the sensor where there is good air circulation. Leave space between the sensor and the mounting surface so temperature measurements are not affected by the surface itself.

Stainless Steel Temperature Probe (SD-TEMP-SS-06):

- Items included: 2 tie wraps, 1 #6 screw, thermal compound
- Use a small amount of the enclosed thermal compound between the flat part of the sensor tip and the surface where the sensor is being deployed to enhance the contact between the two.
- To mount the sensor on a pipe using two tie wraps:



- To mount the sensor on the wall using a #6 screw:

