

Temperature Sensors

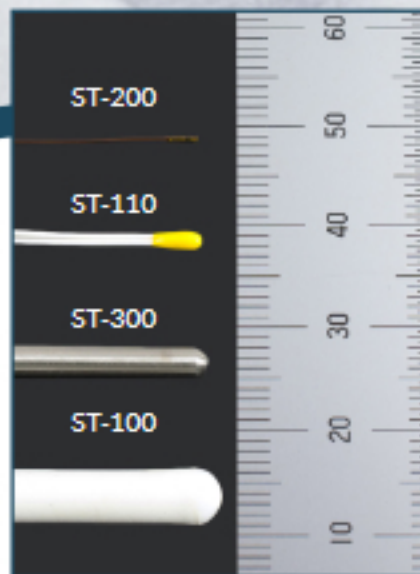
Wide measurement range of -60 to 80 C

Barometric Pressure Sensor



Models

The **ST-200** fine wire thermistor measures delicate or small surfaces with a fast response time. The **ST-110** thermistor minimizes solar load and thermal conduction to accurately measure air temperature. The **ST-300** PRT minimizes solar load and thermal mass. The **ST-100** thermistor has a waterproof housing and is designed for measuring soil and water temperature.



	ST-100	ST-110	ST-200	ST-300
Measurement Range	-60 to 80 C			
Measurement Uncertainty	0.1 C (0 to 70 C) 0.2 C (-25 to 0 C) 0.4 C (-50 to -25 C)	0.1 C (0 to 70 C) 0.15 C (-50 to 0 C)	0.2 C (0 to 70 C) 0.4 C (-50 to 0 C)	0.1 C (-40 to 60 C), 1/10 DIN
Measurement Repeatability	Less than 0.05 C	Less than 0.01 C	Less than 0.05 C	Less than 0.01 C
Long-term Drift	Less than 0.02 C per year			Less than 0.05 C per year
Equilibration Time	30 s	4 s	1 s	15 s
Self-heating	Less than 0.01 C (typical, assuming pulsed excitation of 2.5 V DC), 0.08 C at 5 C (max. assuming continuous input excitation of 2.5 V DC)			Less than 0.003 C (typical, assuming pulsed excitation of 2.1 V DC), 0.09 C at 5 C (max. assuming continuous input excitation of 2.1 V DC)
Operating Environment	-60 to 80 C; 0 to 100 % relative humidity			
Input Voltage Requirement	2.5 V DC excitation (recommended)			2.1 V DC excitation (recommended)
Output Voltage Requirement	0 to 2.5 V DC (assuming input excitation of 2.5 V DC)			16 to 27 mV DC (excitation of 2.1 V DC)
Dimensions	100 mm length, 6 mm diameter	80 mm length, 4 mm diameter	25 mm length, 1 mm diameter	65 mm length, 3 mm diameter
Mass	60 g			95 g

Sensor Stability

Long-term non-stability has been measured continuously indoors and in natural conditions (with sensors mounted inside a datalogger enclosure) for multiple sensors and is less than 0.5 % per year.

	SB-100
Measurement Range	15 to 115 kPa (approximate)
Maximum Pressure Exposure	400 kPa (exposure beyond limit may permanently damage sensor)
Sensitivity	45.9 mV per kPa; 0.459 mV per 0.01 kPa (approximate)
Measurement Uncertainty	± 1.5 kPa (with generic calibration coefficients)
Measurement Repeatability	Less than 0.1 %
Non-linearity	Less than 1 %
Warm-up Time	20 ms
Response Time	1 ms
Temperature Response	Less than 0.002 % per C for temperatures greater than 0 C; -0.015 % per C for temperatures less than 0 C
Operating Environment	-40 to 80 C; 0 to 100 % relative humidity (non-condensing)
Input Voltage Requirement	5 V DC
Output Voltage Range	0 to 5 V DC
Current Draw	7 mA DC
Dimensions	16 mm diameter
Mass	5 g