

PT100 Temperature Sensor

Measures temperature with a Class A platinum resistance thermometer. This device, belonging to the PRO sensor series, includes Aranet Sub-GHz ISM band radio which wirelessly transmits sensor measurements to the Aranet PRO base station.

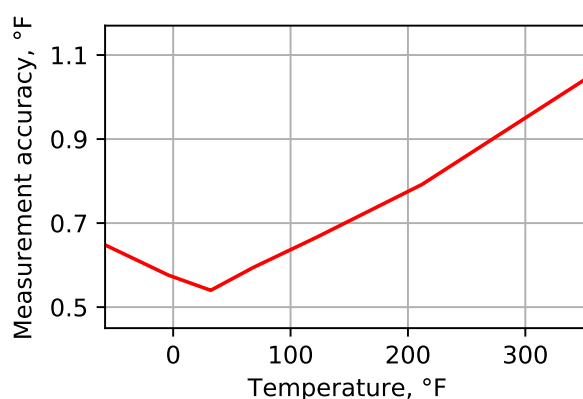
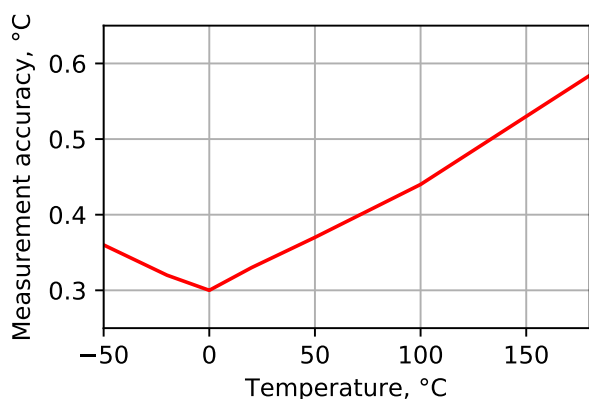


Product numbers

European Union	TDSPT306.010
United States	TDSPT3U6.010
Asia	TDSPT3U6.010
Japan	TDSPT3J6.010

Temperature measurement performance

Range	-50–180 °C	-58–356 °F
Resolution	0.1 °C	0.1 °F
Accuracy at ±0 °C (32 °F)	±0.3 °C	±0.5 °F
Time constant τ	45 s	
Response time 5τ	3.75 min	



- Measurement time constant τ is determined in accordance with standard VDI/VDE 3522 Part 2. This constant refers to the time it takes for the sensor reading to reach 63 % of a new steady-state value in response to a step change in

the environment. Similarly, 5τ corresponds to 99 % of steady-state value. This constant essentially represents the speed at which the sensor adjusts to changes in the measured quantity.

- Temperature measurement accuracy data provided considering temperature of the radio transmitter being constant 25 °C.

Temperature probe specifications

Probe material	Stainless steel	
Cable insulation material	Silicone	
Probe dimensions	$\varnothing 6 \times 100$ mm	$\varnothing 0.24 \times 4$ in
Cable length	1 m	3.3 ft

General specifications

Ingress protection rating	IP68	
Operating temperature range	-40–60 °C	-40–140 °F
Dimensions	$\varnothing 35 \times 120$ mm	$\varnothing 1.4 \times 4.7$ in
Weight (incl. battery)	100 g	3.5 oz
Enclosure material	ASA plastic	
Packaging includes	1 pc AA alkaline battery, polyester string for hanging the device	

Aranet radio parameters

Line of sight range	3 km	1.9 mi
Transmitter power	14 dBm	25 mW
Data transmission interval	1, 2, 5 or 10 min	
Data protection	XXTEA encryption	

Battery lifetime

Measurement interval	Alkaline battery lifetime	Lithium battery lifetime
1 min	1.3 years	1.7 years
2 min	2.4 years	3.2 years
5 min	5.2 years	7.3 years
10 min	8.4 years	12 years

- Battery lifetime data has been obtained by mathematical extrapolation and is provided for descriptive purposes only and is not intended to make or imply any guarantee or warranty.
- Battery lifetime tests and calculations performed assuming device is at 20 °C (68 °F) and using *Fujitsu Premium LR6G07* (alkaline) and *Energizer Ultimate Lithium L91* (lithium) AA batteries as reference.

- The operating temperature range may vary based on the battery type used. Generally, the range for alkaline batteries is between -20–50 °C (-4–122 °F), whereas for lithium batteries, it is -20–60 °C (-40–140 °F).

Compliance information

- CE** Conformité Européenne
 - FC** Federal Communications Commission (USA)
 - IC** Innovation, Science and Economic Development Canada
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