

IR Plant Temperature Sensor

Infrared thermometer for plant temperature measurement in horticulture industry. 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.

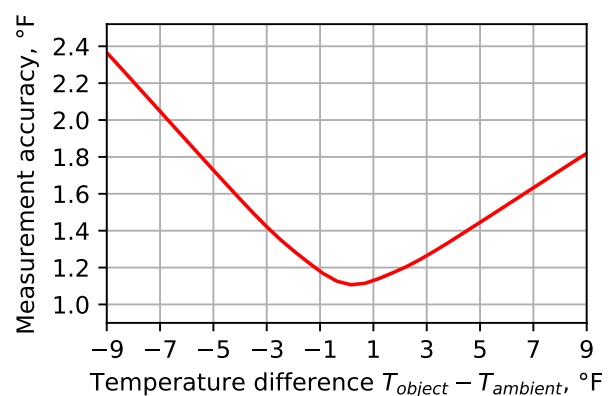
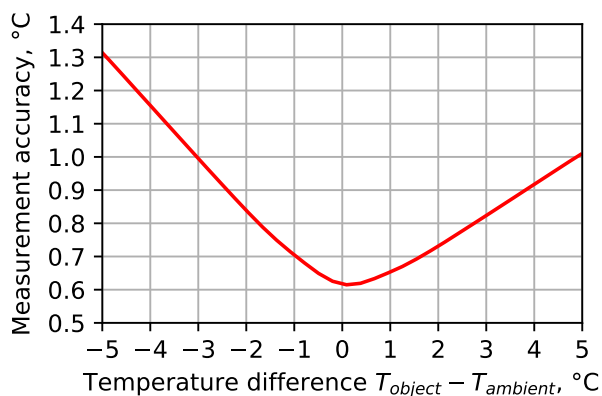


Product numbers

European Union	TDSIR001
United States	TDSIR0U1
Asia	TDSIR0U1
Japan	TDSIR0J1

Temperature sensor performance

Range	-20–85 °C	-4–185 °F
Resolution	0.1 °C	0.1 °F
Recommended ambient temperature	20–40 °C	68–104 °F
Recommended object temperature deviation	<3 °C	<5.4 °F
Accuracy in the recommended range	< ±1 °C	< ±1.8 °F
Field of view	5°	



• Provided measurement accuracy plots show how recommended object temperature deviation has been chosen,

i.e., it is recommended to use sensor in the range where accuracy is smaller than $\pm 1\text{ }^{\circ}\text{C}$ ($\pm 1.8\text{ }^{\circ}\text{F}$).

- 95 % of the sensors perform within the specified accuracy limits at the time of purchase, assuming they are in an equilibrium state. For evaluation of the total measurement error, long-term drift has to be taken into account.
- Plots with sensor accuracy as a function of the object and ambient temperature difference is shown for the ambient temperature range 20–40 °C and for object with emissivity of 0.97.

General specifications

Ingress protection rating	IP65	
Operating temperature range	-20–60 °C	-4–140 °F
Dimensions	∅50×620 mm	∅2.0×24.4 in
Weight (incl. battery)	600 g	21 oz
Enclosure material	ASA plastic, stainless steel	
Packaging includes	1 pc AA alkaline battery	

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	1.8 years	2.4 years
2 min	3.3 years	4.5 years
5 min	6.5 years	9.4 years
10 min	10 years	>10 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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