TARTS™
Sensors for Makers™

WATER TEMP

Tarts Wireless Water Temperature Sensor

General Description
Tarts wireless water temperature sensors uses a sealed, NTC thermistor with 3 ft. lead wires to measure water temperature.

Features
- Accurate to ± 1° C (± 1.8° F)
- Sealed, 3 ft. lead wire
- Calibration feature for higher accuracy.

Calibration
This sensor can be calibrated for higher accuracy. For highest accuracy, you will need an accurate temperature source.

Principle of Operation
The Tarts wireless water temperature sensor collects temperature data of water or other non-combustible liquids using a sealed NTC thermistor with 3 foot lead wires. It is programmed to sleep for a user-given time interval (heartbeat) and then wakeup, send power to the NTC Thermistor and wait for it to stabilize, and convert the analog data, mathematically compute the temperature and transmit the data to the gateway (Arduino shield, Raspberry Pi plate or BeagleBone Black cape).

Technical Specifications

Datum Definition	Type: 65 Name: TEMPERATURE RawValue: 236 FormattedValue: 23.6 C
Calibration Parameter	void calibration(float value); Value is the temperature in degrees Celsius
Supply Voltage	2.0 - 3.6 VDC * (ships with CR2032 - 3.0 V coin cell battery and battery clip)
Current Consumption	0.7 μA (sleep mode) 2 mA (radio idle/off mode) 2 mA (measurement mode) 25 mA (radio RX mode) 35 mA (radio TX mode)
Electronics Operating Temperature Range	-40°C to +85°C (-40°F to +185°F) **
Available Operating Frequencies	900 MHz (25 Channels), 868 MHz (5 Channels) and 433 MHz (15 Channels)
Probe Temperature Range	-40°C to +100°C (-40°F to +212°F)
Accuracy	+/- 1°C (1.8°F)
Lead Wire Length	3 ft. (36 in.) with Water Tight Seal ***
Antenna	4" wire antenna
Device Wireless Range	250 - 300 ft. non-line-of-sight (actual range may vary depending on environment.)
Dimensions	1 inch (W) x 1 inch (L)
Certifications	FC CE ◆ Industry Canada 900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 868 and 433 MHz product tested and found to comply with: CISPR 22:2008-09 / EN 55022:2010 - Class B and ETSI EN 300 220-2 V2.4.1 (2012-05).

  * Hardware cannot withstand negative voltage. Please take care when connecting a power device.
 ** At temperatures above 100°C, it is possible to lose programmed memory.

For more product information or to place an order visit us on the web at www.tartssensors.com.
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