



## Tarts Wireless Temperature Sensor

### General Description

Tarts wireless temperature sensors use type NTC thermistors to measure ambient temperature.

### Features

- Accurate to +/- 1°C (1.8°F).
- 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 temperature sensor outputs the ambient temperature in degrees Fahrenheit. It can be programmed to sleep and wake up at set time intervals (heartbeat). When the sensor wakes up it will power up the NTC Thermistor, wait for it to stabilize, then take a reading. The sensor will convert the analog data into a mathematically computed temperature then transmit the data wirelessly to the sensor gateway (Arduino shield, Raspberry Pi plate or BeagleBone Black cape).

### Technical Specifications

Datum Definition	Type: 2 Name: TEMPERATURE RawValue: 236 FormattedValue: 23.6 C
Calibration Parameter	void calibrate(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)
Thermistor Temperature Range	-40°C to +125°C ( -40°F to +257°F ) ( Limited to Main Unit Circuitry, -40°C to +85°C )
Accuracy	+/- 1° C or 1.8° F
Time Constant @ 25°C	30 seconds
Antenna	4" wire antenna
Device Range	250 - 300 ft. non-line-of-sight (actual range may vary depending on environment.)
Dimensions	1 inch (W) x 1 inch (L)
Certifications	 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](http://www.tartssensors.com).  
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