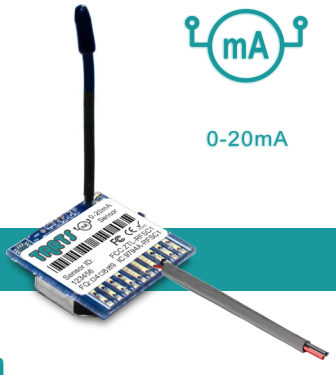
Sensors for Makers™



Tarts Wireless 0-20 mA Current Sensor

General Description

The Tarts wireless 0-20 mA current sensor is capable of measuring the current off another device or sensor up to 20mA.

Features

- ~ 0.01 mA resolution.
- Measures current up to 20 mA.
- Calibration feature for higher accuracy.

Principle of Operation

By connecting the leads on the Tarts wireless 0-20 mA current sensor in the power loop of another device, the sensor can measure the current and wirelessly transmit the data to the gateway (Arduino shield, Raspberry Pi plate or BeagleBone Black cape).

Calibration

This sensor can be calibrated for higher accuracy. For highest accuracy, you will need to have an accurate current meter.

Technical Specifications

Datum Definition	Type: 22 Name: CURRENT RawValue: 1134 FormattedValue: 11.34 mA
Calibration Parameter	void calibration(float value); Value is the current value in milliamps.
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)
Sensor Resolution	~ 0.01 mA (11-bit single ended)
Conversion Time	228 µs
Full Scale Current	0 - 20 mA ***
Input Resistance	51 ohms
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	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.
*** If application exceeds 20 mA the sensor will return a maximum reading of 20 mA.
If current applied to measurement port exceeds 30mA, circuit protection and conditioning is required.

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