Monnit

Wireless 0-1 mA Current Meter (AA)

Technical Overview

General Description

The Wireless 0-1 mA DC Current Meter is designed to work with the Flex-Core MCT5 current transducer that converts 5 Amps AC into a DC signal up to 1 mA. (Additionally a current transformer (CT) can be used to interface the MCT5 to higher amperage systems.)

Features

- Measures current up to 1 mA DC.
- Free iMonnit basic online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email.

Principle of Operation

By connecting the leads of the Monnit wireless 0-1 mA current meter to the output of the Flex-Core MCT5 current transducer, the sensor will wirelessly transmit the data through a Monnit Gateway to the iMonnit Online Sensor Monitoring and Notification System. The sensors data is transformed back to the original current reading and stored in the online system where it can be reviewed and exported as a data sheet or graph. Notifications can be set up through the online system to alert the user when certain thresholds have been met or exceeded.

Power Options

The standard version of this sensor is powered by two replaceable 1.5 V AA sized batteries (included with purchase).

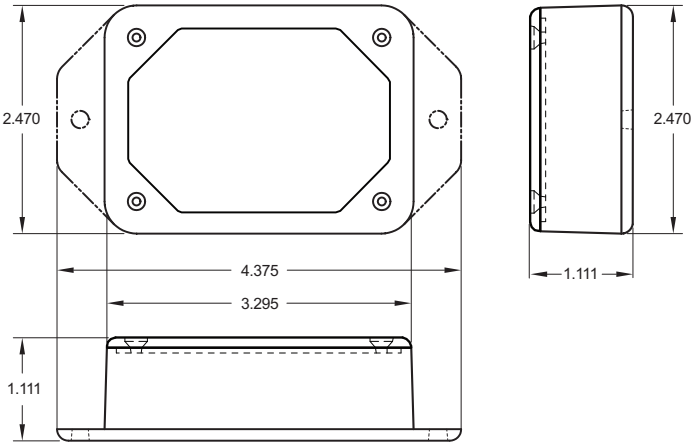
This sensor is also available with a line power option. The line powered version of this sensor has a barrel power connector allowing it to be powered by a standard 3.0 - 3.6 V power supply. The line powered version also uses two standard 1.5 V AA batteries as backup for uninterupted operation in the event of line power outage.

Power options must be selected at time of purchase, as the internal hardware of the sensor must be changed to support the selected power requirements.

Monnit Sensor Core Specifications

- Power: Two replaceable 1.5 V AA batteries (Option for line power with battery backup)
- Communication: RF 900, 920, 868 and 433 MHz
- Dimensions: 4.375” x 2.470” x 1.111”
- Antenna: 4” wire antenna
- Operating Temperature: -40° to 85°C (-40° to 185°F) Device Range: 250 - 300 ft. non-line-of-sight*
- Battery Life: At 1 hour heartbeat setting, standard AA batteries will last up to 4 years.**

* Actual range may vary depending on environment.
** Battery life is determined by sensor reporting frequency and other variables. Other power options are also available.



Applications

- Current transducers.
- pH sensors.
- Dissolved oxygen sensors
- Pressure sensors.
- Magnetic flow sensors.
- And many more...

The Leader in Low Cost Wireless Sensors

Technical Specifications	
Supply Voltage	2.0 - 3.6 VDC (3.0 - 3.6 VDC Using Power Supply) *
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)
Operating Temperature Range (Board Circuitry and Batteries)	-18°C to 55°C (0°F to 130°F) using alkaline -40°C to 85°C (-40°F to 185°F) using lithium **
Optimal Battery Temperature Range (AA)	+10°C to +50°C (+50°F to +122°F)
Sensor Resolution 0-1 mA Input 0-5 Amp Input 200 Amp CT Input	11-bit single ended ~ 0.5 µA ~ 2.5 mA ~ 10 mA
Conversion Time	228 µs
Full Scale Current	0 - 1 mA ***
Input Resistance	1.2 kohms
Certifications	FC CE Industry Canada 900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 920 MHz product; ARIB STD-T108 R210-103733. 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 for the board circuitry to lose programmed memory.
*** If application exceeds 1 mA the sensor will return a maximum reading of 1 mA.
If current applied to measurement port exceeds 2 mA, circuit protection and conditioning is required.

Caution/Notice:

This product is designed for application in an ordinary environment (normal room temperature, humidity and atmospheric pressure). Do not use this sensor under the following conditions as these factors can deteriorate the product characteristics and cause failures and burn-out.

- Corrosive gas or deoxidizing gas - chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, nitric oxides gas, etc.).
- Volatile or flammable gas.
- Dusty conditions.
- Under low or high pressure.
- Wet or excessively humid locations.
- Places with salt water, oils chemical liquids or organic solvents.
- Where there are excessively strong vibrations.
- Other places where similar hazardous conditions exist.

Use this product within the specified temperature range. Higher temperature may cause deterioration of the characteristics or the material quality of this product.

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