RFM2M™ by RFM

New! Battery-Powered WiFi® Sensor Modem

Provides Support for One 100 Ohm Platinum RTD and One Current Transformer (CT) Plus a Contact Closure Input

SN802GRC

Makes use of RFM's low power WSN802G module to take advantage of existing WiFi infrastructure and lower platform and installation costs

Green Energy • **Pharmaceuticals** • **Process Manufacturing** • **Smart Grid**
Data Centers • **Commercial Refrigeration** • **Home Healthcare**
Industrial • **Commercial AC & Heating** • **Energy Management**

The SN802GRC is a battery-powered wireless sensor node providing support for one 100 Ohm Platinum RTD and one Current Transformer (CT) as well as a contact closure input. Wireless connectivity is provided through an 802.11g WiFi connection allowing use of the SN802GRC with standard b, g, and n WiFi access points and providing WPA2 security. The unique low-power WiFi and signal conditioning circuitry provide years of battery operation. The sensor data along with battery status is automatically transmitted on user-configurable conditions simplifying application software design. The wireless sensor node can be configured over-the-air or through a serial port.

SECURE DATA

The SN802GRC is compatible with 802.11b, g, and n networks and provides WPA2 security insuring data security. The SN802GRC supports RF data rates from 1Mbps to 11Mbps, plenty of bandwidth for sensor applications.

SIMPLE COMMISSIONING

Configurable over-the-air or through a password protected serial port, the SN802GRC can be installed and commissioned in just a few minutes. An RFM supplied utility supports SNMP configuration over-the-air and through a straightforward protocol through the serial port. While the SN802GRC provides the means to fully optimize its operation for your application, most installations will only need a handful of parameters to be set.

EASY APPLICATION INTERFACE

The SN802GRC is configurable to wake-up on a timer interval or on the RTD or CT inputs exceeding user defined thresholds. Once awake, the SN802GRC can automatically send data to the server without being polled for data. This simplifies application development as well as provides an easily scalable wireless sensor platform.

RFM®
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SENSOR SPECIFICATIONS	
RTD	
100 Ohm Platinum 2-, 3- or 4-wire	
Accuracy	± 0.3° C
Linearity	± 0.1%
Resolution	0.0625° C
Temperature Range	-200° C to +158° C
Current Transformer	
Nominal Winding Ratio	± 0.3° C3100 : 1
Maximum Current	20 Amperes
Accuracy	Better than 2%
Contact Closure	
Open Voltage	3.3V
Maximum Current	100KOhm
Pull Up	Better than 2%

MECHANICAL SPECIFICATIONS	
Enclosure	
Material	ABS Plastic
Dimensions	5.4W x 2.5D x 1.1H (inches) 138W x 63D x 27H (mm)
Connectors	
RTD 2-Wire 3-Wire 4-Wire	2 Pos removable screw terminal 3 Pos removable screw terminal 4 Pos removable screw terminal
Current Transformer/Contact Closure	4 Pos removable screw terminal
RS-232	3 Pos removable screw terminal
Indicators/Buttons	
LEDs (2)	Various Sensor Node Status
Button1	Activate from Shipping Sleep
Button2	Test/Status

REPORTING TRIGGERS	
Timer	100ms – Decades
ADC Value	Low Threshold/ High Threshold
Switch Closure	Upon closure

ESTIMATED BATTERY LIFE	
3 – AA Alkalines (-20 to +50°C)	
Report Interval – 1 minute 15 minutes 1 hour	2.4 Years, 1.28 Million reports 5.3 Years, 186,000 reports 5.7 Years, 50,000 reports
1 – Lithium Thionyl Chloride (-40 to +85°C)	
Report Interval – 1 minute 15 minutes 1 hour	9.7 Years, 5.1 Million reports 10 Years*, ~375,000 reports 10 Years*, ~100,000 reports

* Life of the battery is specified by the manufacturer at 10 years. The SN802GRC will not consume the battery energy before the 10 year time has elapsed.

Other Wireless Technologies Available:

- ZigBee® PRO
- 802.15.4
- WirelessHART™
- Frequency Hopping

Other Sensor Types Available:

- Voltage
- Thermistor
- Humidity
- Pressure
- Strain
- Pulse Count
- Others

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Specifications subject to change without notice.