DATA SHEET

Radio Modem

RM02

Bluetooth 4.0 compatible

The RM02 is a radio modem module operating in the 2.4 GHz ISM band (Industrial, Scientific & Medical). Since it complies with Bluetooth 4.0 (BLE) standard, it allows the implementation of a low power sensor network that can be directly accessed by your smartphone.

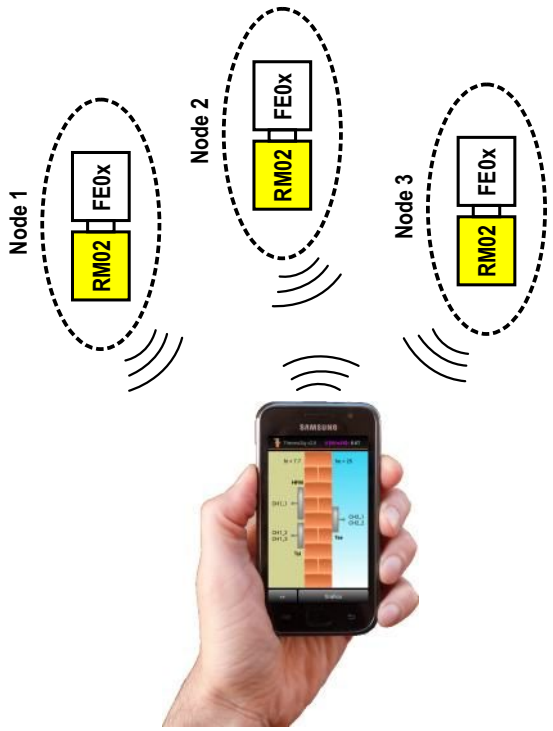
The module is supplied with a Li-Po rechargeable battery that could be fully restored within a couple of hours by using CB02 battery charger.

Each RM02 has an internal datalogger able to acquire sensors signals and save them to a non-volatile memory. A quartz real time clock provides synchronization of the received samples and a LED indicator shows the current operating state.

The battery life is optimized by the communication protocol; each measurement node remains active only for the time necessary to transfer data and then is automatically turned off. The frequency of sampling is determined by the front end devices (FE0x).

In order to build a measurement node is sufficient to connect a RM02 to a front end FE0x through their DB9 connectors. Once made the connection, both devices are powered by the internal modem battery and the node becomes ready to operate.

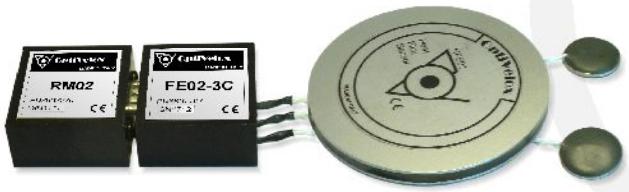
A measurement session can be remotely started via Bluetooth or can be automatically started right after the connection with a FE0x module. Data can be downloaded via Bluetooth or at the end of a session using the USB interface provided by CB02.



Example of a wireless network composed by 3 measurement nodes

Ordering codes:

Code	Part	Description
8802220	RM02	Radio Modem with internal battery



Technical specifications

WIRELESS COMMUNICATION
Bluetooth 4.0

RF POWER MAX
4 mW (6 dBm)

OPERATING FREQUENCY
2,4 GHz (ISM band)

COMMUNICATION RANGE
15 m (indoor)
100 m (outdoor)

DATA RATE SERIAL INTERFACE
19200/256000 bps

POWER SUPPLY
3.3...5.1 Vdc
5 mA (ON, typ)
5 uA (SLEEP, BLE OFF)

BATTERY
Li-Po 3,7 V / 150 mAh, rechargeable
Low self-discharge
No memory effect
> 500 charge cycles

DATA MEMORY
2 MB (about 500,000 samples)

TEMPERATURE RANGE
-20°...50°C working (RH max 85% at 25°C)
-30°...60°C storage

DIMENSIONS
40 mm x 40 mm x 20 mm (excluding connector)

WEIGHT
~40 g