DATA SHEET - SIN. EQRPT868XMB

BATTERY-POWERED SMART GATEWAY

Device

The battery-powered Wireless M-Bus Smart Gateway is a plug-and-play device that collects data from meters and Wireless M-Bus devices, transmits it via mobile communication to the SGH (Sinapsi Global Hub) cloud and makes it available through reports.

Performance

The long range and high sensitivity are achieved through the use of new radio module technologies. Thanks to NB-IoT (Narrowband Internet of Things) connectivity, it is possible to install the Smart Gateway even in places where mobile reception (4G) is poor.
The considerable coverage range allows the collection of data from Wireless M-Bus devices (meters, heat cost allocators, sensors, etc.).

Configuration

The SIN. EQRPT868XMB concentrator acquires data from Wireless M-Bus 868 MHz devices from different manufacturers according to the EN13757-4 standard and according to the OMS protocol. Supported operating modes are S, T, or C.
It is able to read generic sensors (temperature, humidity, air quality, digital alarms, etc.) transforming a metering system into an intelligent IoT application.
Supports AES 128-bit key encryption.
The batteries can be replaced in complete autonomy without the intervention of specialized technicians, while the data connection is renewable annually or for longer periods.

Commissioning & Reporting

Commissioning and configuration is carried out via WEB APP accessible via smartphone, tablet and PC..
Reading data is transmitted or made available periodically:
- via Email through .csv files, .xls
- via Ftp through .csv files, .xls
- via REST API through SGH

Cloud

Smart Gateway periodically connects to the cloud to provide data received Wireless M-Bus. This provides a two-way connection between the gateway and the cloud. If the server is down or the Smart Gateway offline, the data is stored in the device to be delivered later. The data is processed and made available from the cloud

From the Smart Gateway portal it is possible to manage several plants and, for each plant, several Smart Gateways, even mixed (battery-powered or 230 VAC mains-connected).

Interval Mode

Smart Gateway remains active with predefined intervals:
- In C or T mode, on the day the report is sent, it is active for no more than 4 hours until all data is collected.
- In S mode, on the day the report is sent, it is active for no more than 12 hours until all data is collected.

Smart Gateway with single-hop repeater SIN.EQRPT868X

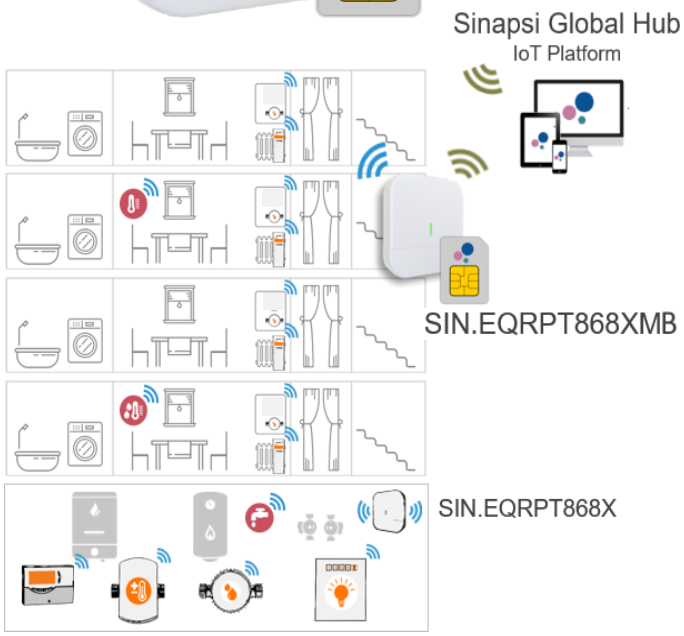
The Smart Gateway can be used in conjunction with a single-hop repeater such as SIN. EQRPT868X of Sinapsi (powered at 230 VAC). The information that the Smart Gateway can show about the repeater is:
- Which meter was received via repeater
- With which RSSI signal the meter was received from the single hop repeater

REPLACEABLE BATTERY
Durability up to 5 years

UP TO 500 DEVICES
Multi-brand

1 YEAR CONNECTION INCLUDED Renewable

ASYNCHRONOUS DATA REQUEST



Settings

From the Smart Gateway portal, a plant must be created on which to insert the device by scanning the QR code on its label.
Next, it is essential to enter the list of devices to be accounted for. Without the list entered, the Smart Gateway does not detect any meters.
Then you have to select the operating mode of the Smart Gateway (S, T, or C), the frequency of sending data (in S-Mode only monthly) and the months of operation.

First time activation

After configuring the Smart Gateway on the portal side, a jumper is inserted that connects the battery already housed to the internal board of the device. To activate and start normal operation, the activation button must then be pressed and held down for 10 sec.

Operation

After receiving the configuration from the cloud, the Smart Gateway scans and identifies the devices on the list and then sends the reading data to the cloud, making them immediately usable.

Asynchronous Data Request

On the Smart Gateway portal side, up to 6 additional asynchronous data requests are available per year without compromising battery life.
By pressing the button on the Smart Gateway device, there are no limits on data requests, but this reduces battery life.

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GENERAL INFORMATION

Feeding	Primary: 2x 8,5 Ah, 3.6V, Secondary: Lithium buffer
Reference legislation	2014/53/EU (RED), EN 13757-3:2013 (Physical Layer), EN 13757-4:2013 (Application Layer)
Application Layers supported	Wireless M-Bus, OMS
Categ. installation	Class II

MECHANICAL CHARACTERISTICS

Range temperatura	Operating: -10°C to +85°C, Storage: -10°C to +85°C
Dimensions	160x160x35 mm (HxLxP) – DIN
Montage	Wall-mounted, with screws - Pole with kit (optional)
Degree of protection	IP 40 (EN60529)

USER INTERFACE

Global Hub Synapsi	Remote management via SGH IoT platform
Front Led	RGB LEDs: power supply and operating status, Network signal level

POWER CONSUMPTION

wM-Bus radio	6 mA
NB-IoT	Typically ~50 mA transmitting
Maximum Consumption	500 mA

MEMORY

Type	Flash (non-volatile)

FIRMWARE

Wireless M-Bus Mode	T, C, S
Number of Wireless M-Bus devices	Max 500
Meter Recognition Modes	Data reception, SND_IR message reception, Import meter list from file
Safety	Supports the reception of safety profiles A and B according to OMS 4 or any W-Mbus compatible message.
Data Sending Interval	weekly biweekly monthly
Asynchronous Data Request	from portal: max 6 per year, From Device: Unlimited**

RADIO COMMUNICATION WITH THE CLOUD

Modem	NB-IoT
Radiated power	~23 dBm (< 200 mW)
SIM	Micro Sim (supplied / not replaceable)
How to send read data from the SGH cloud	Email (.csv, .xls), Ftp (.csv, .xls), REST API
Antenna	2 internal

M-BUS WIRELESS RADIO COMMUNICATION

Transmission Frequency	868 MHz
Sensibility	Up to -110 dBm in S-Mode, Up to -109 dBm in C-Mode o T-Mode
Limite in RF input	18 dBm

Examples of battery life by configuration*:

Examples Operation 12 months	Sending frequency: weekly C-Mode, T-Mode	Sending frequency: bi-weekly C-Mode, T-Mode	Sending frequency: monthly C-Mode, T-Mode, S-Mode
0 to 200 Devices	5 years	≥5 years	≥5 years
200 to 300 devices	4 years and 6 months	≥5 years	≥5 years
300 to 400 devices	3 years and 10 months	≥5 years	≥5 years
400 to 500 devices	3 years and 4 months	≥5 years	≥5 years

For more details on battery life, please refer to the simulator on the Smart Gateway portal

* Claimed battery life is based on simulations and real-world measurements at recommended temperatures and cellular reception conditions [STC - Standard Test Conditions] and is valid to the best of our ability but does not constitute a warranty. [STC] Standard Test Conditions: Temperature 0°C/+50°C and CSQ Modem ≥9 [Good] [Good]):

** Shortens battery life.

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