SIN.EQRPT868XMB - Quick Start Guide
BATTERY-POWERED SMART GATEWAY

EQUOBOX

1. OVERVIEW

- Gateway for W.M-Bus 868 MHz / OMS EN13757 devices
- Radio coverage up to 250m in open air and 25m in building
- Possibility to extend coverage through single hop extender Wireless M-Bus
- Manages up to 500 wireless M-Bus meters
- Data transmission to Sinapsi Global Hub (SGH) cloud platform on a weekly, bi-weekly, monthly frequency
- Memory of the last acquired non-volatile data
- Easy commissioning thanks to SGH cloud platform
- Integrated NBI-IoT modem with IoT SIM card
- Wall installation
- Plant management with SGH cloud platform

A. Cable compartment lid
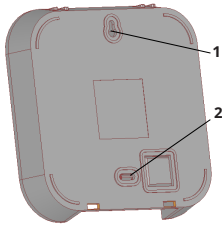**B.** Operating indication LEDs
C. Cellular signal LED

2. CONTENTS OF THE PACKAGE

- 1 x Clamp headband
- 2 x Screw 2,2x9,5
- 2 x Anchor 5x25
- 2 x Screw 5x30
- 2 x Glands

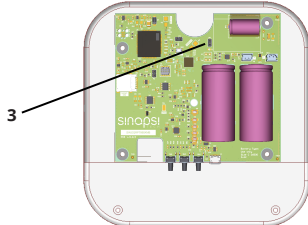ℹ️ The USB / Micro USB cable is not supplied and is not included in the product package

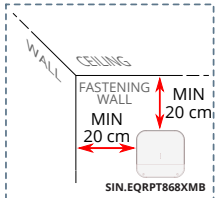1 x SIN.EQRPT868XMB

3. WALL MOUNTING AND DEVICE POWER SUPPLY

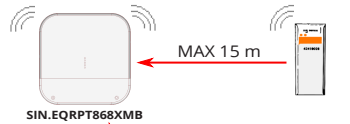1 - Hole for upper fixing screw
2 - Pre-hole for lower fixing screw

3 - Jumper to be inserted for Smart Gateway power supply

4. POSITIONING AND OPERATING DISTANCES

1) Fix the SIN.EQRPT868XMB gateway on the wall at a minimum distance of 20 cm from the ceiling and from the adjacent wall.

FLOOR 1
MAX 15 m

SIN.EQRPT868XMB

MAX 6 m

FLOOR 0

2) The maximum operating distance between the devices and the gateway installed on the same floor is 15 meters, without major obstacles such as walls, columns or beams in the reinforced concrete or metal or other metal structures.
3) The maximum operating distance between the installed devices and the gateway on different floors is 6 meters.
4) Place SIN.EQRPT868XMB in a location that meets the conditions of network signal value >= 1 green led and reception of all W. M-Bus devices expected to receive with that gateway.

5. BATTERY REPLACEMENT

The battery of the Smart Gateway can be replaced completely independently without the help of any Sinapsi technician.

The Smart Gateway's battery connector is a Molex 5264-02 type and the batteries are 2 x 8.5Ah 3.6V. To replace the batteries it is necessary:

1 - Remove the battery connectors
2 - Remove batteries
3 - Insert the new batteries into the battery compartment
4 - Insert the connector of each new battery

ℹ️ The Smart Gateway's backup battery makes up for the power failure for about a week.

6. BUTTON MANAGEMENT AND CONNECTION:

1 - Button S1→ not used
2 - Button S2→ press for > 30 seconds:
  - Activation and commissioning
  - Force scan and send data when updating list
3 - Reset button: Device restart

4 - Micro USB port

7. LEDs STATUS INDICATION

1) During normal operation, the status LED (B) can provide the following signals:

LED	Blink frequency	Modality
🌈	Continuous variation in RGB colors	Initializing the gateway
🟢	**Green**, every 30 seconds	Sleep mode, the device is not doing any operation
🔵	**Blue**, every 30 seconds	SGH connection active, the LEDs indicating the network signal strength are also lit (C)
🟣	**Fuchsia**, every 30 seconds	Reading/scanning of Wireless M-Bus devices
🟢	**Lime Green**, every 30 seconds	Connected via USB

2) When the concentrator modem is connected to the cellular network, the status LED (B) blinks blue every 30 seconds and the front green signal level LEDs (C) also light up, showing the quality of the CSQ signal.

LED	Lit	Indication
🔵	**Blue**, every 30 seconds	SGH connection active
🟢	**Green**, CSQ 1	Poor reception
🟢	**Green**, CSQ 2	Sufficient reception
🟢	**Green**, CSQ 3	Good reception
🟢	**Green**, CSQ 4	Excellent reception

3) Error indication status LED (B):

LED	Blink frequency	Modality
🔴	**Red**, 1 blink, every 30 sec.	SRAM memory fault
🔴	**Red**, 2 blinks, every 30 sec.	Generic error
🔴	**Red**, 3 blinks, every 30 sec.	Modem fault
🔴	**Red**, 4 blinks, every 30 sec.	FLASH memory fault

ℹ️ If the SIN.EQRPT868XMB is in an error state, it can be restarted manually by pressing the reset button (3).

8. TECHNICAL DATA

Temperature range:	Operative: -10°C ... +85°C
	Storage -10°C ... +85°C
Ingress protection:	IP 40 (EN60529)
Protection Class:	II
Fastening:	wall clipped
Dimensions:	LxHxP 160x160x35mm
Power supply:	Primary: 2x 8,5 Ah, 3,6V
	Secondary: Lithium buffer
Current consumption:	Radio Wireless M-Bus: 6mA
	NB-IoT: Typically about 50 mA in transmission
	Maximum: 500 mA
Working frequency:	868MHz
Wireless M-Bus Mode:	S / T / C

CE
+85°C
-10°C
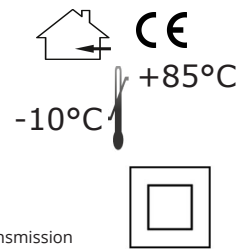
TROUBLESHOOTING

1) The device does not turn on
- Check that the jumper as shown in the figure in section 3 is inserted.

2) The Smart Gateway does not detect any devices and switches to Sleep mode (green status LED every 30 sec.):
- Verify that the SIN.EQRPT868XMB device is placed in a location where cellular reception is favourable (avoid placing it in electrical cabinets or environments that are too shielded)
- Check the cellular signal level by indication of the cellular signal LEDs (C)

3) Not all Wireless M-Bus devices are detected:
- Check that the SIN.EQRPT868XMB status LED is lit and not blinkin red
- Ensure that meters not detected are not too far away from the SIN.EQRPT868XMB or that the radio signal is not attenuated too much by concrete/metal walls. Consider extending coverage with Wireless M-Bus extenders.
- Check that unreached devices are in the list uploaded to SIN.EQRPT868XMB via the SGH cloud platform web app.
- Attention: some W.M-Bus devices transmit at intervals of even several hours
- With the help of the SGH portal, verify that the "mode of opertation" (S, T, C) of the gateway is set as the "mode of operation" of the W.M-Bus devices.