

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 SIN.EQRPT868X
- Manages up to 500 wireless M-Bus meters
- Data transmission to cloud platform Sinapsi Global Hub (SGH) with minimum weekly frequency, maximum 15min
- Memory of the last acquired non-volatile data
- Easy commissioning thanks to the IoT Sinapsi Global Hub (SGH) cloud platform
- GPRS modem integrated with IoT SIM card
- Power supply 100...240Vac or via micro USB*
- Wall installation
- Plant management with SGH cloud platform

* Make sure that the USB port to which the cable is connected is capable of delivering at least 1A of current.

A. Cable compartment lid B. Operating indication LEDs

2. Connections/buttons/led lights



- 1 - Power supply input 100...240Vac (screw terminals)
- 2 - Multi-function button S1
- 3 - Multi-function button S2
- 4 - Reset button
- 5 - Micro USB port



- 6 - LED for W. M-Bus network indication
- 7 - LED for modem status indication
- 8 - LED for signal level
- 9 - LED status

i For details on the configuration of the SIN.EQRPT868XM using the buttons and for the meaning of the front LEDs, please refer to the dedicated sections.

3. CONTENTS OF THE PACKAGE



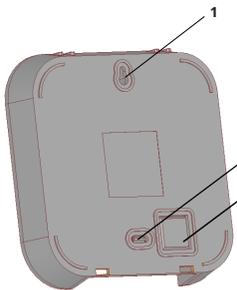
1 x SIN.EQRPT868XM

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

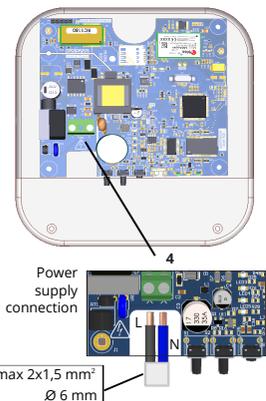
i The USB / Micro USB cable is not supplied and is not included in the product package

! Before making any connection, disconnect the power supply, complete the wiring, close the device cover and then power the gateway only afterwards.

4. WALL FASTENING AND CABLE PASS



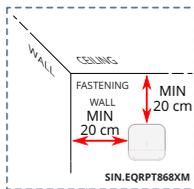
- 1 - Hole for upper fixing screw
- 2 - Pre-hole for lower fixing screw
- 3 - Pre-hole for burglary of cables
- 4 - Power supply connection



max 2x1,5 mm²
Ø 6 mm

5. POSITIONING AND OPERATING DISTANCES

- 1) Fix the SIN.EQRPT868XM gateway on the wall at a minimum distance of 20 cm from the ceiling and from the adjacent wall.
- 2) The maximum operating distance between the devices and the gateway installed on the same floor is 25 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 15 meters.
- 4) Place SIN.EQRPT868XM in a location that meets the GSM signal value conditions >= 1 green LED and reception of all W. M-Bus devices that you expect to receive with that gateway.



6. LEDs STATUS INDICATION

- 1) During normal operation, the status LED (9) can provide the following signals:
 - Continuous variation in RGB colors -> Initializing the gateway
 - Green blinking every second -> Modem in the initialization state
 - Sky blue blinking every second -> Modems searching for GSM network
 - Fuchsia blinking 10 times per second -> Modem connected to the GSM network and waiting for the data connection
 - Orange blinking every second -> Waiting for the first connection to the SGH cloud platform
 - Orange blinking 10 times per second -> Communication in progress with the SGH cloud platform
 - Orange Fixed -> Device ready, active GPRS data connection and operational modem
- 2) **The orange led of the SIN.EQRPT868XM signals the connection to the SGH cloud platform and the correct functioning of the gateway**
- 3) When the gateway modem is connected to the GSM network, the status LED (9) blinks fuchsia and the front green LEDs of the signal level (8) also light up. They show, for about 5 minutes, the quality of the CSQ signal: 1 = poor reception, 2 = sufficient, 3 = good, 4 = very good.

Other indications of the LEDs, status LEDs (9):

- White Fixed -> Bootloader running (DO NOT POWER OFF THE DEVICE)
- Red blinking every second -> Temporary status of a few minutes waiting to be reconnected to the GSM network

- Status LED error indication (9):
- Red 1 blink -> RAM memory fault
 - Red 2 blinks -> W.M-Bus fault
 - Red 3 blinks -> Modem fault
 - Red 4 blinks -> FLASH memory fault
 - Red 5 blinks -> Internal clock fault

- Modem status LED indication (7)
- Off -> GSM connection absent
 - 1 blink -> 2G connection
 - 2 blinks -> 3G connection
 - 3 blinks -> 4G connection
- Signalling W. network LED. M-Bus (6)
- blinking -> Data reception W. M-Bus

i If the SIN.EQRPT868XM is in an error state, it can be restarted manually by pressing the reset button (4).

7. KEY MANAGEMENT

- Key combination:
- S2 -> press between 2 and 6 seconds:
 - Activating/deactivating the GSM signal level display using LED indication (8)
 - S2 -> pressure >6 seconds:
 - Update gateway communication status to SGH cloud platform
 - Reset -> Restart device (4)

8. ACTIVATION OF THE GATEWAY

In order to use the gateway, it is necessary to certify ownership by means of the activation procedure in the SGH cloud platform. Connect to the following link:

<https://app.sghit.com/smargw/>

- Create an account, if you are not already registered, otherwise log in with your credentials.
- Create or select a plant in which you want to insert the new gateway

- 1) Activate the gateway in the system desired by manually entering the **Activation Key** indicated on the label of the box or on the inside of the cable compartment.
- 2) It is also possible to carry out the activation by using the camera of your smartphone by pointing to the QR code of the gateway label: by pressing the relative button (1), framing the QR code (2) and then confirm by pressing the "Activate" key (3).



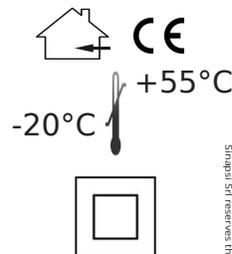
c1



c2

9. TECHNICAL DATA

- | | |
|----------------------|--|
| Temperature range: | Operative: -20°C ... +55°C
Storage: -25°C ... +85°C |
| Ingress Protection: | IP 40 (EN60529) |
| Protection class: | II |
| Fastening: | wall clipped |
| Dimensions: | LxHxP 160x160x35mm |
| Power supply: | 230Vac +/- 15% - 50-60Hz
USB (5Vdc, 1000mA) for commissioning |
| Maximum consumption: | 10W |
| Working frequency: | 868MHz |
| W.M-Bus mode: | S / T / C+T / S & C+T |



10. TROUBLESHOOTING

- The device does not turn on:**
 - In case of power supply from the mains, check that the voltage is present.
 - When using the USB port, check the quality of the USB cable and that the PC is capable of delivering 1000mA of current.
- The status LED never turns steady orange:**
 - Check that the SIN.EQRPT868XM device is positioned in a place where GSM reception is favourable (avoid closing it in electrical panels or particularly shielded environments).
 - Check the level of the GSM signal by activating the LEDs (section 7)
- Not all W.M-Bus devices are detected:**
 - Check that the status LED of the SIN.EQRPT868XM is lit and orange.
 - Check that the undetected meters are not too far from the SIN.EQRPT868XM or that the radio signal from reinforced concrete/metal walls is not attenuated too much. Evaluate the possibility of extending coverage with SIN.EQRPT868X single hop repeaters
 - Check that the devices not reached are in the list loaded in the SIN.EQRPT868XM through the SGH cloud platform.
 - 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 operation" (S, T, C+T, S & C+T) of the gateway is set as the "mode of operation" of the W.M-Bus devices.