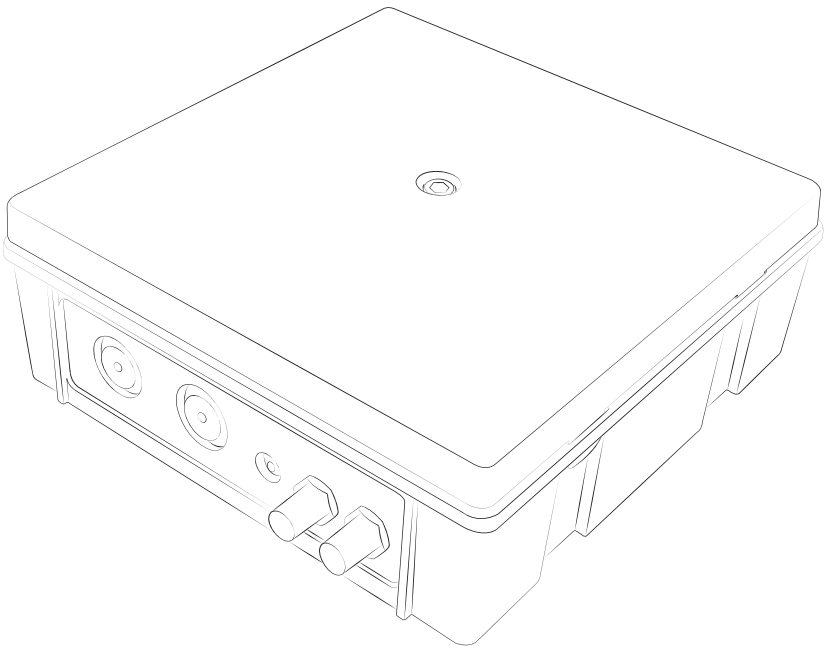
QUICK INSTALLATION GUIDE

LONG-RANGE BATTERY GATEWAY

with optional use for one or two external antennas



LAN-WMBUS-GW5-BE-LR-A1/A2-(434)-(X)-CATM1-(X)
LAN-WMBUS-GW5-BE-LR-A1/A2-(434)-(X)-CAT1/4G-(X)

LANSEN

READ THE INSTRUCTIONS

Read and understand this manual and its safety instructions before using this product. Failure to do so can result in severe injury or death. Follow all instructions to avoid hazards like fire, explosions, or electric shocks.

Only use the product if you have fully read and understood the user manual. Ensure every user reads and follows these instructions before use. Keep safety information for future reference and pass it on to subsequent users. The manufacturer is not liable for damage or injury caused by incorrect handling or non-compliance with safety instructions.

Your safety and the device's proper functioning depend on adhering to these guidelines.

Copyright

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Lansen Systems AB is not responsible for any errors or omissions in this manual. The information provided is believed to be accurate and reliable, but Lansen Systems AB makes no warranty of any kind, express or implied.

Explanation of symbols

Important information regarding instructions or recommendations for installation of devices.

Indicates a mandatory action to follow.

Warning, risk for bodily harm if handled without care.

The CE symbol is confirmation by Lansen Systems AB that this product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU and RoHS Directive 2011/65/EU (EU) 2015/863.

This symbol on the product or its packaging means that it should not be disposed of with your other household waste. It is your responsibility to dispose of your waste equipment separately from the municipal waste stream. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.

This symbol on the product means the equipment meets the safety requirements specified for Class II equipment according to IEC 61140

Important safety information

Warning: Contains Li-SOCl$_2$ battery. Risk of fire, explosion, and severe burn hazard. Do not recharge, disassemble, heat above 100°C, incinerate or expose contents to water. Do not drop or otherwise physically abuse the battery. Only use batteries specified by Lansen.

Only store, transport, and use the product and any included battery under the conditions described in this user guide.

Do not attempt to alter or repair the device. If you are experiencing malfunction, make sure to contact your place of purchase or visit our website.

Use ESD protection when handling the product with the PCB exposed to prevent potential damage to the electronics.

Disclaimer

Lansen Systems are not responsible for any damage, malfunction, or non-compliance resulting from the use of unauthorized accessories or modifications to this device.

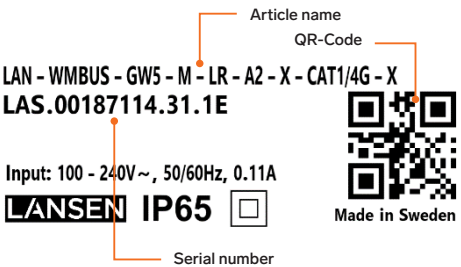
INTRODUCTION

The battery powered wM-Bus gateway is a highly configurable plug-and-play device used for collecting data from wM-Bus meters and transmitting the data using LTE CAT-M1 or LTE CAT1/4G. The device has a sleek and discrete design with high security and performance.

For more information, go to our website at www.lansen.io.

LABEL INFORMATION

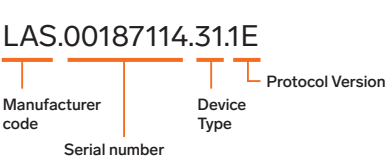
The label on the device gives useful information about your device, see example below.



Article name: Full article name code of the device.

QR-code: Includes the wM-Bus serial number of the device.

Serial number: Full device information, example:



	wM-Bus	LTE CAT-M1	LTE CAT1/4G
Frequency band(s)	868 version: M: 868.000 MHz to 868.600 MHz N: 868.700 MHz to 869.200 MHz 434 version: 433.050 MHz to 434.790 MHz	LTE-M B1/B2/B3/B4/ B5/B8/B12/B13/ B14/B18/B19/ B20/B25/B26/ B27B28/B66/ B85	LTE-FDD B1/B2/B3/B4/ B5/B7/B8/B12/ B13/B18/B19/ B20/B2/ B26/ B28/B66/B71 LTE-TDD B34/B38/B39/ B40/B41
Output power (ERP)	< 14 dBm / < 25 mW	20 or 23 dBm / 100 or 199,5 mW	23 dBm / 199,5 mW
Usage conditions	-20 to 60 °C		
Storage conditions	-20 to 60 °C		
Transport condition	-20 to 60 °C		
Config-urable	Yes, either with Lansen USB-Dongle, USB-C Cable, or from MQTT. For more information, refer to the configuration manual.		
Battery	2xER34615+SPC1550/W Li-SOCL² Nominal voltage: 3.6 V Nominal capacity: 38000 mAh		

CONFIGURATION OF THE DEVICE

For information regarding the configuration of the device.

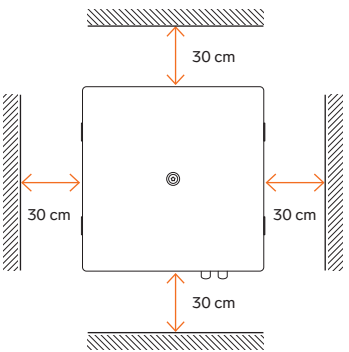
Please follow the QR code to our website. Here you can find every variation of the device including the appropriate manuals and documentation.

MOUNTING INSTRUCTIONS

(A1) It is recommended to install the gateway indoors to a wall. It can also be installed to a ceiling.

(A2) It is recommended to install the gateway upright on a wall, pole or pipe. It can also be installed to a ceiling.

It is highly recommended to mount the device as shown below.

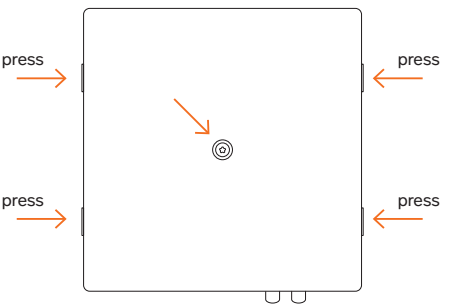


FIRST INSTALL

OPENING THE HOUSING

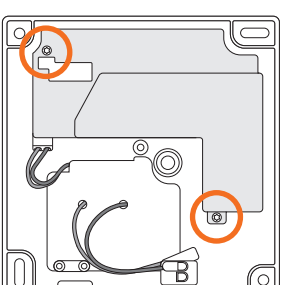
Needed equipment: Screwdriver with security Torx T20H.

Unscrew the center screw (Torx T20H) and remove the cover by pushing the clips at both sides of the cover.



REMOVING THE PCB COVER

Unscrew the two screws (Torx T10) from the plastic cover protecting the PCB. Remove the cover.

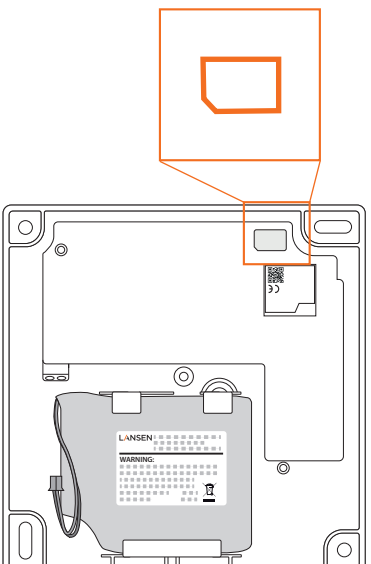


INSTALLING A SIM-CARD

With the cover removed, a nano sized SIM-card (not included) can be inserted into the SIM-card holder.

1. Orient the SIM-card with the cut corner facing to the left, away from the SIM-card holder.
2. Insert the SIM-card by carefully sliding it in.

Make sure the SIM-card is not pushed in too far. This might cause the connection to fail.



REMOUNTING THE PCB COVER

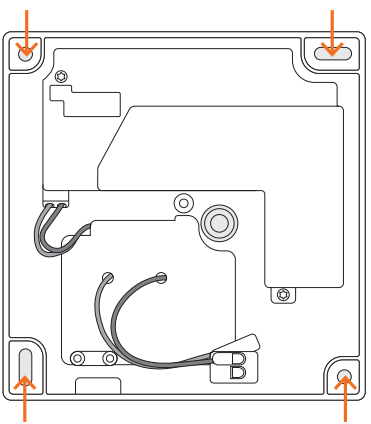
Reseat the plastic cover and fasten the two screws.

MOUNTING THE DEVICE

There are two mounting options:

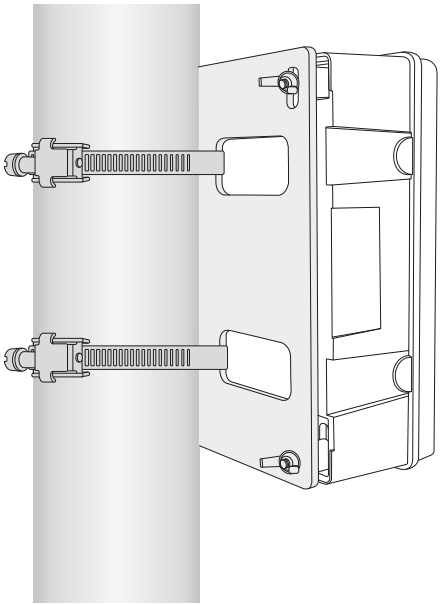
A. Wall mounting

1. With the lid off, hold the gateway where it will be mounted.
2. Mark the holes with a pencil.
3. Pre-drill if necessary and mount the device by using four screws suited for the wall material (not included).
4. Continue to Device startup.



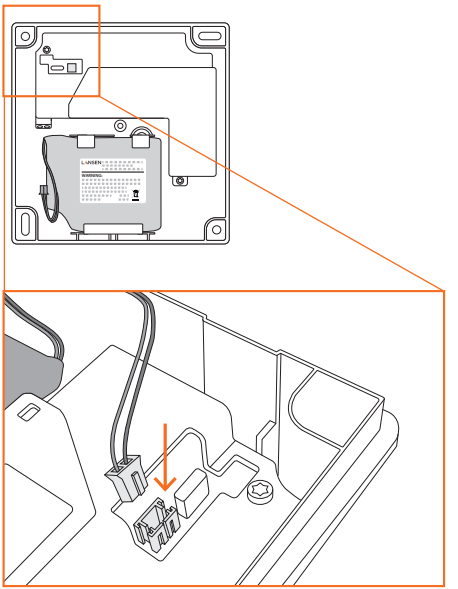
B. Pole mounting

Install the Lansen pole mounting kit (art. nr LAN-910-0066) on the back of the gateway. Pull the mounting straps through the holes. Wrap the straps around a pole or pipe. Tighten the straps until the gateway is securely mounted.



DEVICE STARTUP

Connect the battery (se illustration below).



A beep will be heard and all 4 LEDs on the strip will light up.

After 1-2 minutes, you will hear a second beep that indicates the completion of the gateway startup. The gateway is now ready to receive data packets.

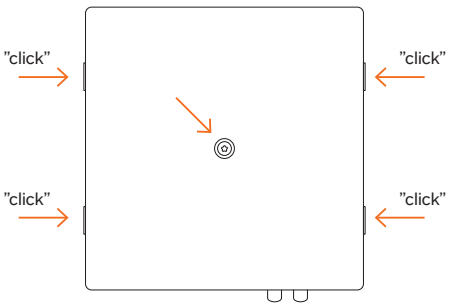
The device will attempt to connect to the configured MQTT server. This is indicated by the flashing of the IP-COM LED. Once the connection is complete the IP-COM LED will light steadily. For more information please refer to the User Manual.

CLOSING THE HOUSING

Needed equipment:
Screwdriver with security Torx T20H.

1. Attach the cover and make sure the clips are firmly attached.

2. Mount the center screw.



INSTALLING ANTENNAS

Some variants of the gateway support external antennas. Go to the section matching your device (see label on the enclosure or PCB cover).

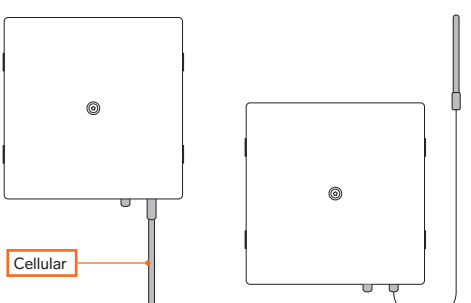
If your device does not support external antennas, installation is now complete.

Always make sure that the output power is within the regulatory limits of your region when using an external antenna. The output gain can be adjusted through the Lansen Configurator tool. This parameter can be found under the “Basic” tab.

A. Antenna for cellular network

This device supports an external antenna for transmitting using cellular to MQTT and uses an internal antenna to receive wireless M-Bus.

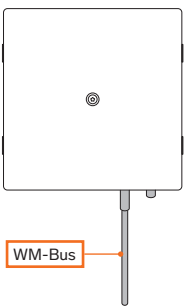
Attach an external antenna to the right SMA connector on the device, either directly on the connector (left picture below) or with an antenna cable (right picture below).



B. Antenna for wM-Bus

This setup uses an external antenna for receiving wireless M-Bus and internal antenna to transmit on cellular network to MQTT.

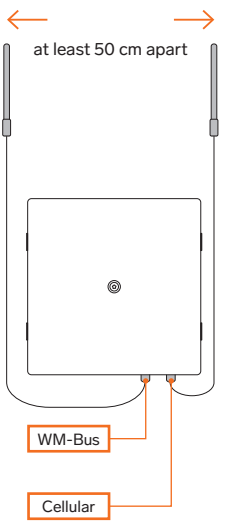
Attach an external antenna to the left SMA connector on the device, either directly on the SMA connector (left picture below) or with an antenna cable (right picture below).



C. Antennas for wM-Bus and cellular network

This device supports external antennas for receiving wireless M-Bus and transmitting using cellular to MQTT.

Attach two external antennas to the device, either directly on the SMA connector or with an antenna cable. When using both external antennas we recommend placing them as far apart as possible (AT LEAST 50 CM) to avoid interference, either by using 2 antenna cables or attaching 1 directly on the device and 1 with a cable.



SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, Lansen Systems AB declares that the radio equipment type defined by article name on the sticker is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: https://www.lansen.io/DOC

LANSEN

LANSEN SYSTEMS AB
Rörkullsvägen 7 • SE-302 41 Halmstad, Sweden • +46 35 50 520 • www.lansen.io

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