Datasheet (LOB-GW-WMBUS-NB)

Technical characteristics	
Type	LOB-GW-WMBUS-NB2
Description	Lobaro Wireless M-Bus NB-IoT Gateway V2
Cellular NB-IoT / LTE Cat. M1 Modem	
LTE SiP	Nordic nRF9160
Antenna	- Internal Monopole - On Request: External Antenna (SMA female)
Supported LTE Band	- Standard: B8, B20 (791 MHz - 969 MHz) - Other Bands on request
SIM card slot	4FF (Nano SIM)
Supported LTE modes	- Narrowband IoT (NB-IoT) - LTE Cat-M1 (on request)
Data Upload	- Secure CoAP over DTLS (via Lobaro IoT Platform) - Plain UDP (any Platform)
Firmware Features	- Certificate based authentication and encryption - Remote configuration (via Lobaro IoT Platform) - Remote firmware update (via Lobaro IoT Platform)
LoRaWAN Fallback Upload	
LoRaWAN Protocol	Class A LoRaWAN 1.0.2 EU868
Activation method	Over-the-air activation (OTAA) Activation by personalization (ABP)
Typically RF range	2 km
Ideal RF range	10 km (free line of sight)

TX Power	14 dBm
Wireless M-Bus communication	
Antenna	- Internal Monopole - On Request: External Antenna (SMA female)
Frequencies	868.3 MHz, 868.95 MHz
Supported wireless M-Bus modes	Unidirectional 868 MHz modes according to EN13757-4: - C1 / T1 (combined) - S1 Proprietary formats: - Xylem SensusRF (Bubble Up)
Telegram storage size	64 kByte storage - up to 500 telegrams (avg. size 100 Byte) 218 telegrams à 255 Byte (max telegram size)
Maximum white list size	minimum 150 different meters (2 KByte config size)
White list filters	- Meter ID - Manufacturer code (M-Field) - Meter type (e.g. only water meters)
Supported meters per gateway	- Standard: 500 - On request: up to 1.000
Encryption	AES128 (Mode 5 + Mode 7)
RF reception range	- up to 100 m under ideal conditions - Indoor 30 m - One Gateway every 2nd or 3rd Floor
Firmware features	- Configurable wireless M-Bus collection intervals - Automated upload of all received telegrams
Additional I/O	
Local configuration port	PC based initial configuration via USB adapter
LED	RGB Led to signal different operating modes
Power Supply	
Supply Voltage Connection	JST-XH connector
Nominal Supply Voltage	3.6 V
Supply Voltage Range	3.3 V - 5 V Battery empty at ~3.2 V
Std. Power supply	Lobaro ER34615M 3.6V primary battery (D-cell)
Current consumption @3.6V	
Normal / Idle	3 mA
Wireless M-BUS RX	14 mA
LTE (NB-IoT, LTE Cat-M1) TX	500 mA
Sleep with RTC running	10 µA

Mechanical dimensions	
Size	130 mm x 82 mm x 55 mm (incl. DAE)
Weight	220 g (excl. Battery) + Battery: ca. 114 g
Housing Material	Industrial polycarbonate
Rating	IP67 including pressure compensating element
Environmental Requirements	
Operating temperature range	-20 °C to +55 °C
Operating rel. Humidity	20 - 70 % fR, non-condensing
Max. Installation height	2 m