

# /M-Bus to Wireless M-Bus converter

This rugged battery-powered M-Bus master is built for the toughest metering sites - wells, pits and water stations where moisture, flooding and limited access normally drive up cost and risk. By converting wired M-Bus to long-range wireless communication, it turns these locations into stable, low-maintenance metering points that deliver secure data without field visits.



LAN-WMBUS-XO-MBUS | LAN-906-0050  
LAN-WMBUS-XLO-MBUS | LAN-906-0070

## KEY BENEFITS

Reliable plug-and-play wired M-Bus to Wireless M-Bus converter for reading out wired M-Bus meters and transmitting the data securely using the Wireless M-Bus protocol. IP68-rated enclosure (4 days at 4 m) enables installation in wells, pits and water stations where flooding or moisture is expected.

Dual internal antennas use both horizontal and vertical polarizations to maximize range and minimize multipath issues, ensuring stable Wireless M-Bus communication.

Automatic meter scanning simplifies setup, while periodic encrypted status and meter updates ensure

secure, consistent and maintenance-free operation.

Designed for hard-to-reach locations, the battery-powered unit provides long-term, unattended operation without external power or service needs.

## SYSTEM MONITORING AND SECURITY

At regular intervals, the device sends a status message containing details such as current M-Bus load, number of connected meters, overloads and the supported meter count.

This ensures transparent, secure, and continuous monitoring of system performance.

## AUTOMATED METER HANDLING

When activated with a magnet, the unit automatically scans the M-Bus for connected meters.

It searches for secondary addresses at 2400 baud.

After scanning, the device continuously polls each meter and transmits received data using the wireless M-Bus long packet format (0x72). All payloads are encrypted by default.



**FIRMWARE**

|                   |  |
|-------------------|--|
| MODE              | T1   |
| READ OUT INTERVAL | 15 - 120 min.<br>Default XO: 60 min<br>Default XLO: 15 min     |
| ENCRYPTION        | Default AES128 encryption<br>OMS mode 5<br>Profile A MBUS DATA |

**POWER/LIFETIME**

|                   |   |
|-------------------|---|
| VOLTAGE & CURRENT | 2.7V-3.6V < 1A  |
| BATTERY           | XO: 2 x ER18505 3.6V Li-SOCI2,<br>7600-8200 mAh, Lithium<br>< 1g/cell, UN3091 limited quantity<br>XLO: 3.6V<br>2 x ER34615+SPC1550/W<br>3.6V Li-SOCI2, 38 000mA,<br>Lithium < 5g/cell, UN3091 class 9 |
| LIFE TIME         | XO: 10 years* with hourly values,<br>2 M-Bus slaves connected (self<br>powered)<br>XLO: 10 years* with quarterly<br>values, 1 M-Bus slaves connected<br>(self powered)                                |
| RADIO             | Frequency: 868/434 MHz<br>Output power:<br>14 dBm (25 mW) to antennas<br>ERP typical: 11.3 dBm<br>(13.5 mW)   |
| ANTENNAS          | Two antennas for true<br>differential transmission  |
| MAXIMUM LOADS     | XO: 2 M-Bus loads<br>XLO: 4 M-Bus loads   |

**REGULATORY INFORMATION**

|           |   |
|-----------|---|
| STANDARDS | 2014/53/EU (RED)<br>EN 13757-3/4:2013,<br>OMS 4.0.2<br>EN61000-6-2:2019<br>EN61000-6-1:2019 |
|-----------|---|

**MECHANICAL AND ENVIRONMENTAL INFORMATION**

|           |   |
|-----------|---|
| ENCLOSURE | Phoenix Contact ECS-series<br>Housing part# 1186431,<br>Faceplate part# 1186436 |
| COLOR     | Light Grey (RAL 7042)   |

|                  |  |
|------------------|--|
| ENVIRONMENT      | Operating temperature:<br>-20°C to 70°C<br>Storage temperature:<br>0°C to 30°C |
| PROTECTION CLASS | IP68 (4 m/4 days)  |
| SIZE (W x H x D) | XO: 97 x 86 x 45 mm<br>XLO: 172 x 116 x 64 mm                                  |
| CONNECTOR        | Push Spring terminals  |
| CABLE GRAND      | M12 Ø 5.0 - 7.5 mm,<br>TPE gasket.   |

**PROTOCOL COMPATIBILITY**

|                 |   |
|-----------------|---|
| SLAVE TYPES     | EN 13757-2 M-Bus slave<br>devices supporting long<br>headers.<br>(0x72 Unencrypted) |
| ADDRESSING TYPE | Secondary addressing  |
| TELEGRAM TYPE   | Single-telegram   |

**ELECTRICAL INTERFACE**

|                      |  |
|----------------------|--|
| M-BUS OUTPUT VOLTAGE | 21V  |
| SLAVE POWER          | External (device operates<br>as passive master)  |
| CABLING              | Max length: 350 m<br>Max resistance: 90 ohms<br>Max capacitance: 180 nF<br>Supplied cable: Ölflex<br>Robust 210, 1.5 m |

**COMMUNICATION PARAMETERS**

|              |           |
|--------------|-----------|
| BAUD RATE    | 2400      |
| PAYLOAD SIZE | 190 bytes |

**DEVICES**

|     |                   |
|-----|-------------------|
| XO  | 2 logical devices |
| XLO | 4 logical devices |

**ACCESSORIES**

|              |              |
|--------------|--------------|
| BATTERY XO   | LAN-910-0060 |
| BATTERY XLO  | LAN-910-0037 |
| MAGNETIC PEN | LAN-910-0041 |
| CABLE JOINER | LAN-910-0084 |

**BATTERY LIFETIME EXPECTANCY**

The Lansen M-Bus to Wireless M-Bus converters are specified for more than 10 years of battery lifetime under the standard configuration at 25 °C. Battery lifetime decreases when exposed to elevated temperatures during storage or operation.

See Figure 1 for typical battery self-discharge rate as a function of temperature.

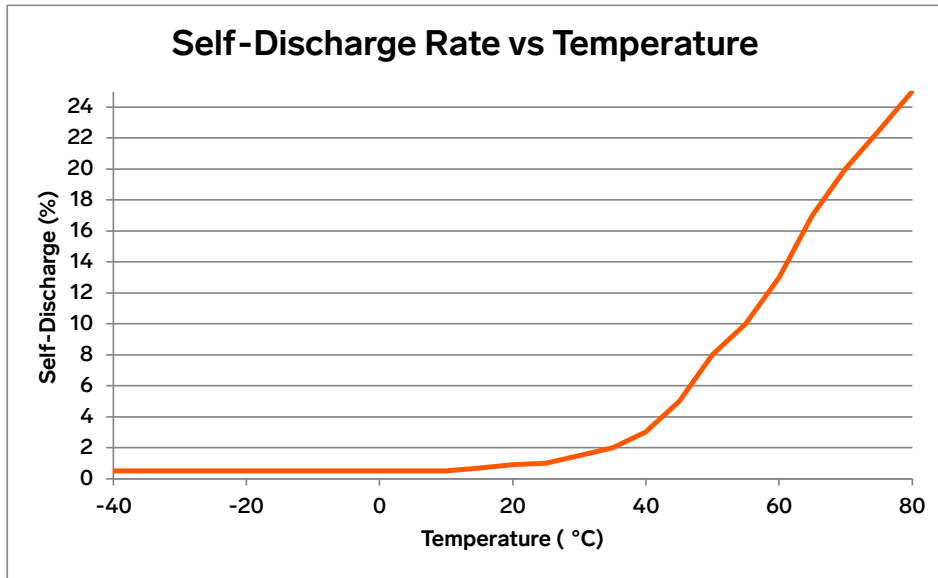


Figure 1

| EXAMPLES           | TYPICAL LIFETIME EXPECTANCY* | MAX M-BUS LOADS | MAX LOGICAL DEVICES | OPTIMIZED FOR      |
|--------------------|------------------------------|-----------------|---------------------|--------------------|
| LAN-WMBUS-XO-MBUS  | 10 years                     | 2               | 2                   | Hourly readings    |
| LAN-WMBUS-XLO-MBUS | 10 years                     | 4               | 4                   | Quarterly readings |

\*The expected battery lifetime stated is based on simulations and true measurements at 25 °C and is valid to the best of our ability but not a guarantee. The calculations and measurements can be sent upon request for your reference.