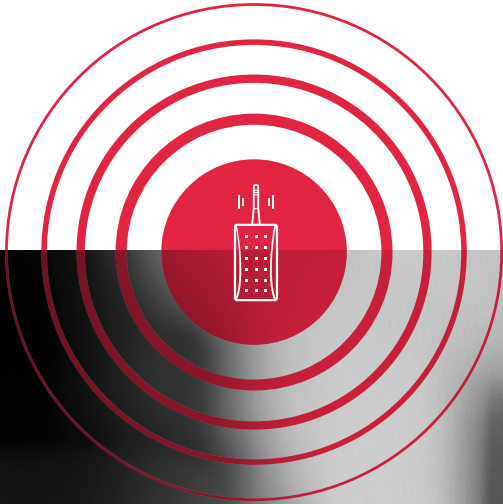


COMBOX.L ATEX

SOLUTION FOR DEMANDING
AND RISKY INDUSTRIAL
ENVIRONMENTS



- ATEX Certification
- Designed for Potentially Explosive Atmospheres
- LoRaWAN technology
- Battery Powered
- Long Range
- Low Power Consumption
- Long Battery Life
- Fast and Easy Installation
- Multiple Applications

ComBox.L® - 01 ATEX (PULSE SENSOR) and ComBox.L®- 02 ATEX (LPG LEVEL SENSOR) are intended to be used in demanding industrial environments/potentially explosive atmospheres, in the areas where explosive liquid vapours and explosive gases are present.

ComBox.L® ATEX devices are compliant with ATEX certification and meet the safety requirements to operate in high-risk conditions.



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COMBOX.L® ATEX DEVICES:

ComBox.L® ATEX are remote telemetry devices used for transmission of data from sensors and actuators to a cloud server via wireless communication with LoRa modulation. The equipment has long battery lifetime and suitable for harsh industrial environments. It is a cost-effective solution for remote monitoring, integrated with fully customised data logging and time synchronisation functionalities. The devices have been thoroughly tested; they meet safety requirements and can operate in high-risk industrial conditions.

TYPES OF DEVICES:

ComBox.L® - 01 ATEX (PULSE SENSOR). Intended for connection of the potential free contact counter. It is used with a meter with a potential free contact output located inside ATEX Zone 1 and ATEX Zone 2. Pulses are aggregated in preset intervals. One meter with tamper protection can be connected to a single device.

ComBox.L® - 02 ATEX (LPG LEVEL SENSOR). It is used with a Rochester Hall effect gauge to measure the liquefied gas level in gas storage tanks located inside ATEX Zone 1 and ATEX Zone 2. Measurements are taken at preset intervals.

MULTIPLE APPLICATIONS AND WIDE VARIETY OF USAGE SITUATIONS

A wide range of businesses can benefit from our solutions: Energy & Utilities, Oil & Gas and Industry. ComBox.L® ATEX devices are designed for the following applications: remote tank level monitoring (diesel fuel, kerosene, gas), cathodic protection monitoring, automatic meter reading and gas cylinders stock management. Our customers used these devices for the following projects: smart metering, volume monitoring (fuel tanks/containers) and different types of analyses (gas quality).

LORAWAN® TECHNOLOGY

ComBox.L communication devices based on LoRaWAN technology form the basis for successful smart industry solutions. With LoRaWAN, entire sites and cities countries can be covered with just a few base stations; this has made IoT applications possible with minimal infrastructural investment. It is a better alternative to the classical wired networks due to its long range, unique penetration capabilities, flexibility, easy operation & maintenance, and safe & reliable data transfer.

ADVANTAGES:

Implementation in demanding industrial environments. ComBox.L ATEX is intended for use in potentially explosive atmospheres, in areas where explosive liquid vapours and explosive gases are present.

Low Power. ComBox.L® ATEX devices are low power and can operate for many years (5-10 years) with built-in batteries.

Long Range. ComBox.L® ATEX devices use spread spectrum modulation allowing coverage of up to 5km in dense urban areas and up to 10km for countryside applications.

Connectivity. LoRaWAN® protocols are used to connect with the remote cloud. The devices have built-in data loggers, which ensure that all relevant data is stored and transmitted securely.

Robustness. Due to industrial design with IP 67 protection devices are suitable for harsh environments.

Flexibility. ComBox.L® ATEX devices can integrate with any types of meters (electricity, gas, water, heat meters, others), sensors and actuators.

FEATURES

- Functionalities: data logging, time synchronization, remote parameterization
- Operation with different network providers
- Standardized LoRaWAN® 1.0.1 communication
- Over the air (OTA-C) Configuration
- Data types - optional:
 - counter (unconfirmed data type)
 - logger (confirmed data type)
- 100 most recent measurements are saved locally in case of network failure

TECHNICAL CHARACTERISTICS

- Digital inputs: 1 counter + 1 tamper or 1 rochester gauge analog input
- Sensor Acquisition/Reading frequency: 15/60 min
- Logging frequency: 15/60 min
- Communication frequency: 15/60 min
- Memory capacity: 100 most recent measurements if not acknowledged by NMS

ENVIRONMENT

- Battery type: 2x lithium-thionyl chloride (Li-SOCl₂) battery
- Temperature: -20°C do +60°C
- Protection class: IP67

RADIO

- Frequency:
 - 868 MHz (EU)
 - 915 MHz (US)
- TX Power: 14 dBm
- RX Sensitivity: -139 dBm
- Modulation: LoRa
- MAC Layer: LoRaWAN

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