WATTECO

ATEX


SMART METERING


SMART BUILDING


SMART INDUSTRY

Pulse SENS'O ATEX zone 1

LoRaWAN

The **Pulse SENS'O ATEX zone 1** remotely reads metering data from water, gas, electricity or heat meters in ATEX zone 1 sensitive areas. It transforms existing meters into communicating meters via a public or private LoRaWAN® network.

APPLICATIONS

- In explosive atmospheres, read index values from gas, electricity, water or heat meters with pulse output; load curve monitoring.
- Detection of leaks, fraud and tear off.
- Checking the condition of mechanical pressure switches located in sensitive areas.
- Fast and cost-effective solution that transforms any pulse meter into a communicating meter.

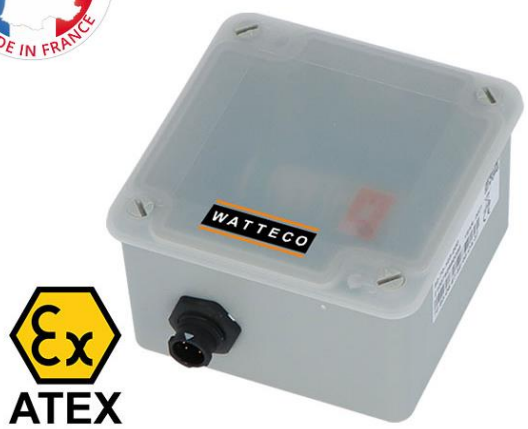
BENEFITS & FEATURES

- LoRaWAN®, Class A
- Easy to install and use
- 3 pulse inputs or status reports
- SAFT LS17500 Lithium battery on holder (IP55 version)
- Differential data compression
- Optional external antenna
- IP55 or IP68
- 10 years of autonomy (data compression mode)

CERTIFICATION

- RoHS, CE, UKCA
- ATEX Zone 1 certification according to marking:
  - Ex II 2 GD
  - Ex ib IIC T4 Gb
  - Ex ib IIIC T135°C Db
  - -20 ≤ Tamb ≤ +50°C

CONCEPTION ET FABRICATION MADE IN FRANCE



ATEX

Sensors delivered without WATTECO marking

The **Pulse SENS'O ATEX zone 1** sensor allows remote reading of metering data from the pulse output of water, gas, electricity or energy meters to monitor consumption. **Pulse SENS'O** allows you to make all your mechanical pressure switches in ATEX zone 1 explosive atmosphere communicate with one another and to report changes in status. It transforms existing meters into communicating meters via a public or private LoRaWAN® network.

Three meters can be simultaneously supported by the **Pulse SENS'O ATEX zone 1**, thus allowing a significant reduction in implementation and deployment costs. It can manage tampering detection, flow direction and index.

Installation and commissioning are quick and easy.

The sensor has:
- a switch used for its activation and deactivation,
- 2 LEDs to monitor the configuration and pairing to the network.

Counting data can be stored in the local memory and compressed before being transmitted over the public or private LoRaWAN® network. This reporting technique is particularly suitable for transmitting load curves as it considerably reduces the amount of data transmitted while preserving the autonomy of the sensor.

When powered by a SAFT 3.6V/3600mAh Lithium battery, the autonomy of the sensor is 10 years (in data compression mode) with a configuration that performs one measurement per day and one transmission per day.

Installation, maintenance and operation must be carried out exclusively by a technician qualified for the use of electrical equipment in explosive atmospheres as defined in EN 60079-14.

THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

WATTECO is a European leader in the design and manufacture of smart IoT devices to suit all remote reading and data collection solutions.

WATTECO is a LoRa Alliance® member.

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Pulse SENS'O ATEX zone 1

TECHNICAL DATA

RADIOFREQUENCY	Frequency (MHz)	Transmit Power (dBm)	Receiver Sensitivity (dBm)
	EU: 868 - 870	+14	-140

FIRMWARE	
Protocol	LoRaWAN®, Class A
Measurement periodicity	From 10 minutes to 24 hours (configurable)
Transmission interval	Immediate following measurement or batch at 30min to 48hrs (configurable)
Data compression	By differential coding (configurable)
Activation method	Activation by Personalization (ABP) ou Over-The-Air Activation (OTAA)
Data encryption	AES128

Pulse and Status Report INPUTS: intrinsic safety parameters

Uo=6.33V; Io=33µA; Po=23uW; Co=650µF [IIB]; Co=28µF[IIC]; Lo=1H [IIB]; Lo=1H [IIC].

Ui=25V; Ii=450mA; Ci=3.3nF, Li=0H

POWER SUPPLY	
Voltage	3.6V / 3600mAh - ATEX Zone 1 certification: battery replacement (only with IP55 version), use only SAFT LS17500 batteries. Transmitted battery voltage level (configurable in 0.1V steps).
Autonomy (in a range of +10°C to +25°C)	> 10 years with SF12, 1 measurement per day and 1 transmission per day

USER INTERFACE	
Magnetic switch + LEDs	Network pairing; signalling of sensor states; visible through the openings
NFC tag	Product code, serial number, batch number
Cable connection	IP55 – IP68: connection on 6 pins Amphenol connector; see references

ENCLOSURE	Size (mm)	Weight (g)	Fastenings	IP rating	Material	Fire resistance
	91 x 101 x 56	215	Wall mounting thanks to screws or adhesive tape (not supplied)	IP55 or IP68	Box : ASA200FR Cover : PC943A	UL94V2

ENVIRONMENT	Operation	Storage
	-20°C / +50°C ; +0%rH / +95%rH (non-condensing)	10°C / +30°C ; +0%rH / +60%rH

STANDARDS & REGULATIONS

Radio Equipment Directive 2014/53/EU, RoHS

CE 2900 Ex II 2 GD
Ex ib IIC T4 Gb
Ex ib IIIC T135°C Db
-20 ≤ Tamb ≤ +50°C
DEKRA 20ATEX0017 X
WARNING - DO NOT CHANGE THE BATTERY IN EXPLOSIVE ATMOSPHERE - ONLY USE TYPE OF BATTERY SAFT LS17500 - POTENTIAL ELECTROSTATIC CHARGING HAZARD - INTRINSIC SAFETY PARAMETERS FOR CONNECTORS - SEE INSTRUCTIONS
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LoRaWAN® Pulse Pulse SENS'O ATEX Zone 1- v1.8 on 17/01/2024 - This document is the property of WATTECO. The characteristics presented are given for information only, they are in no way contractual and are subject to change.

Pulse SENS'O ATEX zone 1

PRODUCT REFERENCES

REFERENCE	HS Code	Designation
50-70-123	85 17 62	PULSE SENS'O ATEX ZONE 1, IP55 - LORAWAN® EU868
50-70-152	85 17 62	PULSE SENS'O ATEX ZONE 1, IP68 - LORAWAN® EU868
50-70-228	85 17 62	Pulse SENS'O ATEX zone 1, IP55 External Antenna (not included) - LORAWAN® EU868
71-70-115	85 36 69	Cable - 2 meters with 6-pins Amphenol connector and 6 pins BINDER plug (shunt 3&4 5&6)
71-70-116	85 36 69	Cable - 2 meters with 6-pins Amphenol connector and JAE plug (for Gazpar meter)
18-40-263	85 36 69	Cable - 2 meters with Amphenol connector to 6 free wires
18-40-298	85 36 69	Amphenol connector - 6 pins
50-70-190		External antenna kit including mounting plate, 3 meters RF cable and antenna

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