

Pulse Sens'O AtEx zone 1



The **Pulse Sens'O AtEx zone 1** remotely reads metering data from water, gas, electricity or heat meters in AtEx zone 1 sensitive areas. **Pulse Sens'O** allows you to make all your mechanical pressure switches communicate with each other in AtEx zone 1 explosive atmospheres. 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; monitoring the charge curve.
- Detection of leaks, fraud and tearing off.
- Checking the condition of the mechanical pressure switches located in sensitive areas.
- Fast and economical 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.
- Differential data compression.
- IP55 or IP68.
- 10 years of autonomy (data compression mode).

CERTIFICATION

- RoHS, CE
- AteX Zone 1 certification according to marking:
 - Ex II 2 GD
 - Ex ib IIB, IIC T4 Gb
 - Ex ib IIIC T135°C Db
 - $-20 \leq T_{amb} \leq +50^{\circ}\text{C}$

The **Pulse Sens'O AtEx zone 1** sensor allows remote reading of metering data from the pulse output of water, gas, electricity or heat meters to monitor consumptions. **Pulse Sens'O** allows you to make all your mechanical pressure switches in AtEx zone 1 explosive atmosphere communicate with each other 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**, allowing a significant reduction in implementation and deployment costs. It can manage tamper detection, flow direction and index.



Installation and commissioning is quick and easy.

The sensor has:

- a switch allowing its activation and deactivation,
- 2 LEDs to monitor the configuration and association on the network.

Counting data can be stored in 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/3600 mAh Lithium battery, the autonomy of the sensor is 10 years (in data compression mode) for a configuration performing one measurement per day and one transmission per day.

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

THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

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

nke WATTECO is a LoRa Alliance®.

TECHNICAL DATA

RADIO			
Frequency (MHz)	EU: 863-870		
Transmitted power (dBm)	+14		
Sensitivity (dBm)	-140		
FIRMWARE			
Protocol	LoRaWAN®, Class A		
Transmission cycles	Configurable from 10 minutes		
Data compression	yes (differential coding)		
Activation method	ABP or OTAA		
Data encryption	AES128		
INPUTS and intrinsically safe parameters			
U0	6,33V	Ui	25V
I0	33 µA	Ii	450 mA
P0	23µW	Ci	3.3 nF
C0 [IIB]	650µF	Li	~ 0
C0 [IIC]	28µF	Number of entries	3
L0 [IIB]	1H	Frequency (Hz)	1-100
L0 [IIC]	1H		
POWER SUPPLY		Characteristics	Autonomy in the range +10°C to +25°C
Lithium battery	3.6V / 3600mAh -- AtEx Zone 1 certification: battery replacement, use only SAFT LS17500 batteries.		10 years with SF12, 1 measurement per day and 1 transmission per day.
INTERFACE			
LEDs	Configuration and association on the network		
Magnetic switch	Reset, ON/OFF		
Cable connection	IP55 - IP68: connection on 6-pin Amphenol connector; see references		
BOX		Dimension (mm)	IP class
		92x92x55.5 (excluding connectors)	IP55 or IP68
ENVIRONMENT			
Operating temperature (°C)	-20 / +50	Storage temperature (°C)	0 / +30
STANDARDS & REGULATIONS			

EN, 61000-4-2,
 IN 300-220-1 V2-4-1,
 EN 301,489 V1-6-1,
 CE,
 RoHS



PRODUCT REFERENCES

REFERENCE	IP class	DESCRIPTION
50-70-123	IP55	PULSE PULSE SENS'O ATEx ZONE 1, Outdoor
50-70-152	IP68	PULSE PULSE SENS'O ATEx ZONE 1, Outdoor
18-40-263	IP67	6 pins Amphenol connector - overmoulded on the 2 meters cable, free strands end
71-70-115	IP67	6 pins Amphenol connector - overmoulded on the 2m cable, end 6pts BINDER plug; shunt3&4 5&6)
71-70-116	IP67	6 pins Amphenol connector - overmoulded on the 2 metre cable, end JAE plug (for Gazpar)