



SMART  
METERING

SMART  
BUILDING

SMART  
INDUSTRY

## TORAN'O ATEX zone 1



The **TORAN'O ATEX ZONE 1** sensor is used to report status changes, pulse count values and analogue measurements of equipment in an AtEx 1 sensitive zone such as water, gas, electricity or thermal energy meters, mechanical pressure switches, pressure transducers. It allows existing equipment to communicate over a public or private LoRaWAN® network.

### APPLICATIONS

- In explosive atmospheres, read index values from gas, electricity, water or energy meters with pulse output; load curve monitoring.
- Detection of leaks, fraud and tear off.
- Check the condition of mechanical pressure switches located in sensitive areas.
- Associated with a pressure probe, measurements on a gas network.

### BENEFITS & FEATURES

- LoRaWAN®, Class A
- Easy to install and use
- 3 pulse inputs or status reports
- 3 analogue inputs: 2x 0-5V and 1x 4-20mA
- 2 power supply outputs: ~5Vdc and ~16Vdc
- SAFT LS17500 Lithium battery on holder (IP55 version)
- Differential data compression
- IP55 or IP68
- Up to 10 years of autonomy

### CERTIFICATION

- RED, UKCA, RoHS
- AtEx Zone 1 certification according to marking:
  - Ex II 2 G
  - Ex ib IIC T4 Gb
  - $-20 \leq T_{amb} \leq +50^{\circ}\text{C}$

The **TORAN'O ATEX zone 1** sensor allows metering from the pulse output of water, gas, electricity or energy meters to monitor consumptions. The TORAN'O sensor enables all your mechanical pressure switches in AtEx zone 1 explosive atmospheres to communicate with one another and to report state changes. It transforms existing meters into communicating meters via a public or private LoRaWAN® network.

Associated with a pressure probe, the TORAN'O AtEx zone 1 sensor allows the pressure information to be transmitted to the LoRaWAN® network.

Installation and commissioning are quick and easy.



*Sensors delivered without  
WATTECO marking*



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 (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

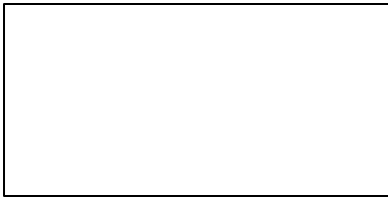
WATTECO is a European leader in the design and manufacture of smart IoT devices to suit all remote reading and data collection solutions.

WATTECO is a LoRa Alliance® member since 2015.



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                                                                       |  |                                                                                                                                                                                               |                      |                                                                |                               |                                  |
| 4-20 mA INPUT: intrinsic safety parameters                                                              |  |                                                                                                                                                                                               |                      |                                                                |                               |                                  |
| U0 = 18.9V; I0 = 91mA; P0 = 430mW; C0 = 1.6µF [IIB]; C0 = 262nF [IIC]; L0 = 17mH [IIB]; L0 = 4mH [IIC]. |  |                                                                                                                                                                                               |                      |                                                                |                               |                                  |
| 0-5 V INPUTS: intrinsic safety parameters                                                               |  |                                                                                                                                                                                               |                      |                                                                |                               |                                  |
| Uo=6.51V; Io=67mA; Po=108mW; Co=500µF [IIB]; Co=22µF[IIC]; Lo=33mH [IIB]; Lo=8mH [IIC].                 |  |                                                                                                                                                                                               |                      |                                                                |                               |                                  |
| POWER SUPPLY                                                                                            |  |                                                                                                                                                                                               |                      |                                                                |                               |                                  |
| Voltage                                                                                                 |  | 3.6V / 3600mAh - AtEx Zone 1 certification: battery replacement (only with IP55 version), use only SAFT LS17500 batteries.<br>Transmitted battery voltage level (configurable in 0.1V steps). |                      |                                                                |                               |                                  |
| Autonomy<br>(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 (pulse and 0-5 V) or 4 (4-20 mA) pins Amphenol connector; see references                                                                                         |                      |                                                                |                               |                                  |
| ENCLOSURE                                                                                               |  | Size (mm)                                                                                                                                                                                     | Weight (g)           | Fastenings                                                     | IP rating                     | Material                         |
|                                                                                                         |  | 91 x 142 x 56                                                                                                                                                                                 | 240                  | Wall mounting thanks to screws or adhesive tape (not supplied) | IP55 or IP68                  | Box : ASA200FR<br>Cover : PC943A |
| ENVIRONMENT                                                                                             |  | Operation                                                                                                                                                                                     |                      |                                                                | Storage                       |                                  |
|                                                                                                         |  | -20°C / +50°C ; +0%rH / +95%rH (non-condensing)                                                                                                                                               |                      |                                                                | 10°C / +30°C ; +0%rH / +60%rH |                                  |
| STANDARDS & REGULATIONS                                                                                 |  |                                                                                                                                                                                               |                      |                                                                |                               |                                  |





TORAN'O ATEX zone 1

PRODUCT REFERENCES

| REFERENCE | HS Code  | Designation                                                                            |
|-----------|----------|----------------------------------------------------------------------------------------|
| 50-70-124 | 85 17 62 | TORAN'O ATEX ZONE 1, IP55 - LoRAWAN® EU868                                             |
| 50-70-150 | 85 17 62 | TORAN'O ATEX ZONE 1, IP68 - LoRAWAN® EU868                                             |
| 71-70-115 | 85 44 42 | Cable - 2 meters with 6-pins Amphenol connector and 6 pins BINDER plug (shunt 3&4 5&6) |
| 71-70-116 | 85 44 42 | Cable - 2 meters with 6-pins Amphenol connector and JAE plug (for Gazpar meter)        |
| 18-40-262 | 85 44 42 | Cable - 2 meters with Amphenol connector to 4 free wires                               |
| 18-40-263 | 85 44 42 | Cable - 2 meters with Amphenol connector to 6 free wires                               |
| 18-40-298 | 85 36 69 | Amphenol connector - 6 pins                                                            |
| 18-40-299 | 85 36 69 | Amphenol connector - 4 pins                                                            |

AWAN® TORAN'O ATEX Zone 1- V1.6 on 09/07/2025 - 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.