ATEX

SMART METERING | SMART BUILDING | SMART INDUSTRY

TORAN'O AtEx zone 1

LoRaWAN

The **Toran'O AtEx zone 1** sensor is used to report status changes, pulse count values and analog 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 analog inputs: 2x 0-5V and 1x 4-20mA
- 2 power supply outputs: ~5Vdc and ~16Vdc
- SAFT LS17500 Lithium battery on holder
- Differential data compression
- IP55 or IP68
- Up to 8 years of autonomy

CERTIFICATION

- RED, RoHS
- AtEx Zone 1 certification according to marking:
  - Ex II 2 G
  - Ex ib IIB, IIC T4 Gb
  - -20 ≤ Tamb ≤ +50°C

ATEX

CONCEPTION ET FABRICATION MADE IN FRANCE

Sensors delivered without WATTECO marking

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.

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.

WATTECO

TORAN'O AtEx zone 1

TECHNICAL DATA

RADIO			
Frequency (MHz)	EU: 863-870		
Transmit 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: S0 and 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			
INPUT: 4-20mA and intrinsic safety parameters			
U0 = 18.9V; I0 = 91mA; P0 = 430mW; C0 = 1.6µF [IIB]; C0 = 262nF [IIC]; L0 = 17mH [IIB]; L0 = 4mH [IIC].			
INPUTS: 0-5V and intrinsic safety parameters			
Uo=6.51V; Io=67mA; Po=108mW; Co=500µF [IIB]; Co=22µF|IIC]; Lo=33mH [IIB]; Lo=8mH [IIC].			
POWER SUPPLY	**Characteristics**	**Autonomy in the range +10°C to +25°C**	
Lithium battery	3.6V / 3600mAh -- AtEx Zone 1 certification: battery replacement (only with IP55 version), use only SAFT LS17500 batteries.	10 years with SF12, 1 measurement per day and 1 transmission per day	
INTERFACE			
LEDs	Configuration and pairing to the network		
Magnetic switch	Reset, ON/OFF		
Cable connection	IP55 – IP68: connection on 6-pin Amphenol connector; see references		
ENCLOSURE	**Size (mm)**	**IP rating**	
	92 x 92 x 55.5 (excluding connectors)	IP55 or IP68	
ENVIRONMENT			
Operating temperature (°C)	-20 / +50	Storage temperature (°C)	0 / +30
STANDARDS & REGULATIONS			
Radio Equipment Directive 2014/53/EU, RoHS			

CE 0344 Ex II 2 G
Ex ib IIB, IIC T4 Gb
-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
NKE WATTECO - Rue Gutenberg - 56700 HENNEBONT - France

PRODUCT REFERENCES

REFERENCE	IP class	DESCRIPTION
50-70-124	IP55	TORAN'O AtEx zone 1, IP55
50-70-150	IP68	TORAN'O AtEx zone 1, IP68
71-70-115	IP67	6-pin Amphenol connector - overmoulded on the 2m cable, end 6pts BINDER plug; shunt3&4 5&6)
71-70-116	IP67	6-pin Amphenol connector - overmoulded on the 2m cable, end JAE plug (for Gazpar)
		Others cables and connectors on-demand