

LEV'O+ Liquid Level probe for TORAN'O



The **LEV'O+ Liquid Level** solution is used to determine the level of a tank, cistern or cavity, to accurately monitor variations in the level of the liquid and does not require knowledge of its geometric dimensions. By measuring the relative pressure of the liquid (water, fuel, oil, fertiliser, etc.), **LEV'O+** transmits the data over a public or private LoRaWAN® radio network, thus enabling the application to establish the relationship between the analog value and the height of the liquid.

APPLICATIONS

- In explosive atmospheres, remote reading of fuel oil, lubricant, liquid fertiliser, milk or water levels in a container: underground, overhead, mobile, indoor and outdoor tanks.
- Remote reading of water level variations; piezometer.
- Optimisation of fuel distribution logistics.

BENEFITS & KEY FEATURES

- Easy to deploy and use
- **Plug & play with TORAN'O device (not supplied)**
- Probe power supplied by TORAN'O for the duration of the measurement
- Usable in AtEx zone 1 area when it's connected to TORAN'O
- Remote level measurement probe on 5m cable:
 - Pressure range: 0...0.3 bar
 - Accuracy: +/- 0.8% of full scale
 - Resolution: 0.1% of full scale
 - Relative sensor 4-20mA
 - Suitable for fitting in 1-inch pipe

QUALITY & RELIABILITY

- RED, RoHS
- AtEx zone 1 area when it's connected to TORAN'O

LEV'O+ liquid Level has to be connected to the TORAN'O device to offer a full solution to monitor the level of liquid in a tank.

The probe is connected via a junction box to the TORAN'O analog transmitter sensor: regularly, after powering up and stabilising, the sensor takes the measurement and then returns the probe to standby. The sensor periodically transmits the relative pressure measured in mA over the LoRaWAN® network.

A low threshold and a high threshold can be configured on the 4-20mA analog value; this makes it possible, for example, to achieve:

- One measurement every 10 minutes; if this is exceeded, an alert is sent; otherwise nothing happens.
- Every 60 minutes, the sensor transmits a batch with the last 6 measurements. This configuration extends the life of the lithium battery, which is estimated to be around 6 to 7 years.



In standard mode, with one measurement per day and one transmission per day, the life span of the complete solution is estimated to be over 12 years.

For liquid height measurement, the probe is factory calibrated for a specific height, in this case around 3 metres (other heights on request):

- The 4mA value corresponds to a zero level.
- The 20mA value corresponds to the maximum level.

The measurements in the range of 4 to 20mA are transmitted to the application which must establish the relationship between the analog value and the liquid level.

The probe is connected to the sensor using a junction box which ensures the venting of the capillary tube included in the probe cable, the offset of the sensor in an area under the best network coverage.

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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TECHNICAL DATA

LEVEL SENSING RELATIVE PRESSURE TRANSMITTER

Pressure mode	Relative thanks to the IP55 connection box
Pressure range	0.0 ... 0.3 bar
Max. deviation at 25°C	± 0.8% of full scale
Resolution	0.1% of full scale
Sealing material	Fluoro-elastomer (not suitable for drinking water)
Output / Power supply	4 ... 20mA / 10 ... 30 VDC
Electrical connection	2 metres after the junction box <i>Other lengths available on request (from 2 to 30 metres)</i>
Output interface	4-pin Amphenol– Plug & Play with TORAN'O device
Ex-protection	AtEx zone 1 area when it's connected to TORAN'O
IP Rating	IP68

OPERATING CONDITIONS

Medium	Fuel oil, ultra-light Fuel oil, heavy Diesel oil Benzine <i>Drinking water on request</i>
only in AtEx zone 1 or 2 areas	
Temperature	Medium and ambient : -20 ... +80°C (non-congealing media)
Overload	3x fs; max. 3 bar at 0.3 bar version

DIRECTIVES & STANDARD

EMC 2014/30/EU, RoHS



PRODUCT NUMBER

REFERENCE	DESCRIPTION
50-70-209	LEV'O+ LIQUID LEVEL PROBE FOR TORAN'O