

Lev'o+ sensor

Declaration of conformity

Presentation

The Lev'o+ sensor is LoRaWAN class A sensor, it integrates a internal battery. It also includes an internal antenna.

It integrates a Presso 4-20mA 50-70-0173, a relative pressure sensor 0-0.3bar and a connection box in which atmospheric pressure is done. The Presso and the relative p sensor are linked to the connection box with a 5 meters of cable, so 10 meters of cable.



Family code:

The family code of Lev'o+ devices is: **50-70-196**.

Installation and use

Installation

The housing is compatible with the following DIN rail adapter:



For more information about the casing, visit: www.spelsberg.com

Propagation radio

see Presso

Autonomy

see Presso

Human Machine Interface

see [Presso](#)

Applicative layer

The Lev'o+ device implements "Analog Input" cluster on the EndPoint 0. So use 0x11 to configure the cluster.

Lev'o+ integrates the following clusters:

Cluster	Cluster name	Managed attributes
0x0000	Basic	All
0x0050	Configuration	All Threshold is available with 3 slots
0x8004	LoRaWAN	All
0x000C	Analog Input	All Threshold is available with 6 slots
0x000F	Binary Input	All Threshold is available with 4 slots

The external sensor is calibrated on 0 bar - 0.3 bar; so 4mA corresponds to 0 bar and 20mA corresponds to 0.3 bar.

The formule to use is :

$$\begin{aligned} \Delta_{Pressure} &= (0.01875 * Measured_Value_mA - 0.075) * 100\,000 && [Pascal] \\ Fluid_Level &= \Delta_{Pressure} / (9.81 * Fluid_Density) && [m] [Fluid_Density in kg/m^3] \end{aligned}$$

ex: Measured_Value_mA = 10mA => Delta_Pressure = (0.01875 * 10 - 0.075) * 100 000 = 11 250 Pascal

Our fluid is watter so the density is 997 kg/m3 => Fluid_Level = 11 250 / (9.81 * 997) = 1.15 m

Default configuration

A default configuration is set:

- The device reports each 24 hours the 4-20mA value (EndPoint 0 / Cluster Analog Input /Attribut PresentValue).

Every change on the default configuration must respect the legal duty cycle. (For example the most restrictive in EU is 0.1%, so in SF12 it is around 1 frame each t

Measurement periodicity

The measurement periodicity depends on the minimum recording interval.

If the value of the minimum is 0, then the periodicity is 1 second.

If the value of the minimum is different than 0, then this value is the same as the periodicity.

Frame examples

Standard report

see [Presso](#)

Batch report

see [Presso](#)