

optical distance monitor

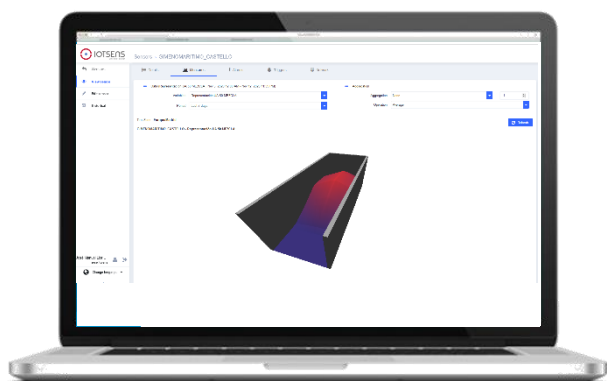
DESCRIPTION

The IoTsens optical distance device contains throughout a LIDAR sensor working with TOF technology for real-time data collection on the filling level. Time-of-Flight is the measurement of the time taken by an object, particle, or wave to travel a distance through a medium. It allows measuring the distance from the sensor to the surface of the material using pulsed laser beam.

Thus, it becomes an optimal tool in waste management, and can also be used in the detection of liquid level in tanks, among other applications.



IOTSENS PLATFORM



Through the integration of some of these sensors in IoTsens Platform, the solution can be applied to measure huge volumes of materials. With sensors data and AI technologies the software can show you in real time the volume evolution of the material measured.

BENEFITS

- Filling volume of the sensorized area
- Real time data collection of the filling level and temperature
- Dily evolution of the sensorized surface
- Accuracy measurement of hard-to-reach areas



TECHNICAL SPECIFICATIONS

PRODUCT

<i>Dimensions:</i>	200x90x60 mm
<i>Weight:</i>	400g (batteries included)
<i>Temperature range:</i>	-40°C to +65°C
<i>Housing ⁽¹⁾:</i>	<ul style="list-style-type: none"> - IP protection: 66 - Material: ABS / POLYCARBONATE (UV resistant)
<i>Internal storage:</i>	- 16 MB
<i>Regulatory Approvals</i>	CLASS 1 LASER PRODUCT EN/IEC 60825-1 2014 CLASSIFIED

SENSORS

<i>LIDAR sensor:</i>	<ul style="list-style-type: none"> - Description: time of flight technology - Measuring range: 0.3 - 12m - Acceptance angle: 2.3° - Minimum resolution ratio: 5mm - Test accuracy: 1% (less than 6m), 2% (6m-12m) - Operating wavelength: 850nm - Anti-ambient light: 70.000 lux
<i>Battery:</i>	<ul style="list-style-type: none"> - Description: Measures the device's battery level - Resolution: 1mV

AVAILABLE COMMUNICATIONS

<i>LoRaWAN</i>	Module RHF76-052 Region EU868 Specification Version 1.0.2 Regional Parameters 1.0.2rB
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AVAILABLE POWER SUPPLY

<i>Batteries</i>	2 primary lithium-thionyl chloride high power batteries, 3.6V, 13Ah Estimated Lifetime ⁽²⁾ : <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Estimated duration</th> <th>Communication</th> <th>Measures</th> <th>Transmissions</th> </tr> </thead> <tbody> <tr> <td>7 years</td> <td>LoRaWAN</td> <td>1 data/day</td> <td>1 submissions/day</td> </tr> <tr> <td>3 years</td> <td>LoRaWAN</td> <td>1 data/hour</td> <td>1 submissions/hour</td> </tr> </tbody> </table>	Estimated duration	Communication	Measures	Transmissions	7 years	LoRaWAN	1 data/day	1 submissions/day	3 years	LoRaWAN	1 data/hour	1 submissions/hour
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	⁽²⁾ Note: Estimated consumption in laboratory tests under normal conditions, differences may exist between devices due to the conditions of the installation.												

PROPOSED ARCHITECTURE

