

## VOLUMETRIC SENSOR FOR WASTE LEVEL MONITORING



The TSwasTe is a low cost wireless sensor device conceived to be installed in waste containers and monitor their fill level and status. It enables an optimization in the route planning for waste collection and an improved container management thus providing an important cost reduction of the exploitation. The TSwasTe has an optimized design presenting a HDP (high density polyethylene) casing, ideal for harsh environments and ready to absorb shocks and bumps caused by garbage collection and container manipulation (lift, relocation, cleaning, etc.)

The TSwasTe provides the fill level of the container by means of its highly optimized ultrasonic sensor and it is also able to detect an open lid or a dropped container and measure the temperature inside it. Implementing a GPRS modem, it provides seamless communications to its own rich-featured management software or can be easily adapted to work with any other cloud solution. As a bi-directional communication device, it supports remote configuration and management.

The TSwasTe has an estimated battery life that goes beyond 5 years in normal measurement conditions

## KEY FEATURES

Low cost sensing solution for urban waste containers.

Ultra low power consumption device with an estimated lifetime of 5 years.

It includes mechanisms for detecting open cover avoiding false alarm situations.

Based on ultrasonic technology for measuring the fill level.

### ELECTRICAL

Power Supply	2 x D batteries 3V primary lithium (user-replaceable)
Battery LifeTime	5 years, on normal conditions ( 3 transmissions a day)

### MECHANICAL

Dimensions	51 mm high / 145 mm diameter
Weight	450g
IP Code	IP67 / NEMA 6

### COMMUNICATIONS

Standards	GSM, GPRS EDGE (MCS-9)
Frequency Bands	850/900/1800/1900 MHz
Output power	2W para 850/900 MHz, 1W para 1800/1900 Mhz

### OPERATING

Measurement Range	30 cm to 300 cm
Accuracy	+/- 2 cm
Operating Temperature	-20 °C to 70°C

### CLOUD INTEGRATION

Supported Device Protocol	MQTT, API REST over HTTP (JSON, XML)
Cloud Pre-integrated Services	Telefonica´s SBC, Sentilo, Carriots, Xively, Cumulocity, Lhings