

((SENSONEO))

# single sensor

Smart sensor - Datasheet 2018

[www.sensoneo.com/knowledge](http://www.sensoneo.com/knowledge)

## OVERVIEW

Sensoneo Single Sensor is an enterprise class device monitoring fill-level of various types of containers. It uses single ultrasonic beam with measurement up to the depth of 170 - 255 cm.

Single Sensor is recommended for all bin types and may operate fully independent in LoRa, SigFox networks or in the GSM MESH mode as a slave to Double Sensor or to Solar powered Master. The sensor provides tilt alarm and temperature measurement. The sensor is powered by replaceable batteries which frequently inform the operator about their capacity.

Sensors are quickly configurable via Cloud-based Smart Waste Management System application and the received data are analyzed and via excellent Dashboard which includes maps, tables, graphs, data exports and fully automated planning of the collection routes. The gathered data from sensors are presented also via Sensoneo Smart Analytics which provides complex analytical views needed for decision making in terms of planning and managing the capacity of the containers.



## SINGLE SENSOR LORA

Sensor transfers data via LORA network in 868Mhz and 915Mhz regions.

Sensoneo offers free of charge API integration of respective IoT operator to our backend systems and offers set of generic APIs for the biggest players as EVERYNET, THINGPARK or LORIOT.

- <https://prodapi.sensoneo.com/api/v2/lora/receive/everynet/>
- <https://prodapi.sensoneo.com/api/v2/lora/receive/loriot/>
- <https://prodapi.sensoneo.com/api/v2/lora/receive/thingpark/>

Type	Single Sensor LORA
<b>Production code</b>	SS LORA
<b>Distance measurement</b>	Yes. Single ultrasonic beam, 30° angle
<b>Minimum distance</b>	15 cm
<b>Maximum distance</b>	255 cm/high reflective commodities 170 cm/other commodities
<b>Measurement calculation</b>	Multi measurement with weight approximation
<b>Temperature measurement</b>	Yes. Microcontroller termostate.
<b>Overturn measurement</b>	Yes. Mechanical type.
<b>Weight batteries included</b>	215 g
<b>Weight battery excluded</b>	165 g
<b>Size (h/w/d)</b>	50 mm/120 mm/54 mm
<b>Mounting options</b>	Screws/Clench/Rails
<b>Power supply</b>	up to 7 years*
<b>Batteries voltage and capacity</b>	3,6V, 2600 mAh
<b>Batteries type</b>	Lithium-thionyl chloride – Li-SOCl <sub>2</sub>
<b>Battery replaceable</b>	Yes, 2 batteries type LS14500 (2 x 20 grams)
<b>Temperatures range</b>	- 30°C to + 70°C
<b>Master device compatibility</b>	NA
<b>Networks supported</b>	LORA
<b>Device class</b>	Class A
<b>Adaptive Data Rate</b>	YES
<b>APB</b>	YES
<b>Counter up start number</b>	1 (resetable)

<b>Downlink configuration</b>	YES
<b>Measurement times</b>	6 times a day
<b>Bins supported</b>	All types of bins
<b>Turn on mechanism</b>	Magnetic
<b>Cover</b>	Recyclable, polyamide with optical fibers
<b>Casing</b>	IP67
<b>Humidity level</b>	0 - 100
<b>* battery duration depends on local temperature, type and position of the bin, master/slave role and frequency of measurement</b>	

## SINGLE SENSOR SIGFOX

Sensor transfers data via LORA network in 868Mhz and 915 Mhz regions.

Sensoneo is integrated to the SIGFOX backend therefore no need of further integration needed.

Type	Single Sensor SIGFOX
<b>Production code</b>	SS SIGFOX
<b>Distance measurement</b>	Yes. Single ultrasonic beam, 30° angle
<b>Minimum distance</b>	15 cm
<b>Maximum distance</b>	255 cm/high reflective commodities 170 cm/other commodities
<b>Measurement calculation</b>	Multimeasurement with weight approximation
<b>Temperature measurement</b>	Yes. Microcontroller thermostat
<b>Overturn measurement</b>	Yes. Mechanical type.
<b>Weight batteries included</b>	215 g
<b>Weight battery excluded</b>	165 g
<b>Size (h/w/d)</b>	50 mm/120 mm/54 mm
<b>Mounting options</b>	Screws / Clench / Rails
<b>Power supply</b>	up to 7 years*
<b>Batteries voltage and capacity</b>	3,6V, 2600 mAh
<b>Batteries type</b>	Lithium-thionyl chloride – Li-SOCl <sub>2</sub>
<b>Battery replaceable</b>	Yes, 2 batteries type LS14500 (2 x 20 grams)
<b>Temperature range</b>	- 30°C to +70°C



<b>Master device compatibility</b>	NA
<b>Networks supported</b>	SIGFOX
<b>Downlink configuration</b>	YES
<b>Measurement times</b>	6 times a day
<b>Bins supported</b>	All types of bins
<b>Turn on mechanism</b>	Magnetic
<b>Cover</b>	Recyclable, polyamide with optical fibers
<b>Casing</b>	IP67
<b>Humidity level</b>	0 - 100
<b>* battery duration depends on local temperature, type and position of the bin, master/slave role and frequency of measurement</b>	

## SINGLE SENSOR SLAVE

Slave variant of Single Sensor cannot operate independently, but only as a slave device to a master device. Master device is typically Double Sensor Master or External master which can operate up to 16 devices. Besides that, Sensoneo offers SOLAR based External Master which can cover up to 100 devices in the range of 150 meters wide perimeter.

Type	Single Sensor SLAVE
<b>Production code</b>	SS SLAVE
<b>Distance measurement</b>	Yes. Single ultrasonic beam, 30° angle
<b>Minimum distance</b>	15 cm
<b>Maximum distance</b>	255 cm/high reflective commodities 170 cm/other commodities
<b>Measurement calculation</b>	Multimeasurement with weight approximation
<b>Temperature measurement</b>	Yes. Microcontroller thermostat
<b>Overturn measurement</b>	Yes. Mechanical type.
<b>Weight batteries included</b>	215 g
<b>Weight battery excluded</b>	165 g
<b>Size (h/w/d)</b>	50 mm/120 mm/54 mm
<b>Mounting options</b>	Screws / Clench / Rails
<b>Power supply</b>	up to 7 years*
<b>Batteries volage and capacity</b>	3,6V, 2600 mAh



<b>Batteries type</b>	Lithium-thionyl chloride – Li-SOCl <sub>2</sub>
<b>Battery replaceable</b>	Yes, 2 batteries type LS14500 (2 x 20 grams)
<b>Temperatures range</b>	- 30°C to +70°C
<b>Master device compatibility</b>	NA
<b>Networks supported</b>	INTERNAL RF868 radio
<b>Downlik configuration</b>	YES
<b>Master Device</b>	Double Sensor Master, External Master
<b>Measurement times</b>	6 times a day
<b>Bins supported</b>	All types of bins
<b>Turn on mechanism</b>	Magnetic
<b>Cover</b>	Recyclable, polyamide with optical fibers
<b>Casing</b>	IP67
<b>Humidity level</b>	0 - 100
<b>* battery duration depends on local temperature, type and position of the bin, master/slave role and frequency of measurement</b>	

Batteries (datasheet): [saft-ls14500-technical-data-sheet](#)

**Sensoneo enables  
a world that is  
green, clean and  
free of litter**

**Sensoneo**

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