

## LTE Sensor Tag



**Illustration 1: Sensor Tag Enclosure**

The SENSOR TAG is available in several product configurations and delivers reliable accurate data about temperature, humidity and crash detection to you. Due to rugged enclosure types, the SENSOR TAG can be used in numerous application areas.

The stored measured values are transmitted via the LTE mobile network or are easily accessible via NFC on an Android Smartphone. To check the measurement data as well as to parameterize the SENSOR TAG, a Web application is available.

For more custom software solutions for the management of measurement data or additional readers for data readout, please contact the local sales representative.

# 1. Specification

Specification	
Frequency / Protocol*	<ul style="list-style-type: none"> <li>- Quad band GSM 900/1800 MHz und 850/1900 MHz</li> <li>- RFID HF (NFC) ISO 15693, 13.56 MHz</li> </ul>
Type*	<ul style="list-style-type: none"> <li>- Battery powered</li> <li>- Line powered</li> </ul>
Read range* (depending on the tag type and surroundings)	<ul style="list-style-type: none"> <li>- Depending on GSM mobile network</li> <li>- Typically up to 1 cm via NFC</li> </ul>
Dimensions*	150.8 mm x 65.8 mm x 42.5 mm
Mass*	Approx. 270 g
Service life* (depending on the activated sensors, the tag type, the GSM mobile network, the operating temperature range, the mounting location and the configured measurement and transmission intervals over the entire operating period)	Used with moderate sensor threshold-values/measurement intervals and sufficient GSM signal strength (75%) is typical to expect up to 180 transfer cycles.
Memory capacity*	Permanent transmission of measurement data UID 16 characters (alphanumeric)
Sampling rate / measurement interval* - Temperature / Humidity - Impact, inclination, operation time	Configurable from 5 sec to 18 hours in 1 sec steps Continuously
Battery monitoring*	Continuously
Operating temperature range*	-25°C to +70°C (peek values)
Storage conditions	+10°C to +30°C at 20% RH to 60% RH
Sensors*	<ul style="list-style-type: none"> <li>- Temperature, humidity</li> <li>- Crash detection, inclination and operation time means of an acceleration measurement</li> <li>- Expiration date, geo information (by GSM loc.)</li> </ul>
Sensor and alarm activation	Adjustable and ability of activation independently
Operating mode*	<ul style="list-style-type: none"> <li>- According to the measurement interval and mode, all measured values are stored in the internal non-volatile memory</li> <li>- Transmission of the measured data instantly or cyclically</li> <li>- GSM functionality can be disabled temporarily</li> </ul>
IP rating*	IP 4X
Mounting*	Depending on the version, the attachment is with cable ties or screws
Product color*	Grey
Device parameterization*	<ul style="list-style-type: none"> <li>- Default parameters are set at production</li> <li>- Individual parameterization</li> </ul>
Evaluated Android Smartphones capable of NFC	<ul style="list-style-type: none"> <li>- Samsung Galaxy S4 GT-I9505</li> <li>- Samsung Galaxy S5 SM-G900F</li> <li>- Sony Xperia Z3 D6603</li> <li>- Sony Xperia Z5 E5823</li> </ul>

\*... depending on the version and configuration of the product

## 1.1. Sensor Specification

Sensor Specification*		
Relative Humidity	Operating range Resolution Accuracy	0 %RH to 100 %RH 0.04 %RH typical± 4.5 %RH, maximum ± 7.5 %RH @ 0 %RH to 10 %RH typical± 3.8 %RH, maximum ± 6.0 %RH @ 10 %RH to 20 %RH typical± 3.0 %RH, maximum ± 4.5 %RH @ 20 %RH to 80 %RH typical± 3.8 %RH, maximum ± 6.0 %RH @ 80 %RH to 90 %RH typical± 4.5 %RH, maximum ± 7.5 %RH @ 90 %RH to 100 %RH
Temperature	Operating range Resolution Accuracy	-25°C to +70°C 0.04°C typical ± 0.60°C, maximal ± 0.95°C @ -25°C to +5°C typical ± 0.30°C, maximal ± 0.45°C @ +5°C to +60°C typical ± 0.45°C, maximal ± 0.65°C @ +60°C to +70°C
Crash Acceleration	Operating mode: continuous	Up to 8.00 g, internal resolution 0.07 g, an alarm event is stored
Inclination	Operating mode: continuous	In 20° counts beyond the threshold, an alarm event is stored
Expiration date	Operating mode: continuous	An alarm event is stored
Geo Information	Operating mode: at GSM transmission	By GSM cell identification, variance up to 30 km, depending on GSM network
Response time of the sensors		Application specific as it is dependent on, e.g., environmental temperature, air ventilation and mounting

A SIM card is not inserted by default therefore a SIM package is mandatory. Batteries are factory installed in the battery powered product versions. The GSM Sensor Tag also consumed energy in a deactivated recording state because of the used technology. Depending on usage and model self-heating of the device can occur. Devices may only be stored in original packaging. The applicable shipping regulations for batteries must be observed.

## 1.2. Product Variants

Sensor Tag product versions*			
Part Number	Description	Power	Sensors
Zeiss_G_LTE_A_01	SENSOR TAG Only for the highest clean room requirements	Battery powered rechargeable	Sensors: temperature, humidity, crash, impact, inclination, operation time, geo information

The highest clean room requirements are based on the standard SensorTag special assembly without sensor and enclosure O-rings.

\*... depending on the version and configuration of the product

All features, functionality and other product specifications are subject to change without notice or obligation.