



LoRaWAN Tank Sensor (TEK 766)

Our LoRaWAN Tank Sensor is a flexible and configurable battery operated liquid level sensor with an integrated LoRaWAN radio.

Applications

- Liquid level monitoring
 - Fuel – Oil, Kerosene
 - Water
 - Waste Oil
- Ensure continued supply
- Optimise delivery or collections
- Spot and continuous inventory measurement
- 24/7 monitoring
- Low and high level alarms



Benefits

- Accurate, reliable tank level monitoring
- LoRaWAN Communication
- Spot and continuous inventory management
- Programmable reporting interval
- Remote configurability
- Easy to install
- Minimum 1 year warranty
- 14 year battery life
- CE Conformance and ROHS Compliant

Specification

Characteristic	Transmitter
Dimensions	109mm(W) x 109mm(L) x 126mm(H) ±1mm 4.3"(W) x 4.3"(L) x 5"(H) ±0.1"
Weight	220g (8oz) including battery
Housing material	UV Stabilized Polypropylene (compatible with Oil)
Operating temperature	-20°C to +50°C (-4°F to +122°F) Note 1
Recommended storage temperature	+20°C to +25°C (+68°F to +77°F) clean, cool, dry and ventilated. Note 1
Humidity range	15% - 95%
Altitude range	<2Km (<6,000') above sea level
Environmental Protection	IP67 – Outdoors
Radio standard	LoRaWAN
Frequency	868MHz nominal
Output power	Up to +14dBm (25mW) (as measured into the internal antenna on the PCB; internal antenna gain = -3dB typ)
Gauge Type	Ultrasonic
Ultrasonic Range	>12cm to <400cm (>5" to <155") Note 2
Ultrasonic Signal Diversion	30° (Note 3)
Ultrasonic Resolution	±1cm (±0.5")
Accuracy	Typically ±2cm (±1")
Material compatibility	Suitable for use in tanks for the storage of water diesel fuel, kerosene, gas oil types A2,C1,C2 and D as defined by BS2869.
Battery type	3.6V Li-SOCl ₂ Size 2/3AA
Expected battery life	Typically 14 Years from activation (Note 4)
Enclosure colour	Grey Pantone 422C (adapter – Black)

Accessories

Tank mounting options	Fits directly into female 1 ¼", 1 ½" or 2" BSP threads. 2" recommended.
Gasket (included)	Material NBR 78mm(Ø) x 2.5mm(H) ±0.5mm (3.07"Ø x 0.1"(H) ±0.02"

Conformity

Complies with current Directives for Electromagnetic compatibility and the Low voltage directive for product safety (LVD) 2014/35/EC and the Radio Equipment Directive (RED) 2014/53/EU. Compliance was demonstrated to the following specifications as listed in the official journal of the European Communities.	
ETSI EN 301 489-1 V2.1.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
ETSI EN 301 489-3 V2.1.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz
ETSI EN 300 220-1 V3.1.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods
ETSI EN 300 220-2 V3.1.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 2: Harmonized EN covering essential requirements.
EN 62368:2014	Information technology equipment - Safety - Part1: General requirements
FCC compliance	TBD
RoHs Compliance	Yes

Note 1: Storage and operation above 25°C may reduce battery life. Shelf life recommended not to exceed 12 months

Note 2: Based on a measurement to a flat liquid target of size 30cm².

Note 3: The maximum spatial diversion of the ultrasonic signal will be < 30° from the central axis of the transducer.

Note 4: Based on activation within 6 months of the manufacturing date of the product, and device configuration for one LoRaWAN connection every six hours and one ultrasonic measurement every 15 minutes from an excellent LoRaWAN coverage (SF7), and a normal distribution over the operating temperature range centered at +25°C (77°F).

WEEE Reg. 00232
Patents granted

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