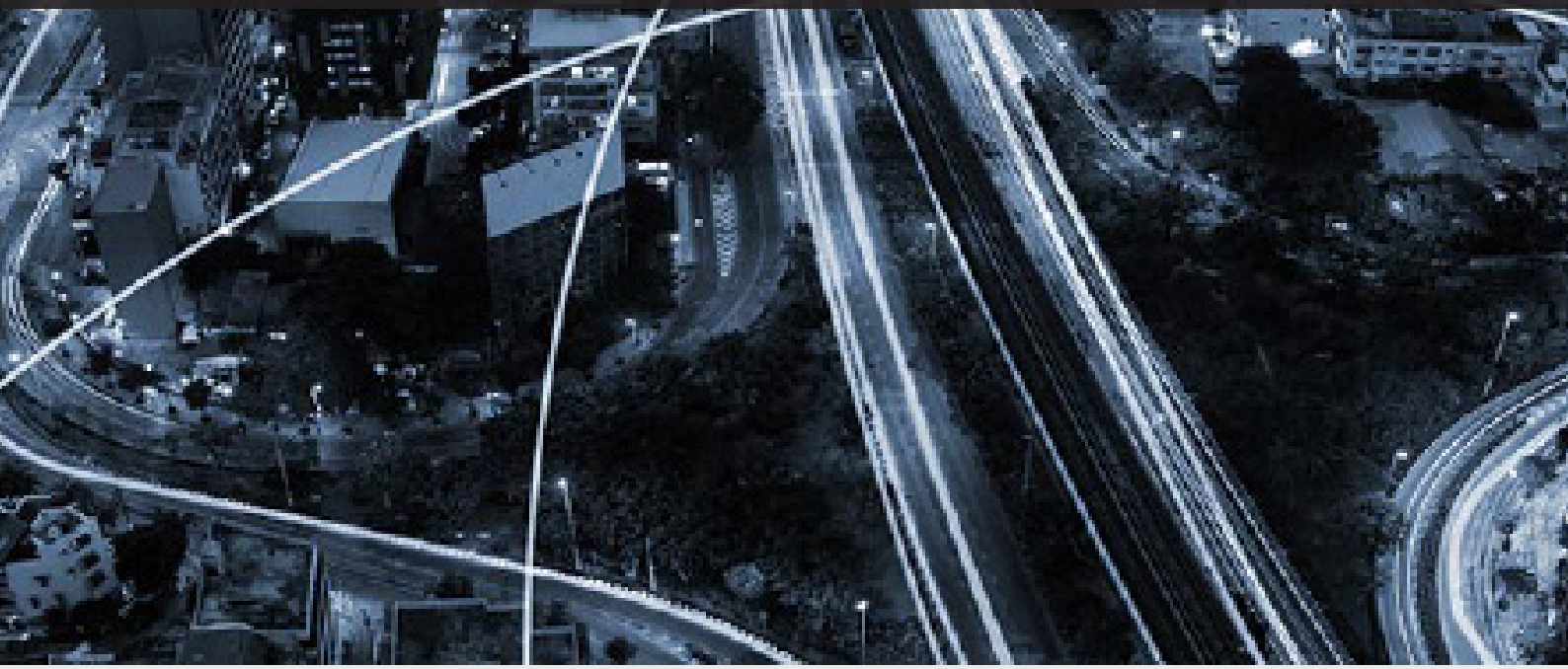
Tank Level Sensor

DATASHEET



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SPECIFICATIONS

Tank Level Sensor TLS v1.0 Sigfox (type: IOT-TLS-V10-SX)

GENERAL	
Temperature range (operational)	-20 ~ +50 °C
Temperature range (storage)	-20 ~ +70 °C
Maximum shock	DIN EN 60068-2-27
Protection rating	IP67 (of antenna only outside IP67 rated)
Housing material	POM (machined, solid structure)
Thread size	Standard BSP 2”, 20mm depth (M60 custom wrench)
User interface	One button, two-color LED

ULTRASONIC RANGER	
Measuring range	80 ~ 1200mm (from sensor head)
Accuracy	+/- 10mm or +/- 1% (whichever is greatest, under normal conditions)
Temperature compensated	No
Material of active surface	Polyamide, epoxy glass ceramic
Housing material	V4A, Stainless steel

TEMPERATURE	
Accuracy	+/- 0,2 °C
Resolution	0,1 °C (14 bit)
Temperature range	-40 to 125 °C (actual range is limited by device temp range)

RELATIVE HUMIDITY (sensor-internal)	
Accuracy	+/- 2%
Measurement range	0 to 100% (non-condensing)
Resolution	0.5 %
Operating temperature range	-20 to 85 °C (actual range is limited by device temp range)

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RADIO

Multiple connectivity options are available: currently Sigfox and LoRaWAN are supported, NB-IoT will become available 2021. Other connectivity options are possible on a custom basis. Specs below for Sigfox option.

Radio module	Wisol WSSFM10R1
Band	EU-868 MHz / Sigfox RCZ 1
Antenna	External (fixed) puck type antenna
EIRP	12.5 EIRP(dBm)
Mod / MAC	Sigfox MAC (ON Semi AX-SFEU)
Down link messages	Yes, multiple parameters. (refer to payload documentation for more information)

GNSS RECEIVER

GNSS Types supported	GPS
Mode	Single fix (no tracking mode)
LNA	Internal LNA with 3Volt active antenna power
Antenna connections	Internal/external (option) SMA connectors
Sensitivity	-167dBm (tracking mode), -149dBm (acquisition mode)
TTFF @-130dBm	cold start < 35 secs, warm start < 30 secs

BATTERY

Battery type	2-cell LiSOCl2 (9000mAh, custom package)
Nominal voltage	7.2Volts
Projected battery autonomy	> 5 years under normal conditions; 12 measurements per day, GPS in range
Measurement voltage range	2 ~ 8,4 Volt (battery voltage is sampled under load)
Measurement accuracy	0,025 Volt or +/- 2% of reading, whichever is greatest