

A photograph of two large, cylindrical, corrugated metal water tanks situated in a grassy field. A wire fence runs across the foreground. The background shows rolling hills under a dramatic, cloudy sky at dusk or dawn.

Remote Water Tank Level Monitoring Solution for Industrial Applications

Water is life, empower yourself to safeguard this precious resource for now and generations to come. It is not a choice, it is a MUST.

CHALLENGE

Monitoring water levels in remote and inaccessible locations, where traditional wired equipment isn't feasible or cost-effective. Ensuring timely maintenance and operations and preventing overflow or depletion of water resources in a seamless and cost-effective way.

SOLUTION

As industries and communities rely heavily on water, it's essential to ensure water resources are managed effectively. Our IoT-based remote water tank level monitoring solution addresses this challenge by providing near real-time insights into water tank levels, enabling better management decisions and ensuring water security.

The core of our solution is our submersible level sensor. It is designed specifically for harsh industrial applications and is IP65 rated. It measures the water level with the help of pressure differences and transmits this information using NB-IoT technology to a remote monitoring system. The sensor is ruggedized and battery-operated, ensuring reliable performance and ease of installation in almost any environment.

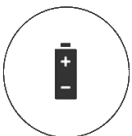
This IoT-based approach offers several benefits:

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- **Cost-effectiveness:** With minimal infrastructure required, our IoT-based solution ensures a low initial investment and reduced operational expenses.
- **Improved water resource management:** Constant near real-time monitoring enables data-driven decision-making and optimizes water use, ultimately preventing water loss and improving water distribution efforts.
- **Enhanced safety and security:** Monitoring water levels remotely reduces the need for manual inspections, mitigating potential safety hazards and human error risks.
- **Maintenance efficiency:** Our battery-operated IP65 rated submersible level sensors minimise the need for regular maintenance, saving time and resources.
- **Long-term data analysis:** Collecting historical data enables long-term trend analysis and better understanding of water consumption patterns, leading to improved water management strategies.

Our remote water tank level monitoring solution provides a comprehensive approach to efficient water resource management. By leveraging cutting-edge technology in submersible level sensors and NB-IoT communication, industries and communities can track, control and optimise their water systems. The result is a future-proof solution that not only addresses current challenges but also adapts to the changing demands of water management, ultimately protecting our most precious resource.



Battery Operated



Ruggedized Design



Easy Install



Pre-Configured



Secure



Quick ROI

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TECHNOLOGY

10Sorex employs cutting-edge communication technology by utilizing the LTE Cat M1 protocol, which operates on 4G and 5G cellular networks, making it suitable for mobile and stationary monitoring applications. However, its remarkably low power consumption and superior penetration rate, specifically designed for industrial solutions, sets it apart. Narrowband Internet of Things (NB-IoT) and LTE Cat M1 are advanced communication technologies that offer significant advantages for monitoring applications. These technologies provide efficient and reliable connectivity for IoT devices, allowing for seamless communication between our sensor and remote monitoring systems. NB-IoT and LTE Cat M1 are known for their low power consumption, enabling prolonged battery life for the devices, which is crucial for remote or hard-to-reach areas. Moreover, these technologies offer excellent penetration capabilities, allowing for reliable communication even in challenging environments, such as underground or remote locations where devices are often deployed. NB-IoT and LTE Cat M1 also provide secure and scalable connectivity, enabling robust and cost-effective solutions for monitoring applications in various industrial sectors, including agriculture, utilities, logistics, and more.



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SENSOR TECHNICAL SPECIFICATIONS

• Range (m)	3m (or other ranges)
• Accuracy (combined linearity, hysteresis, repeatability) (%Span)	±0.25 (typ.)
• Resolution (%Span)	±0.01
• Temperature Coefficient of Zero (%FS/°C)	≤±0.03
• Temperature Coefficient of Span (%FS/°C)	≤±0.03
• Long Term Stability (1 year) (%Span)	≤ 0.2
• Overload Protection (%FS)	150
• Load Cycles (Zero to Full Scale) (Million)	10+
• Storage / Operation Temperature (°C)	-20 ~ +85
• Compensated Temperature (°C)	0 ~ +60
• Power Supply	Built-in Replaceable Lithium Battery
• Rated Voltage (V)	3.6
• Battery Lifetime	10,000+ transmissions
• Sensor Materials	O-ring: Viton, Body: SS316L, Diaphragm: SS316L, Oil: Silicon, Enclosure: POM
• Weight (g)	~1200 (for 5m range)
• Protection Rate	IP66, UV Protected enclosure and IP68 sensor head
• SIM Card Type	4FF Nano-SIM, from any Network Provider
• Firmware Update	Over The Air, Locally via Wireless Connectivity
• Sampling Period	Configurable via downlink (default 4 hours)
• Communication Bands	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 and B39
• Antenna	Internal (Default)/ External (customised options available)

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PLATFORM FEATURES

10Sorex's software platform is a comprehensive and user-friendly solution specifically designed for diesel delivery management. The platform offers a wide range of features tailored for diesel delivery operations, including real-time data visualization, customizable alerts and notifications, historical data analysis, and predictive analytics. It provides users with a holistic view of their diesel delivery assets, allowing them to make data-driven decisions for optimal fuel management. The platform is accessible via web browsers and mobile devices, providing convenient remote access to critical information anytime, anywhere. 10Sorex's software platform is designed with a user-centric approach, offering intuitive navigation and a user-friendly interface for easy setup and configuration. With its advanced features and ease of use, 10Sorex's software platform empowers users to effectively monitor and manage their diesel delivery operations in remote areas, ensuring efficient and sustainable fuel resource management.

- Encrypted ultra-low power communication protocol
- Advanced device inventory
- Integration APIs for enterprise systems
- Multi-tenant role-based access control
- Data export and import
- White-label platform for enterprise runs on private account
- Variable alarm setting for high and low thresholds and multi-channel alerting
- Sampling and transmission interval configuration
- Transmission condition configuration
- Other configurations and customization available on request



Encrypted &
ultra-low power



Integratable



Dynamic alerting



Multi-tenant



Scalable



Composable &
API first



Low cost



Action management



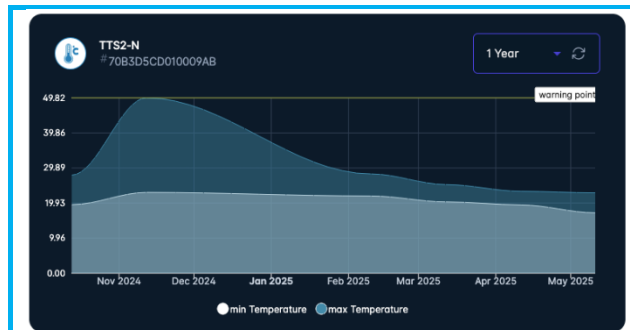
Resource monitoring

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NAME	LAST DATA	BATTERY	SIGNAL QUALITY	NOTE
NB-WT Water Level Sensor #70B3D5CD010009AB	9.47 33 minutes ago	3.58 V	high	Measuring Water and Range On to Sea
CS02-N #70B3D5CD01000904	95.35 9 minutes ago		high	NB-WT - Cal-MT Conductivity and Salinity Sensor
TTS2-N #70B3D5CD010009AB	13.7 °C 36 minutes ago	3.53 V	high	Temperature sensor with Sea wire
PTS2-N #70B3D5CD0100090F	20.47 °C 36 minutes ago	3.49 V	high	NB-WT Pressure & Temperature Sensor
NB-WT Temperature Sensor #70B3D5CD01000907	2.95 °C 1 hour ago	3.45 V	high	Measuring Temperature

Single-screen visualization of device data



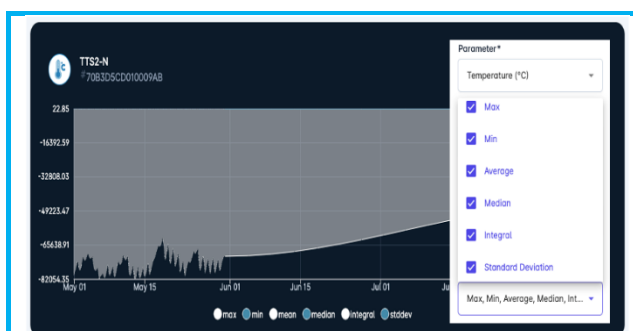
Easy analytic insight into long-term data

VERSIONS	Webhook-API
USER & SUBSCRIPTION MANAGEMENT	GET /new/webhooks Get Webhooks
DATA STORE	POST /new/webhooks Create Webhooks
DATA PROCESSING	GET /new/webhooks/{id} Get Webhook Data
DATA NOTIFICATIONS	POST /new/webhooks/{id} Update Webhook
ALERT RULES	DELETE /new/webhooks/{id} Delete Webhook
DEVICE INVENTORY	GET /new/trigger Get Trigger
SCHEMAS	GET /new/trigger/{trigger_id} Get Trigger Data

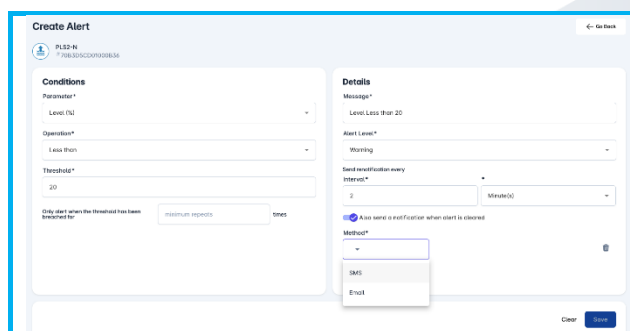
Integration-ready Webhook & APIs



Global visualization of device locations with address-level zoom



Customizable aggregations & stats



Multi-channel, rule-based alert management

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INDUSTRIES SERVED



Agriculture & Farming



Mining & Construction



Water & Wastewater



Food & Beverage



Smart Building



Oil & Gas

INTEGRATION OPTIONS

10Sorex's solution sets itself apart with its pre-configured and plug-and-play design, eliminating the complexities of configuration, programming, and connection to the platform. This unique approach ensures that users can start monitoring their diesel tanks quickly and easily without any technical hassles. Additionally, 10Sorex offers seamless integratability at both the network and platform levels, allowing for easy integration with any network or visualization/analysis platform. This competitive advantage makes 10Sorex's solution highly adaptable and compatible with existing systems, providing users with flexibility and convenience in managing their diesel resources effectively.

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ORDERING PROCESS

10Sorex offers simple and easy way to order the solution from any location on earth with narrow band cellular coverage. Please visit our sales portal (www.10sorex.com) or contact us to discuss your application. This is the first step to experience a reliable IoT solution at scale.



Purchase the solution online



Learn more about our Software Platform



View the Included Sensor Datasheet



Browse our other solutions

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Integrated IoT Solutions

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