

A row of large, white, cylindrical diesel storage tanks in an industrial setting. The tank in the foreground is labeled with the number "6" and the word "DIESEL".

Remote Diesel Tank Level Monitoring

Rely on technology to safeguard your valuable assets, ensuring uninterrupted diesel availability in remote areas, and preventing surprises of fuel shortages.

CHALLENGE

Managing diesel fuel levels efficiently and accurately in large storage tanks is essential for industrial operations, agriculture, and logistics industries. Traditional monitoring methods require manual inspection or are often limited by inaccuracies, which can compromise efficiency and increase the risk of spills, inventory outages, and regulatory fines.

SOLUTION

Our Submersible Level Sensor is designed to tackle the challenge of monitoring diesel tank levels in a remote setting. Combining robust IoT sensors with NB-IoT technology, our solution provides near real-time data transmission, accurate level measurements, and efficient management of fuel resources.

10Sorex's submersible level sensor operates on battery power, allowing for seamless integration into pre-existing infrastructure without the constraints of wiring or short battery life. The robust, IP65-rated design ensures the sensor can withstand harsh industrial conditions and deliver reliable performance.

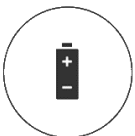
By utilizing NB-IoT technology, our solution delivers cost-effective and energy-efficient wireless communication over a wide geographical coverage, allowing for centralized management of multiple diesel tanks from a single access point. This innovative approach eliminates the need for manual inspection while providing accurate and real-time data for effective management and decision-making.

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Our Submersible Level Sensor provides numerous benefits by employing this innovative approach to remote diesel tank level monitoring. These benefits include:

- **Enhanced Operational Efficiency:** Near real-time data enables informed decision-making, optimal resource allocation, and timely inventory replenishment, eliminating the risk of costly downtime.
- **Improved Accuracy:** Advanced sensors accurately measure diesel tank level, reducing the risk of errors associated with manual measurements.
- **Reduced Environmental Impact:** Accurate level monitoring decreases the potential for diesel spills and leaks, minimizing adverse environmental consequences and regulatory compliance issues.
- **Cost Savings:** Efficient inventory management and reduced manual labor requirements result in significant cost savings for businesses and organizations in the long run.
- **Scalability:** NB-IoT technology allows for the seamless integration of additional IoT sensors, making it easy to scale the solution to meet growing demands.

Integrating our Submersible Level Sensor into diesel tank management systems enables organizations to confront the challenges of remote diesel tank level monitoring proactively. Our battery-operated, ruggedized IoT sensors work seamlessly with NB-IoT technology, ensuring accurate measurements and near real-time data transmission, enhancing operational efficiency, and reducing costs.



Battery Operated



Ruggedized Design



Easy Install



Pre-Configured



Secure



Quick ROI

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Remote Diesel Tank Level Monitoring

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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Remote Diesel Tank Level Monitoring

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)

Remote Diesel Tank Level Monitoring

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



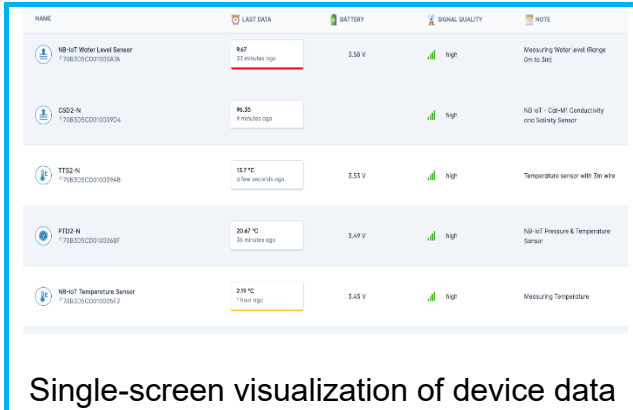
Action management



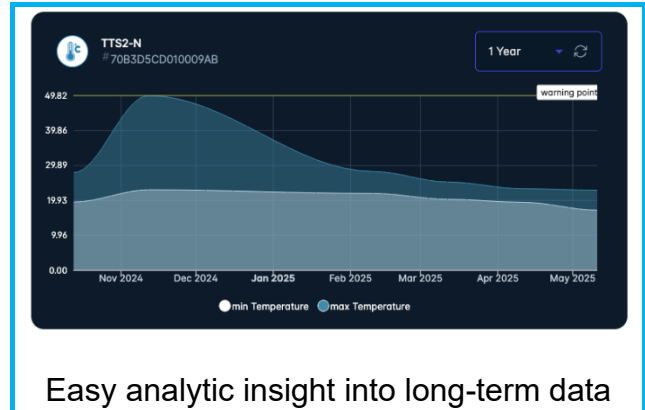
Resource monitoring

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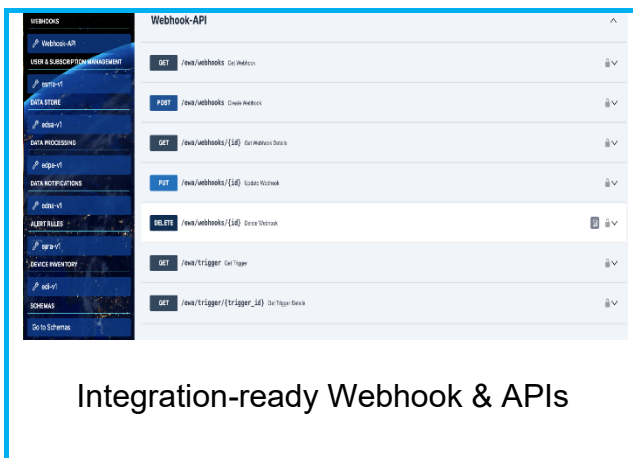
Remote Diesel Tank Level Monitoring



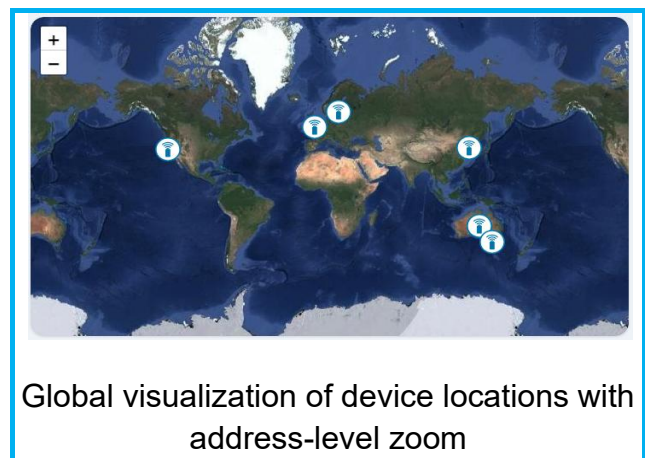
Single-screen visualization of device data



Easy analytic insight into long-term data



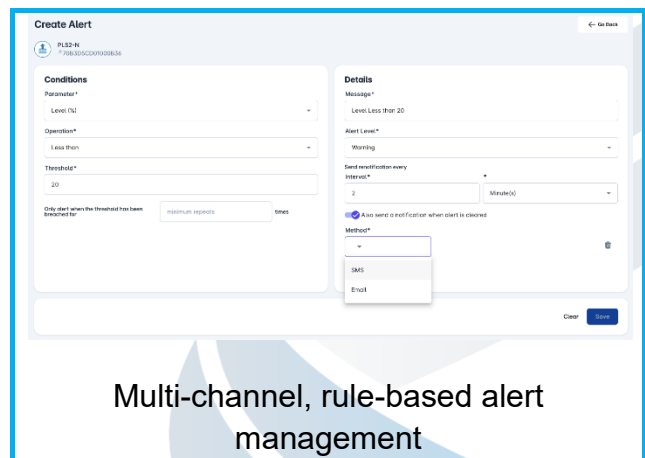
Integration-ready Webhook & APIs



Global visualization of device locations with address-level zoom



Customizable aggregations & stats



Multi-channel, rule-based alert management

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Remote Diesel Tank Level Monitoring

INDUSTRIES SERVED



Agriculture &
Farming



Smart Building &
HVAC



Mining &
Construction



Oil & Gas



City & Councils

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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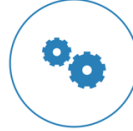
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ORDERING PROCESS

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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