Solution Datasheet

Remote Rain Level Monitoring

Effective flood prevention and management are critical to saving lives and protecting valuable infrastructure. The timely collection and analysis of accurate rainfall data play a key role in achieving this goal.

CHALLENGE

In remote and flood-prone areas, accurately monitoring rainfall levels is crucial for effective flood prevention and management. However, traditional rain gauge systems often rely on manual data collection, which is time-consuming and inefficient. Additionally, these systems may be unreliable in harsh environmental conditions, leading to inaccurate data and poor decision-making during flood events.

SOLUTION

By leveraging 10Sorex's battery-operated Tipping Spoon Rain Sensor and NB-IoT technology, real-time remote rain level monitoring becomes possible.

This IoT-enabled solution offers the following benefits:

- Near real-time data transmission: 10Sorex sensors transmit data every few hours, providing timely information on rainfall levels for informed decision-making.
- Reliable performance in harsh environments: Ruggedized and IP65-rated, 10Sorex sensors are built to withstand harsh industrial applications and extreme weather conditions.
- Low power consumption: Battery-operated and designed for longevity, these sensors reduce the need for frequent battery replacement and maintenance, making them ideal for remote locations.

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- Enhanced data accuracy: The Tipping Spoon Rain Sensor offers precise rainfall measurements, enabling accurate data collection for better flood prevention and management strategies.
- Scalability: NB-IoT technology allows for seamless integration of multiple sensors, making it easy to expand the monitoring system as needed.

This innovative approach to remote rain level monitoring helps address the challenges of flood prevention and management, ensuring the safety of lives and infrastructure.

Battery Operated | Ruggedized Design | Easy Install | Pre-Configured | Secure | Quick ROI

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

• Measurement principle	Tipping Spoon
• Rainfall Accuracy	Upto 250mm/hr: ±3% of total or ± one tip of the spoon(0.2mm) whichever is greater
• Rain Rate Accuracy	±5% for rain rates upto 250mm/hr
• Rain Rate Resolution	0.1mm (configurable)
• Power Supply	Built-in Replaceable Lithium Battery
• Rated Voltage (V)	3.6
• Battery Lifetime	10,000+ transmissions
• Materials	Enclosure: POM Rain Collector: UV-stabilized ABS plastic
• Weight (g)	2150
• Protection Rate	IP66, UV Protected enclosure
• 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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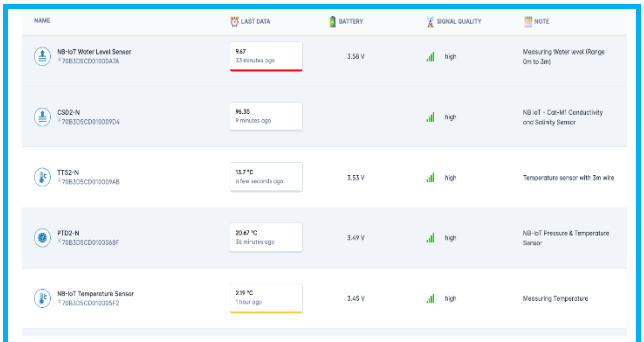
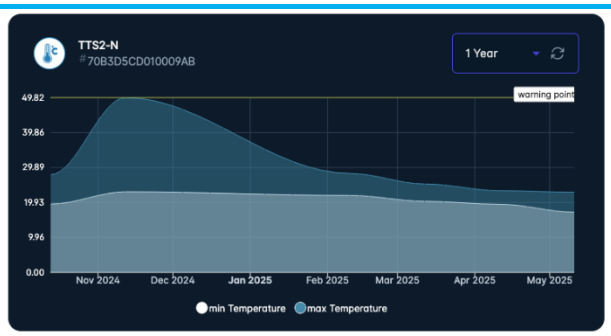


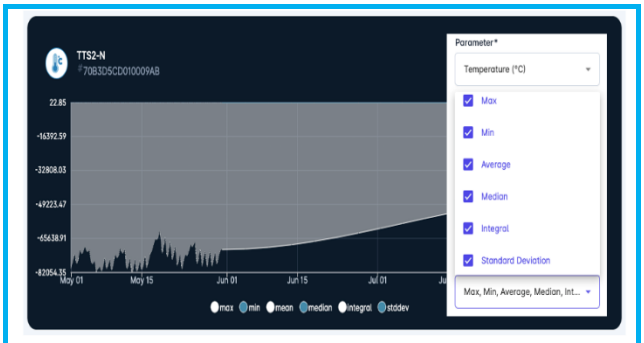
Single-screen visualization of device data



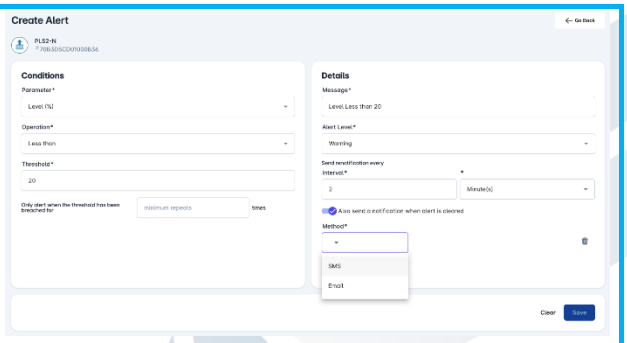
Easy analytic insight into long-term data

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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INDUSTRIES SERVED

Agriculture & Farming

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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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

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Integrated IoT Solutions

Email:sales@10sorex.com
Web: www.10sorex.com