Solution Datasheet

Remote Industrial Water Flowmeter Monitoring

Effective water flow management is crucial to maintaining resource efficiency and preventing environmental damage in remote industrial settings.

CHALLENGE

Monitoring water flow in remote industrial areas can be challenging due to limited access to power sources, harsh environmental conditions, and the need for reliable data transmission. Ensuring accurate and near real-time monitoring of water flow is critical for efficient resource management and avoiding costly issues like leaks, equipment malfunctions, or unauthorized usage.

SOLUTION

To address the challenge of remote industrial water flowmeter monitoring, deploy Ellenex's battery-operated Flow Monitoring Sensors that leverage NB-IoT technology.

This approach offers the following benefits:

- Ruggedized design: Built to withstand harsh industrial applications and IP65 rated, these sensors can reliably function in remote and challenging environments.
- Battery-operated: With no need for a constant power source, Ellenex sensors are ideal for remote locations and have a longer lifespan compared to traditional sensors.
- Near real-time data: Transmitting data every few hours allows for prompt detection and response to any issues, ensuring efficient water management.
- Cost-effective: The long battery life and low-maintenance design reduce the need for frequent site visits, minimizing maintenance costs and time.

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- Secure data transmission: The NB-IoT technology enables a more reliable and secure data transmission, ensuring accurate flow monitoring and minimizing the risk of data loss.

By implementing Ellenex Flow Monitoring Sensors with NB-IoT technology, industries can efficiently monitor water flow in remote areas, enabling timely detection of issues and better resource management.

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

TECHNOLOGY

Ellenex 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,

NB-IoT LTE-M

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enabling robust and cost-effective solutions for monitoring applications in various industrial sectors, including agriculture, utilities, logistics, and more.

SENSOR TECHNICAL SPECIFICATIONS

• Interface	Pulse (Reed Switch) (or other customised options on request)	
• Electric Connection	1m cable (or other options on request)	
• Operating temperature range	-10 ~ +70	°C
• Power Supply	Built-in Replaceable Lithium Battery	
• Rated Voltage	3.6	V
• Battery Lifetime	10,000+ transmissions	
• Materials	POM	
• Weight	350	g
• 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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Remote Industrial Water Flowmeter Monitoring

PLATFORM FEATURES

Ellenex'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. Ellenex'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, Ellenex'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 customisation 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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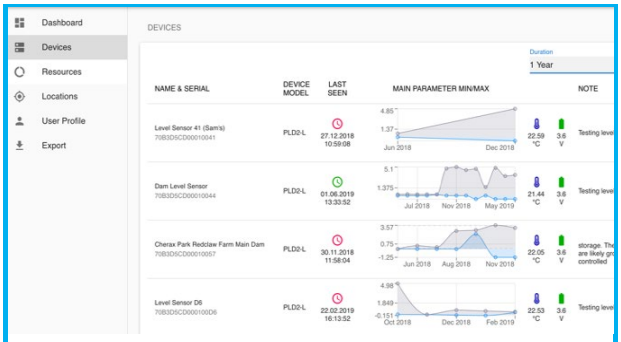
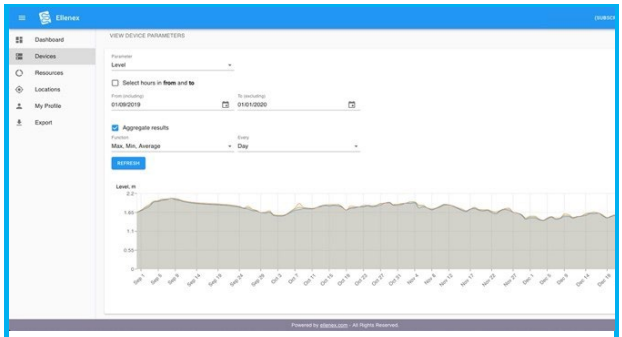
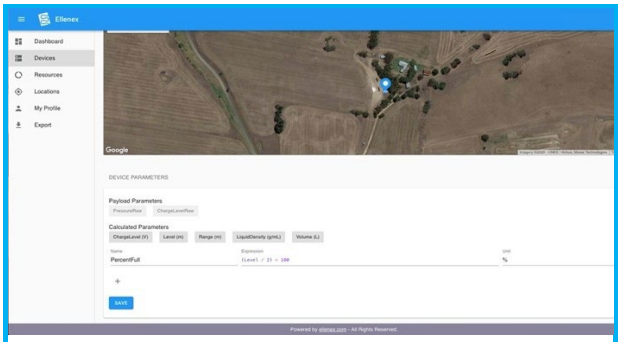


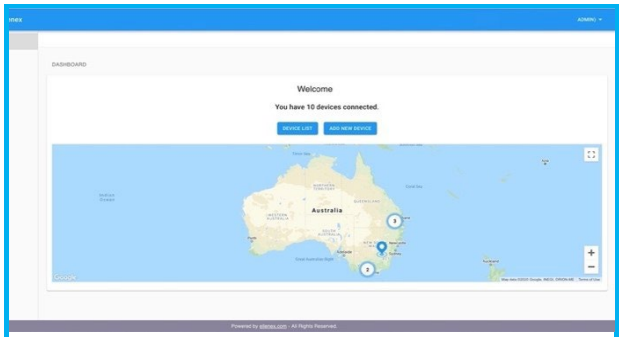
Single shot data visualisation of devices



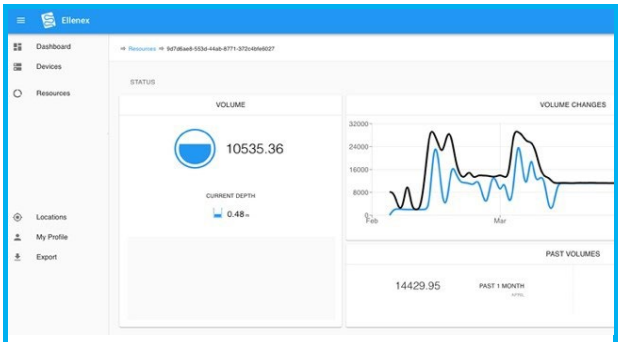
Easy historic data analysis



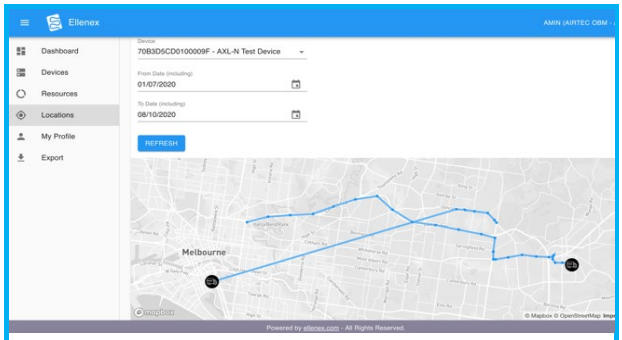
Asset location indication and complex formula



Device list visualisation on map



Volume calculation and prediction



Asset location monitoring (for mobile assets)

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INDUSTRIES SERVED

- Agriculture & Farming
- Water & Wastewater
- Smart Building & HVAC
- Mining & Construction
- City & Councils

INTEGRATION OPTIONS

Ellenex'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, Ellenex 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 Ellenex's solution highly adaptable and compatible with existing systems, providing users with flexibility and convenience in managing their diesel resources effectively.

ORDERING PROCESS

Ellenex 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.ellenex.shop) or contact us to discuss your application. This is the first step to experience a reliable IoT solution at scale.

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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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Web: www.ellenex.com
Platform: ellenex.net
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