Solution Datasheet

Vaccine and Sensitive drug Temperature Monitoring

Effective temperature monitoring is crucial for maintaining the integrity of life-saving vaccines and sensitive drugs, making reliable IoT solutions an indispensable tool for healthcare and pharmaceutical organizations.

CHALLENGE

The accurate and continuous monitoring of vaccine and sensitive drug temperatures is a critical aspect of ensuring their effectiveness and safety in pharmaceutical and healthcare industries. Proper temperature control during storage and transportation is essential to maintain the quality and efficacy of these medical supplies. However, traditional monitoring methods have limitations in terms of real-time data, energy efficiency, and connectivity in remote areas.

SOLUTION

Ellenex's battery-operated temperature sensors with NB-IoT technology offer an advanced solution to overcome the challenges faced in vaccine and sensitive drug temperature monitoring. The ruggedized, IP65-rated IoT sensors are specifically designed for harsh industrial applications and provide near real-time temperature data for better decision-making.

The IoT sensor used in this solution is the Ellenex battery-operated temperature sensor, designed for low-power consumption and excellent coverage in remote areas with limited connectivity.

The benefits of this approach include:

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- Near real-time temperature monitoring for better accuracy and safety of vaccines and sensitive drugs.
- Battery-operated, energy-efficient sensors that ensure continuous monitoring without the need for constant power supply.
- Ruggedized, IP65-rated design, suitable for harsh industrial environments.
- Improved connectivity with NB-IoT technology, ensuring consistent data transmission even in remote areas.
- Streamlined data management and analysis for better decision-making in maintaining optimal storage and transportation conditions.

By implementing Ellenex's battery-operated temperature sensors with NB-IoT technology, pharmaceutical and healthcare organizations can significantly improve the accuracy and efficiency of their temperature monitoring systems, ensuring the safety and effectiveness of vaccines and sensitive drugs.

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

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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.

SENSOR TECHNICAL SPECIFICATIONS

• Range	-50°C to +250°C (or other ranges up to 200) -10 ~ +70 (electronic housing)	°C
• Accuracy	IEC 60751 • Class A (±0.15°C at 0°C) other accuracies available on request	°C
• Sensing Element	Pt100	
• Long Term Stability (1 year)	≤ 0.2	%Span
• Power Supply	Built-in Replaceable Lithium Battery	
• Rated Voltage	3.6	V
• Battery Lifetime	10,000+ transmissions	
• Materials	Sheath: Stainless Steel (3mm or 6mm OD), Silicone Rubber Cable	
• Weight	~450	g
• Protection Rate	IP66, UV Protected	
• 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

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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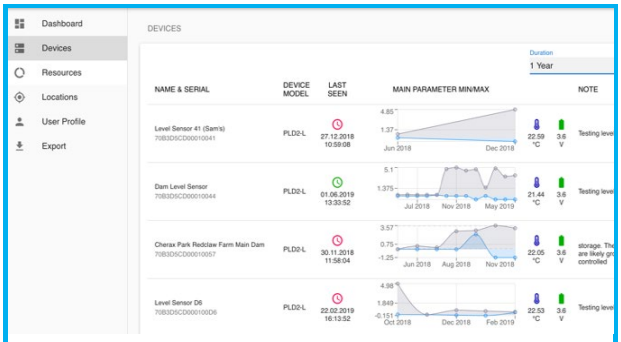
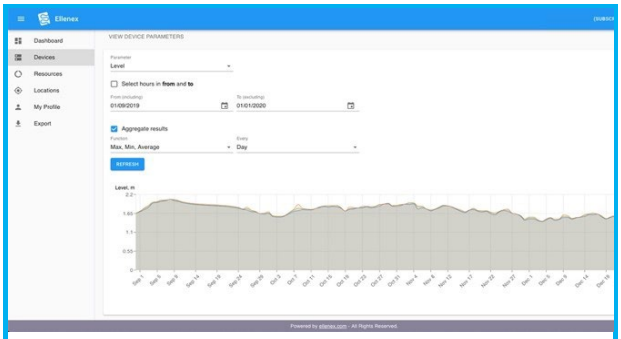
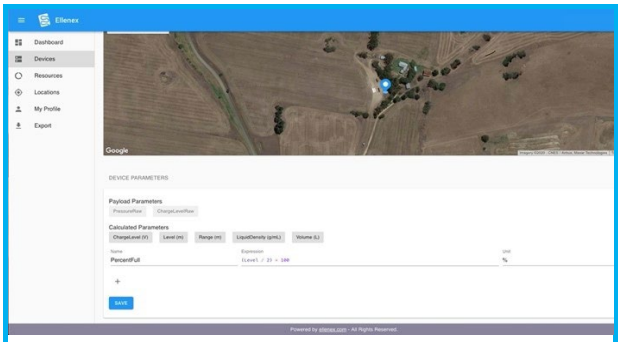


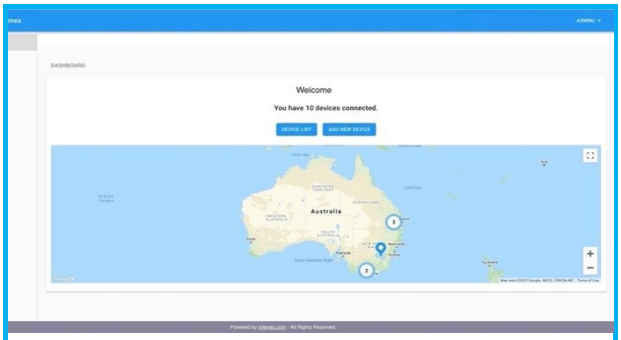
Single shot data visualisation of devices



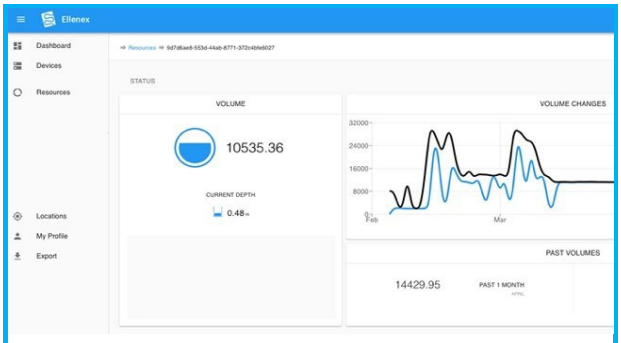
Easy historic data analysis



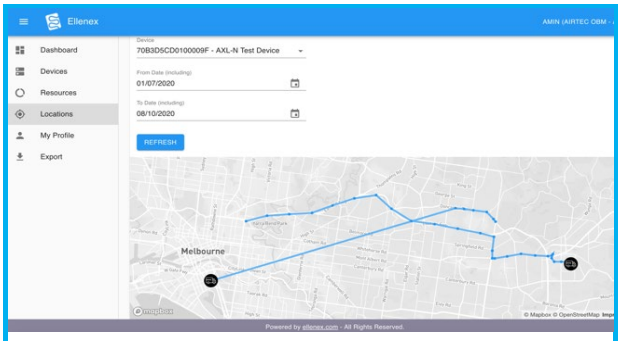
Asset location indication and complex formula



Device list visualisation on map



Volume calculation and prediction



Asset location monitoring (for mobile assets)

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INDUSTRIES SERVED

Hospitals, Restaurants & Smart Buildings

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

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View the Included Sensor Datasheet

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Integrated IoT Solutions

Email: sales@ellenex.com
Web: www.ellenex.com
Platform: ellenex.net
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