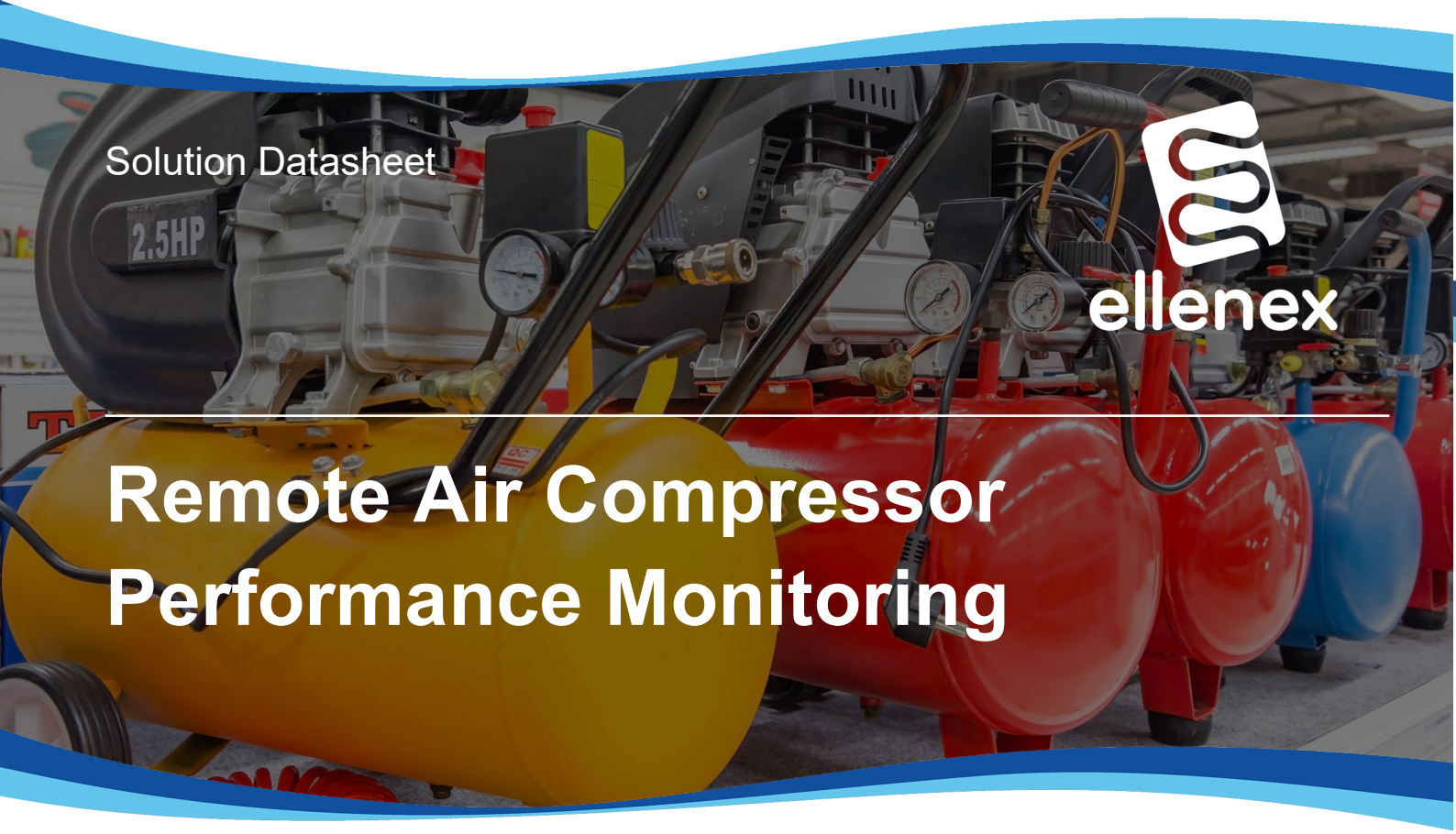

Solution Datasheet

ellenex

Remote Air Compressor Performance Monitoring

Effective remote monitoring of air compressors is crucial for reducing energy consumption, minimizing downtime, and ensuring optimal performance in industrial applications.

CHALLENGE

In industries relying on air compressors, the inability to remotely monitor the performance of these compressors can lead to inefficient operation and unnecessary energy consumption. The constant monitoring of pressure levels is crucial for optimal functioning, and remote locations or harsh environments can make it difficult to ensure proper pressure management.

SOLUTION

The battery-operated Ellenex pressure sensor, specifically designed for pressure monitoring in harsh industrial applications, is the ideal solution for remote air compressor performance monitoring. Utilizing NB-IoT technology, these ruggedized IP65 rated sensors transmit data every few hours, providing near real-time information on pressure levels.

Benefits of this approach include:

- Improved energy efficiency: Continuous pressure monitoring allows for better control and optimization of air compressor performance.
- Reduced maintenance costs: Early detection of pressure fluctuations can help identify issues before they escalate, minimizing downtime and repair expenses.

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Remote Air Compressor Performance Monitoring

- Increased reliability: Ruggedized design and IP65 rating ensure the sensors can withstand harsh environments, making them suitable for various industrial applications.
- Enhanced safety: Accurate pressure monitoring helps prevent hazardous situations caused by pressure imbalances in air compressors.

By implementing Ellenex's battery-operated pressure sensors with NB-IoT technology, industries can overcome the challenge of remote air compressor performance monitoring, resulting in increased efficiency, safety, and cost savings.

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

NB-IoT LTE-M

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Remote Air Compressor Performance Monitoring

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	10	bar
• Accuracy (combined linearity, hysteresis, repeatability)	±0.25 (typ.)	%Span
• Resolution	±0.01	%Span
• Temperature Coefficient of Zero	≤±0.02	%FS/°C
• Temperature Coefficient of Span	≤±0.02	%FS/°C
• Long Term Stability (1 year)	≤ 0.2	%Span
• Pressure Overload	300 (range <1bar); 150 (higher range)	%FS
• Pressure Cycles (Zero to Full Scale)	10+	Million
• Compensated Temperature	-10 ~ +70	°C
• Power Supply	Built-in Replaceable Lithium Battery	
• Rated Voltage	3.6	V
• Battery Lifetime	10,000+ transmissions	
• Materials	O-ring: Viton, Body: SS316L, Diaphragm: SS316L, Oil: Silicon, Enclosure: POM	
• Weight	550	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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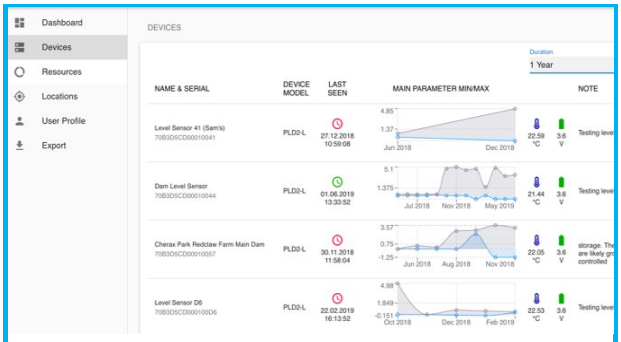
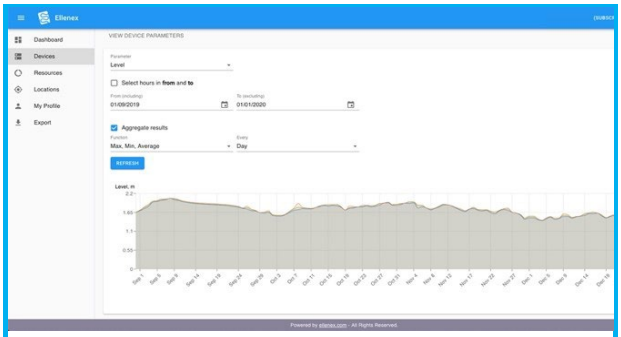
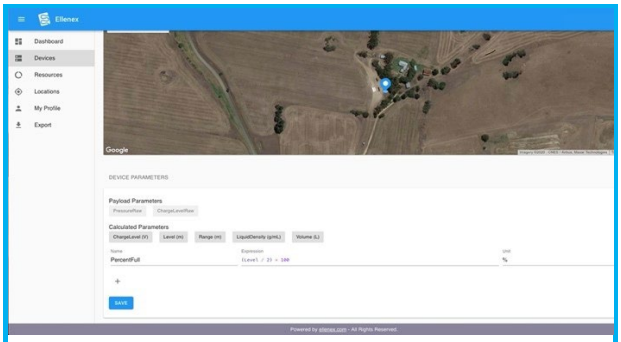
Remote Air Compressor Performance Monitoring



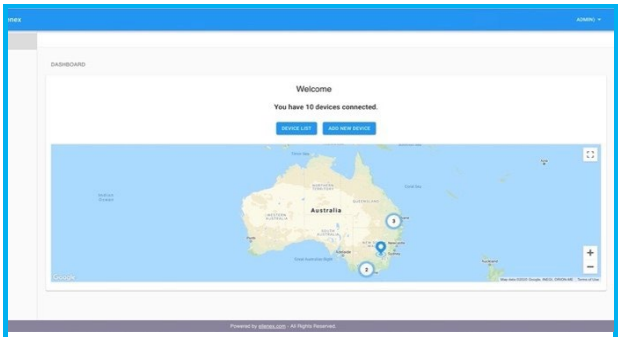
Single shot data visualisation of devices



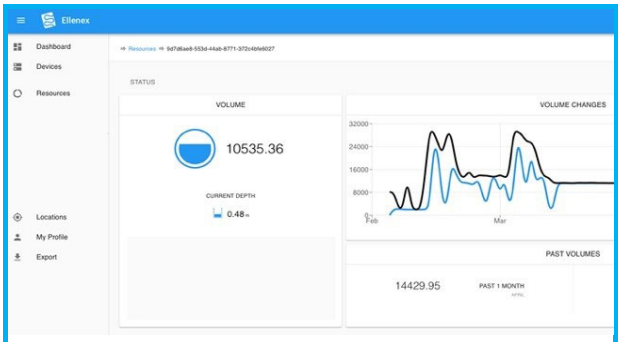
Easy historic data analysis



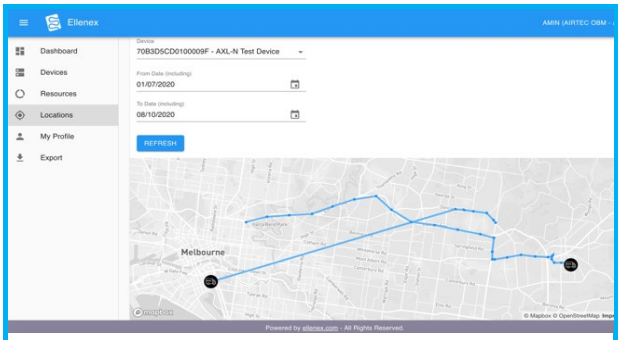
Asset location indication and complex formula



Device list visualisation on map



Volume calculation and prediction



Asset location monitoring (for mobile assets)

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Remote Air Compressor Performance Monitoring

INDUSTRIES SERVED

- Agriculture & Farming
- Mining & Construction
- Oil & Gas
- Hydraulics and Compressed Air Systems

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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Remote Air Compressor Performance Monitoring

Purchase the solution online

Learn more about our Software Platform

View the Included Sensor Datasheet

Browse our other solutions

Ver. 1.3-05/23

Integrated IoT Solutions

Email: sales@ellenex.com
Web: www.ellenex.com
Platform: ellenex.net
Sales Portal: www.ellenex.shop