



Sensors installed on Drive and Non-Drive End of a Motor

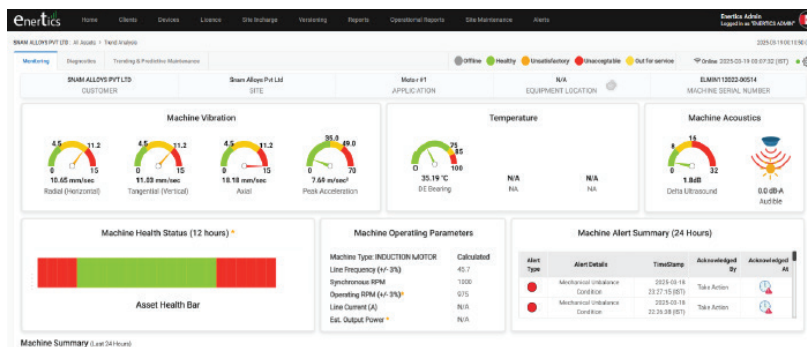
eM Saver Mini PORTABLE MONITORING KIT

FEATURES

- Triaxial Vibration, Acoustic, Temp. and Magnetic Flux Sensors
- Real-time Alarm notifications
- Sensor data trending and analytics
- Asset Health Reports
- Heavy-duty travel case

KEY BENEFITS

- Quick and easy installation – Magnetic Mount and Epoxy Putty
- Find and report faults before they become major issues
- Real time dashboard
- Early-stage diagnostics (approx. 30 types of faults for rotating assets)
- Instant notification in Email and Mobile Phone App for problem events



Cloud Dashboard with real-time sensor data, analytics and alarms.

APPLICATIONS

- Motors
- Pumps
- Compressors
- Bearings
- Generators





iMSensor

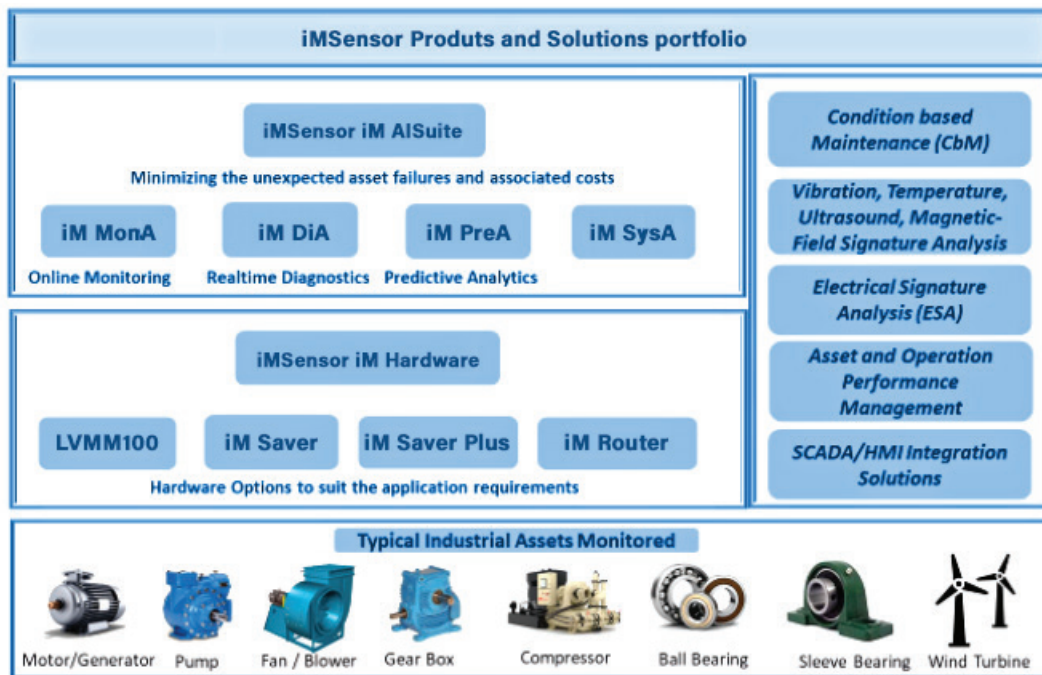
Condition-Based Maintenance (CbM) for Rotating Machines



TOUCHLESS™
MONITORING
SOLUTIONS



iMSensor PRODUCT PORTFOLIO



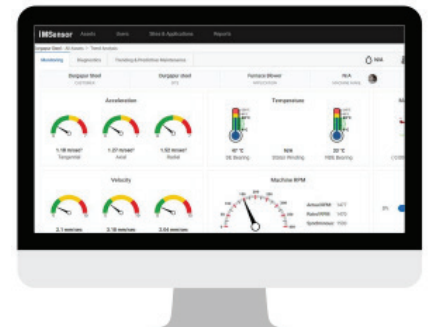
iM SAVER (HARDWARE MODULE)

The advanced iM Saver provides online monitoring, diagnostics, and predictive maintenance of rotating machines. It supports multiple communication options including wireless (WiFi, BLE -BT) and hard-wired Ethernet option to suit every customer need.



iM MONA

iM MonA provides seamless integration with the iMSensor hardware platform to interpret multi-sensor data and provides users with real-time health and operational status of equipment. The iM MonA also features integration with customer SCADA/HMI over OPC to pass the alerts and alarms to the existing legacy HMI visualization systems.



iM DIA

iMSensor iM DiA delivers important machine diagnostics data as well as real-time sensor data visibility to assist customers in identifying specific machine health issues in a wide range of machine types.

iM PREA

iMSensor iM PreA uses ML and AI algorithms to predict individual fault conditions. With advanced data analytics, not only it is possible to forecast individual sensor data, but it is also possible to predict specific machine faults. The forecasting is based on hourly, daily, weekly, and monthly time lines.



ULTRASONIC ANALYSIS

The Ultrasonic sensing technology is known to help detect very early-stage mechanical issues in rotating machines and other industrial assets. The iMSensor system features ultra-wide bandwidth advanced acoustic ultrasonic analysis, to detect and identify early-stage concerns in the potentially failing assets.

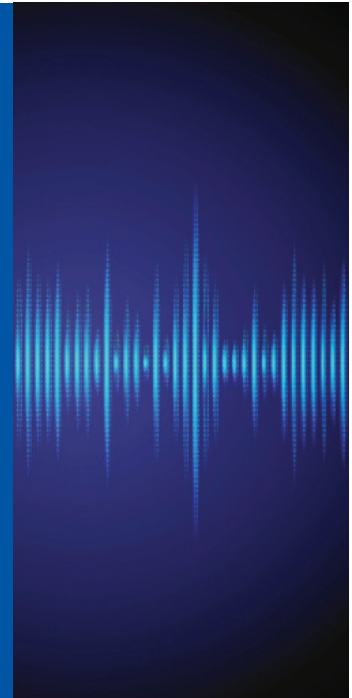
Leveraging the ultrasonic sensing technology, the iMSensor solution can identify early-stage bearing issues including lubrication concerns for ball bearings used in the rotating machines. In the case of Electric motors, loose or broken rotor bars can generate a high-frequency, rhythmic pattern sounds that the iMSensor solution can detect and use for identifying motor health issues.

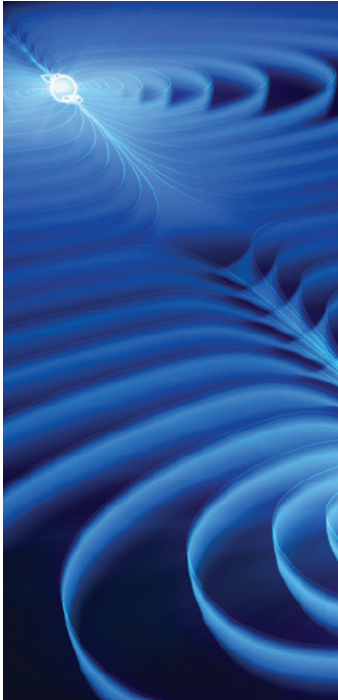
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VIBRATION ANALYSIS

The iMSensor system uses high bandwidth vibration analysis to evaluate the health of rotating machines. Vibration analysis helps in the detection of a variety of issues such as machine unbalance, alignment issues, looseness, resonance, bent shafts, and many other mechanical concerns.

To enhance the health of your assets, a timely corrective and preventative action is necessary, and accordingly, the overall risk to lose production can be minimized. The iMSensor system automatically screens hundreds of machine tests through an in-depth collection of derived fault conditions. When vibration levels in the machines become severe, the iMSensor system sends out automated alerts to the users along with pinpointed diagnostics information on potential failures.





MAGNETIC FIELD ANALYSIS

The state-of-the-art iMSensor devices are equipped with high-sensitivity and high-resolution magnetic field sensors. These sensors allow monitoring changes in the magnetic fields upon a variety of abnormal machine health conditions. The iMSensor system uses real time data from these sensors to correlate the sensor data to determine the root cause of the failure.

Furthermore, the advanced analysis is facilitated by iMSensor proprietary software tools, to provide actionable information and diagnostics to the operations and maintenance staff.

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TEMPERATURE SIGNATURE ANALYSIS

The operational temperature of the various critical parts of the rotating machines is measured using highly accurate analog sensors to perform the temperature signature analysis. iMSensor uses advanced temperature sensors to build an accurate thermal model to facilitate overall health monitoring of rotating machines.

The temperature data along with other sensor data is fed through the AI and ML algorithms to accurately predict health of a variety of rotating machine assets used in industrial plants.

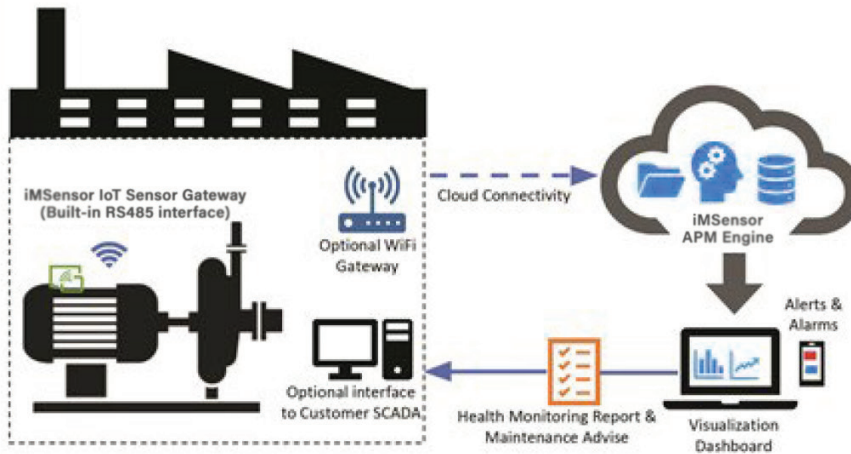




WHY CHOOSE iMSensor

iMSensor provides a one-stop solution for complete asset health monitoring, diagnostics and predictive analytics solution, leveraging a portfolio of iM Saver hardware and iM AISuite software platform. The offered solutions can be deployed, in matter of minutes, for the brownfield as well as greenfield applications to provide the best Return on Investment (ROI) for the users. iMSensor offers most advance sensing, connectivity and data analytics technologies to provide a reliable and cost effective solution to its customers.

Typical Solution Architecture



Key Solution Elements			
Smart IOT Sensors	Accelerometer	Gyroscope	
	Drive End Bearing RTD	Winding RTD	Non Drive End Bearing RTD
Communications	Wi-Fi 800 MHz or 2.5GHz	LTE 2G/3G/4G	RS 485 Hardwired
IOT Gateway	"Sensor to Cloud" architecture		
Analytics	iMSensor Proprietary APM Analytics Engine		
HMI/GUI	Advanced APM HMI		



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