

PRODUCT NOTE

ABB Ability™ Smart Sensor for general machinery

Remote condition monitoring solution



The ABB Ability™ Smart Sensor for general machinery is used to measure and monitor temperature and vibration across a range of general machinery applications, from fans to mechanical skids. By combining this smart sensor data with that from other monitored devices, valuable insights into the operating conditions of a plant or process can be easily visualized through a dedicated portal.

Wide range of applications

Applications in which only temperature and vibration need to be measured and monitored, such as fans, mechanical skids and machinery foundations, can benefit from the ABB Ability™ Smart Sensor. The Smart Sensor for general machinery complements the more in-depth health and performance analysis that the Smart Sensor applies to motors, mounted bearings, gearing and pumps. Collectively, both Smart Sensors offer a much greater insight into the operations of a powertrain.

Insights into processes and operating conditions

Data from powertrain assets such as variable speed drives, motors, mounted bearings, gearing and pumps can be monitored from a dedicated web portal and app. The ability to integrate data from other assets like fans and skids results in even greater intelligence being gathered about the performance of the entire powertrain.

The strength of this combined data provides unparalleled insight into a plant's processes, environmental conditions, operating performance and potential challenges. Over time, this historical data helps to better optimize the applications and processes in which they are running.

Key features and benefits

- Wireless sensor for temperature and vibration measurement
- Suited to a wide range of machinery and infrastructure applications
- Fast and easy installation
- Feeds application data into portal for detailed insight into processes and operating conditions

SPECIFICATIONS		
Temperature measurement		
Measurement range	-40 °C to +85 °C	
Resolution	0.05 °C	
Accuracy (baseplate temperature)	+/-0.5 °C	
Vibration measurement (overall velocity values)		
Amplitude range	0.04 - 700 mm/s (25 Hz)	
Frequency range	10 Hz - 1 kHz	
Wireless communication		
Network / radio standard	Bluetooth® 4.0 / IEEE 802.15.1	
Frequency	2.4 GHz, license free ISM band	
Range	With mobile phone: 1 - 10 m	
	With gateway: approx. 50 m (can vary in an industrial environment depending on the facility layout)	
Power		
Battery type (not replaceable)	3.0 V Lithium Permanganate (LI-MnO4) button cell CR2477N	
Estimated battery lifetime	Batteries have a design life of 5 years. Expect 3 - 5 years depending on usage, settings and temperatures	
Measured skin temperature (°C)	+40 °C	+70 °C
Battery life in years, sensor in default configuration	approx. 5	approx. 3
Default configuration: Sensor measures once per hour and stores data to memory. Stored data must be collected at least monthly with a Bluetooth® mobile device or gateway.		
Environmental		
Temperature	Operation: -40 °C to +80 °C	
	Storage: +10 °C to +25 °C	
IP class	IP66 (dust-tight and resistant to powerful water jetting)	
Vibration (of mounted surface)	<15 g at 100 Hz	
Certifications		
	CE, FCC, IC, RCM, EAC, UL, C-UL, SRE, SUBTEL	
	Safe areas only; no hazardous area certification	
Physical		
Dimensions	130 mm x 16 mm x 76.7 mm (W x D x H)	
Weight	0.26 kg	
Case material	Stainless steel/Thermoplastic	
Mounting	Centrally on machinery frame Please consult installation manual	

For more information, please contact your local ABB representative or visit:

www.abb.com/smartsensor

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