DATA SHEET

ABB Ability™ Smart Sensor

Condition monitoring for low voltage motors

The ABB Ability™ Smart Sensor converts traditional low voltage motors into smart, wirelessly connected devices. It enables you to monitor the health of your motors, optimize efficiency and improve reliability and safety.

Intended use

- 3-phase AC induction motors
- Continuous or intermittent duty
- Frame sizes: 140-440 (NEMA), 56-450 (IEC)
- Fixed speed or variable speed

ABB Ability™ Smart Sensor gateway

Automatically collects data from a high number of Smart Sensors and transmits the data to the cloud for processing.

Gateway specifications	
Range	Approx. 50 m (can vary in an industrial environment depending on facility layout)
Power supply	Power supply over ethernet port
Certifications	1879 FCC, CSA, CE
Radio frequency	ISM band, 2.402-2.480 GHz
Data transfer	WiFi, LAN 4G/LTE USB dongle
Environment	Operating temperature: -40 °C to +65 °C

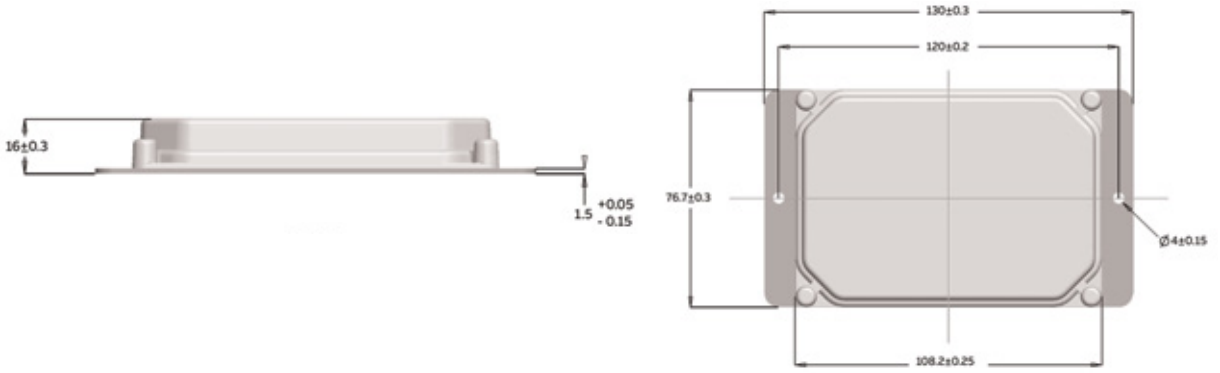
Health parameters

- Overall condition
- Overall vibration (velocity rms)
- Bearing condition
- Misalignment
- Skin temperature (degrees)

Operating parameters

- Radial vibration (velocity rms)
- Tangential vibration (velocity rms)
- Axial vibration (velocity rms)
- Speed (rpm)
- Operating hours
- Number of starts
- Supply frequency (Hz)
- Output power (hp/kW)
- Regreasing count-down

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
Certification/Standards		
		CE, FCC, UL, C-UL
		Safe areas only; no hazardous area certification
Physical		
Weight		0.26 kg
Case material		Stainless steel/Thermoplastic
Mounting		Centrally on motor frame, parallel to motor shaft; ensure good contact Ensure that correct mounting kit is used; ready-made mounting kits might not be available for all kinds of motors



For more information please visit:
new.abb.com/motors-generators/service

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