

PRODUCT NOTE

# ABB Ability™ Smart Sensor for pumps

Smart technology enhances business intelligence and efficiency



The ABB Ability™ Smart Sensor converts traditional pumps into smart, wirelessly connected devices. It enables you to monitor the health of your pumps, identify inefficiencies and improve reliability and safety.

01 ABB Ability™ Smart Sensor for pumps

### Monitoring the health of pumps

ABB Ability™ Smart Sensor for pumps is an intelligent sensor that helps to reduce risks related to pump operation and maintenance by identifying inefficiencies within the pumping system.

It monitors the vital operating parameters of the pump, such as vibration and temperature, to calculate pump health indicators. These indicators provide valuable information on the pump's condition and performance. They can help to predict pump failure by detecting early signs of common operating problems, such as bearing failure, blade problems, looseness, unbalance or overheating.

Maintenance can be planned based on actual needs rather than on generic schedules.

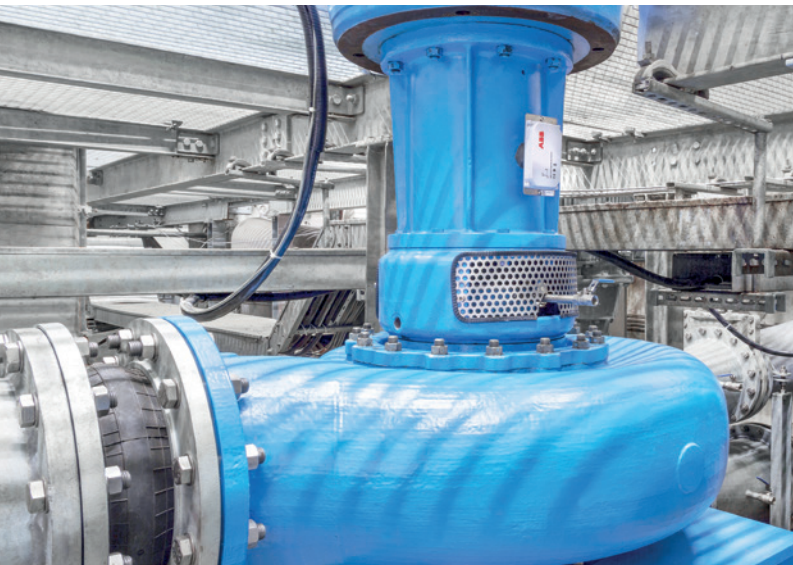
### Better safety and reliability

Pumps operating in dangerous environments or hard-to-reach locations pose a risk to workplace safety and are more likely to break down due to inadequate maintenance. By monitoring the pump and transferring the data wirelessly to the cloud, maintenance needs can be identified from a distance. This increases work safety, saves time and improves reliability.

### Benefits

- Early identification of pump inefficiencies
- Prevention of unexpected downtime
- Reduced maintenance costs
- Extended equipment life
- Better safety

Technical data	
Monitored parameters	Vibration, temperature
Example performance indicators	Rotating speed of the pump, Operating hours, Blade problems, Looseness, Misalignment, Unbalance
Approvals	CE, UL, IC, FCC
Wireless communication	Bluetooth® 4.0
IP class	IP66
Lifetime	Design life of 5 years
Case material	Stainless steel/Thermoplastic
Ambient conditions	Operation: -40°C to +85°C Storage: +10°C to +25°C
Dimensions	16 x 130 x 76.7 mm
Pump type	Centrifugal or vortex pump
Fluid type	Water or wastewater
Number of impeller blades	b <sub>MIN</sub> = 2, b <sub>MAX</sub> = 8
Speed type and range	Direct online or variable-speed driven Speed <sub>MAX</sub> x b ≤ 6000 RPM
Power / size	The driving motor's frame size must be supported by the Smart Sensor, NEMA 449 or IEC 450

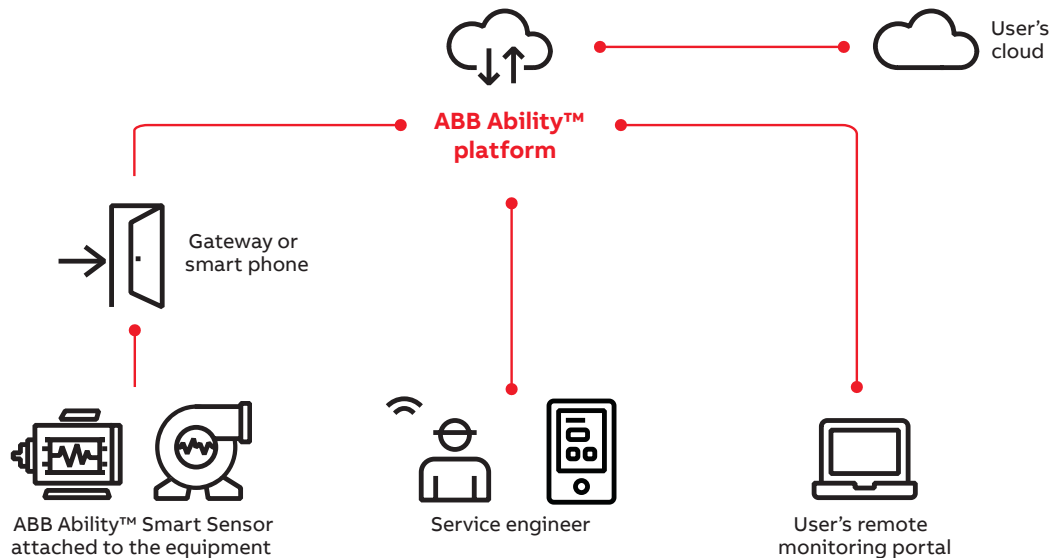


**Easy-to-install**

At the heart of the solution is a compact sensor unit which can be easily attached to the pump without wiring. The sensor monitors signals from the pump, accurately measuring key parameters at regular intervals. It transfers the data, using built-in wireless Bluetooth® Low Energy technology, to a smartphone, tablet or Bluetooth® gateway. Industry-standard encryption protocols are used for data communication. All data is transferred to a secure cloud-based server where it is stored in encrypted form.

**Factory of the future with digital powertrain**

Smart, connected factories are the future of manufacturing. ABB Ability™ connects our customers to the power of the Industrial Internet of Things (IIoT). ABB Ability™ can combine data collected by the pump sensor with data from other connected equipment, such as motors and drives. This data can be accessed and analyzed remotely, providing deeper insight into the health of the entire process. ABB offers a unique digital advantage by combining connectivity and data analytics with industrial expertise to make your operations efficient, predictable and safe.



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

[www.abb.com/smartsensor](http://www.abb.com/smartsensor)

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