

### INSTALLATION GUIDE

# ABB Ability<sup>™</sup> Smart Sensor for hazardous areas

Installation with clamping bracket



It is important to read these instructions in their entirety before installing the ABB Ability<sup>™</sup> Smart Sensor for hazardous areas with clamping bracket.

### ATTENTION

The Smart Sensor should be installed by technically qualified personnel. Failure to install the sensor in compliance with applicable codes and regulations and according to the manufacturer's recommendations may result in electrical shock, fire hazard, unsatisfactory performance or equipment failure, and may void the sensor warranty.

### WARNING

Only qualified individuals who are familiar with appropriate national codes, local codes and sound practices should install, repair or modify electric motors and/or related accessories. Installation should conform to appropriate codes and practices. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

### WARNING

**Electrical live circuit hazard.** Do not touch electrically live parts or equipment. Disconnect, lock out and tag out the motor's power supply before installing or servicing the sensor.

### CAUTION

Motor surface temperature hazard. The external surface of an electric motor may reach temperatures which can cause discomfort, burns or injury to individuals who come into contact with the hot surface. For safety reasons the motor should be switched off and allowed to cool before attempting to install the sensor. Motor surface temperatures should only be measured with suitable instruments and not estimated by hand touch or direct skin contact. Failure to observe this precaution could result in bodily injury.

### CAUTION

**Do not replace batteries!** Incorrect use of batteries voids the certifications of the Smart Sensor, such as hazardous area certifications, safety certifications, and IP rating. Dispose of used sensors according to instructions.

# Quick start guide

- Step 1: Install the ABB Ability™ Smart Sensor Platform App
  - The Smart Sensor Platform App can be found in App Store (Apple) and Google Play Store (Android).
- Note: In some countries these stores may not be accessible. For more information see www.abb.com/smartsensor.
- Step 2: Register in the ABB Ability™ Smart Sensor Platform App
- Follow the sign-up link in the app
- Alternatively, sign up on the web portal at https://smartsensor.abb.com
- Skip this step if you are already registered
- Step 3: Log in to the ABB Ability™ Smart Sensor Platform App
- Follow the instructions on the screen
- Step 4: Install the ABB Ability<sup>™</sup> Smart Sensor
  - Verify that you have the right components and install the sensor according to the instructions described in this manual.

# Installation instructions

Please follow the following instructions for the installation of ABB Ability<sup>™</sup> Smart Sensors on motors.

### Mounting position on motor

- 1. The sensor must be located between the drive-end and non-drive-end bearings, as close to the center as possible. Note: The sensor mount cannot be removed after installation.
- 2.For best Bluetooth® communication, mount the sensor with a clear line of sight to any communication devices to be used: your smartphone or a Bluetooth® gateway.
- 3. The mounting orientation must be such that the A-axis on the sensor housing is parallel to the rotating shaft. If this is not physically possible, the T-axis must be parallel to the rotating shaft.

#### Supported motors

- This mounting instruction applies for fin-cooled motors up to frame sizes equivalent to IEC 500.
- Detailed information about which motor types can be monitored with the ABB Ability<sup>™</sup> Smart Sensor can be found on www.abb.com/smartsensor.

- Step 5: Activate the sensor with the ABB Ability™ Smart Sensor Platform App
  - The sensor can be activated with NFC. Please turn on NFC in your smartphone and place the smartphone on top of the sensor.
  - See Step 8 on page 4 for more detailed information
- Step 6: Commission the asset in the ABB Ability™ Smart Sensor Platform App
  - Navigate to the "Commission new asset" menu in the app
  - Follow the instructions on the screen
- Step 7: Take first measurements and check the asset condition
  - Select the asset and navigate to "Load Measurements"
- Step 8: For more detailed instructions, visit www.abb.com/smartsensor

# Items needed for the installation

- 1 Clamp-action mounting bracket
- 2 Hexagon socket screw (2 pcs)
- ¼" 28 (black)

• M6

- 3 ABB Ability™ Smart Sensor for hazardous areas
- 4 Loctite™ 454 or similar glue
- 5 Cover for screw hole
- Degreasing agent
- Rubber gloves
- Safety goggles
- 50 mm hex bit and suitable wrench
  - 3/16" for ¼" 28 screw
- 5 mm for M6 screw
- Rubber mallet

### WARNING

Direct skin exposure to solvents and/or thread locker could cause discomfort or injury, including, but not limited to, burning or skin irritation. Use appropriate protective gloves and goggles when following these instructions.





## Installation steps

### Note

Make sure that the bracket can be clamped to the cooling fin such that the neighboring fins do not prevent attaching the sensor.

### Step 1

Degrease the upper and lower surfaces of the selected fin at the recommended mounting position.

CAUTION: REVIEW AND FOLLOW ALL MANUFACTUR-ER'S INSTRUCTIONS AND SAFETY PRECAUTIONS WHEN USING DEGREASING AGENT.

### Step 2

Apply Loctite<sup>™</sup> 454 or similar glue to the fin of the motor.

CAUTION: REVIEW AND FOLLOW ALL MANUFACTUR-ER'S INSTRUCTIONS AND SAFETY PRECAUTIONS WHEN USING GLUE.

### Step 3

Clamp the mounting bracket onto the cooling fin of the motor.





### Step 4

Use a hammer with a rubber or plastic head to assist with insertion of the mounting bracket until the edge of the cooling fin touches the inside face of the bracket.

### Step 5

Verify that the mounting bracket is securely fastened all the way through, and that the cooling fin edge touches the inside face of the bracket.

### Step 6

Fasten the ABB Ability<sup>™</sup> Smart Sensor to the mounting bracket by using the black hexagon socket screw (1/4" - 28). Tighten the screw with 10 Nm (7.4 ft-lb) of torque.

### Step 7

Make sure that the ABB Ability<sup>™</sup> Smart Sensor is mounted parallel to the rotating shaft by aligning it with the motor fins. Assemble the cover plate to hide the screw hole.

### Step 8

Activate the sensor by turning on the smartphone's NFC and tap the left side of the sensor with the smartphone. Digitally connect the sensor by using the ABB Ability<sup>™</sup> Smart Sensor Platform App. Log in using your ABB credentials and navigate to the "Commission new asset" menu, to pair the Smart Sensor to the asset to be monitored.

NOTE: After commissioning, the sensor has a twomonth trial period with full functionality. After the trial period, the usage can be continued by activating a subscription acquired from a local ABB sales unit or from ABB Ability Marketplace<sup>™</sup>. Please check with your local ABB partner if the ABB Ability Marketplace™ is available in your region.

For questions, feedback and support, please contact:

Product information www.abb.com/smartsensor

Support

support.smartsensor@abb.com

Subscriptions https://eu.marketplace.ability.abb/ We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB Ltd does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB Ltd. Copyright© 2020 ABB All rights reserved

