ABB

INSTALLATION GUIDE

ABB Ability™ Smart Sensor

This instruction sheet provides information on the installation of ABB Ability™ Smart Sensor with clamping bracket. Read these instructions in their entirety before attempting installation.

ATTENTION

The 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 may void the certifications of the Smart Sensor, such as hazardous area certifications, safety certifications, and IP rating. Dispose of used sensors according to instructions.

Sequence for setup

Step 1 **Install the ABB Ability™ Smart Sensor Platform App**
- Smart Sensor Platform App can be found in:
Apple – App Store, Android – Google Play Store.
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
- 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 ABB Ability™ Smart Sensor Platform App**
- Follow the instructions on the screen.

Step 4 **Activate the Sensor with the mobile app**
- Follow the instructions on the screen.

Step 5 **Install ABB Ability™ Smart Sensor**
- Verify that you have the right components and install the sensor according to the instructions on pages 3 and 4.
- Follow the safety instructions carefully.

Step 6 **Add the pump in the ABB Ability™ Smart Sensor App**

Step 7 **Activate the sensor's subscription**
- Manually with the mobile app, or
- Automatic renewals at the **ABB Ability Marketplace™**

Step 8 **Take first measurements and check the pump condition**

Step 9 **For more detailed instructions**
- Visit **www.abb.com/smartsensor.**

Items needed

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

Items included in the ABB Ability™ Smart Sensor kit:
- **1** Clamp-action mounting bracket
- **2** Hexagon socket screws (2 qty) M4 x 8 mm
- **3** Hexagon socket set screw (1 qty) 1/4" x 5/16" (UNF 28)
- **4** ABB Ability™ Smart Sensor
- **5** Loctite™ 454 or similar glue

Additional items needed but not included in the kit:
- Degreasing agent
- Rubber gloves
- Safety goggles
- Allen wrench (3 mm or 1/8")
- Rubber Mallet
- Loctite™ Blue Threadlocker

Installation instructions

Where to mount:
1. 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 450.
- Detailed information about which motor types can be monitored with the ABB Ability™ Smart Sensor can be found on www.abb.com/smartsensor.
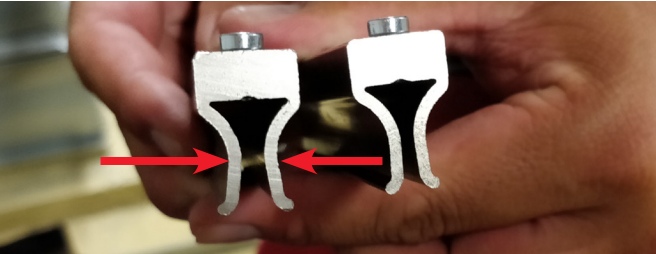
Installation steps

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

Check the gap between the legs of the mounting bracket to match the thickness of your motor's cooling fins. If necessary, use a vise to tighten the bracket so that it can clamp firmly onto the cooling fin.
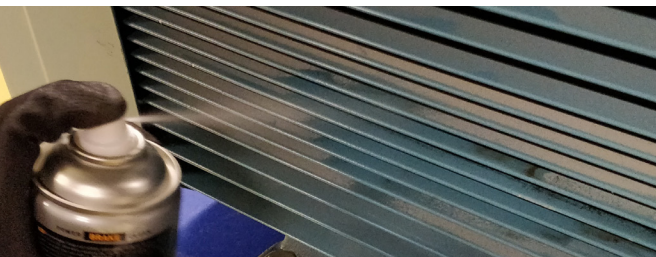
Step 2

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

⚠ **CAUTION: REVIEW AND FOLLOW ALL MANUFACTURER'S INSTRUCTIONS AND SAFETY PRECAUTIONS WHEN USING SOLVENTS.**
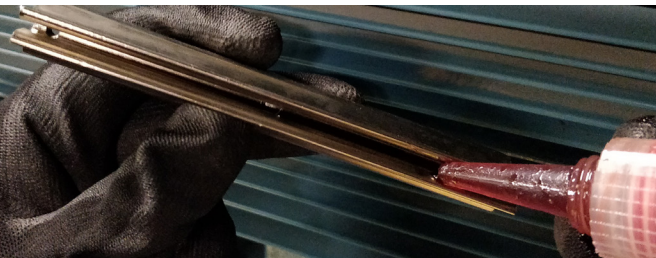
Step 3

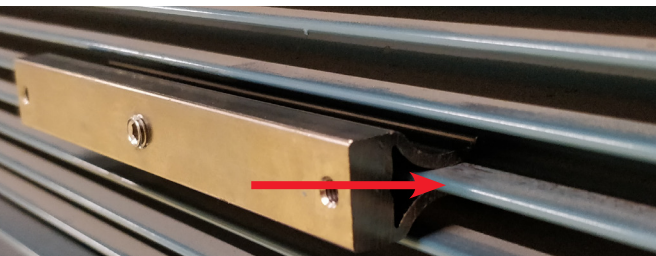Apply Loctite™ 454 glue or similar to the clamping bracket legs before attaching it to the fin.

⚠ **CAUTION: REVIEW AND FOLLOW ALL MANUFACTURER'S INSTRUCTIONS AND SAFETY PRECAUTIONS WHEN USING GLUE.**

Step 4

Clamp the mounting bracket onto the cooling fin of the motor.
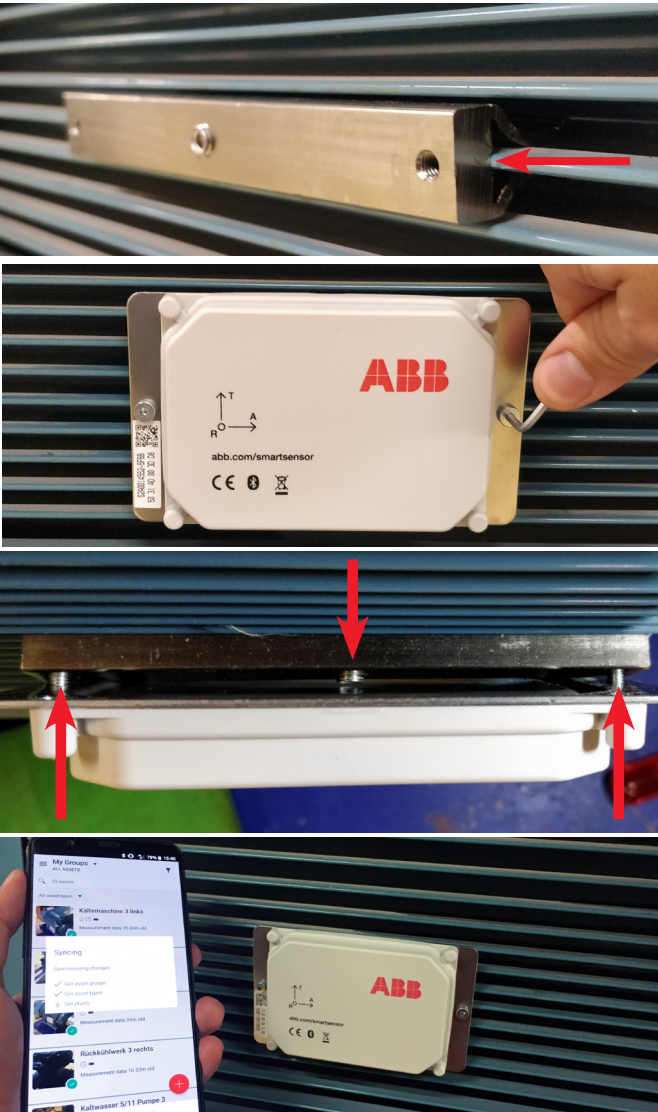
Step 5

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.

Do not hit the central screw of the bracket!

Step 6

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 7

Use the 2 hexagon socket screws to securely fasten your ABB Ability™ Smart Sensor to the mounting bracket.

Step 8

After fastening the ABB Ability™ Smart Sensor to the bracket, ensure that the bottom plate of the sensor makes contact with the central hexagon socket set screw of the mounting bracket. If necessary, adjust the middle screw with Loctite™ Blue or equivalent threadlocker.

⚠️ **CAUTION: REVIEW AND FOLLOW ALL MANUFACTURER'S INSTRUCTIONS AND SAFETY PRECAUTIONS WHEN USING MOUNTING THREADLOCKER.**

Next step

Digitally connect Smart Sensor using the ABB Ability™ Smart Sensor Platform app. Log on using your ABB credentials and follow the prompts to connect.

After the 60-day trial, purchase and activate of a valid subscription for full access to the Smart Sensor data and web services.

NOTE: IF YOU PURCHASED STAND-ALONE SUBSCRIPTION VOUCHERS, PLEASE CHECK YOUR SMART SENSOR DELIVERY KIT.

⚠️ **TO ACTIVATE A SUBSCRIPTION, FOLLOW THE STEPS IN THE MOBILE APP WITH A VOUCHER, OR CONFIGURE AUTOMATIC RENEWALS WITH THE ABB ABILITY MARKETPLACE™.**

PLEASE CHECK WITH YOUR LOCAL ABB PARTNER IF THE ABB ABILITY MARKETPLACE™ IS AVAILABLE IN YOUR REGION.

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For questions, feedback and support, please contact

ABB
Motors and Generators Service

Product information
www.abb.com/smartsensor

Support e-mail address
support.smartsensor@abb.com

ABB Ability Marketplace™
https://marketplace.abb.ability/home