SERVICE NOTE

ABB Ability™ Smart Sensor
Installation Instructions

This instruction sheet provides information regarding installation of ABB Ability™ Smart Sensor. Read these instructions in their entirety before attempting to install your ABB Ability™ Smart Sensor.

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, lockout and tag input to power supply to motor 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. **Register in myABB**
- **myportal.abb.com**

Step 2. **Install Smart Sensor for Motor App**
- Smart Sensor for Motors 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 3. **Log in to ABB Ability™ Smart Sensor App with your myABB Account**
- Follow the onscreen instructions

Step 4. **Activate the Smart Sensor with the ABB Ability™ Smart Sensor App**
- Take your smartphone out of it's protective case cover.
- 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

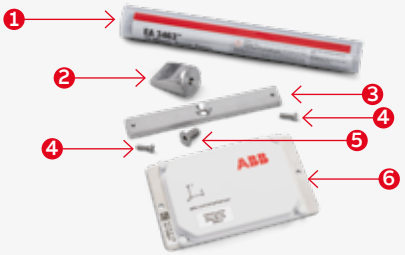
Step 6. **Add the Motor in the ABB Ability™ Smart Sensor App**
- Add motor details as necessary

Step 7. **Take First Measurements and Check the Motor Condition**
- If you have Analyst subscription, log in to **smartsensor.abb.com** to view trends

Step 8. **For more Detailed Instructions**
- Visit **www.abb.com/smartsensor**

Items needed

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



Items included in the ABB Ability™ Smart Sensor kit:

- **1** Loctite™ 3463 mounting putty (1 tube)
- **2** Receiving mount
- **3** Mounting bracket
- **4** Phillips head screws (2 qty) M4-0.7 X 10mm
- **5** Tapered hex head screw (1 qty) .25-28 x .63“
- **6** ABB Ability™ Smart Sensor

Additional items needed but not included in the kit:

- Degreasing agent
- Clean shop rag
- Rubber gloves
- Mechanical abrasive pad (i.e. sandpaper)
- Allen wrench (4 mm or 5/32)
- Small Phillips head screw driver
- Leveling tool
- Cutting tool
- Loctite™ Blue Threadlocker

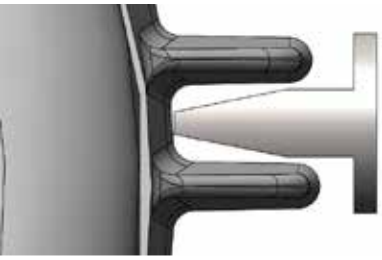
Further information on LoctiteTM 3463 mounting putty is available from:

- Safety and technical data sheet for Loctite™ 3463 mounting putty are available from: **http://www/henkel.com**

Installation instructions

Where to mount:

1. Preferred mounting location will be at 3 or 9 o’clock when viewing a horizontal motor from shaft end. Other positions will also work. The directions R-T-A printed on the sensor correspond with the directions Radial-Tangential-Axial used in the app and web portal.
2. 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.
3. For best Bluetooth communication, the sensor should mounted in a such a manner that it is visible while taking readings.



Always verify the sensor receiver mount is the correct size for your motor. It must be thin enough to fit between the cooling fins in a preferred location according to the installation instructions found on page 2 of this manual. The sensor receiver must be long enough to make contact with the motor frame and extend beyond the cooling fins. Loctite™ 3463 putty will be used to fill the gaps between the cooling fins and the sensor receiver mount.

Step 1

Use solvent (i.e. paint thinner or acetone) to remove debris and oils from mounting surface.

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

Step 2

Use sandpaper or similar abrasive material to remove paint from mounting surface. Repeat step 1.

Step 3

Remove putty from tube and cut a 1.5 to 2.0 inch (approx. 4 to 5 cm) length for use in installation of sensor mount. Amount used will vary depending on fin width of motor.

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

Step 4

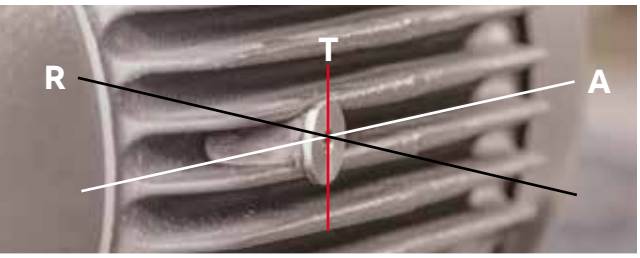
Twist and knead putty until all the putty has exactly the same uniform color according to manufacturer's instructions. This should take 1–2 minutes.

Step 5

Firmly apply putty to clean surface between motor fins, completely filling the gap between motor fins. Putty should be approximately 1.25 to 1.5 inch (3 to 4 cm) wide.

Step 6

Immediately after applying putty, insert sensor mount into center of putty, pressing firmly until bottom of mount makes contact with motor frame. Form any excess putty against sides of mount. For best adhesion, the sensor mount should not make direct contact with the fins.



Step 7

Use a level to verify the alignment. The axial direction (white line) must be parallel to the motor shaft. The tangential direction (red line) must be vertical unless the location prevents it, in which case the radial direction (black line) must point truly at the center line of the shaft.

NOTE: Allow sufficient time for putty to harden before moving to next step. Hardening time depends on motor surface and ambient temperatures. Typical time is 15 minutes, but hardening can take much longer in cold conditions.

Step 8

Secure mounting bracket to sensor mount using hex head screw. Apply Loctite™ Blue or equivalent threadlocker to threads of the hex head screw, and to the surface of the sensor mount.

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

Step 9

For best operation, mounting bracket must be parallel to motor shaft. A leveling tool can be used to ensure that the bracket and the motor shaft are parallel.

Step 10

Use 2 Phillips head screws to securely fasten ABB Ability™ Smart Sensor to mounting bracket.

Next step

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

For questions and support, please contact

ABB
Motors and Generators Service

Product information
www.abb.com/smartsensor

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

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