

ABB Ability™ Smart Sensor for motors

Installation with aluminum clamping bracket



IMPORTANT! Read these instructions in their entirety before installing the ABB Ability™ Smart Sensor for hazardous areas with aluminum clamping bracket.



ATTENTION

Install as per industry codes and regulations

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 motor 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.

Electrical live circuit hazard. Do not touch electrically live parts or equipment. For a safe installation, disconnect, lockout and tagout the asset's power supply before installing or servicing the sensor.



CAUTION

Asset 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 asset should be switched off and allowed to cool before attempting to install the sensor. Asset 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.

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	Instructions	Additional information
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 .
2	Register in the ABB Ability™ Smart Sensor Platform App.	- Follow the sign-up link in the app. - Alternatively, you can sign up on the web portal at https://smartsensor.abb.com . - Skip this step if you have already registered.
3	Log in to the ABB Ability™ Smart Sensor Platform App.	- Create or join an existing organization. - Follow the instructions on the screen.
4	Activate the sensor with the ABB Ability™ Smart Sensor Platform App	- Navigate to the main menu in the app and tap “Activate Sensor”. - Follow the instructions displayed on the mobile screen.
5	Install the ABB Ability™ Smart Sensor.	- Make sure that you have the required components. - Install the sensor according to the installation steps in this manual.
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.
7	Take first measurements and check the asset condition.	Select the asset and navigate to “Load Measurements”.
8	Activate the sensor’s subscription	Manually with the ABB Ability™ Smart Sensor Platform App or automatic renewals on ABB Marketplace.

For more detailed instructions, visit www.abb.com/smartsensor.

Installation instructions

Obey the following instructions for the installation of ABB Ability™ Smart Sensors on assets.

Notes:

1. For effective Bluetooth® communication, mount the sensor with a clear line of sight to any communication devices to be used (your smartphone or a Bluetooth® gateway).
2. 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.

Mounting position on motor

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.

Supported motors

This mounting instruction applies for fin-cooled motors equivalent to frame sizes IEC 160–450.

For information on motor types monitored with the ABB Ability™ Smart Sensor, visit www.abb.com/smartsensor.

Materials needed for the installation

1	Aluminum clamping bracket
2	Two Hexagon socket screws M4 x 8 mm
3	Hexagon socket screw 1/4" x 5/16" (UNF 28)
4	ABB Ability™ Smart Sensor
5	Rubber gloves
6	Loctite™ Blue or similar threadlocker
7	Allen wrench (3 mm)



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.

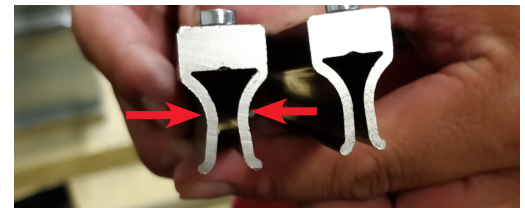
Installation steps

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 obey all manufacturer's instructions and safety precautions when using degreasing agent.



Step 3

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



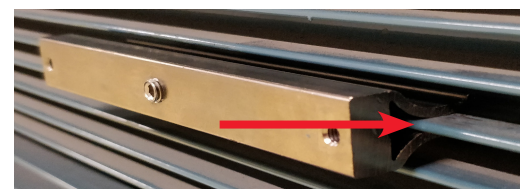
CAUTION

Review and obey all manufacturer's instructions and safety precautions when using glue.



Step 4

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



Step 5

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

Note: Do not hit the central screw of the bracket!

**Step 6**

Make sure that the mounting bracket is securely fastened and that the cooling fin edge touches the inside face of the bracket.

**Step 7**

Fasten the ABB Ability™ Smart Sensor to the mounting bracket by using the two hexagon socket screws.

**Step 8**

Make sure that the bottom plate of the ABB Ability Smart 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 thread locker.

**CAUTION**

Review and follow all manufacturer's instructions and safety precautions when using mounting threadlocker.

Step 9

Activate the sensor and commission the asset. See section Quick start guide, steps 5–7.

Note: After commissioning, the sensor has a two-month 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™. Contact your local ABB partner to know if the ABB Ability Marketplace™ is available in your region.



For questions, feedback and support, contact:

Product information

www.abb.com/smartsensor

Support

support.smartsensor@abb.com

Subscriptions

<https://eu.marketplace.ability.abb/>

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