

## **Starter kit Operation manual**

- Software installation
- Set up instruction

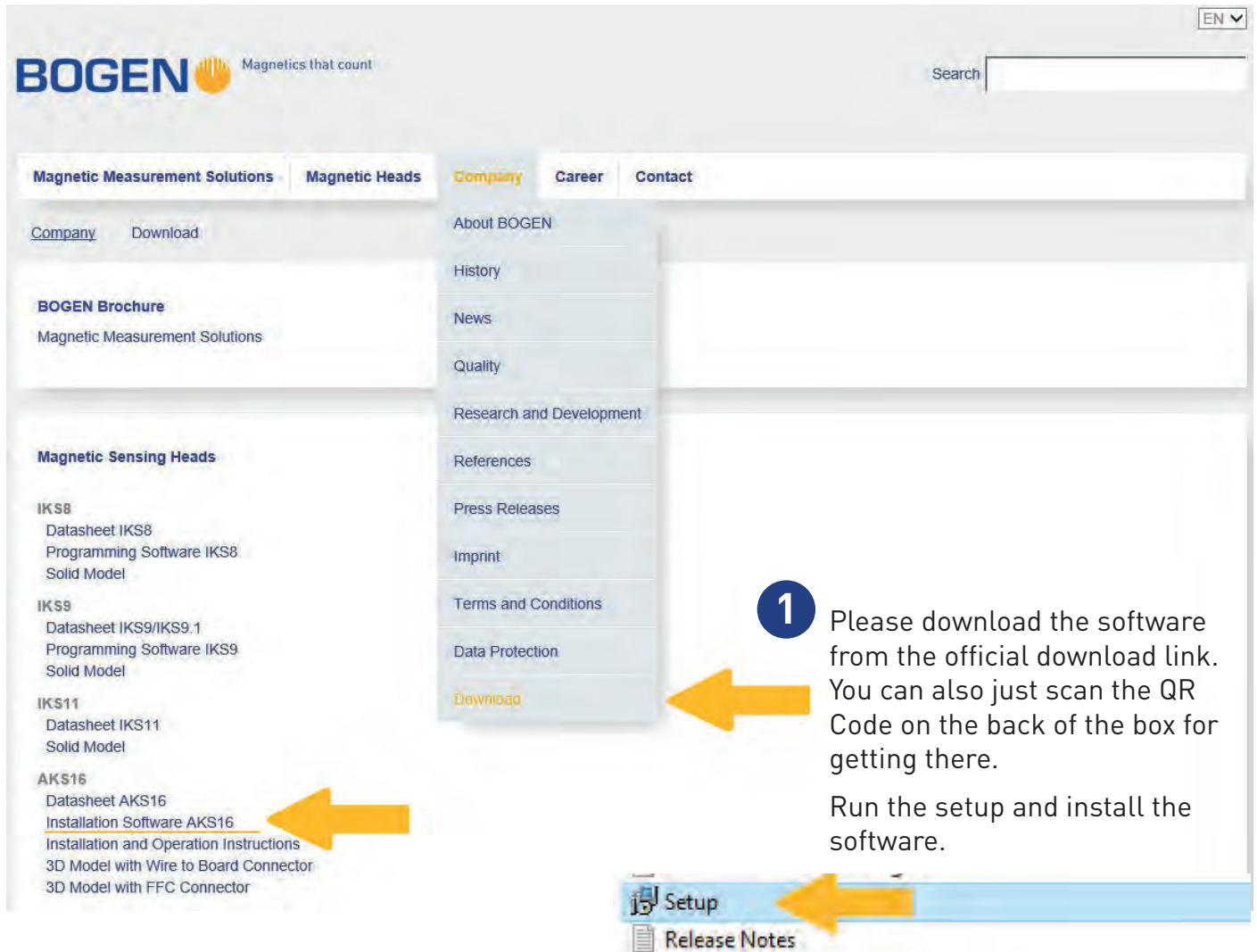
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- 1x Rotative magnetic scale RMSN32-31-1.28-F-A
- 1x Linear magnetic scale LMS2-N1.28-32-L94.7-w10-A03-K
- 1x Absolute sensing head AKS16-02P1.28C1
- 1x Rotary Mounting fixture
- 1x Linear Mounting fixture
- 1x Screw and Washer
- 1x Programming kit (programming unit, adapter, connector cable)
- 1x USB cable

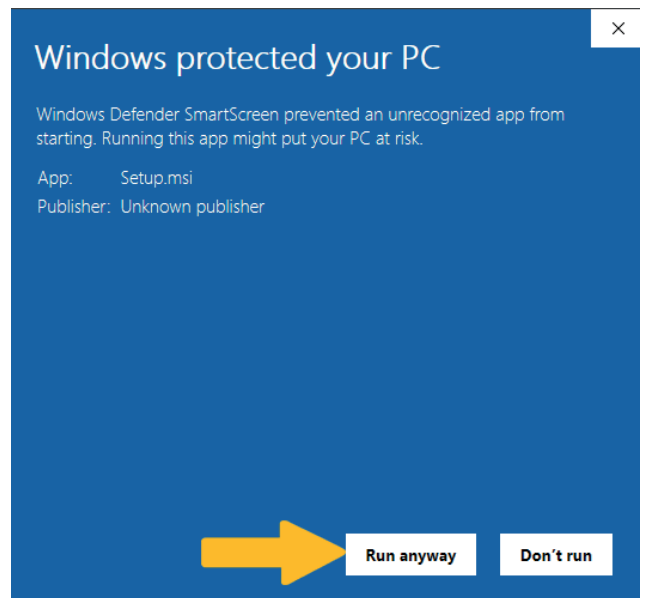
# Software Installation

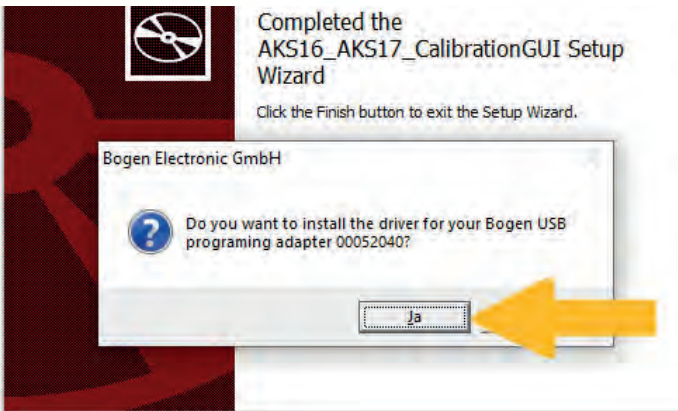


**1** Please download the software from the official download link. You can also just scan the QR Code on the back of the box for getting there. Run the setup and install the software.

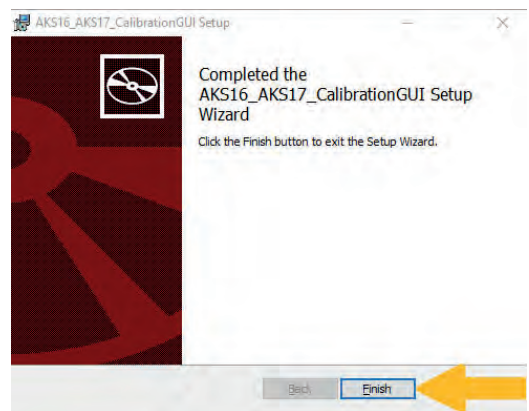


**2** During installation the operating system will display a warning. You can ignore said warning and run the installation anyway.

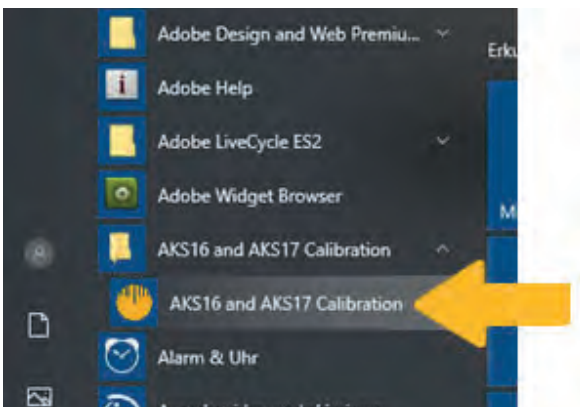




At the last step of the installation please press yes to install the driver for the Bogen USB programming adapter. Or else you can't start the calibration.



Now you can finish the installation and run the software. There is no restart needed afterwards.

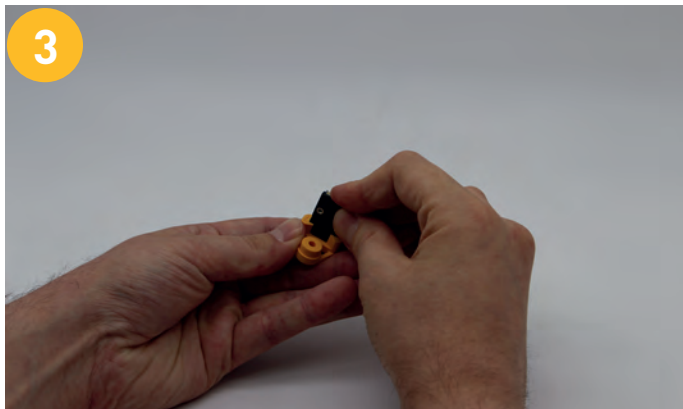


Run the software and start with the set up of your rotary scale system or the linear scale system. Following the instructions on the next pages.

# Setting Up The Rotary Scale



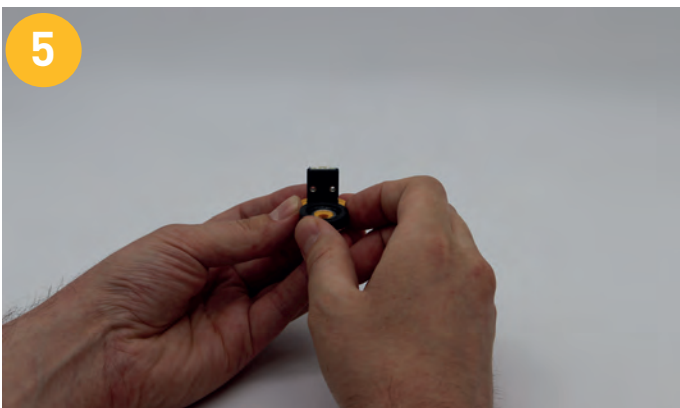
Select the mount and the AKS16 encoder.



Assemble the mount and the encoder. The label has to point away from the position of the ring.



Select the rotary magnetic scale.



Add the scale to the assembly. Please make sure that the aluminium hub is on the bottom.



Select the screw and washer.



7 Guide the screw through the washer und turn it into the thread of the mount and fasten the screw.



8 Select the connection cable.



9 Connect the encoder.



10 Select the calibration unit and the adapter.



11 Mount the adapter to the calibration unit.



12 Connect the encoder to the calibration unit.



Select the USB Cable.



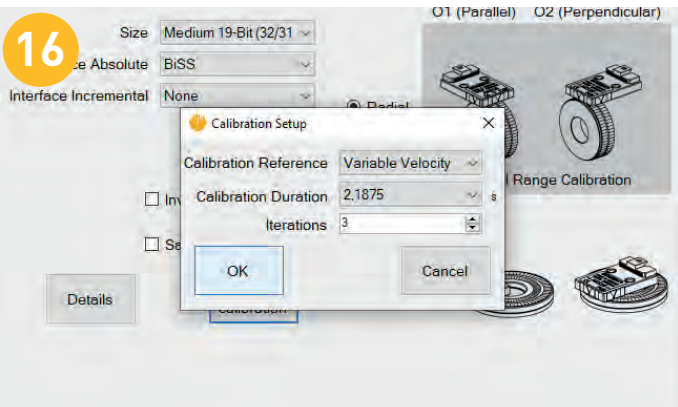
Connect the calibration unit to the USB Cable.



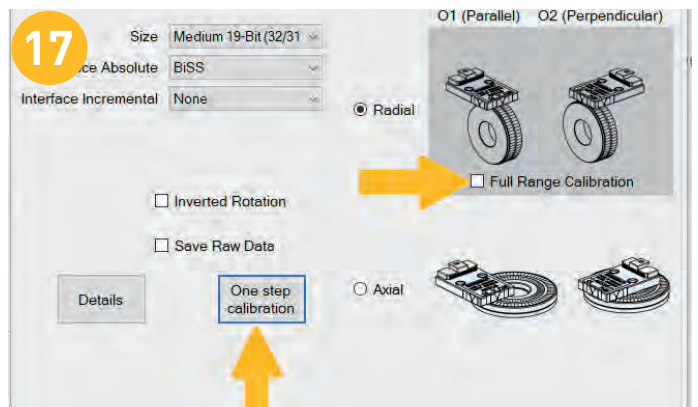
Connect the calibration unit to your computer.



Start the calibration software and select the calibration setup.



Choose the variable velocity and set a reasonable calibration duration, for example 2.18  $\mu$ s. You might want to experiment with this value. The iterations represent the number of times the analogue calibration is executed. Three iterations are recommended. Press OK to save your changes.



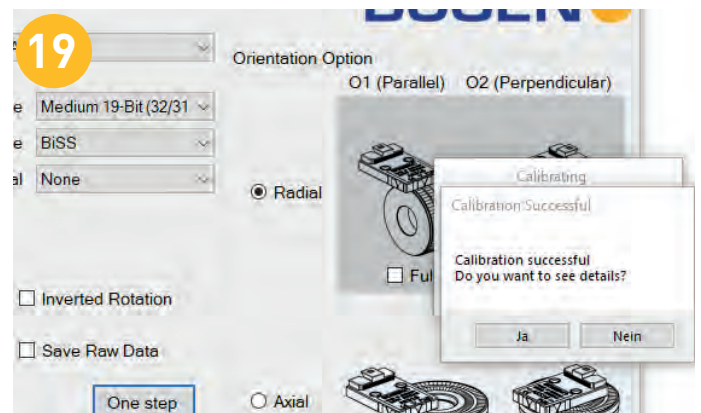
Select the radial orientation option. Make sure the box 'Full Range Calibration' stays unchecked. This is required since the ring needs to be turned manually. Then start the calibration by clicking the button 'one step calibration' and follow the instructions.

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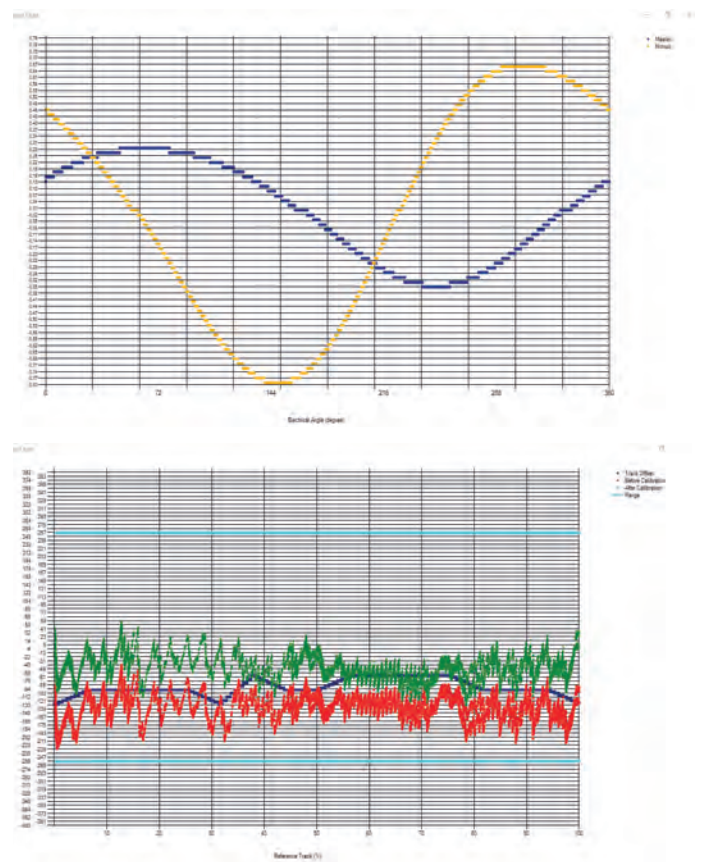
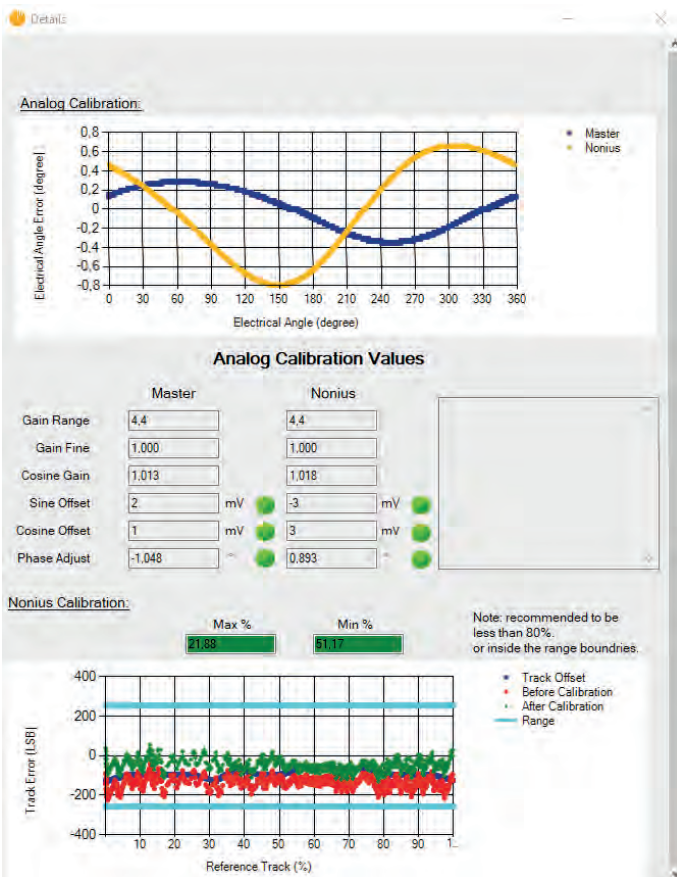


Once the calibration measurements can start the program will display a countdown. The measurement is indicated by a green loading bar. Gently spin the magnetic ring for a whole revolution while the measurement is running. The direction doesn't matter.

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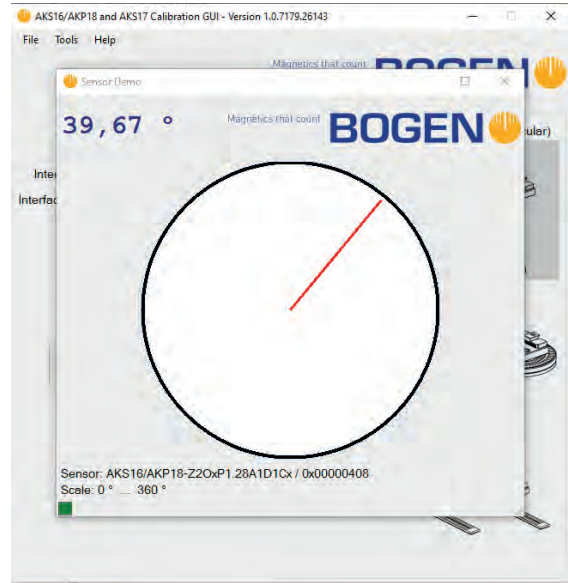


After the calibration process the software will evaluate the quality of the calibration. Repeat the calibration until you get the notification that the process was successful. You might adapt the calibration duration as well as your technique.



Above you can see images of a successful calibration.





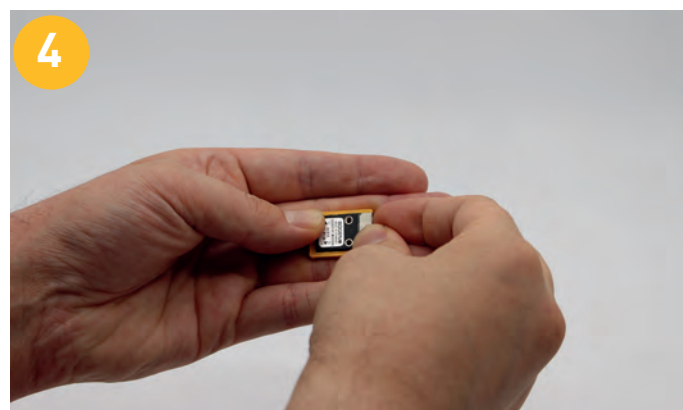
After calibration you can choose the Sensor Demo Tool to visualize your BOGEN rotary measurement solution.

Congratulations!

# Setting Up The Linear Scale



Select the mount and the AKS16 encoder.



Assemble the mount and the encoder. The sensing Element is supposed to be positioned over the slot over the scale.

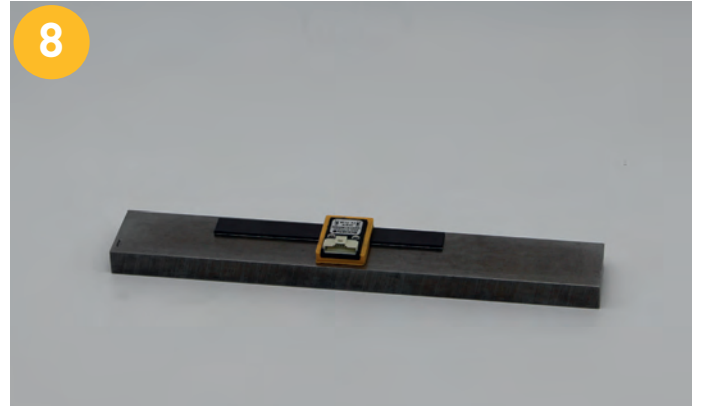


Select the linear scale and remove the double sided adhesive.

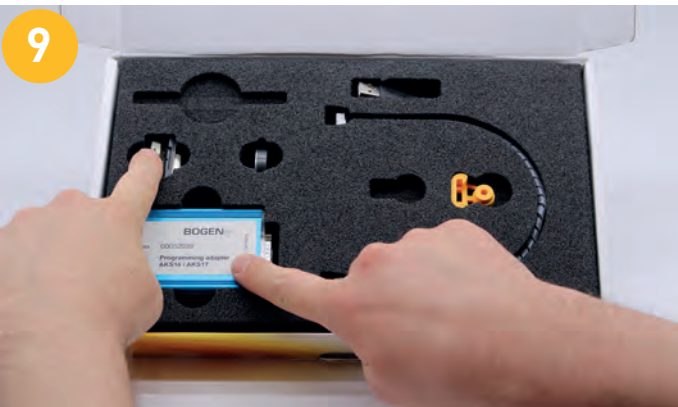




Mount the scale onto a clean and flat surface. The master and nonius tracks are labelled with arrows and the letters M & N.



You can now fit the encoder and mount onto the scale. Please make sure the master and nonius tracks are aligned with the sensing elements of the encoder. The labels on the encoder shows the correct positioning.



Select the calibration unit and the adapter.



Assemble the calibration unit and the adapter.



Select the connector cable.

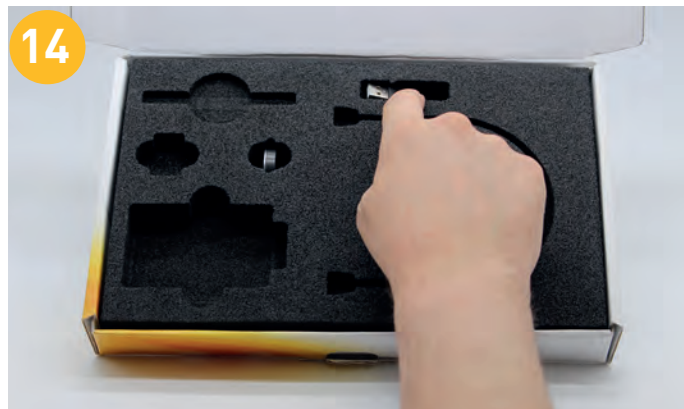


Attach the connector cable to the encoder.



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Connect the encoder to the calibration unit.



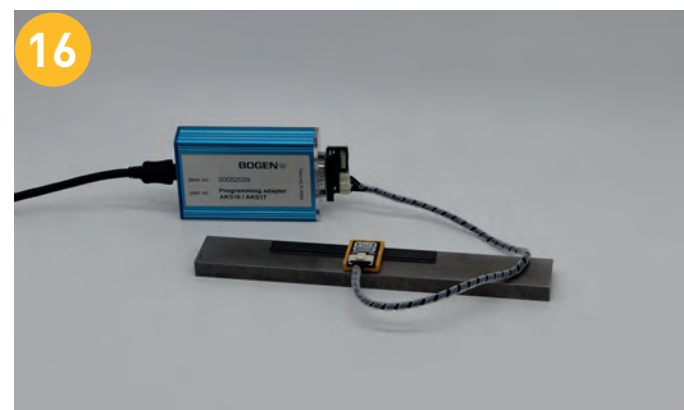
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Select the USB-cable.



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Connect the USB-cable to the calibration unit.

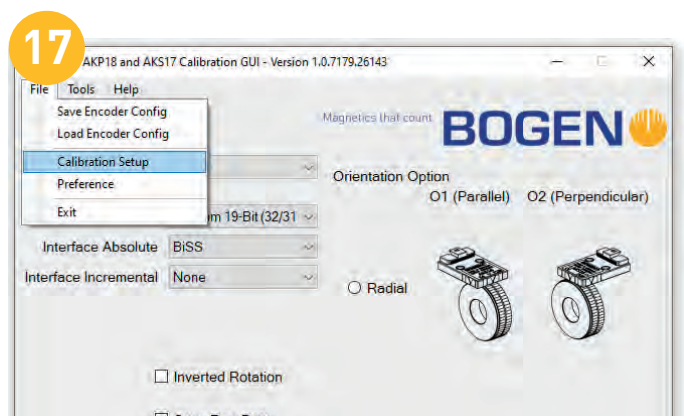


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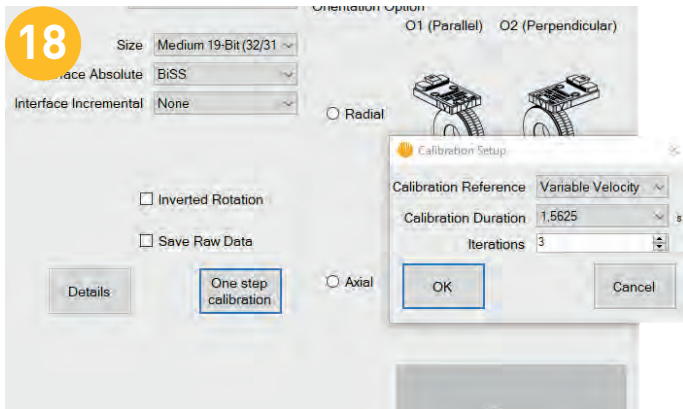
16.1

Connect the calibration unit to your computer.

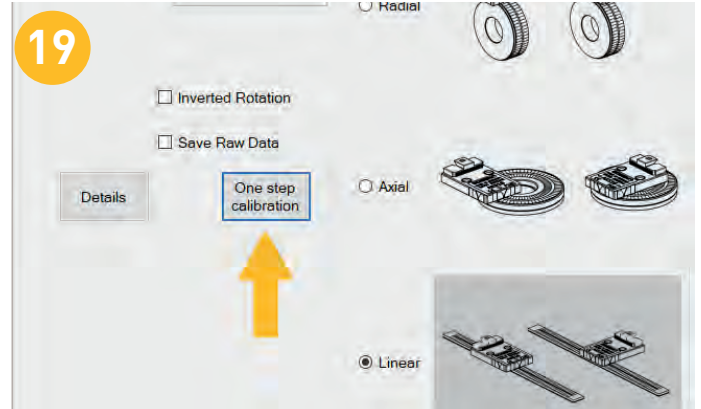


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Start the calibration software and run the calibration setup.

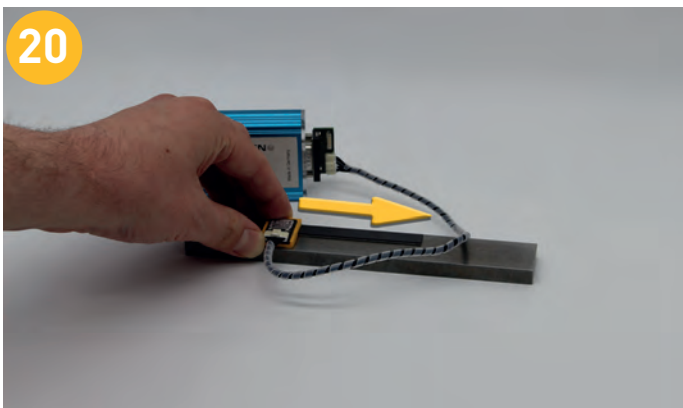


Chose the variable velocity and set a reasonable calibration duration. You might want to experiment with this value. The iterations represent the number of times the analogue calibration is executed. Three iterations are recommended. Press OK to save your changes.

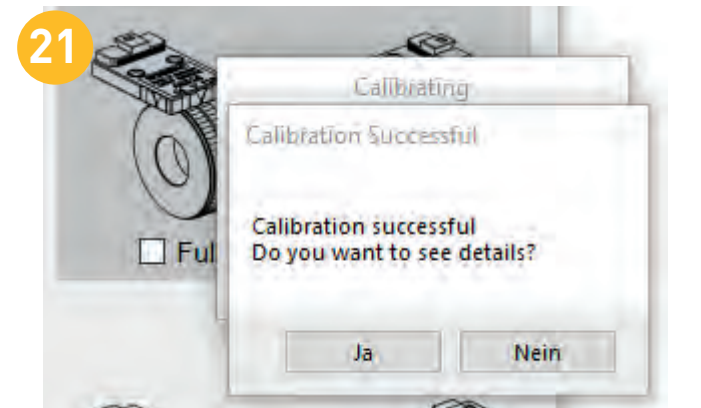


Select the linear orientation option.

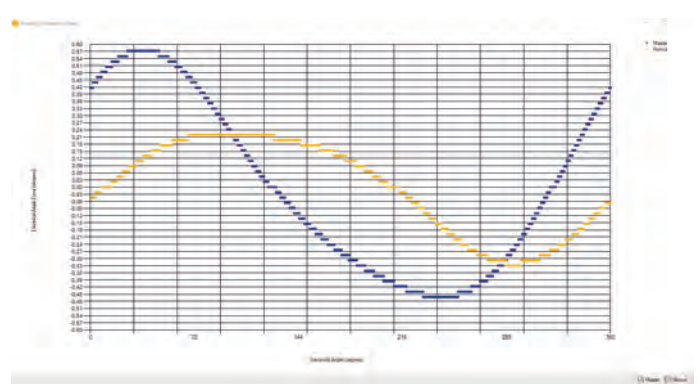
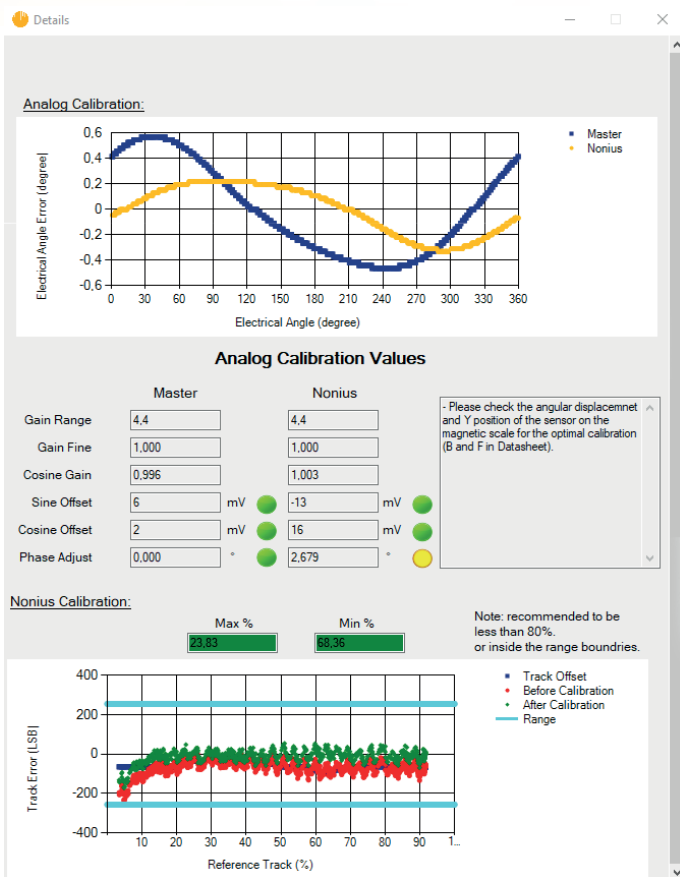
Then start the calibration by clicking the button 'one step calibration' and follow the instructions.



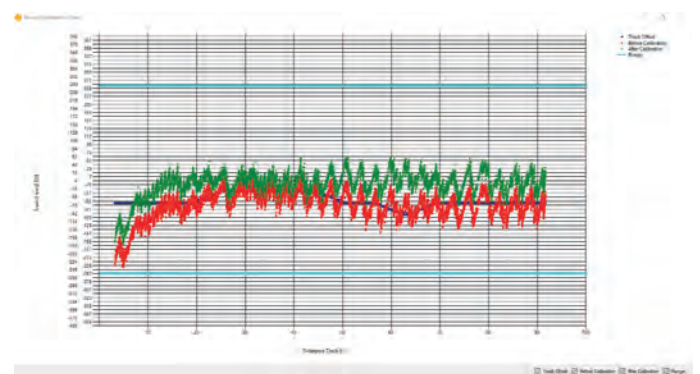
Once the calibration measurements can start the program will display a countdown. The measurement is indicated by a green loading bar. Gently move the encoder over the whole range of the scale while the measurement is running.



After the calibration process the software will evaluate the quality of the calibration. Repeat the calibration until you get the notification that the process was successful. You might adapt the calibration duration as well as your technique.

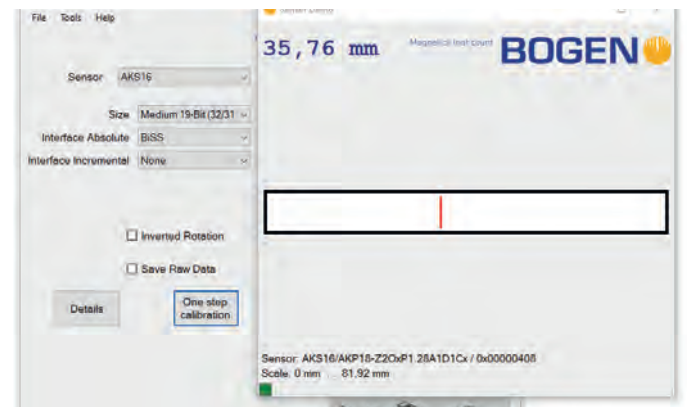
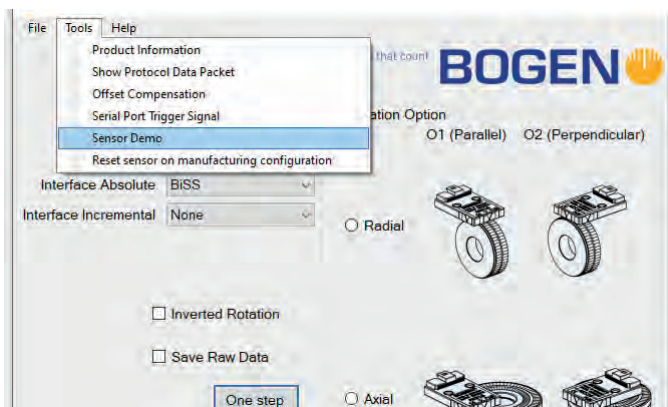


This bar represents the successful analogue calibration



This bar represents a successful nonius calibration

Above you can see images of a successful calibration



After calibration you can choose the Sensor Demo Tool to visualize your BOGEN linear measurement solution.

Congratulations!