Netzer
Precision Motion Sensors

ABSOLUTE POSITION
ROTARY ELECTRIC ENCODER™

USER MANUAL

Electric Encoder Explorer Software
Auto-calibration Feature

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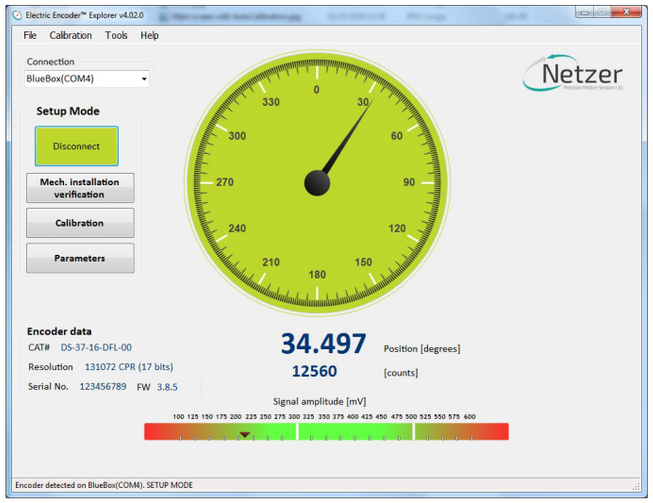
1. Overview

Auto-calibration is a new feature for easy calibration at the customer's site. It is supported by encoders with FW 4 version 4.1.3 or higher.

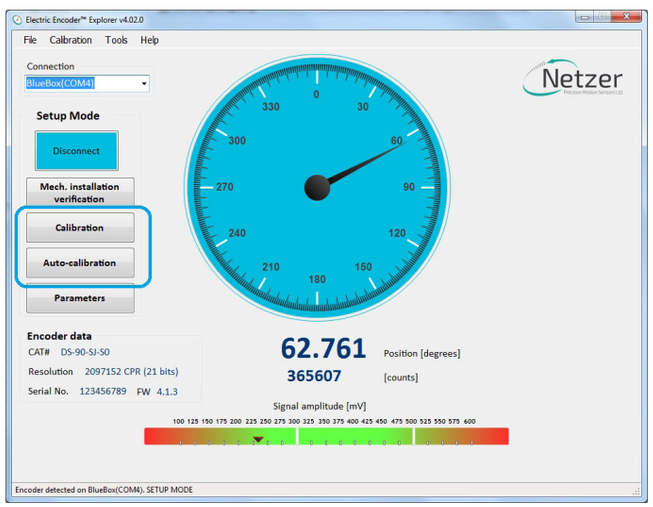
For encoders that support auto-calibration, under the "**Calibration**" button, additional "**Auto-calibration**" button will be displayed.

2. Main screen

2.1 Main screen for encoders without auto-calibration support



2.2 Main screen for encoders with auto-calibration support



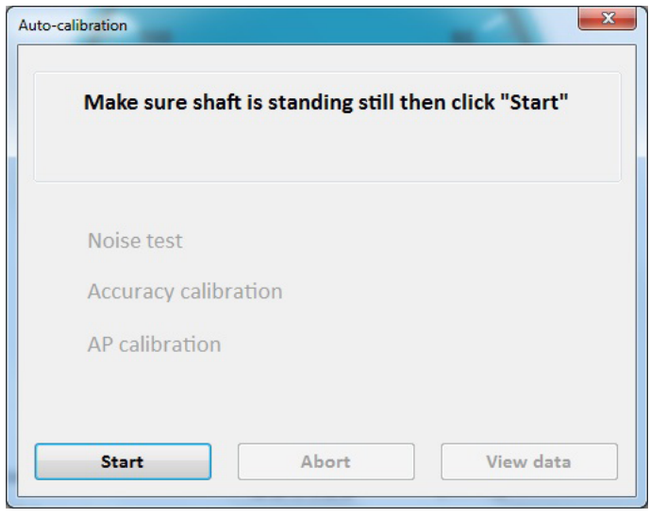
3. Auto-calibration process stages

The Auto-calibration process consists of three stages:

- **Noise test** - This stage runs a jitter test for the Fine, Medium, and Coarse encoder channels. During the Noise test, the shaft must be stationary.
- **Accuracy calibration** - During Accuracy calibration, the shaft must rotate continuously. The accuracy calibration of Fine, Medium, and Coarse encoder channels includes:
  - Amplitude test
  - Offsets calibration
- **AP (Absolute Position) calibration**
  - At this stage, CAA and MAA are calculated
- After connection, a FW 4 encoder with auto-calibration support, an additional "Auto-calibration" button" will be added beneath the "Calibration" button.
- Press the "**Auto-calibration**" button.
- The main auto-calibration window opens.

(It is still possible to perform manual calibration using the regular "**Calibration**" button)

After pressing the "**Auto-calibration**" button on the Encoder Explorer main screen, the bellow shown Auto-calibration main window will open:



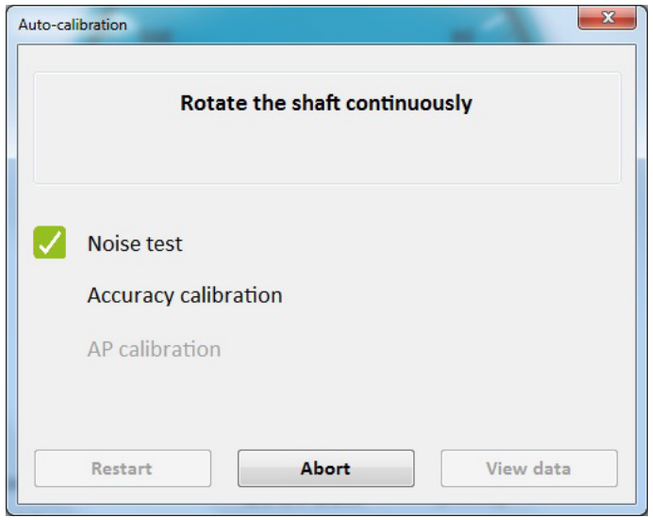
1. Make sure the shaft is standstill
2. Press the "Start"

Noise test - The encoder should stay standstill at this stage.

The Auto-calibration process starts the Noise test.

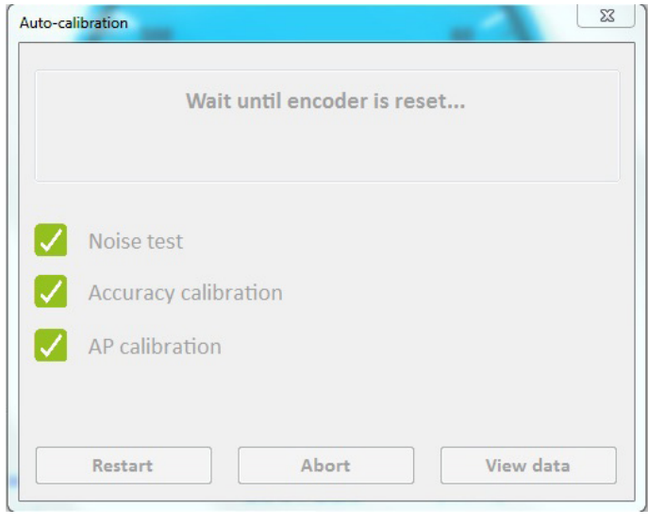
If the Noise test completes successfully (in the event of failure – see below):

- The "Noise test" label will be marked with a green check mark.
- The Auto-calibration process starts the Accuracy calibration.

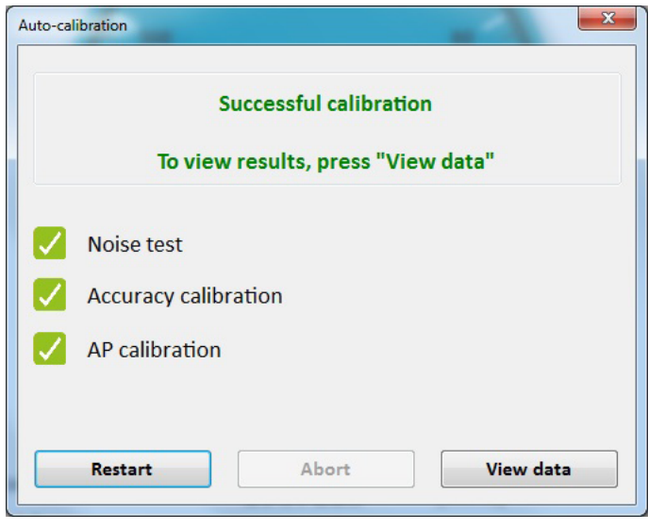


Once the noise test is successful, start rotating the shaft continuously until the auto-calibration process finishes.

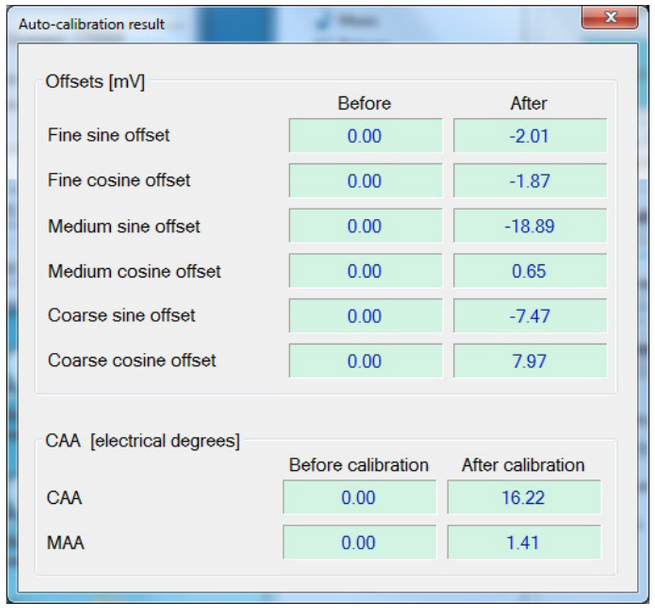
3. Wait until encoder is reset.



4. The Auto-calibration process is successfully finished.



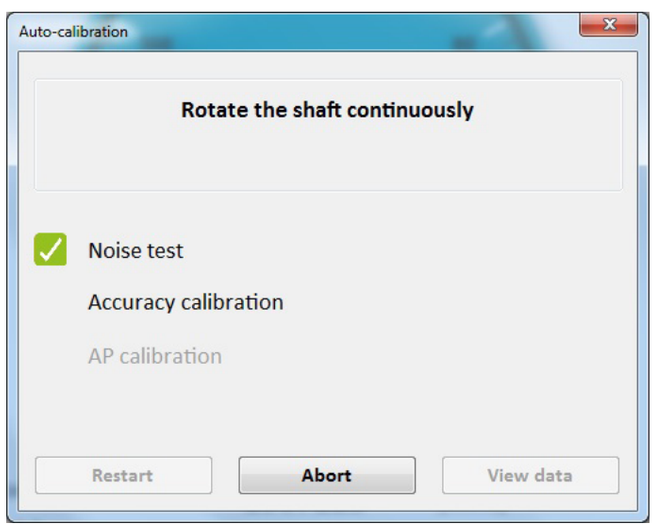
5. (Optionally) press the "View data" button to review the calibration results.



6. Close the Auto-calibration window

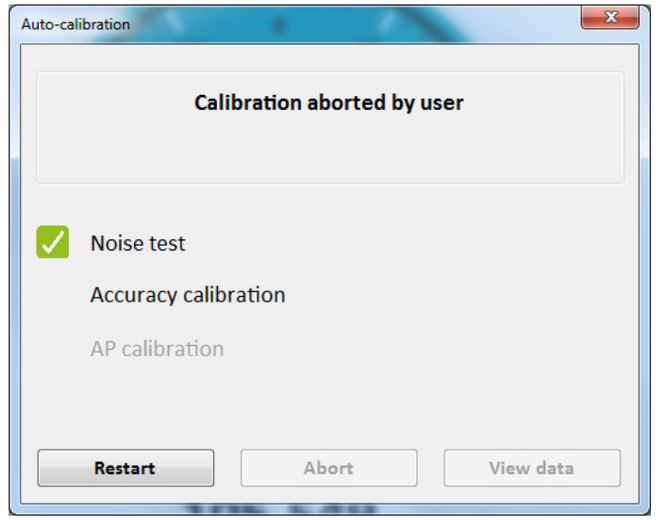
4. Abort auto-calibration process

At any stage, it is possible to abort the auto-calibration process by pressing the "**Abort**" button.



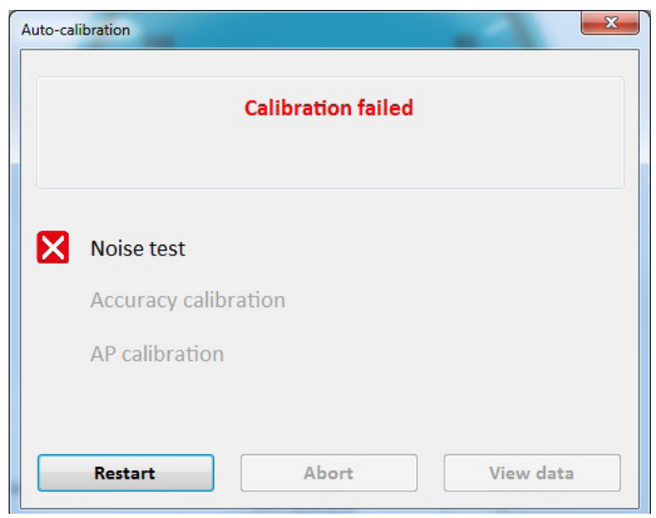
5. Restart auto-calibration process

It is possible to restart the auto-calibration process by pressing the "**Restart**" button.

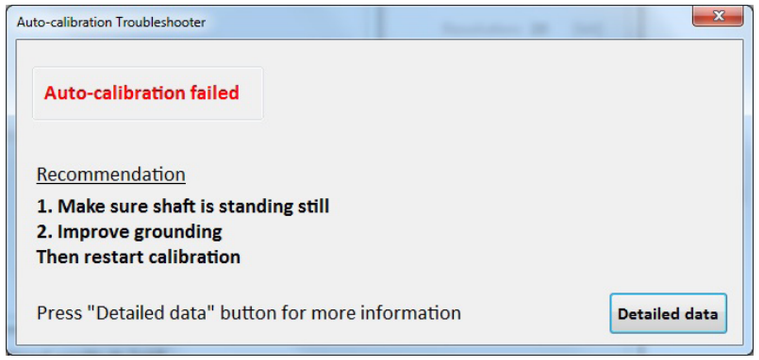


6. Auto-calibration failures

If a test fails (for example the Noise test) – the result will be marked with in red X.



In the event of an auto-calibration failure, corrective recommendations will be displayed.



After pressing the "**Detailed data**" button, detailed information regarding the failure will be displayed