

Programming software

This page describes the **programming software** for the Motolab actuator. The integrated motor drive is configured with the PC software.

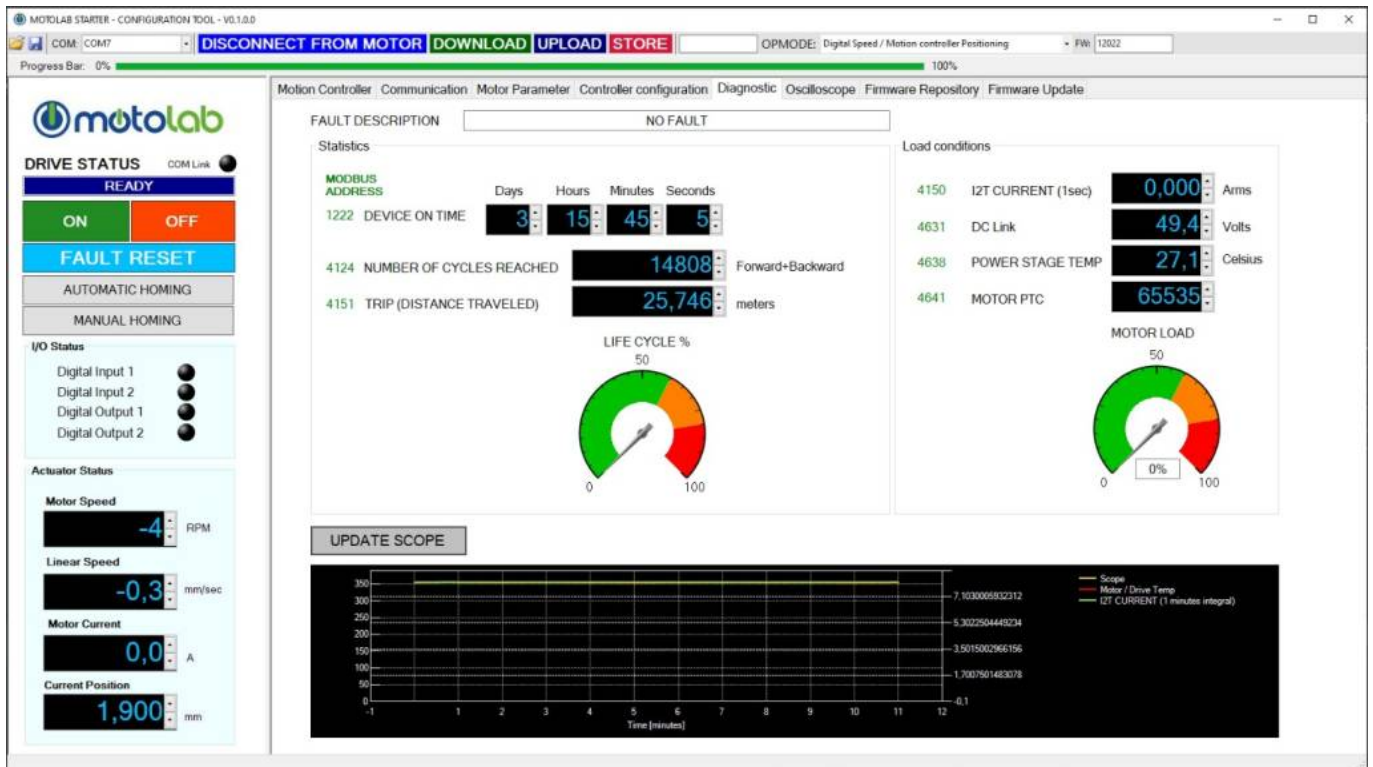
In order to configure the integrated motor drive, please use the PC software called Motolab Starter:
https://www.nilab.at/download/motolab_starter_ver0-0-1-0/?wpdmdl=6631&refresh=635638e9ee1601666595049

The screenshot shows the Motolab Starter Configuration Tool interface. The top bar includes buttons for DISCONNECT FROM MOTOR, DOWNLOAD, UPLOAD, and STORE, along with a progress bar at 0%. The main window is divided into several sections:

- DRIVE STATUS:** Shows a READY status with ON and OFF buttons, a FAULT RESET button, and buttons for AUTOMATIC HOMING and MANUAL HOMING.
- I/O Status:** Displays Digital Input 1, Digital Input 2, Digital Output 1, and Digital Output 2.
- Actuator Status:** Shows Motor Speed (-1 RPM), Linear Speed (-0,1 mm/sec), Motor Current (0,0 A), and Current Position (1,897 mm).
- Motion Table:** A table with columns for Index, Motion type, Position, A, B, C, Waiting, and Trigger mode. It lists 10 motion profiles (Index 0 to 9) with various parameters.
- Motion control:** Includes START MOTION and STOP MOTION buttons, a Mot Index (4149), and a Table Mode dropdown.
- Digital Outputs Setup:** Shows Digital Output 1 Setup (Brake Control) and Digital Output 2 Setup (In Position (active low)).

The screenshot shows the Motolab Starter Configuration Tool interface with the Motion Command and Control Loops section. The top bar is identical to the previous screenshot. The main window is divided into several sections:

- DRIVE STATUS:** Shows a READY status with ON and OFF buttons, a FAULT RESET button, and buttons for AUTOMATIC HOMING and MANUAL HOMING.
- I/O Status:** Displays Digital Input 1, Digital Input 2, Digital Output 1, and Digital Output 2.
- Actuator Status:** Shows Motor Speed (1 RPM), Linear Speed (0,1 mm/sec), Motor Current (0,0 A), and Current Position (1,898 mm).
- Motion Command:** Includes Current setpoint (0,000 A), Speed setpoint (0,000 RPM), Acceleration time (2 msec), and Deceleration time (2 msec).
- Control Loops:** A detailed block diagram showing the Position Loop, Speed Loop, and Current Loop. The Position Loop includes a reference input, a position feedback loop, and a position error signal. The Speed Loop includes a speed feedback loop and a speed error signal. The Current Loop includes a current feedback loop and a current error signal. The diagram shows the flow of signals between these loops and the motor.



What Motolab Starter is used for

- Parameter configuration and commissioning of the integrated drive.
- Setup and test of the motion profiles and the homing sequences.
- Real-time monitoring of the drive status and the actuator position.
- Diagnostics and fault analysis during commissioning.

How to proceed

- Download and install the Motolab Starter software.
- Connect the drive to the PC with the programming cable.
- Configure the motor parameters and the motion settings.
- Save the configuration and verify the actuator operation.

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