

igus Motion Editor (IME) quick start

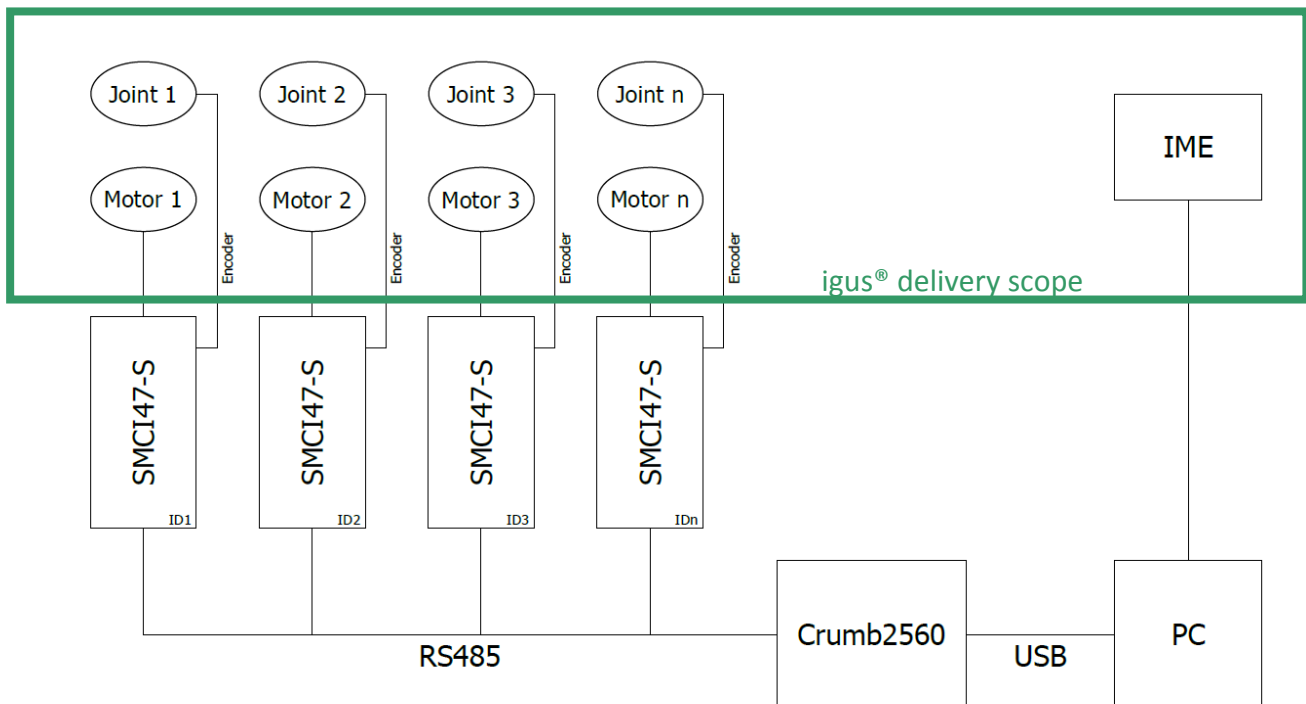
Required components

- robolink® articulated arm with NEMA 17 or 23 drive unit, incl. angle sensors
- Motor cable - igus CF.INI-P5-M12-BW-3 (not required for litz wire motors)
- Software/driver package www.igus.de (free at www.igus.eu/roboLink/software)

igus® delivery scope

- Nanotec SMCI47-S2 (RS485) control system (1 per axis)*
- NanoJEasy 1.04 (free download at www.nanotec.de)*
- Crumb2560 AVR ATmega module and programmer (www.chip45.com)
- 24V or 48V power supply for control system, motors / 5V for Crumb2560
- Connection cable for RS485 network control system
- PC or laptop with WinXP/7

Configuration layout



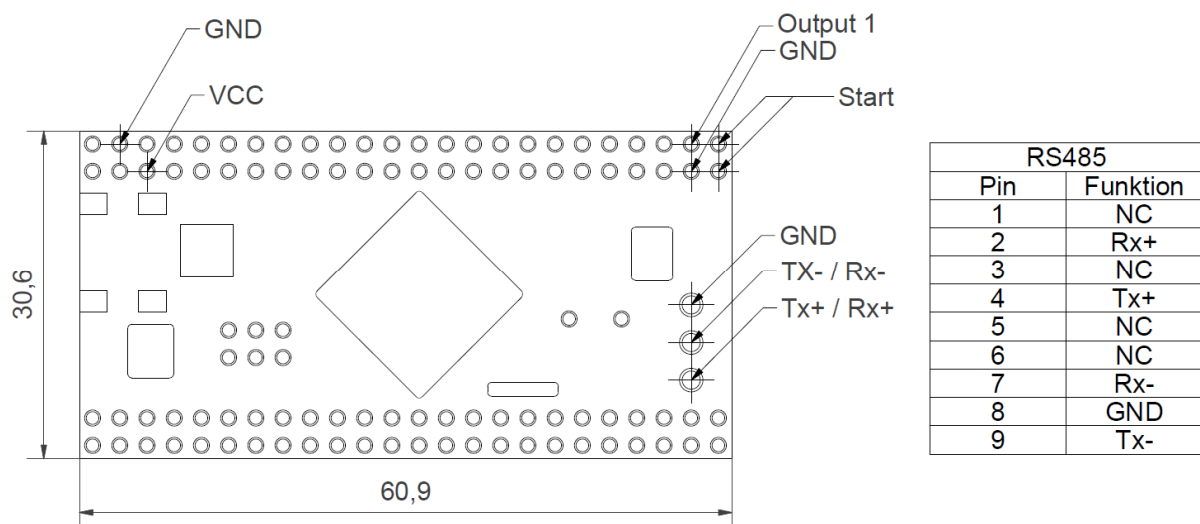
Six steps to begin

1. implement configuration,
2. load bootloader and firmware onto the Crumb2560 module,
3. enter motor addresses for the control system,
4. install Silicon Labs CP210x driver,
5. load Java program onto the SMCI47-S control systems,
6. configure robot.ini calibration file (information in the IME handbook).

Note

- The Hall sensor is connected to the analog input on the control system,
- the NanoJMotorControl Java program needs to be tuned for the system (customized for each system, we will assist)

Connection Crumb2560 AVR ATmega module

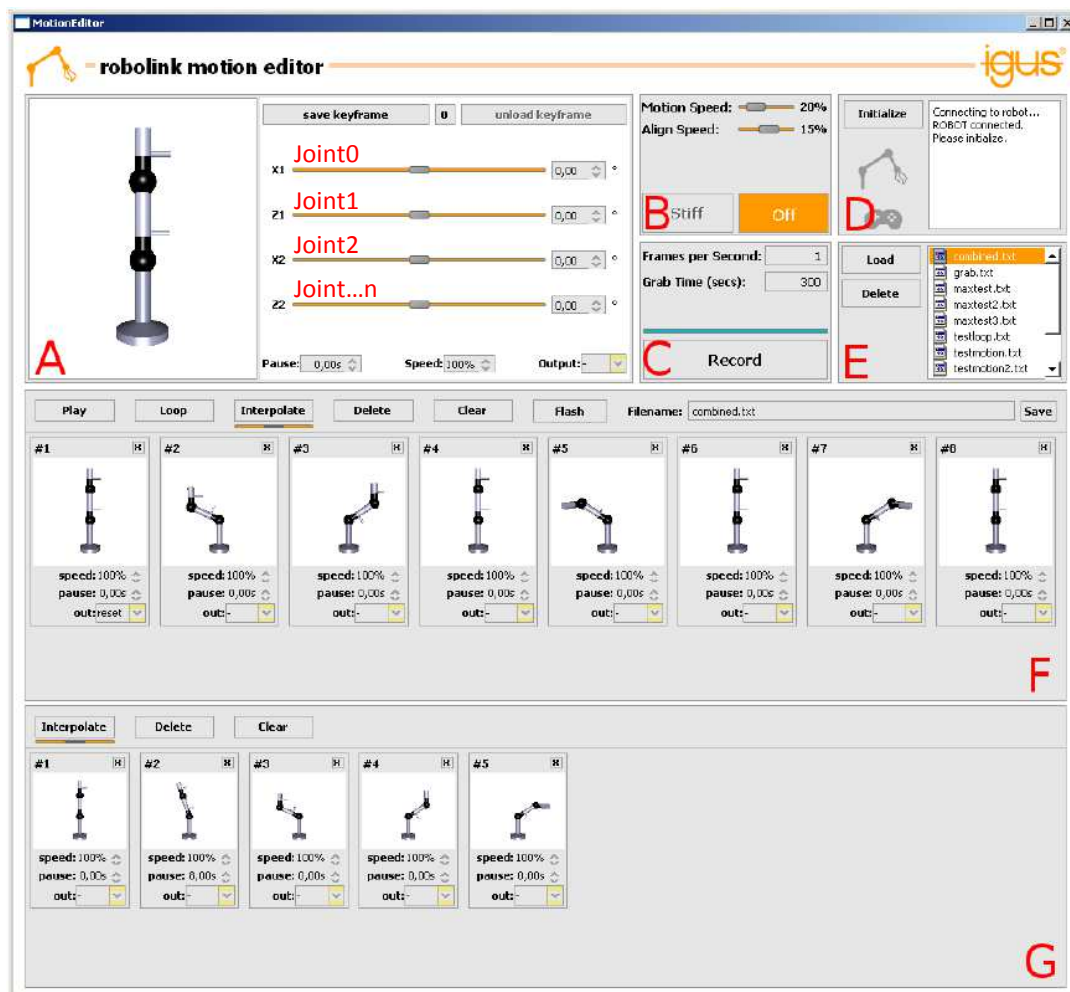


Calibration file „robot.ini“ *

[Joint0]	
name=X1	# Displayed name
type=X	# X=pivoting joint / Z=rotating joint
address=1	# control adress
lower_limit=-1.0	# lower angle limit in rad ($-\pi$ to π)
upper_limit=1.0	# upper angle limit in rad ($-\pi$ to π)
offset=0.0	# correction in rad ($-\pi$ to π)
encoder_steps_per_turn=6400	# steps encoder 1 turn ($400 \cdot i$)
motor_steps_per_turn=6400	# steps motor 1 turn ($400 \cdot i$)
invert=1	# invert axis (0 / 1)
length=0.10	# axis length in [m]
joystick_axis=0	# axis on joystick / gamepad (0 = out, 1-4 = allocation)
joystick_invert=1	# invert axis on joystick / gamepad (0 / 1)

Max. 8 DOF can be configured!

Interface*



A: Keyframe Editor

The angles of the joints can be adjusted and be saved as keyframes in the sandbox

B: Konfiguration

Moving and alignment speeds can be adjusted. Motors can be disabled for manual movement (“teach in mode”)

C: Keyframe Grabber

Record function: the (manual) movement of the arm is saved as keyframes in the sandbox.

D: Status Message Area

Display of status and errors.

E: File Manager

Programs and sequences can be saved and uploaded here

F: Motion Sequence

The movement of the joint arm is programmed here. The keyframes are copied from the sandbox by drag&drop into the motion sequence and create in this order the movement of the arm (**max. 128 keyframes**).

G: Sandbox

Pool for keyframes

**detailed description in the IME User Guide*