

# Motion control software

Dedicated software for various dedicated tasks like DOF stacking, 360° product photography

- 360° product photography with rotary stage RSB1
- DOF stacking with LSA1 linear rail

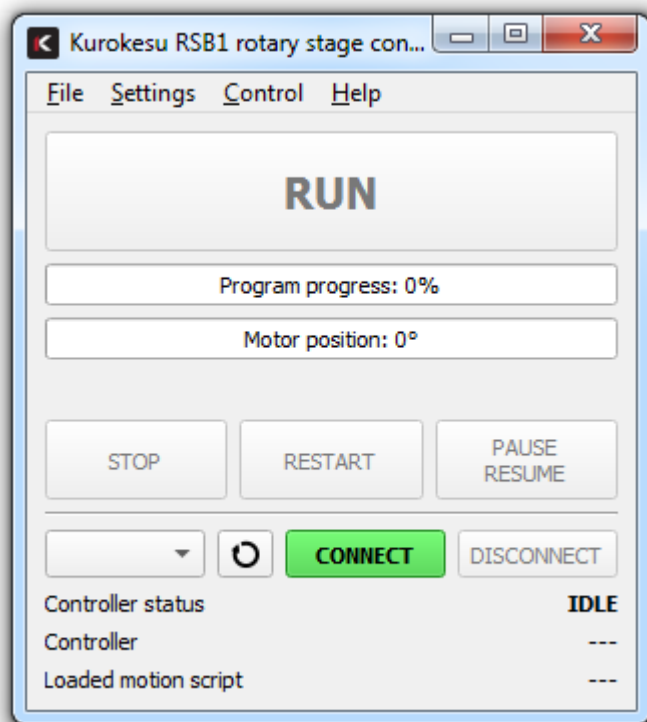
# 360° product photography with rotary stage RSB1

## About

## Software

- Source code on GitHub
- Windows releases also on GitHub

Motion controller comes with control firmware suitable for running small CNC machines, g-code commands are clear and more than suitable software protocol. While g-code can be written in plain text by hand and already available g-code senders can be used, it is much nicer to have dedicated software. Main window is designed to be minimalistic to hide irrelevant information.



At the same time script processor is very flexible and allows selection from many modes and multiple parameters. Once script/recipe is fine tuned it can be saved for later use.

Code Generator

Motors

00 - full circle, equal spaced steps

Start angle [deg]: 0.00

Speed [deg/min] 500.00

Steps 10

Angle [deg] 36.00

Total motion angle [deg]: 360.00

☒ Return home after cycle is complete

Active axis

X

Motion attitude

Acceleration[mm/sec^2] 2000.00

Default speed [deg/min] 20000.00

☐ Include motion attitude in script and send on every run

Motor run power 0

Motor sleep power 0

☐ Include motor power in script and send on every run

Generated g-code

```

G4 P0.0
G1 X36.0
; Wait till platform is stable
G4 P0.0
; Trigger shutter
M8
; Capturing...
G4 P0.5
; Retract shutter
M9
; Wait post trigger
G4 P0.0

; Set absolute movement mode
G90
G1 X0
; Complete

```

DSLRL shutter

00 - Trigger DSLR shutter

Pre shutter wait time [s] 0.00

Focus wait time [s] 1.00

Frames to capture per step 1

Shutter pressed time [s] 0.50

Post shutter wait time [s] 0.00

USB camera

Do nothing

Generate

User notes

Save

Close

## Running on Windows

There are two ways to run program on Windows:

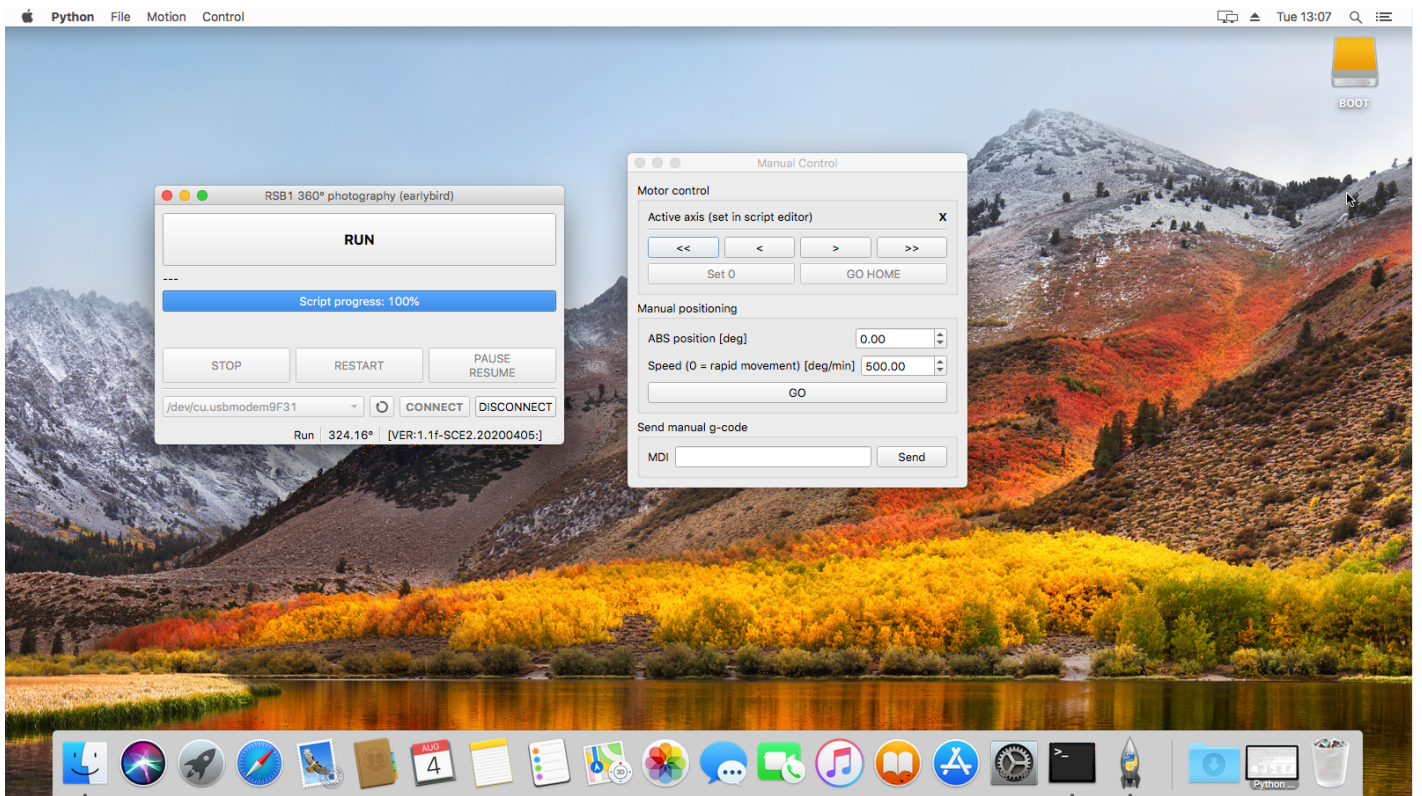
- Download binary package and run without installing extra programs to your computer - just download latest release from GitHub and run it.
- Install Python and run program directly from sources on GitHub

## Running on macOS

### Running program from sources

Assume you have clean macOS with not Python installed. So quick steps are:

- Go python.org and download latest stable release (tested with 3.8.5)
- Install downloaded python
- Go to terminal (launchpad -> terminal)
  - Download pip installer - type: `curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py`
  - Install pip: `python3 get-pip.py`
  - Install required packages:
    - `pip3 install pyqt5`
    - `pip3 install numpy`
    - `pip3 install serial`
    - `pip3 install pyserial`
  - Install git - just type `git` in terminal and OS will prompt you to install automatically
  - Download latest script:  
`git clone https://github.com/Kurokesu/RSB1_360_product_photography.git`
  - Change to downloaded script directory: `cd RSB1_360_product_photography`
  - And run script: `python3 main.py`



## Processed view with 360 javascript example

Demonstration page is [here](#)

# DOF stacking with LSA1 linear rail

TBD