

Prevac sp. z o.o.

# Manipulator service book

Version 0.1 alpha



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# USER MANUAL

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# Manipulator

service book

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**Rev. 1 May 2017**

**Precision and Vacuum Technology**



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# 1 Hardware

## 1.1 Check SMCD driver

### 1.1.1 Warning

- Axis X and Axis Y are example
- We assume that axis X line is fully functional mean: motor, cables, manipulator, smcd
- We need to diagnose SMCD for axis Y

### 1.1.2 To check SMCD driver take the following steps:

1. Before start please read all points, if you are not sure how do that, please let us know.
2. Remember where are currently connected all the SMCD cables for axis X and axis Y. (communication, encoder, motor, limit switch).
3. If it is possible unmout X motor from Manipulator, after this place it on the table.
4. Unplug SMCD cables for axis Y from the backside of the rack(motor, encoder, communication, limit switch).
5. Unplug SMCD cables for axis X from the backside of the rack(motor, encoder, communication, limit switch).
6. Plug in SMCD cables for axis X to SMCD driver for axis Y (motor, encoder, communication, limit switch).
7. Try to move axis Y using Manipulator Software. (Section intended for Y axis)
  - If motor is moving, then it means that SMCD for axis Y work properly.
  - If motor is not moving, then it means that SMCD for axis Y is probably configured wrongly for the X motor, please let us know about that.
8. After this please connect the wires in the as it was on the begining of the procedure (point 1).

## 1.2 How addressing SMCD devices

### 1.2.1 Warning

- How to address SMCD devices connected to one RS485 cable.
- We consider the case where we have 4 axes (X, Y, Z, R1).



Figure 1.1: Example SMCD Hardware Configuration

- The MOXA COM port is configurate properly, Interface should be RS485 2W and Tx Mode should be "Classical".

### 1.2.2 Go to software Settings

1. Click settings button.

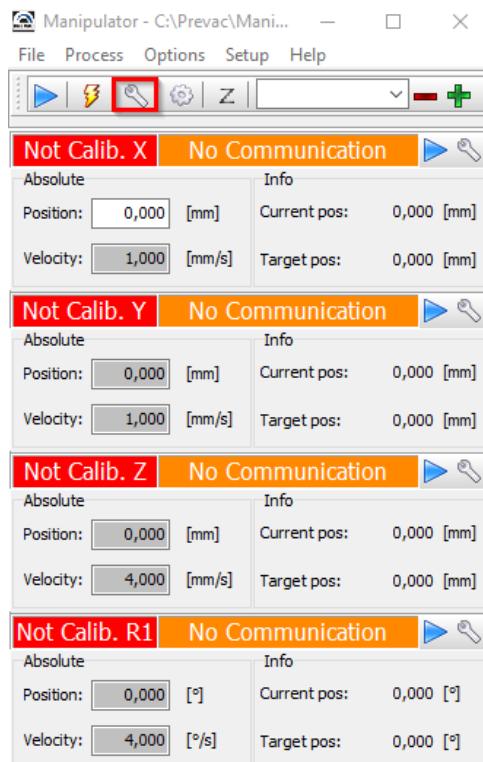


Figure 1.2: Settings Button

2. Click gold padlock and confirm pop up window.

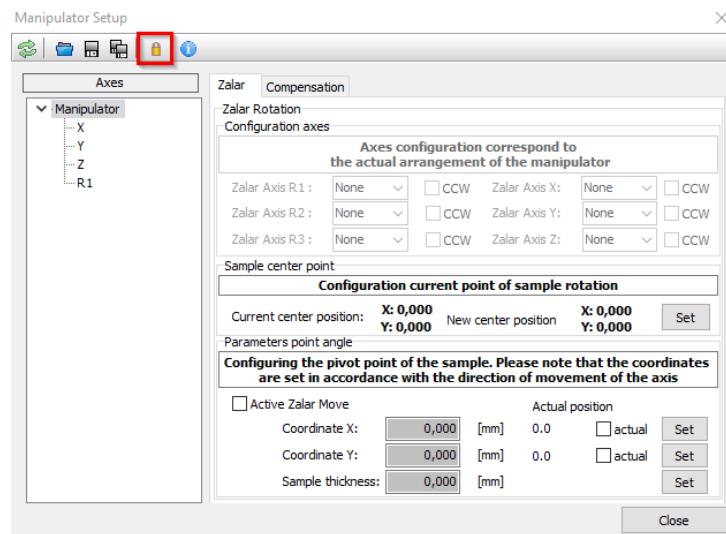


Figure 1.3: Advanced Axis Settings

### 3. Communication Windows for Axis.

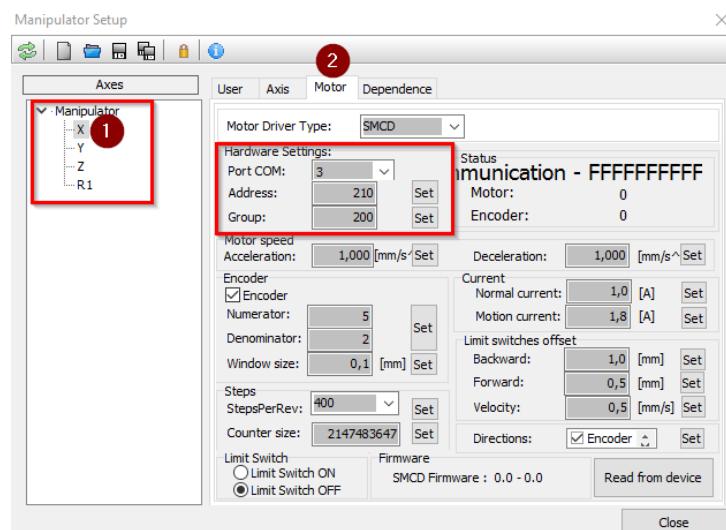


Figure 1.4: Communication Windows for Axis.

- 1 Select axis you need to address.
- 2 Go to Motor overlap.
- 3 We see "Hardware Settings" which able us to address device.

#### 1.2.3 Address Procedure

To address the one axis you must switch off all others axis connected to RS485 cable parallel, if we do not do this, more devices will be addressed in the same way, and will lose other old configuration.

1. Switch ON only the one SMCD device which you need to address (picture below).



Figure 1.5: Axis X Switch ON.

2. Go to "Hardware Settings" in software to Axis which you need to address

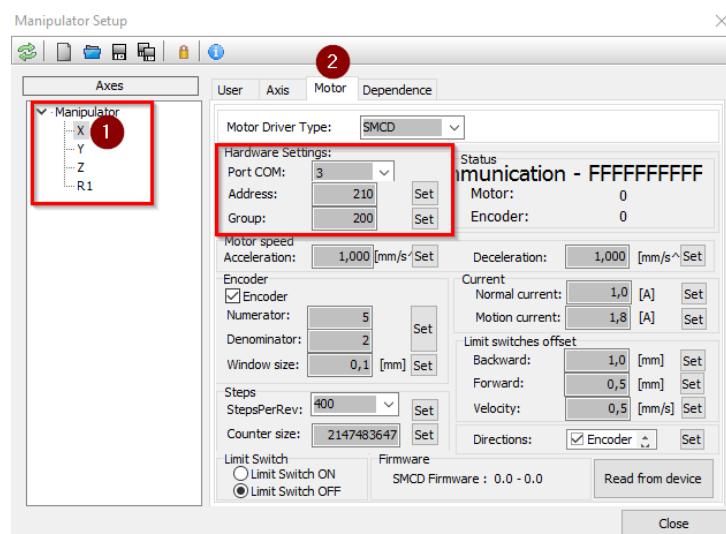


Figure 1.6: Address Axis SMCD device.

1 Select Axis.

2 Go to overlap Motor.

3 Select "Address" value and confirm use SET (Must be other value for all SMCD devices)

4 Select "Group" value and confirm use SET (Should be one value for all devices on cable)

3. Right configuration effect we can see below.

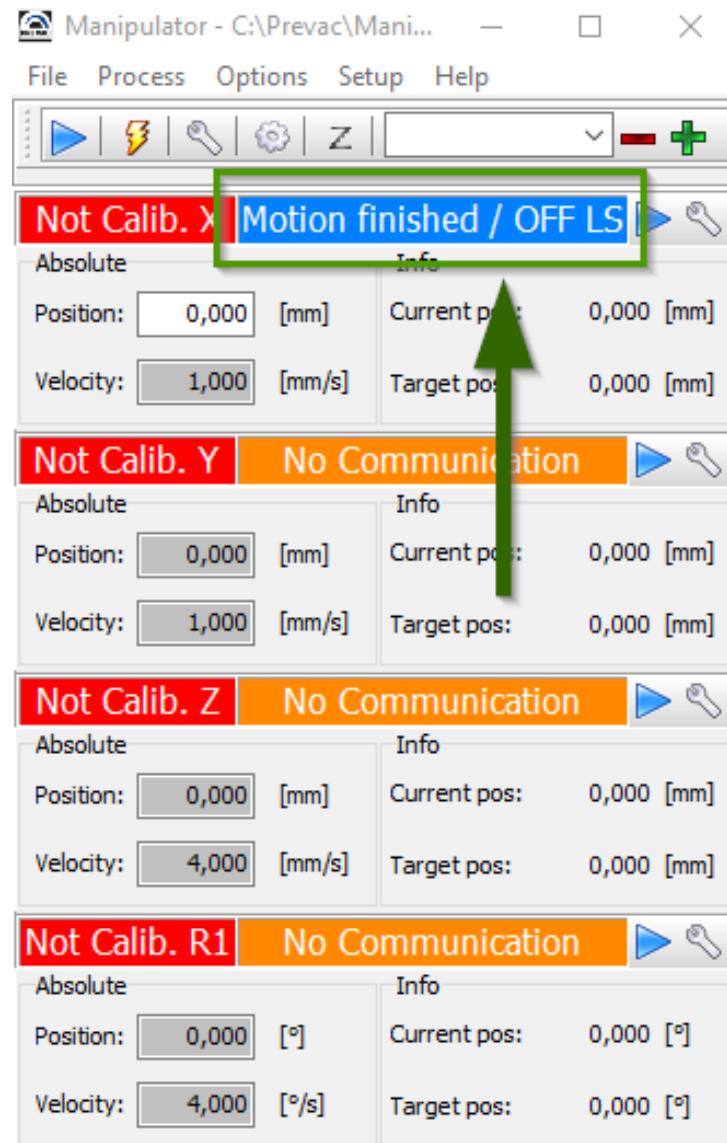


Figure 1.7: Right SMCD addressing.

4. Similarly for other axis, remember to switch on only axis which you will to address

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