This procedure is applicable to below models:

V810 STD	☐	S1	☐	S2
V810 XXL	☐	S1	☐	S2
V810 S2EX	✓			
V810 Mini	☐			

REVISION HISTORY

Rev	Effective Date	Description	Doc Originator
00	17 Aug 2015	First Release	MUHAMMED SHAMEEM
01	2 Oct 2016	Template Changes & Content Update	ONG KEAN SHENG

Content

Filter Height Adjustment Steps:..... 4

Filter Height Adjustment Steps:

1. Prepare the 2530-0002, Communication Cable USB To Driver as Figure 1.

Figure 1 2530-002 Communication Cable USB To Driver

2. Connect one end to the Atom PC USB Slot as shown in the Figure 2 and another end to the 2670-0046, Driver Stepper Linear Motion, NEMA 17 (Right Filter Height Sensor) of the Right Filter Height Sensor as shown in the Figure 3.

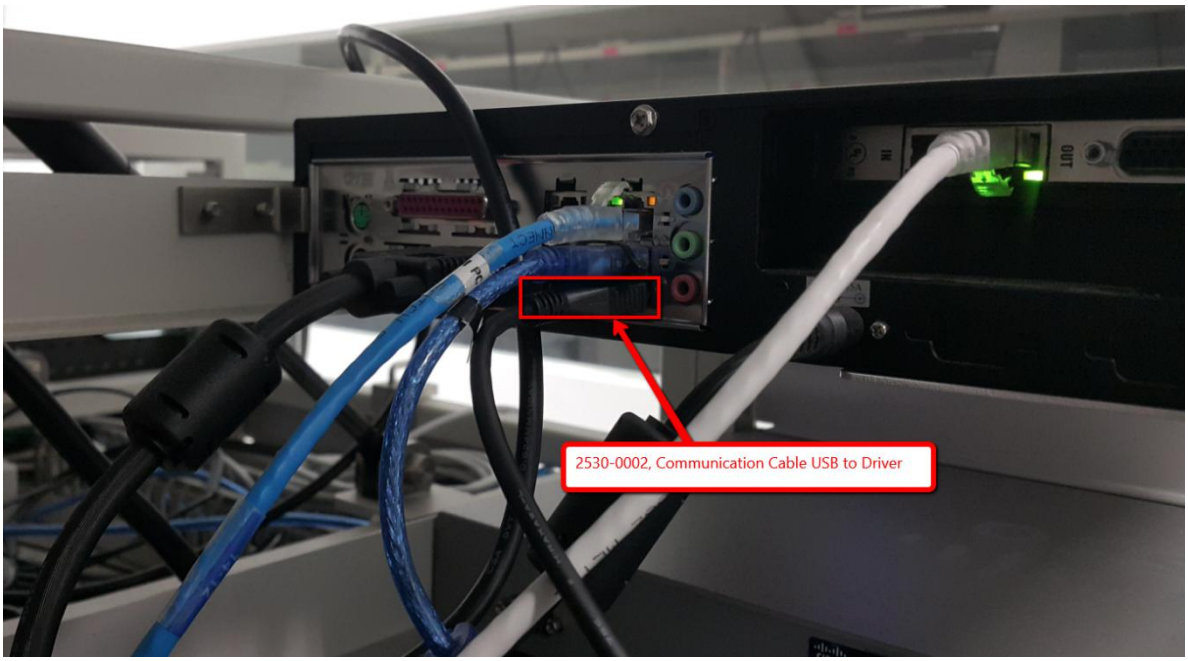


Figure 2 2530-0002 Communication Cable USB to Driver

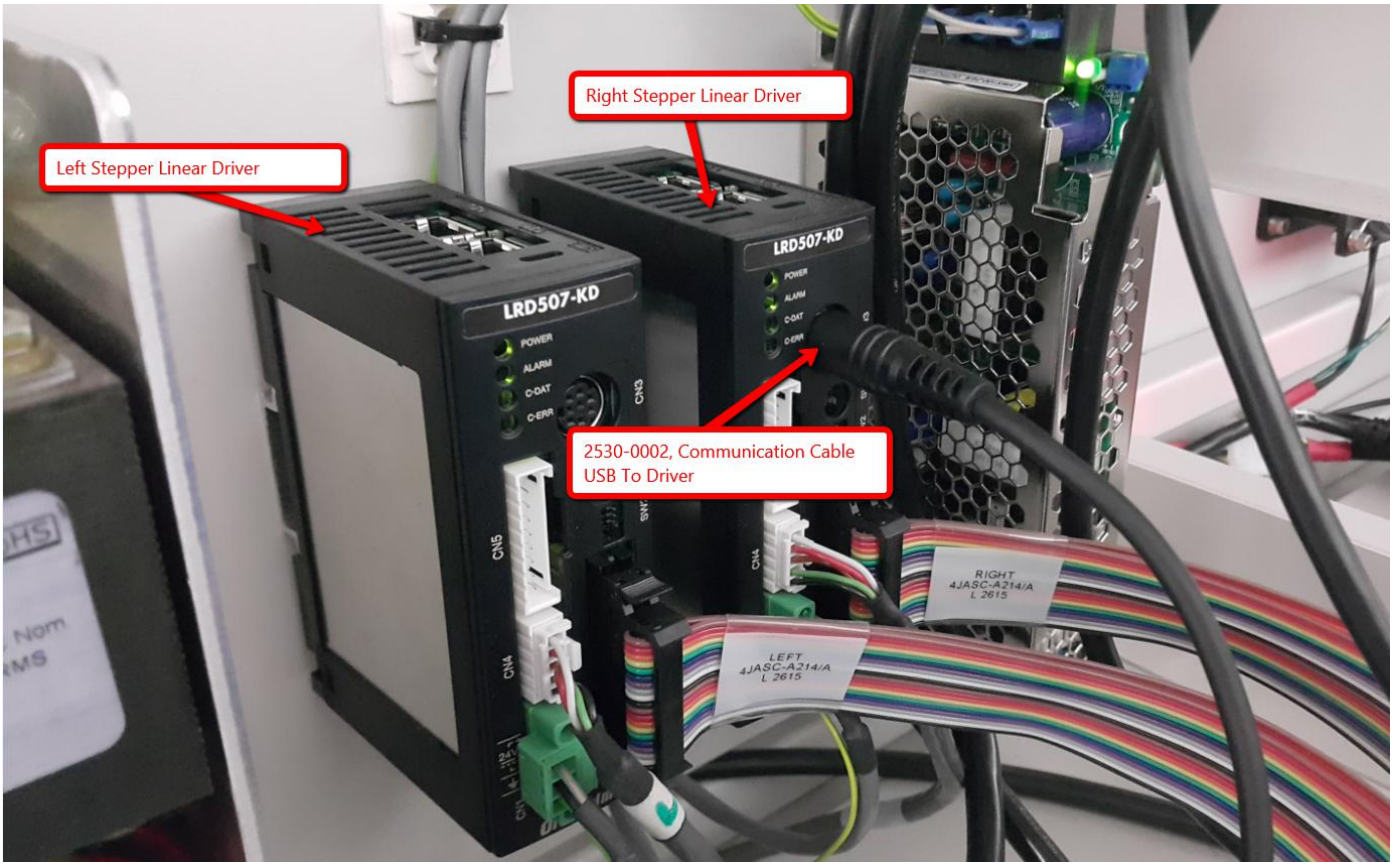


Figure 3 Right Stepper Linear Motion

3. Once the cable is connected as shown in the Step (2), a Green LED should turn on the Communication Cable USB to Driver as shown in the Figure 4. If the LED does not turn on, unplug then plug again the USB Cable at Atom PC until the Green LED turn on.

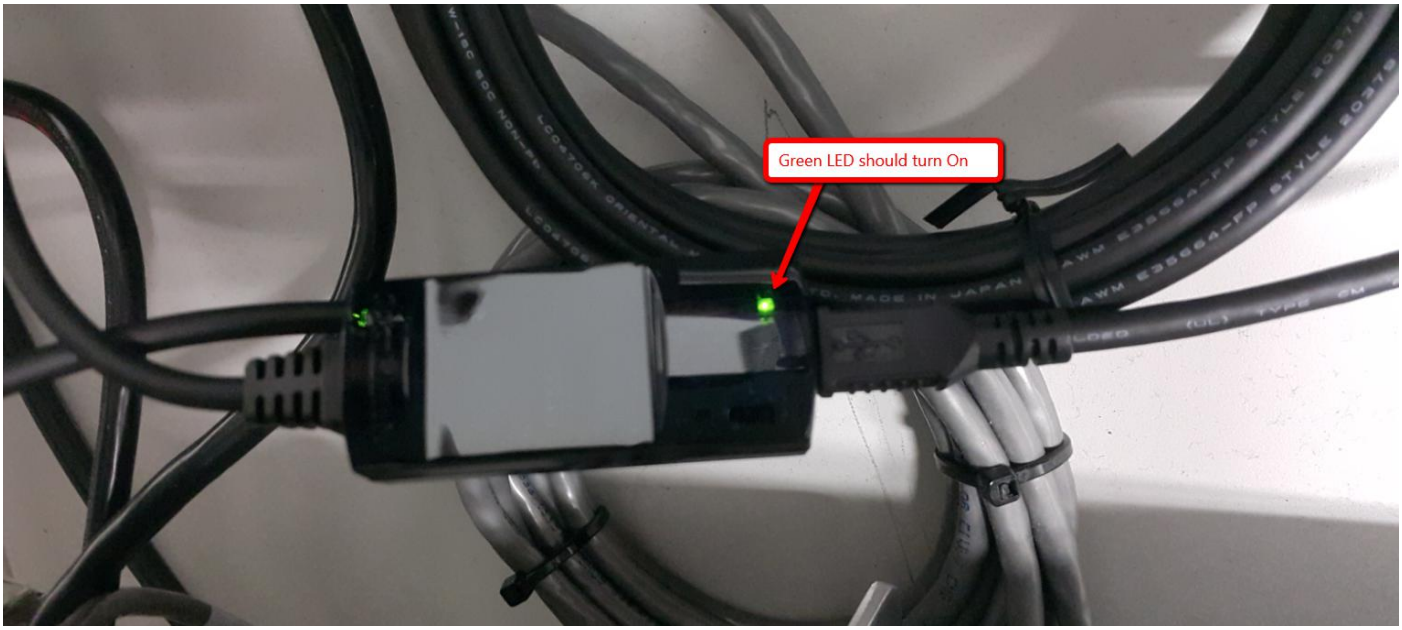


Figure 4 Communication cable

4. Go to the **Panel Handling** and click **Initialize** as shown in the Figure 5.

   Then choose the **Display Measurement to Inches**

   Then click press **Load Panel**

   Enter the **Width** and the **Length** of the panel as **19 inch**

   The press **Load**

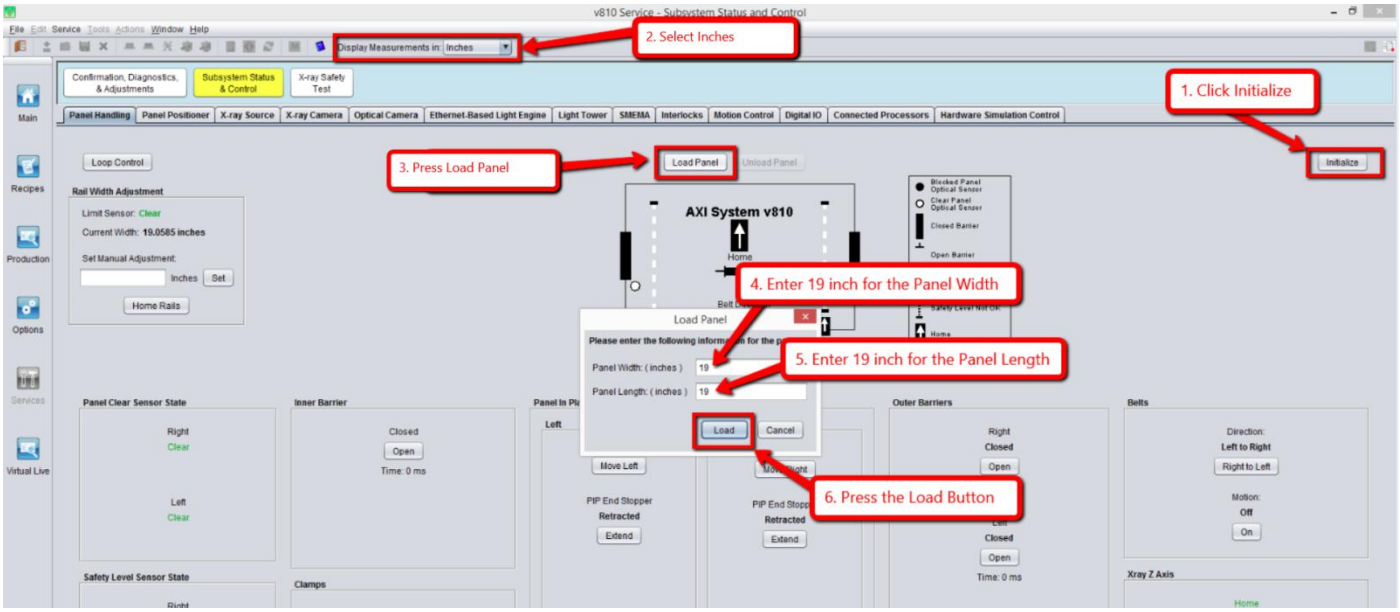


Figure 5 Panel Handling

5. Once the outer barriers open, press the cancel button to close the outer barrier as shown in the Figure 6.

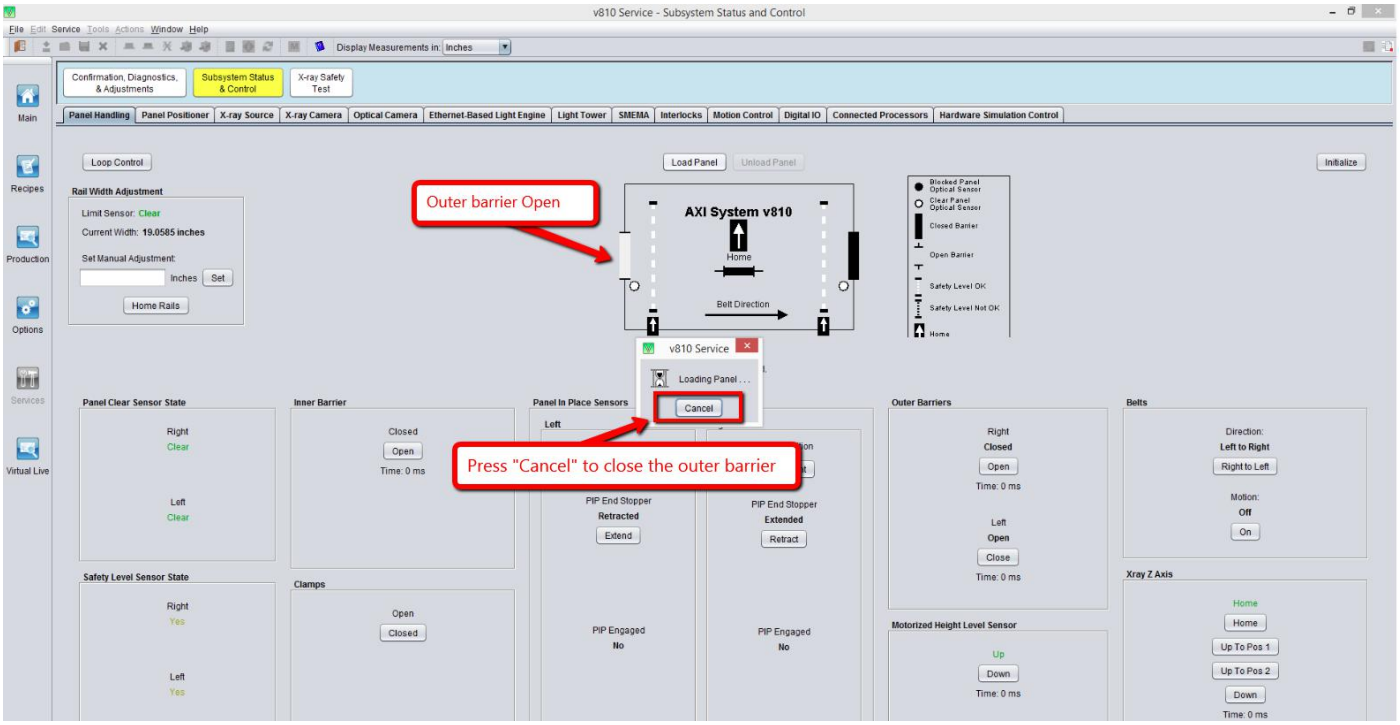


Figure 6 Outer barrier open

6. Prepare the 4JACM-A030 Double Clearance Var Mag Filter Jig Assembly as shown in the Figure 7.

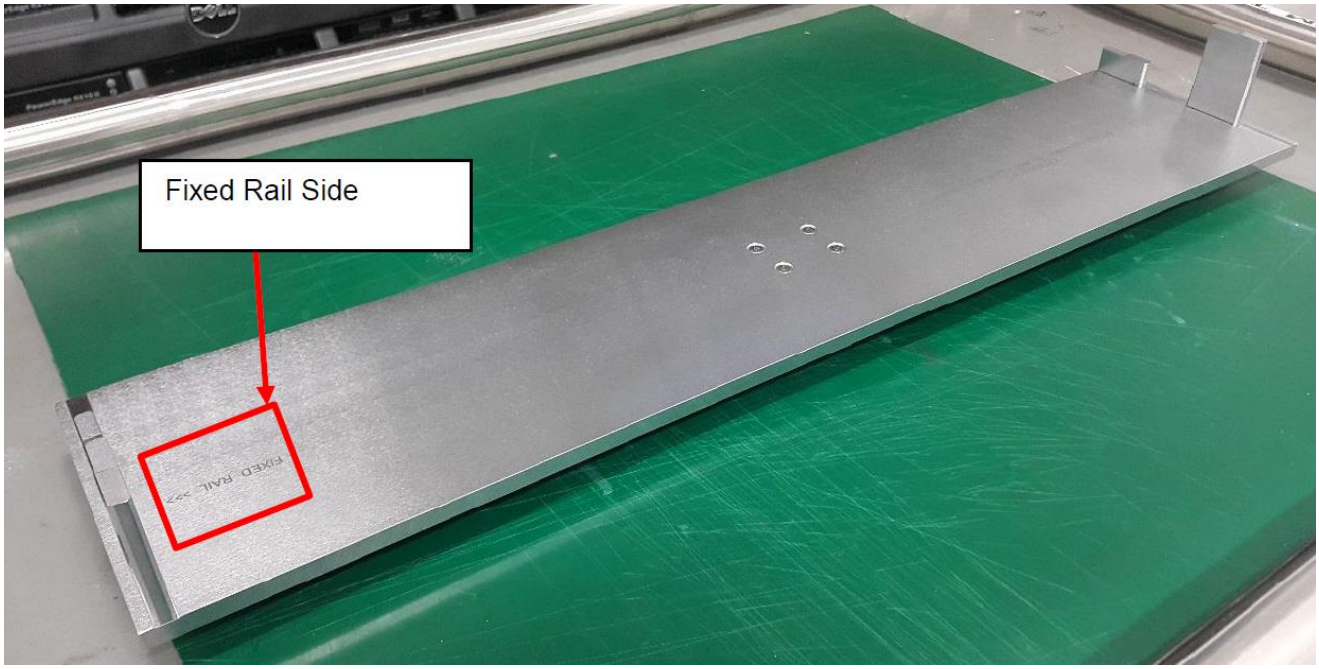


Figure 7 4JACM-A030 Double Clearance Var Mag Filter Jig Assembly

7. Open the Right Outer Barrier and ensure the clamper is open.
8. Place the 4JACM-A030 at the Right Outer Barrier Side and align it parallel with the 4th Emitter and Receiver as shown in the Figure 8 and close the clamper.

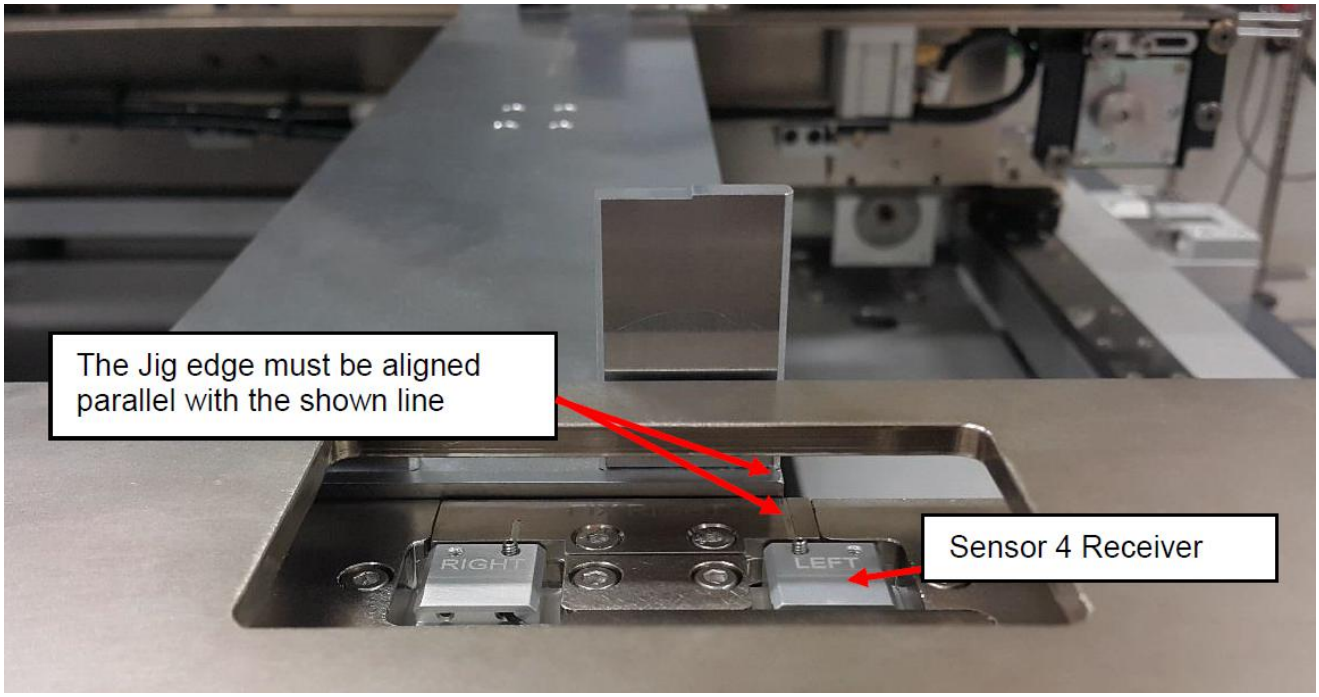


Figure 8 Var Mag Filter Jig Assembly

9. Open the side access door and ensure that the 4JASS-318, Right Filter Height Reflector Bracket is aligned parallel as shown in the Figure 9.

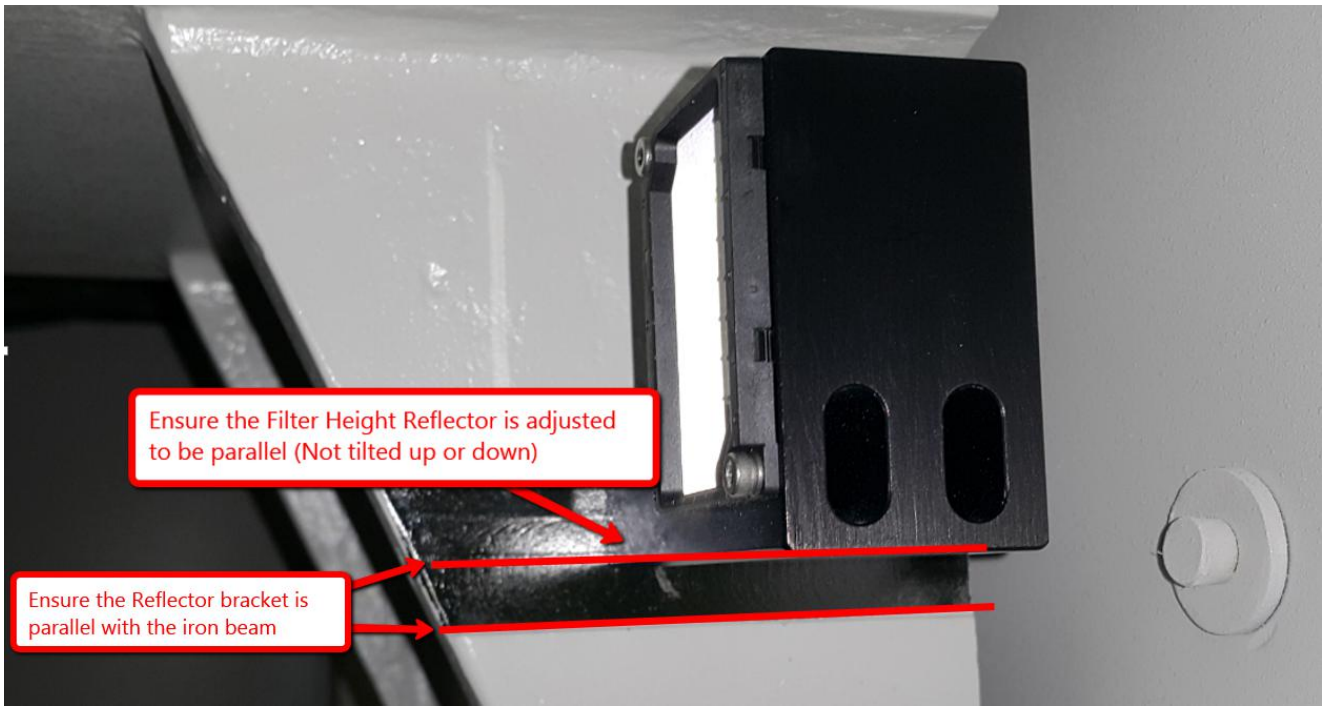
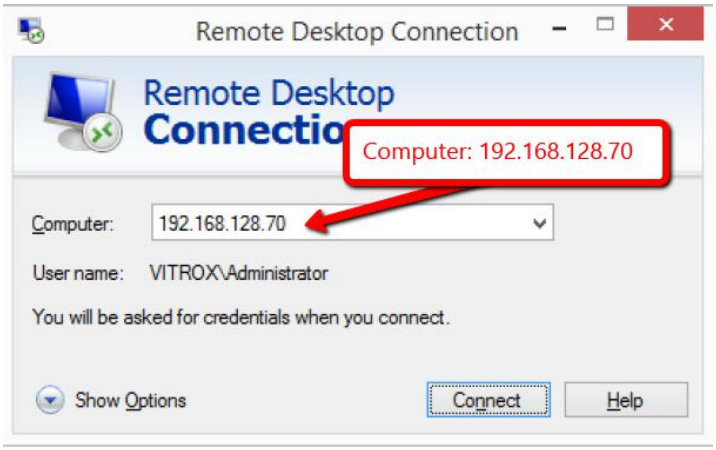


Figure 9 Filter Height Bracket

10. Remote desktop to the Atom PC using the following credentials as shown in Figure 10.

Computer name	: 192.168.128.70
Username	: Administrator
Password	: Please!



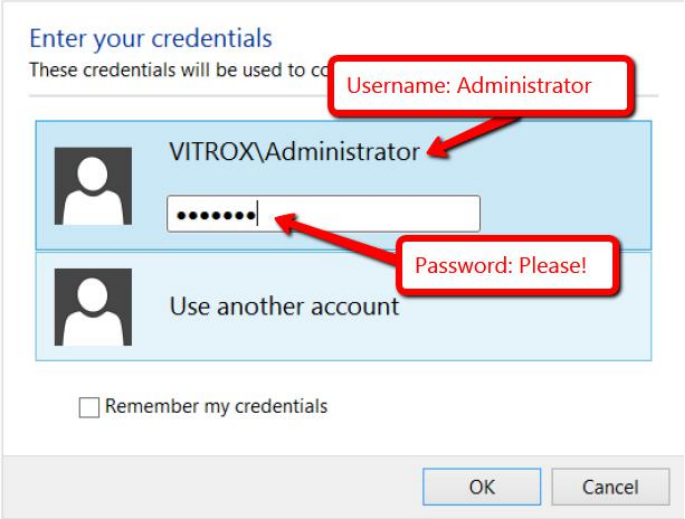


Figure 10 Remote Desktop

11. Open the MEXE02 software as shown in the Figure 11.

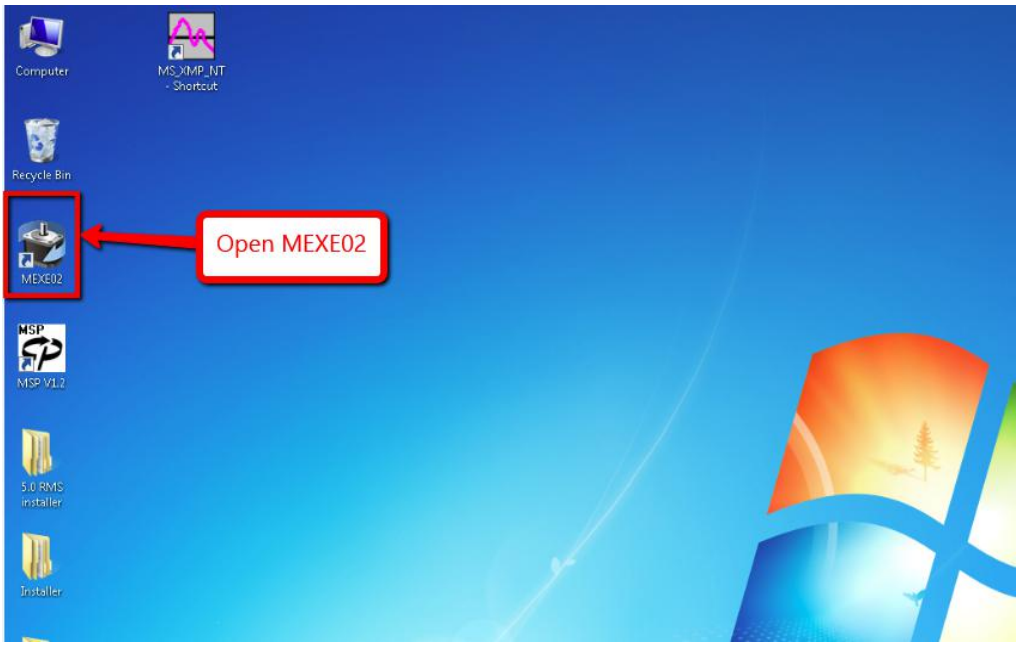


Figure 11 MEXE02 software

12. Go to the communication tab and select the Setting of the communication as shown in the Figure 12. Then select the corresponding COM_:Oriental Motor / Virtual COM Port as shown in Figure 13.

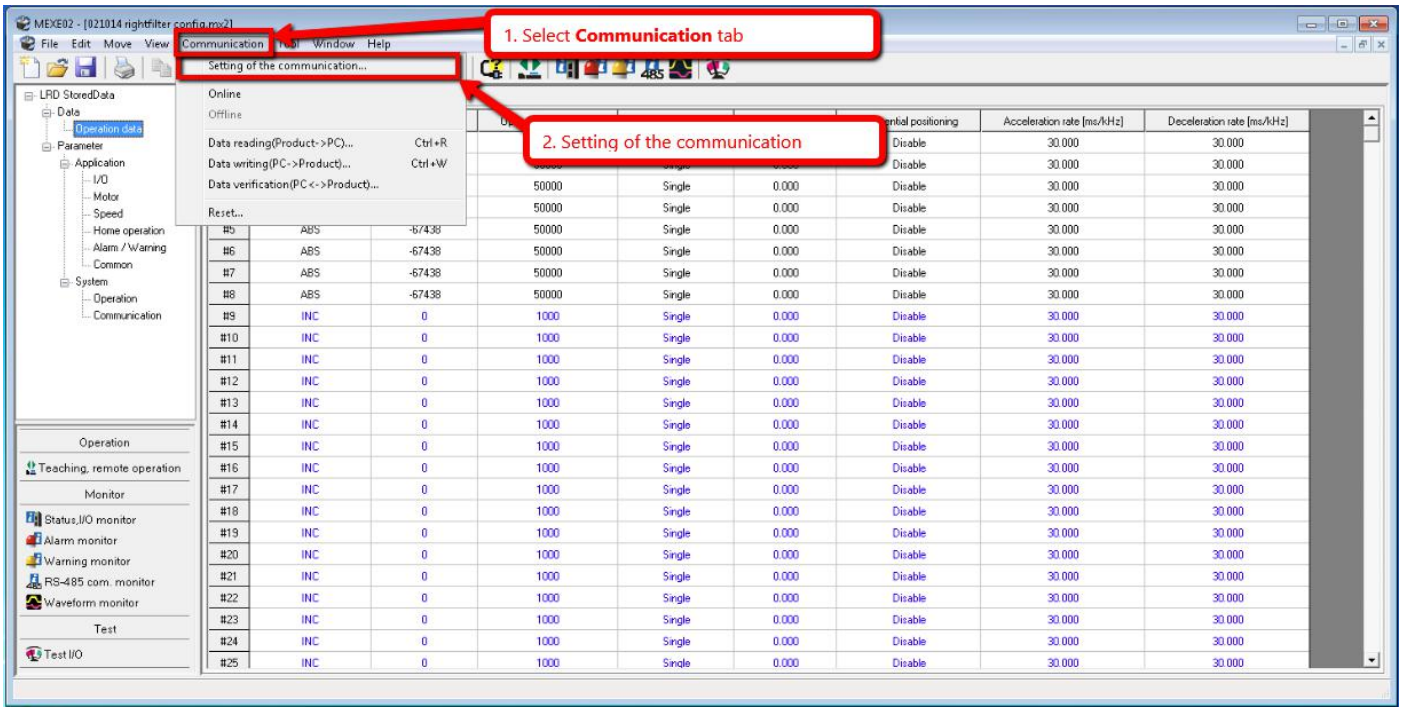


Figure 12 Setting of the communication

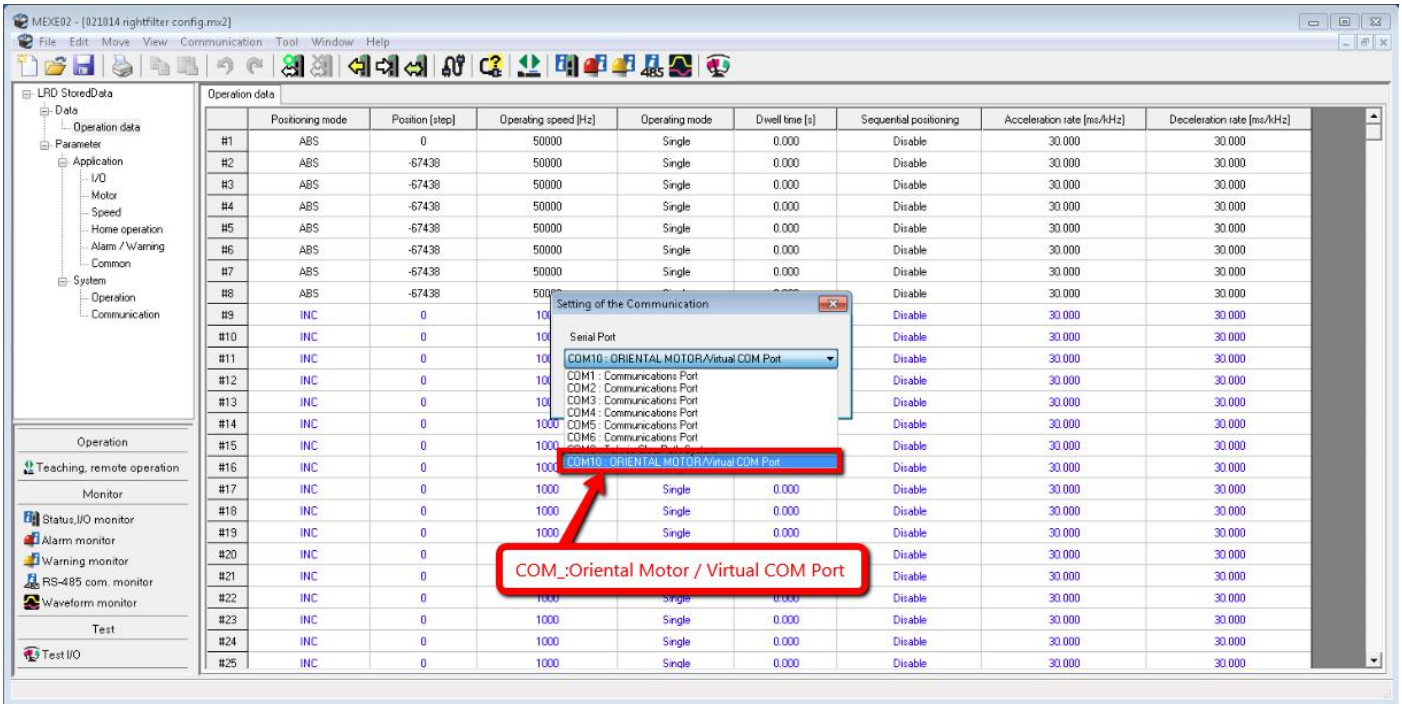


Figure 13 Setting of the Communication

13. Click Open as shown in the Figure 14.

Figure 14 MEXE02 Software interface

14. Select the file **"021014 right filter config.mx2"** as shown in the Figure 15.

Remarks: The files will be provided by Vitrox AXI SNS Hardware Team with the procedure.

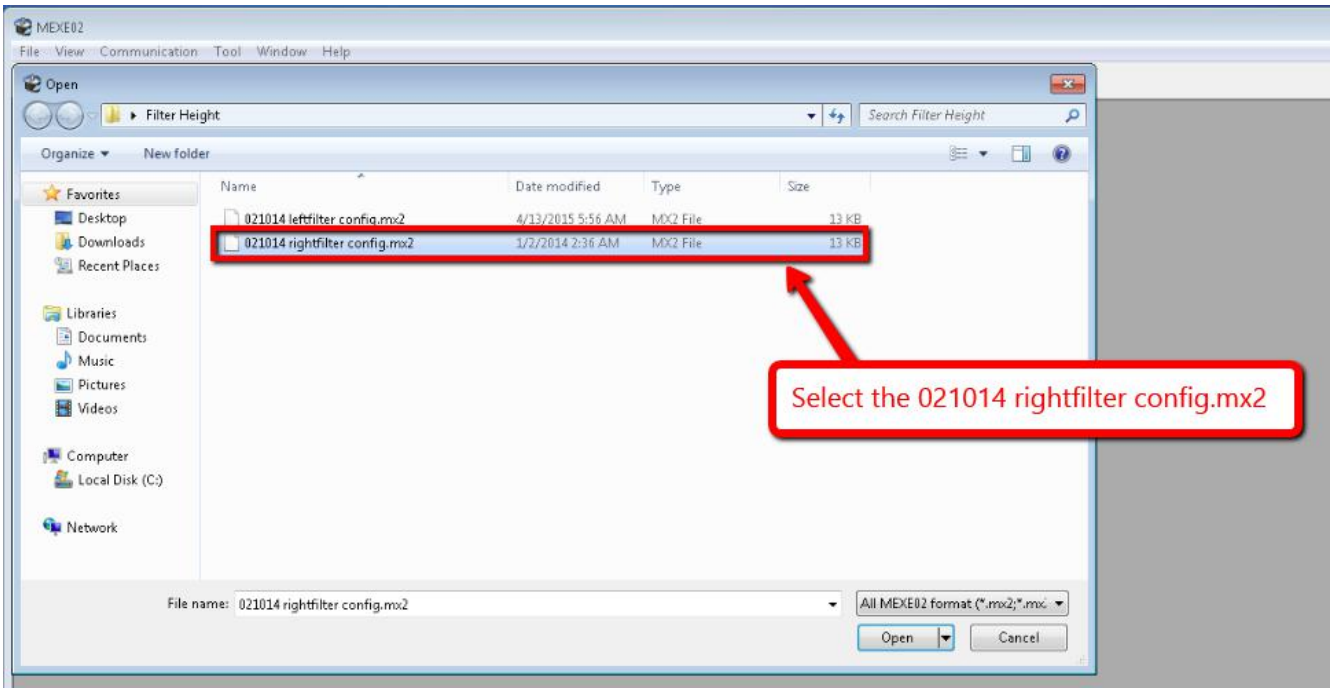


Figure 15 MEXE02 Software Interface

15. Select the Teaching, remote operation as shown in the Figure 16. Start the teaching remote operation as shown in the Figure 17 and then press OK.

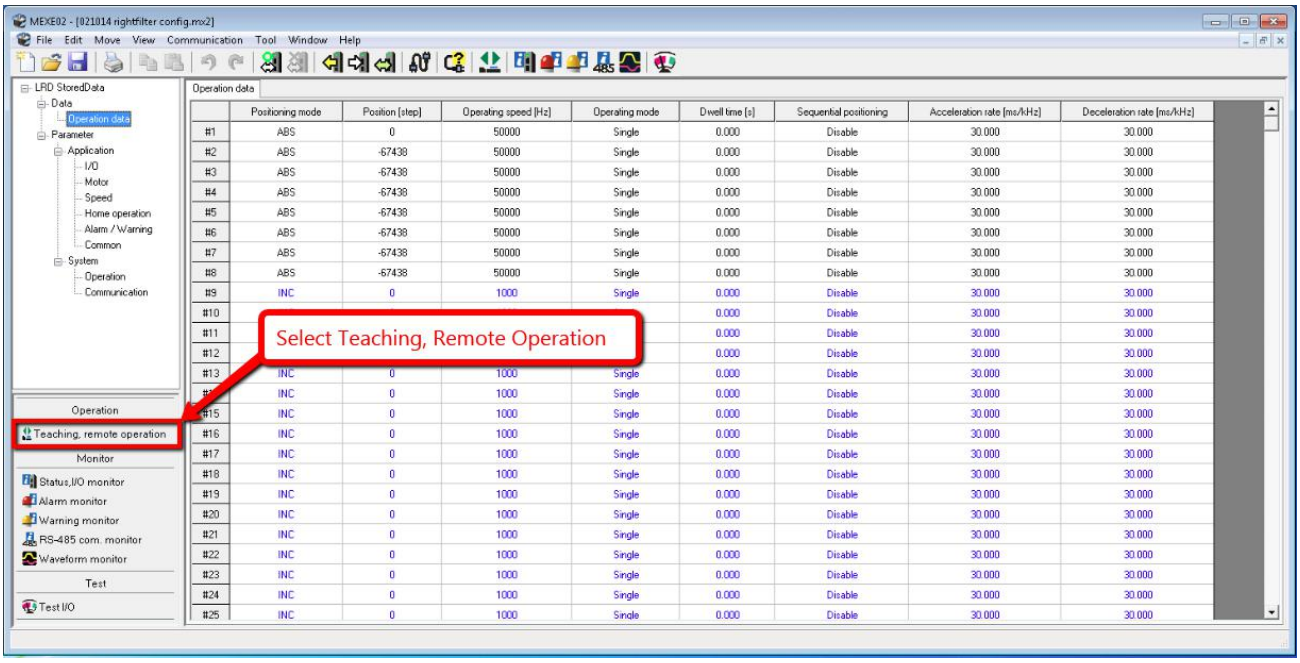


Figure 16 Teaching mode

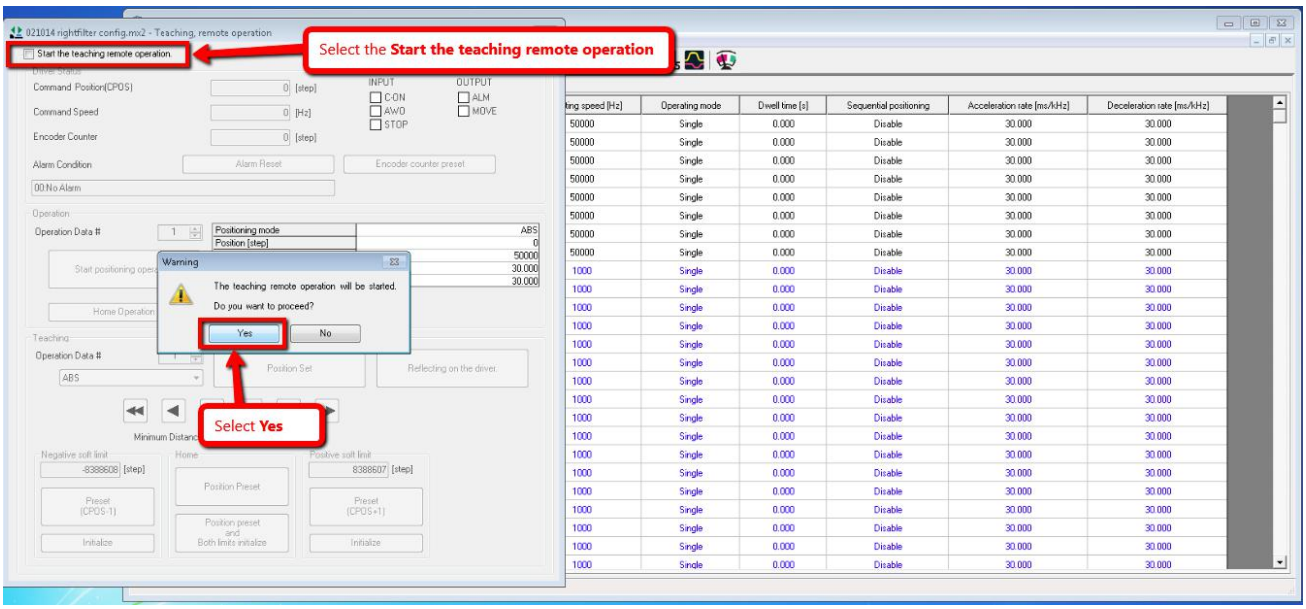


Figure 17 Start the teaching remote operation

16. Select the Writing all data (PC->Product) as shown in the Figure 18 then press OK. Wait until it finish writing the data into the Right Oriental motor driver as shown in the Figure 19.

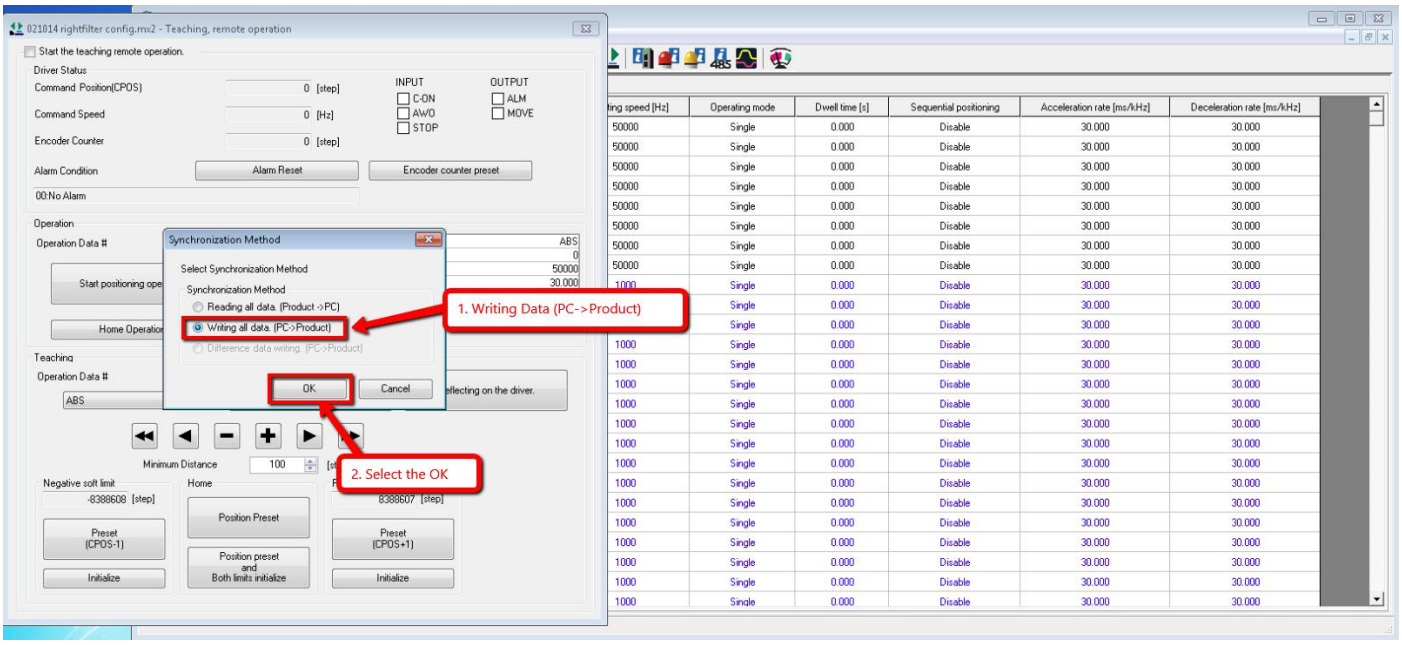


Figure 18 Writing Process

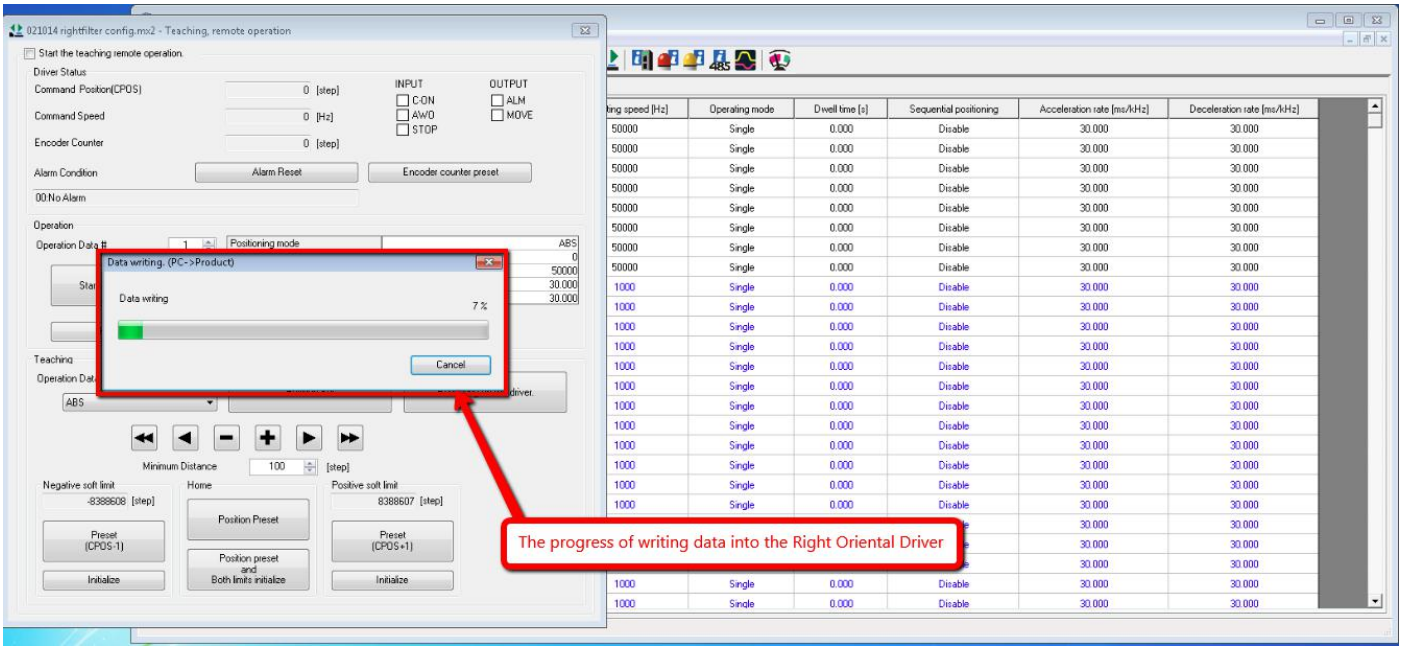


Figure 19 Uploading Process

17. Press the Home Operation button and press OK as shown in the Figure 20.

Remarks: Physically the right filter height sensor will move to the default homing position.

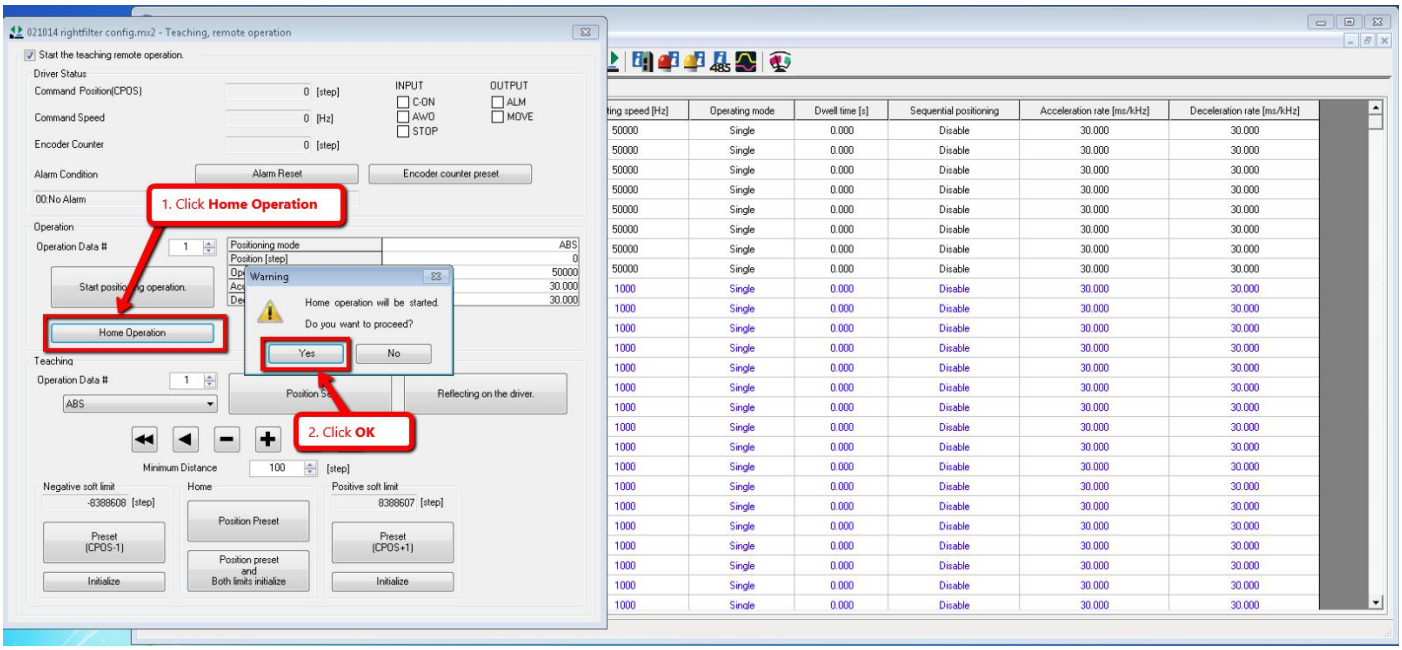


Figure 20 Homing process

18. Open the SHSC M4X10 (4x) and remove both filter height sensor cover as shown in the Figure 21.

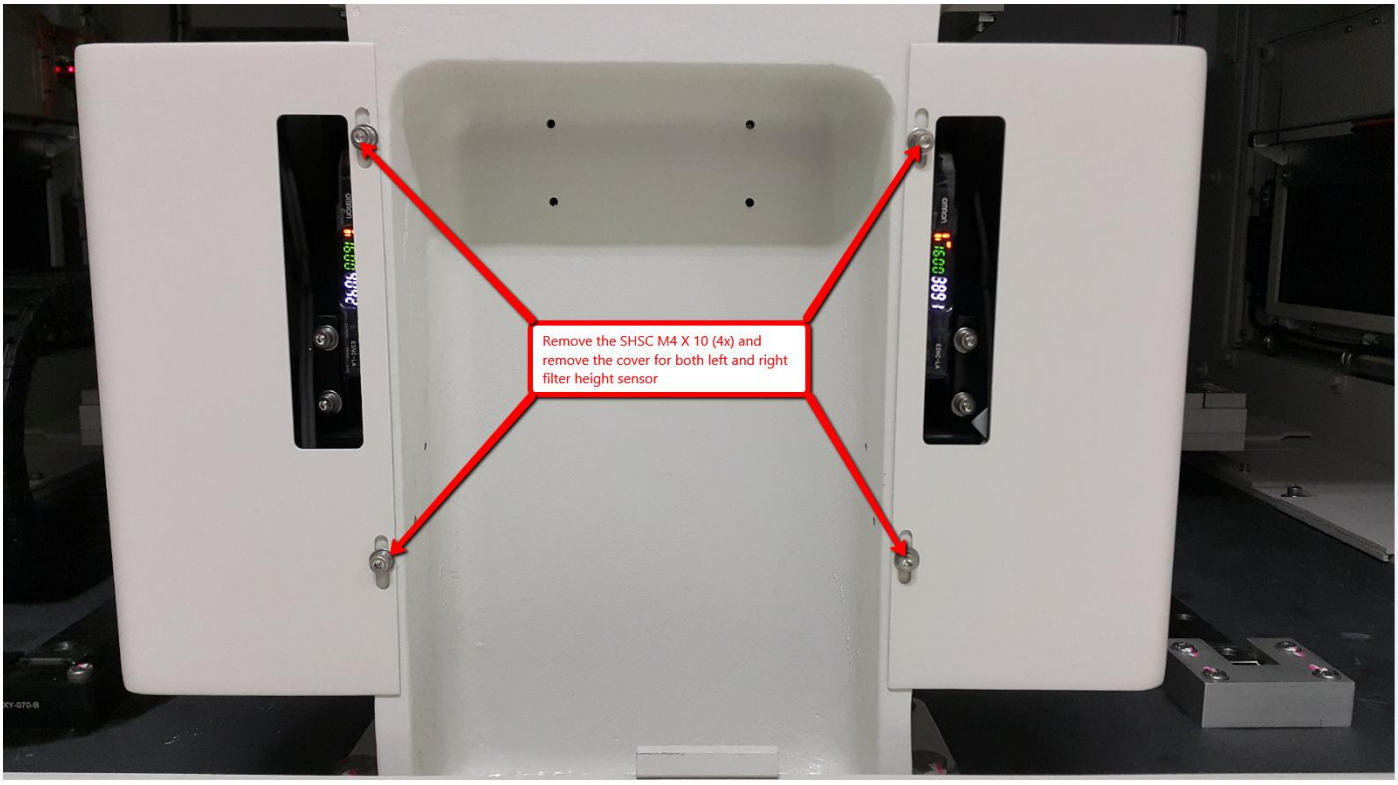


Figure 21 Filter Height Cover

19. Turn the coupling slowly until Filter Height Sensor Laser align parallel with the 19µm jig height as shown in the Figure 22.

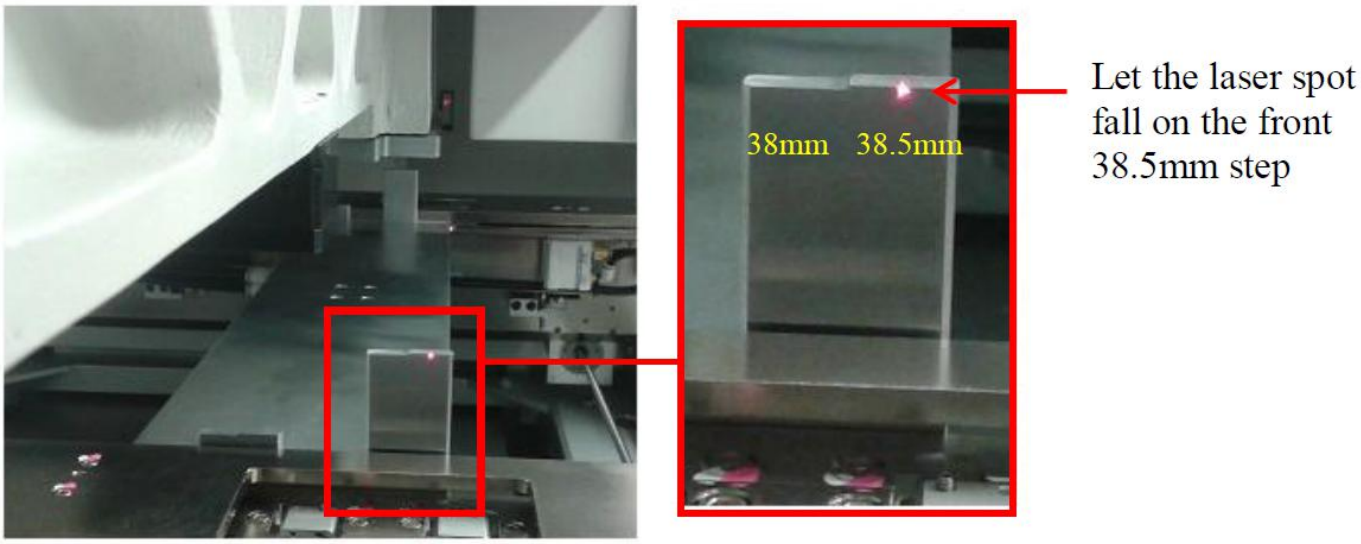


Figure 22 Laser spot

20. Set the minimum distance to 100 as shown below in Figure 22.

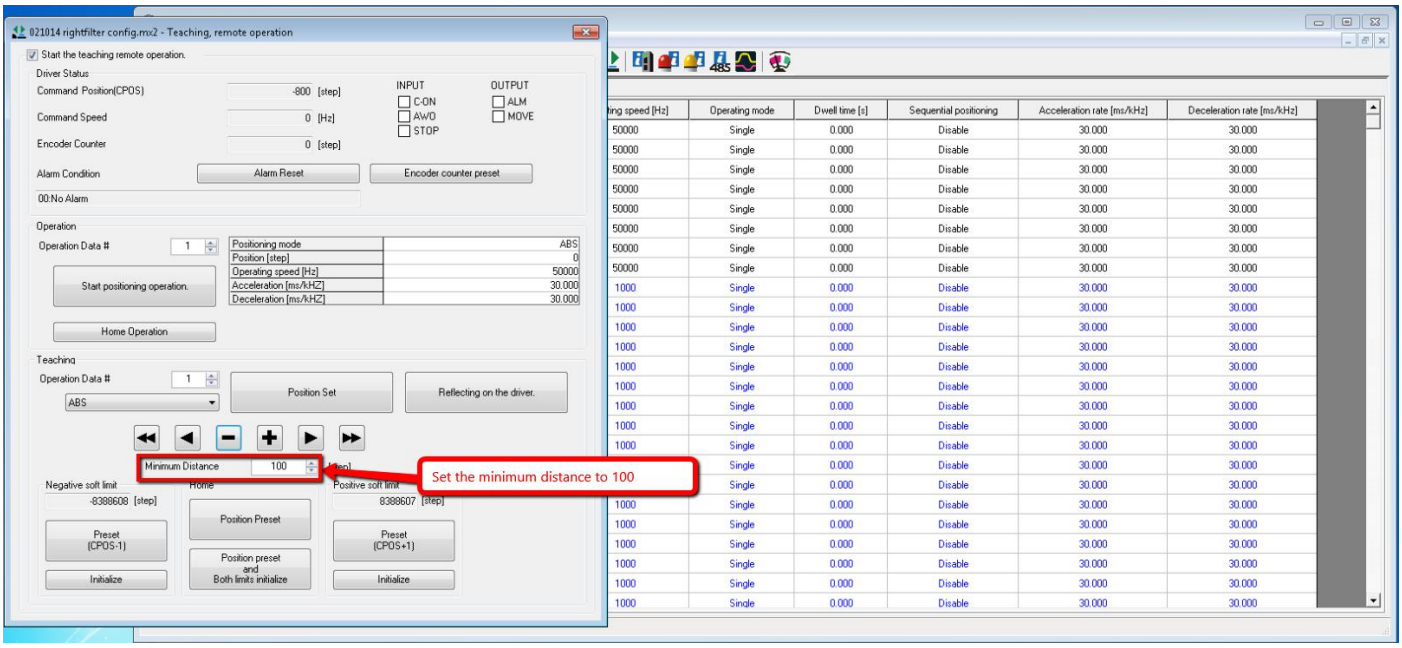


Figure 23 Minimum distance travelled

21. i. Manually trigger (+) and (-) to move the height of the Filter Height Motor. (Figure 24)

    ii. Adjust the sensor angle up and down manually (Figure 25)

    iii. Manually move the stage from fixed rail jig (38.5mm) and to adjustable rail jig (38.5mm) (Figure 26 and Figure 27)

    All steps (i) to (iii) in parallel to ensure the laser are parallel.

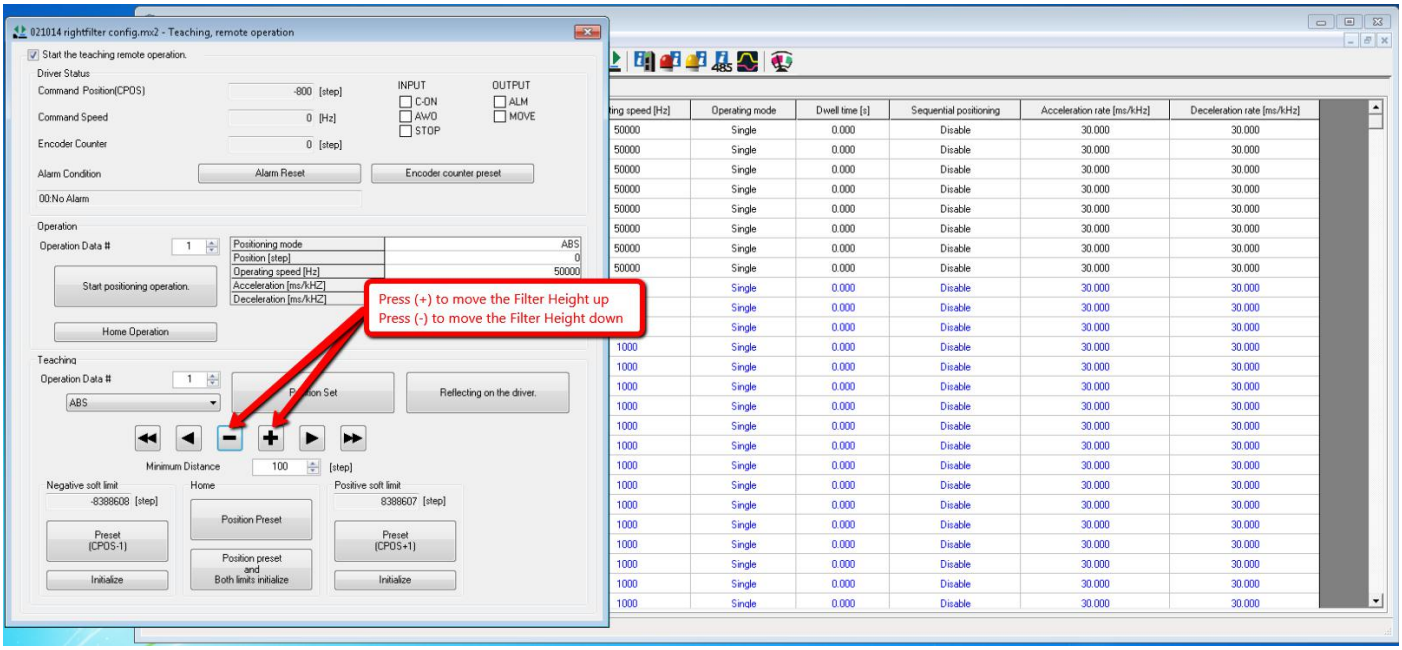


Figure 24 Manually trigger to move the filter height motor up and down

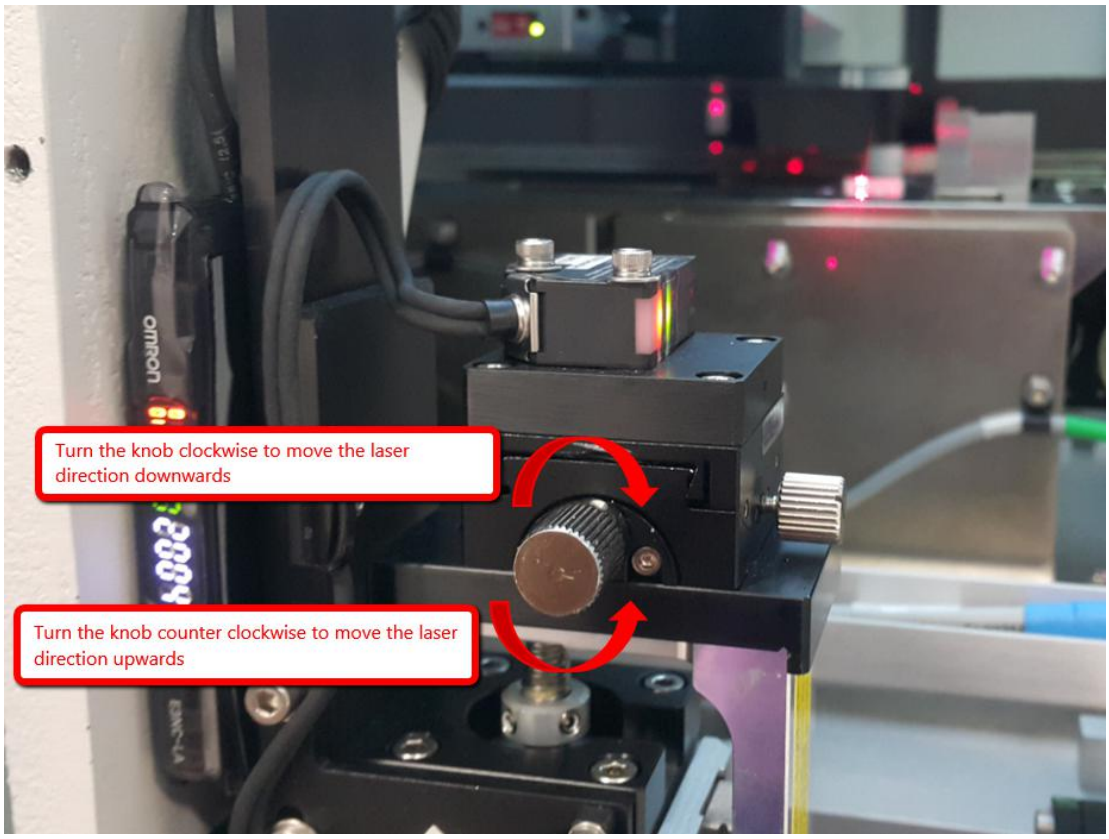


Figure 25 Knob adjustment laser

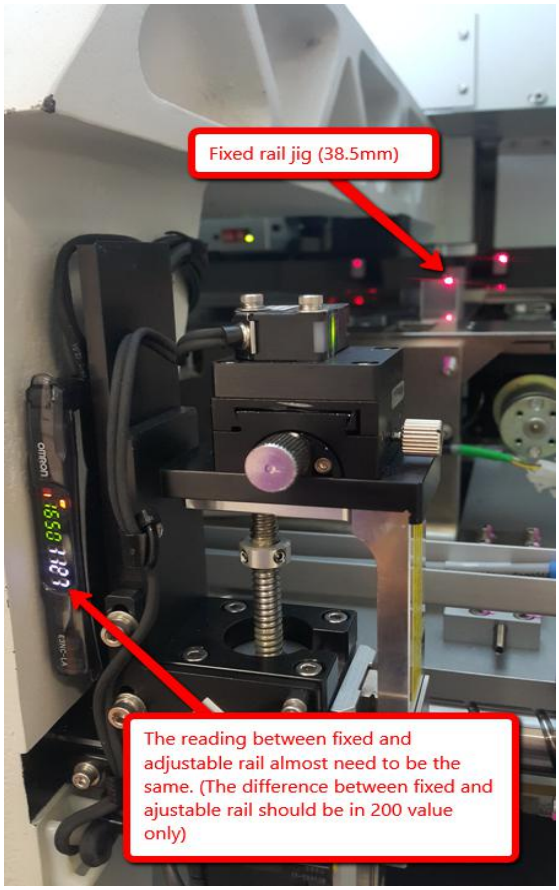


Figure 26 Fixed Rail

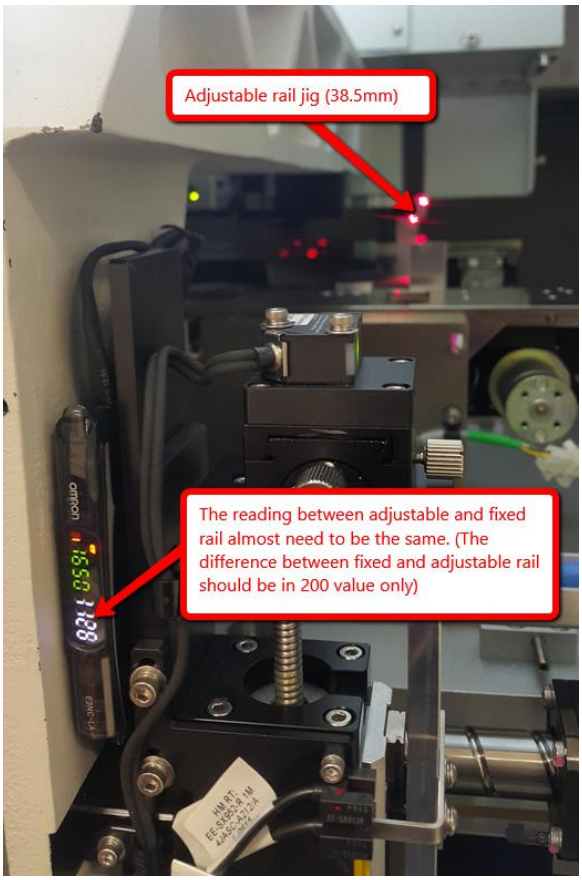


Figure 27 Adjustable Rail

22. Once the laser is determined to be in parallel, tighten the screw to ensure that the laser will not move up and down anymore as shown in the Figure 28.

Figure 28 Laser lock down

23. Manually trigger (+) and (-) to move the height of the Filter Height Motor as shown in Figure 29.

    For the 38.5 mm ensure the reading is below 1300 (Figure 30)

    For the 38.0 mm ensure the reading is above 1800 (Figure 31)

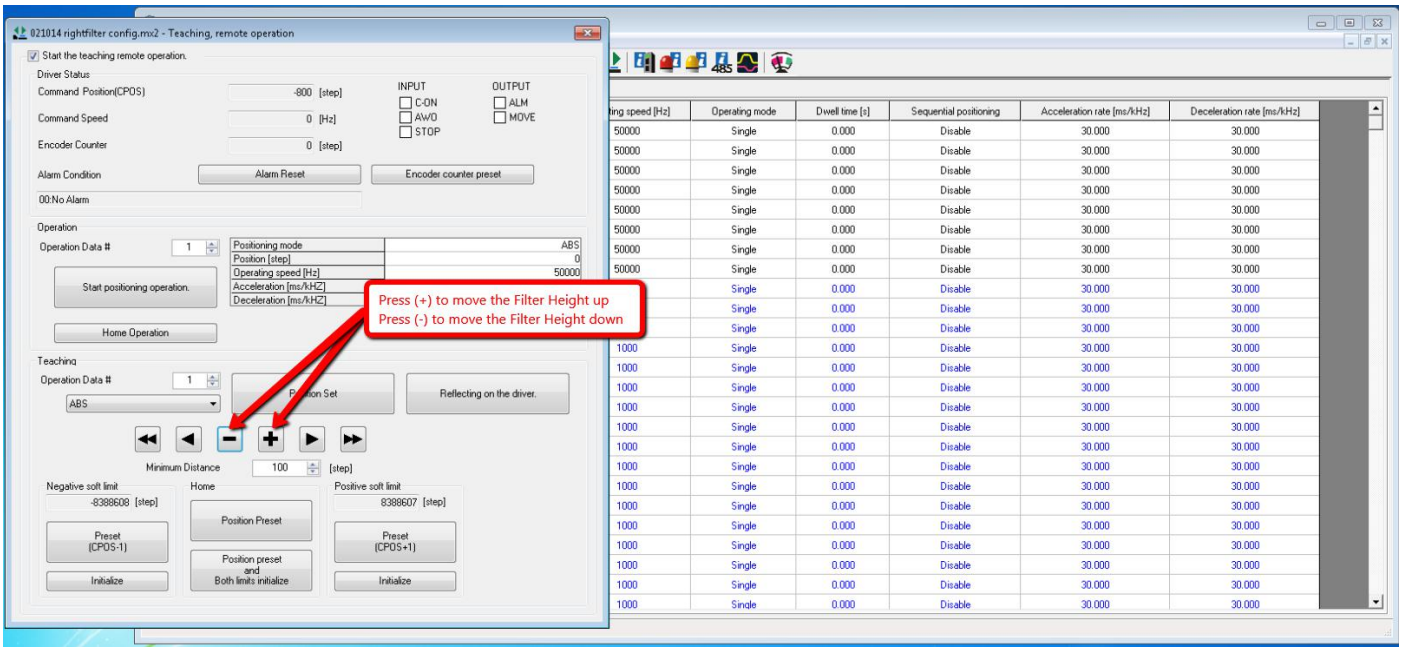


Figure 29 Filter Height Reading

Figure 30 Reading for 38.5 mm

Figure 31 Reading for 38.0 mm

24. Once the condition in Step 23 have been fulfilled, take note the value of the Command Value (CPOS) at the GUI as shown in the Figure 32. In this example, the value is -800 [step]. Exit the Teaching, remote operation.

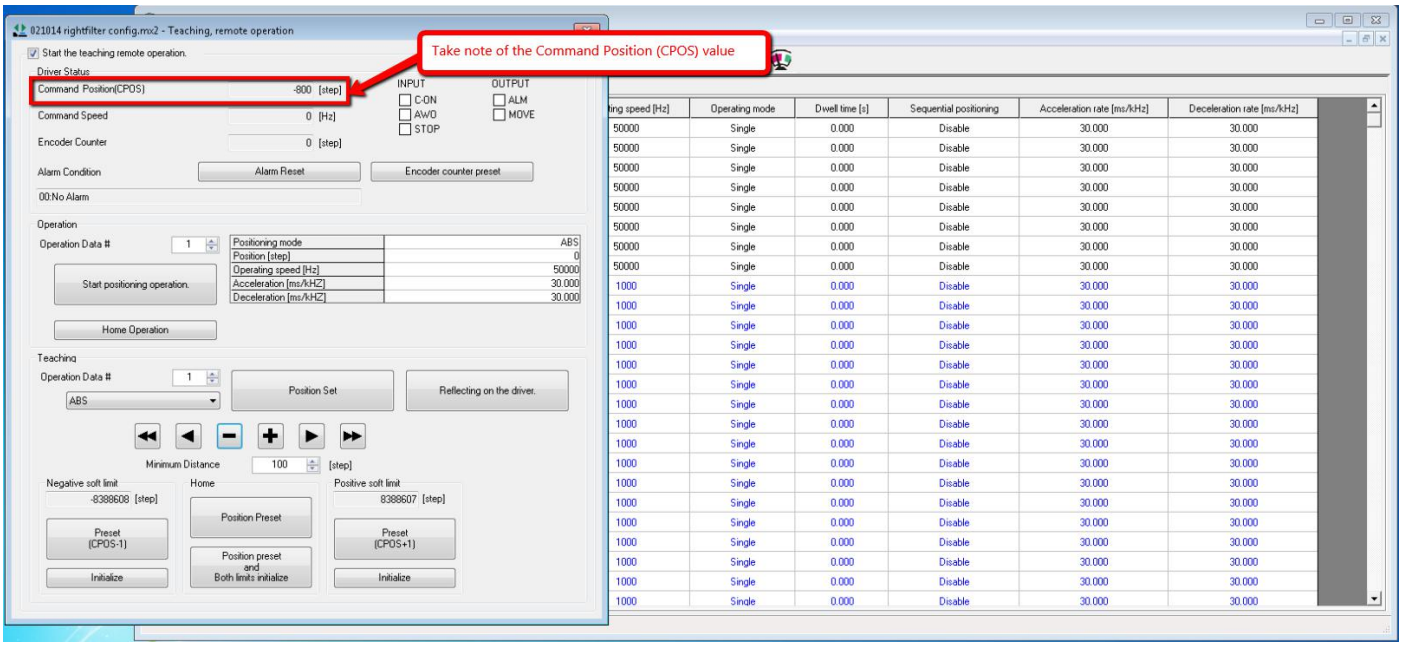


Figure 32 *Command Value (CPOS)*

25. Go to the Home Operation tab, and then take the reading of the Backward steps in 2 sensors mode home-seeking [step] as shown in the Figure 33. In this example, the value is 13082. The value will be changed in Step 26.

Using the below formula we calculate the new value as below

13082-(-800) = 13882

13082 = Backward steps in 2sensor mode home-seeking [step]

-800 = Command Position (CPOS)

= Remarks: The value is different for different machine

Remarks: After homing, the motor will directly offset, Backward steps in 2 sensors mode home-seeking" number of steps from home. This implies filter height motor will return to 19um resolution filter height every time homing is done.

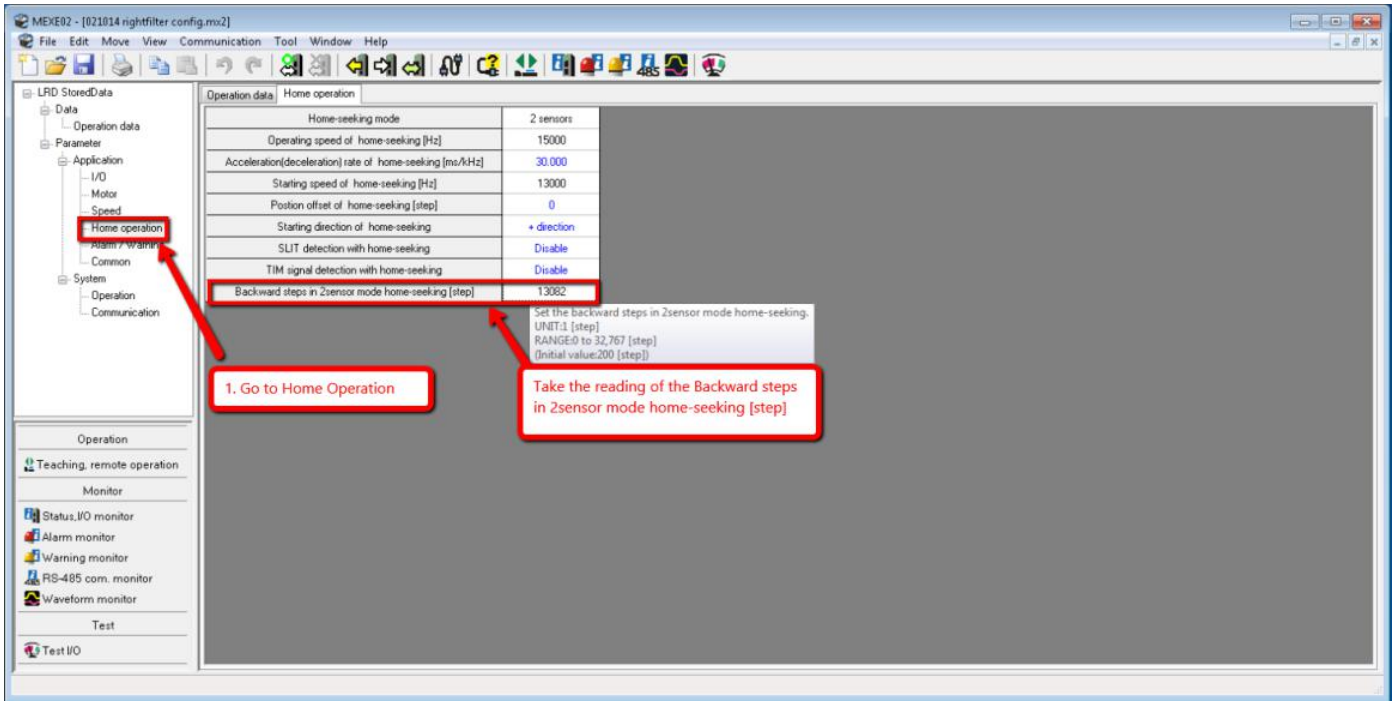


Figure 33 Home Operation

26. Change the new value in the Backward steps in 2sensor mode home-seeking [step] as shown in Figure 34.

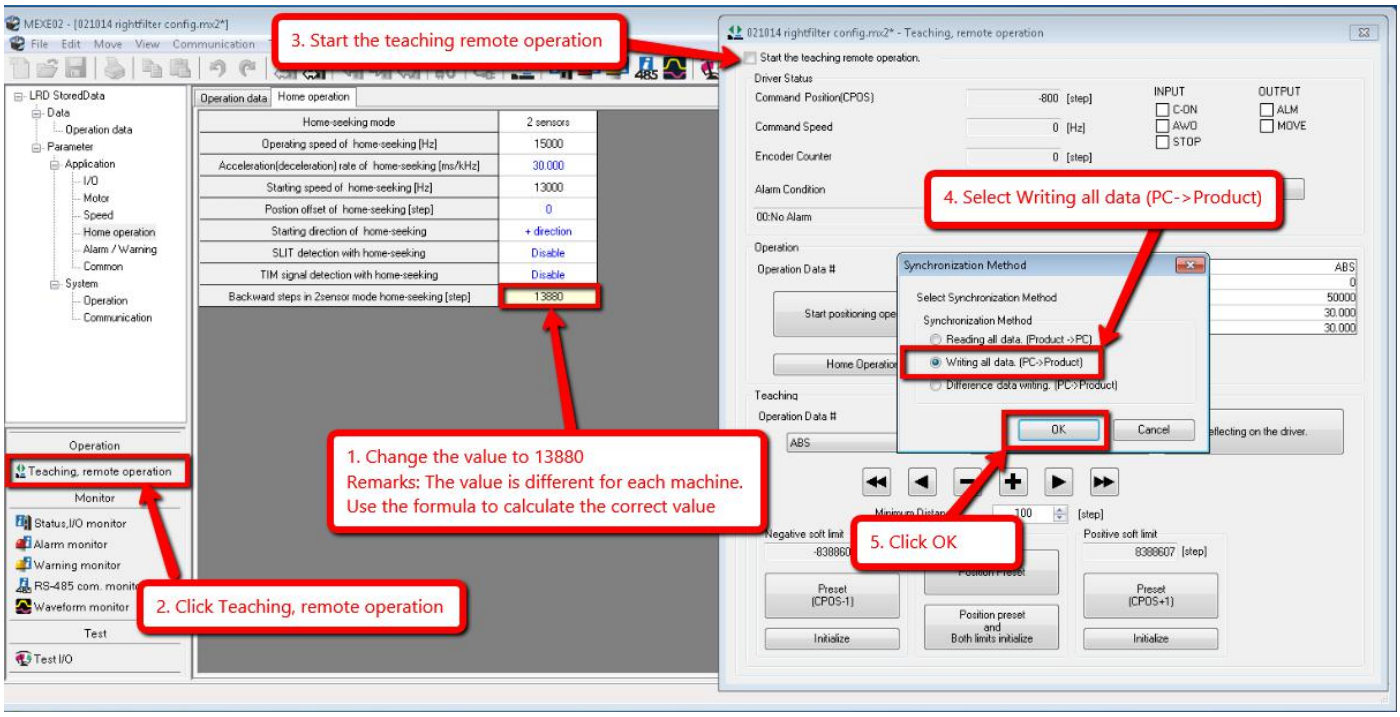


Figure 34 New value for homing

27. Below is the setting for the 11µm:
    i. Start the teaching, remote operation (Figure 35)
    ii. Select the Operation Data # is set to 2 (Figure 35)
    iii. Teaching Operation Data # is set to 2 (Figure 35)
    iv. Start the Start Positioning operation (Figure 35)

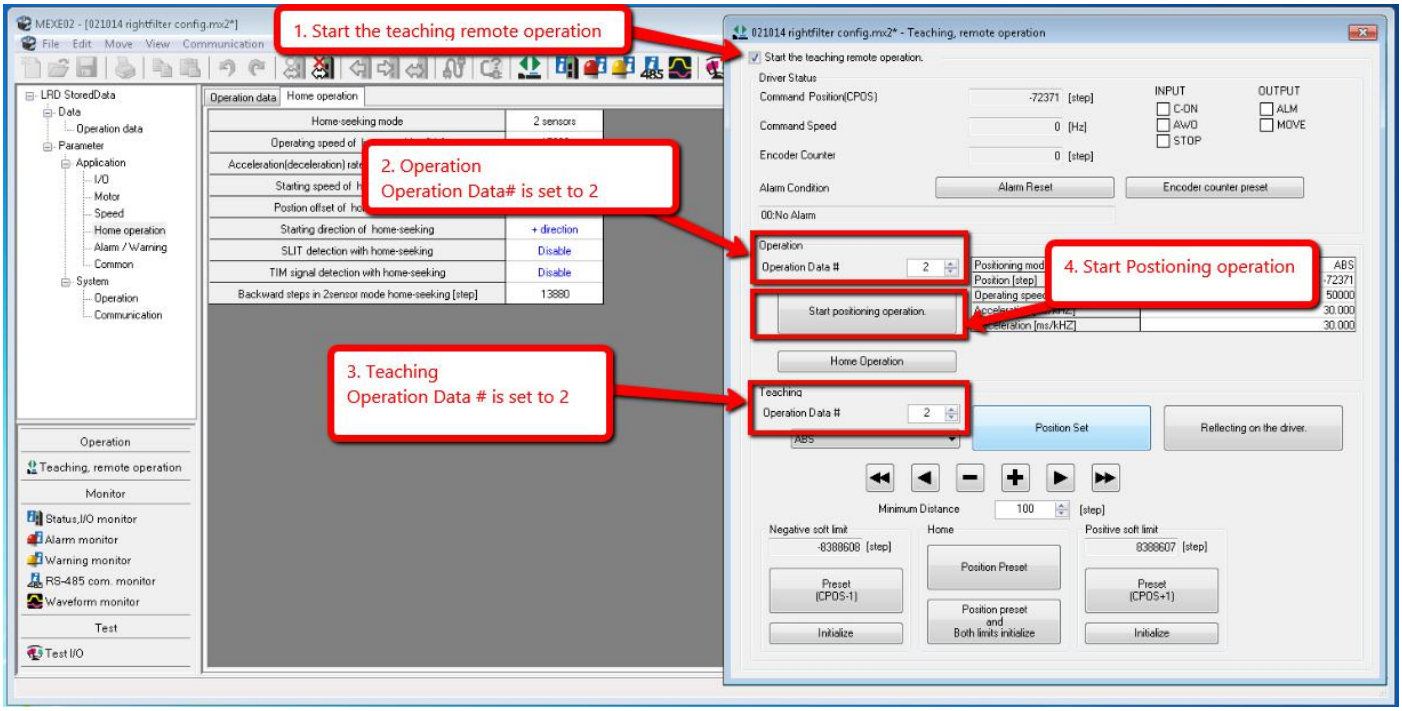


Figure 35 11um micron setting

28. Turn the coupling slowly until Filter Height Sensor Laser align parallel with the 11µm jig height as shown in the Figure 36.

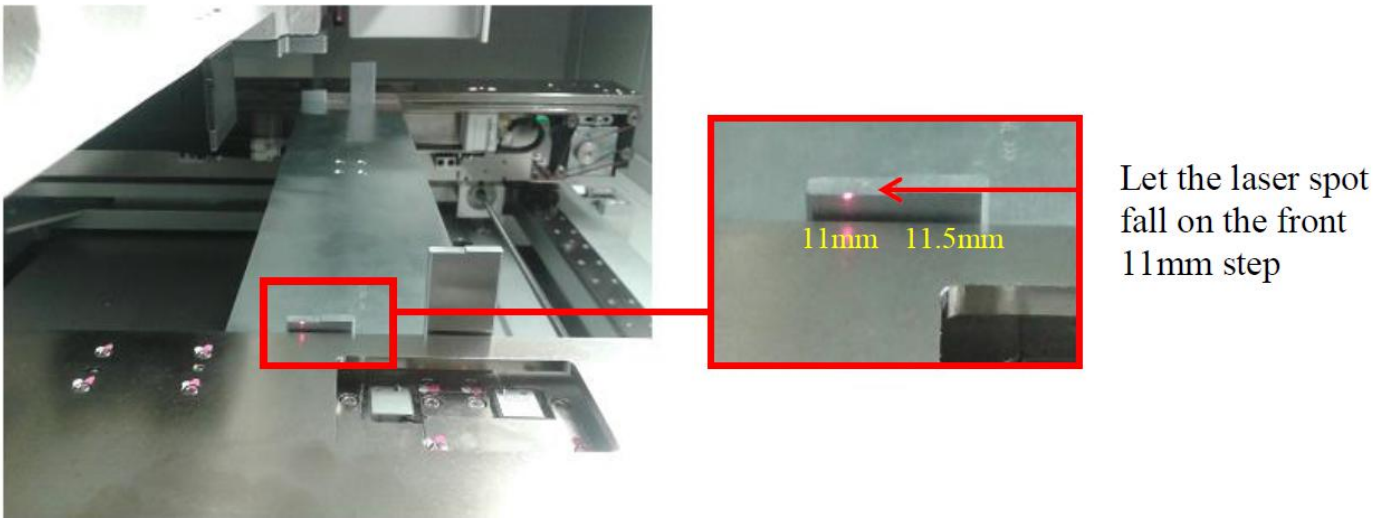


Figure 36 11um filter height sensor

29. Manually trigger (+) and (-) to move the height of the Filter Height Motor as shown in Figure 37.

    For the 11.5 mm ensure the reading is below 1300

    For the 11.0 mm ensure the reading is above 1800

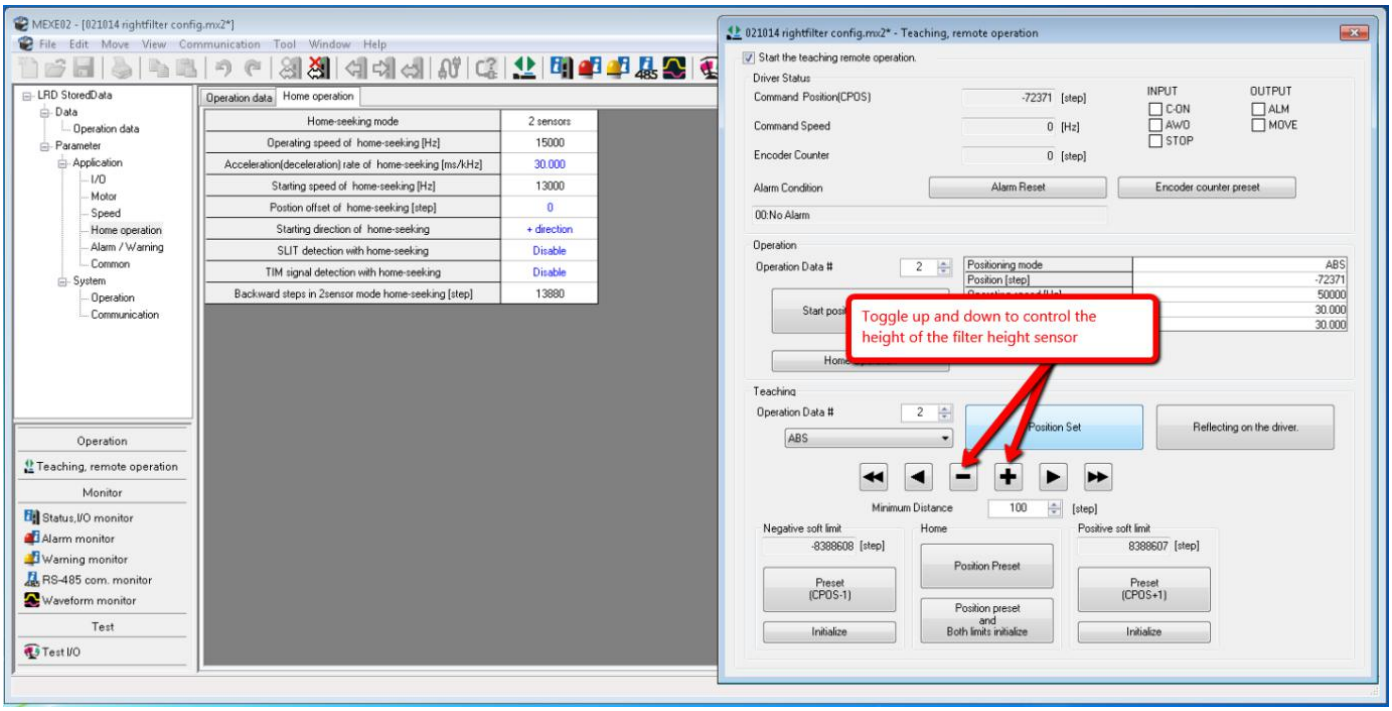


Figure 37 Filter Height Motor

30. After value has been within the range that is mentioned in the Step 29, press the Position Set as show in the Figure 38.

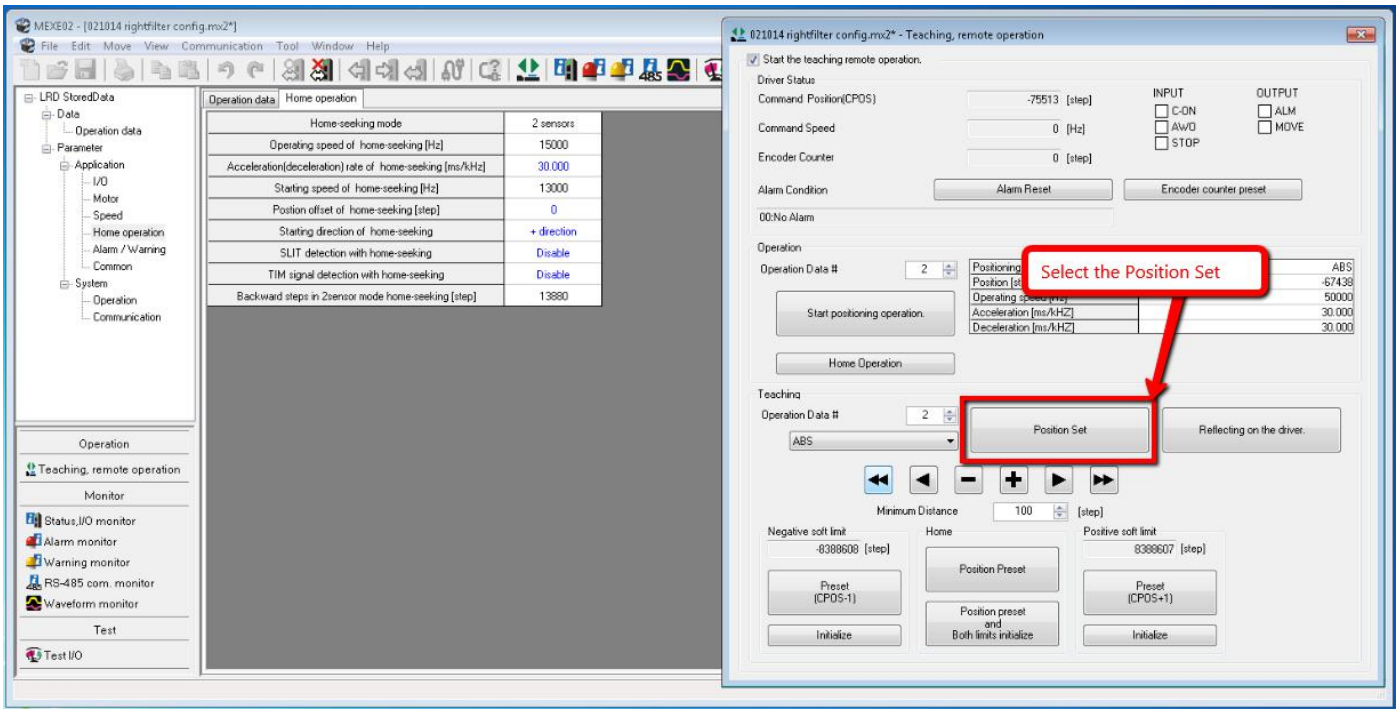


Figure 38 Set Position

31. Exit the Teaching window

32. i. Go to the Home Operation

    ii. Select the Operation Data

    iii. Copy the value in Operation Data #2

    Remarks: The Step 32 is described in the Figure 39.

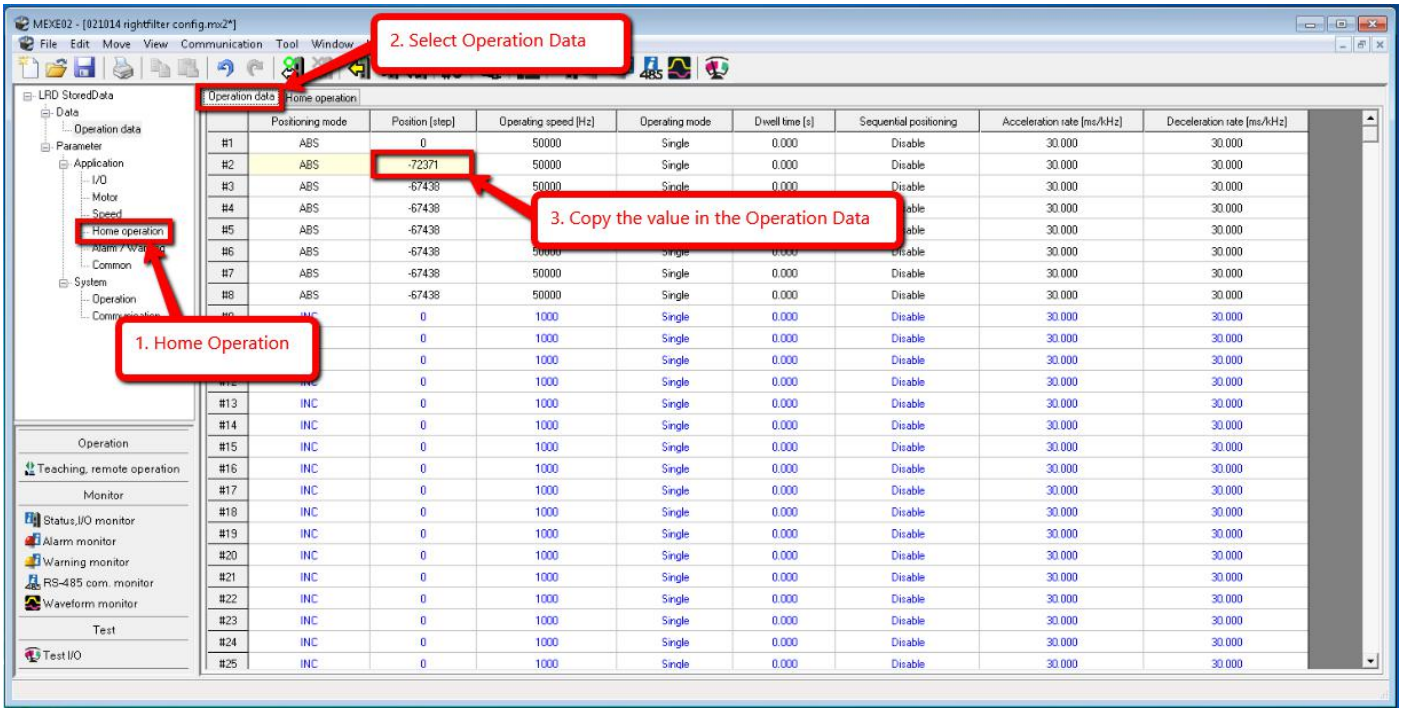


Figure 39 Operation Data

33. Paste the value of the Step 32 from Operation Data #2 until Operation Data #8 as shown in Figure 40.

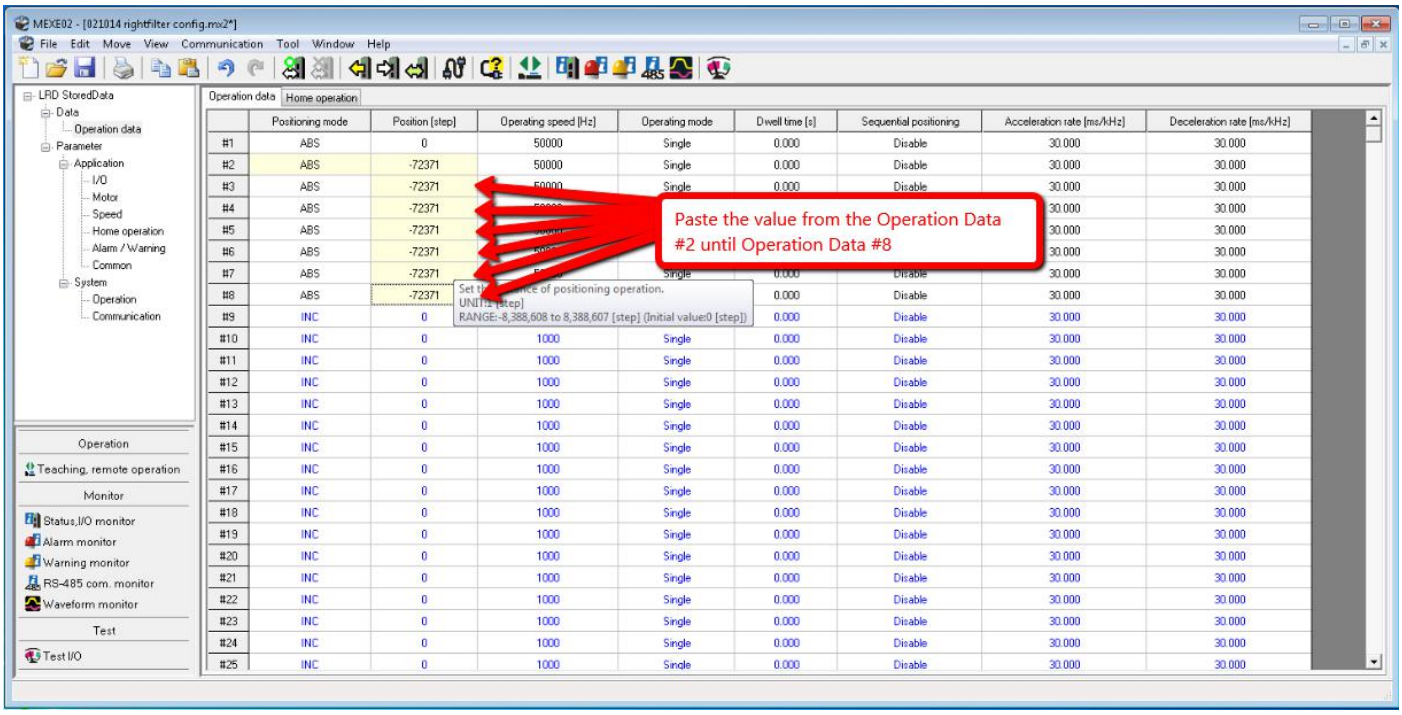


Figure 40 Operation Data

34. Select the Teaching, remote operation as shown in the Figure 41. Start the teaching remote operation as shown in the Figure 42 and then press OK.

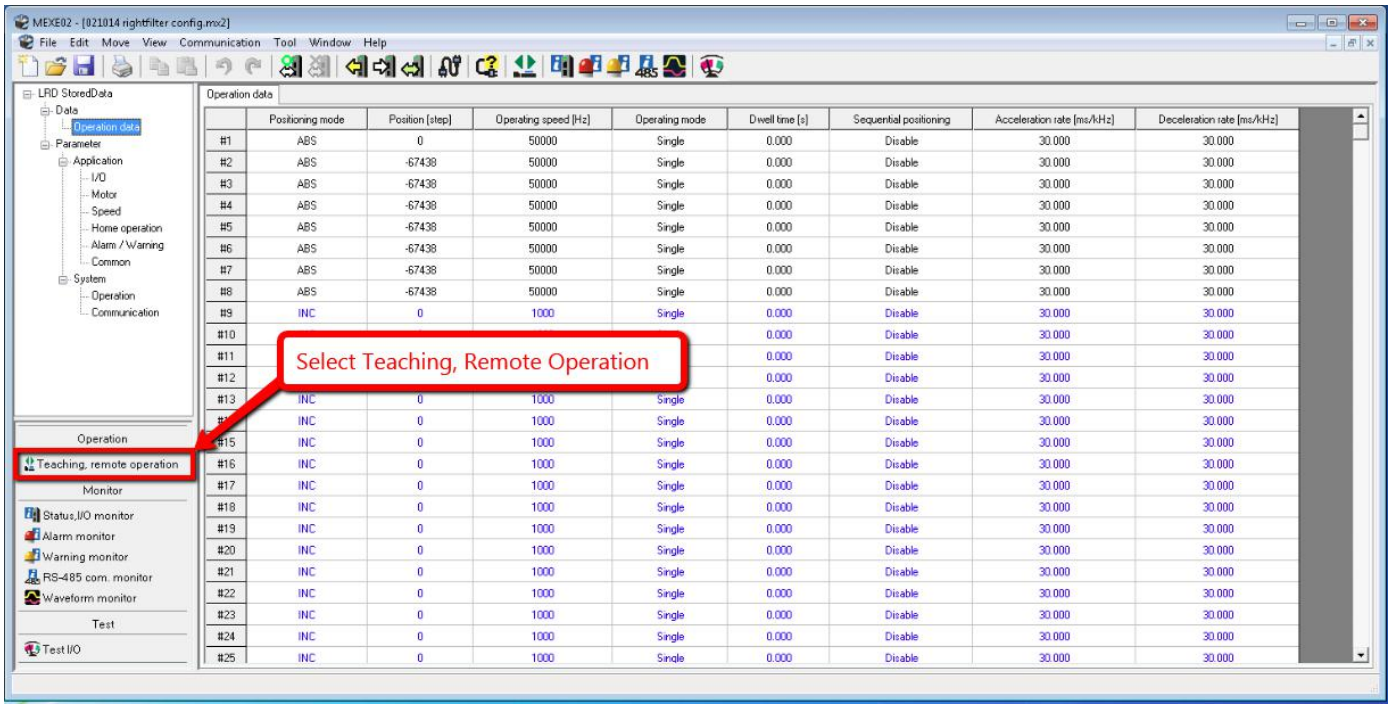


Figure 41 Teaching mode

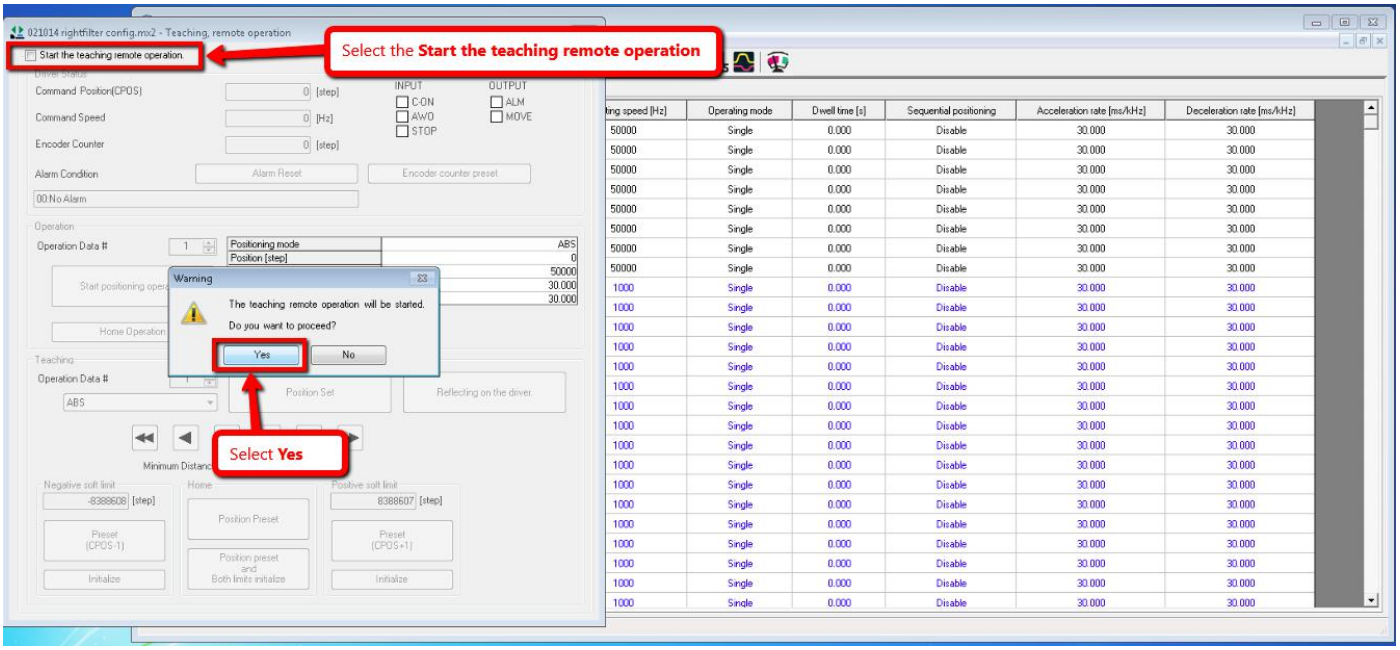


Figure 42 Start the teaching remote operation

35. Select the Writing all data (PC->Product) as shown in the Figure 43 then press OK. Wait until it finish writing the data into the Right Oriental motor driver as shown in the Figure 44.

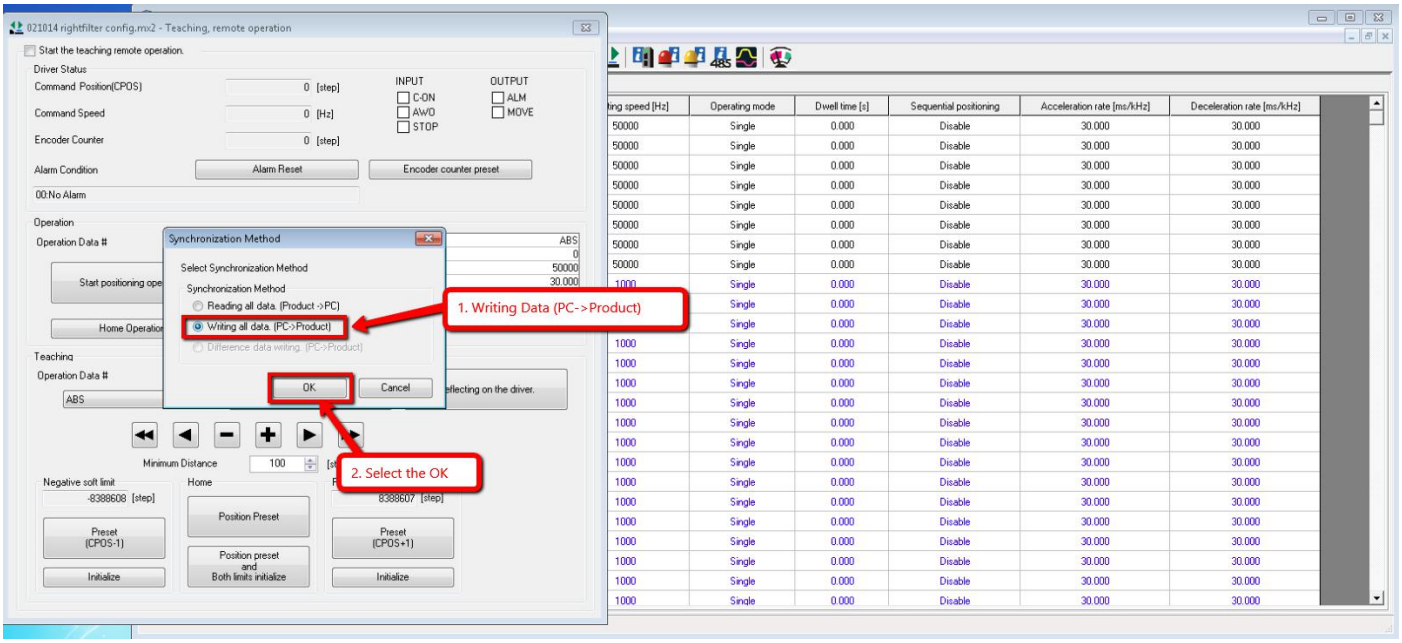


Figure 43 Writing Process

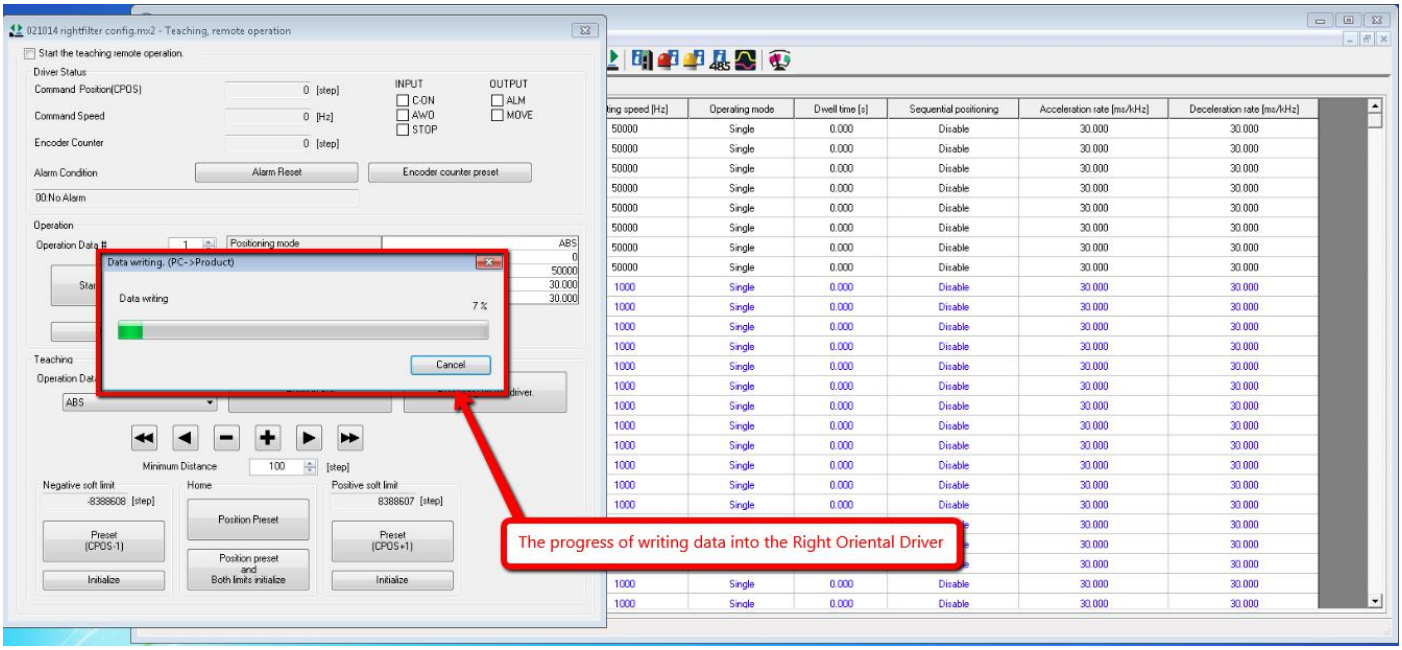


Figure 44 Uploading Process

36. Exit the teaching window. Save the configuration file as the format below. ddmmyy_rightfilterconfig.mx2 (eg. 041214_rightfilterconfig.mx2) (Remarks: Do not replace the default configuration files in the folder, there will be total of 4 configuration files in the folder after fine tuning of both FHS modules)
37. Repeat step 1-36 for the Left Filter Height Sensor.