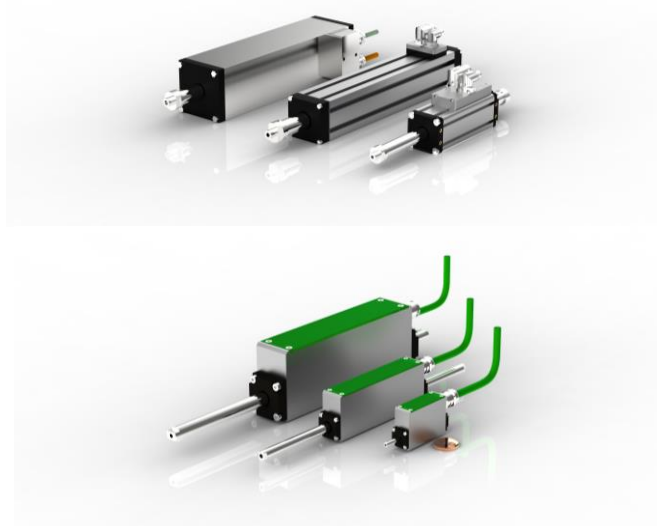


Tubular Linear motor parametrization with TKSED PC Software Motion Manager



Revision History

Date	Revision	Description
25.06.2019	0	Document creation

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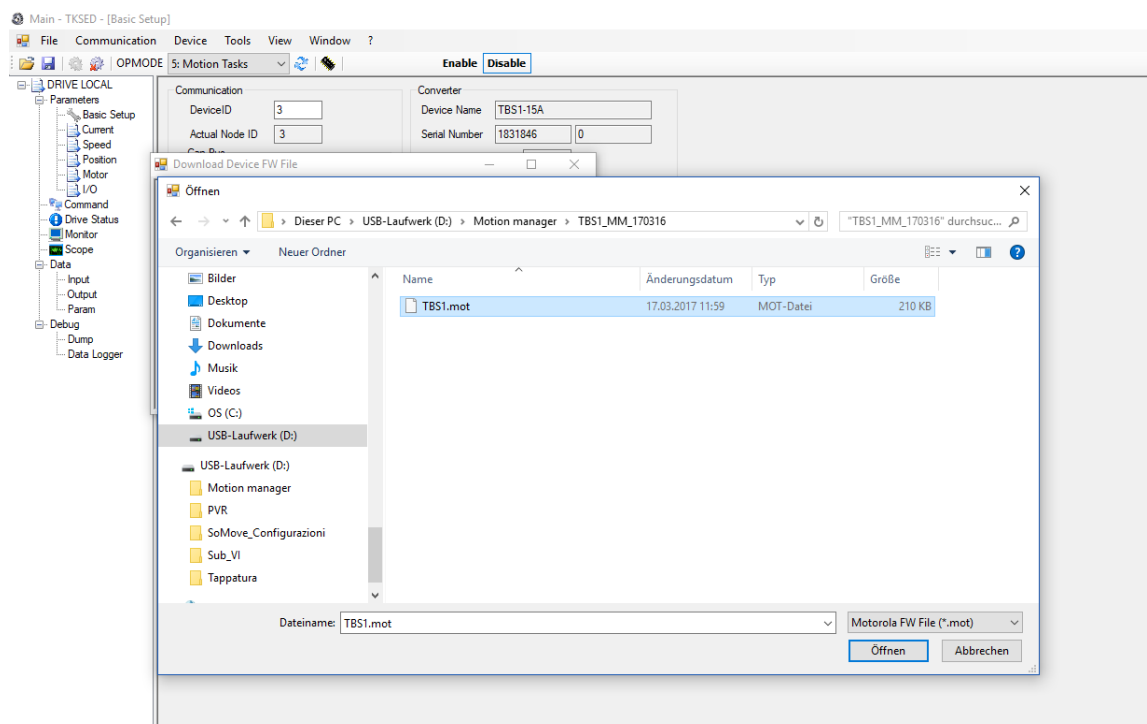
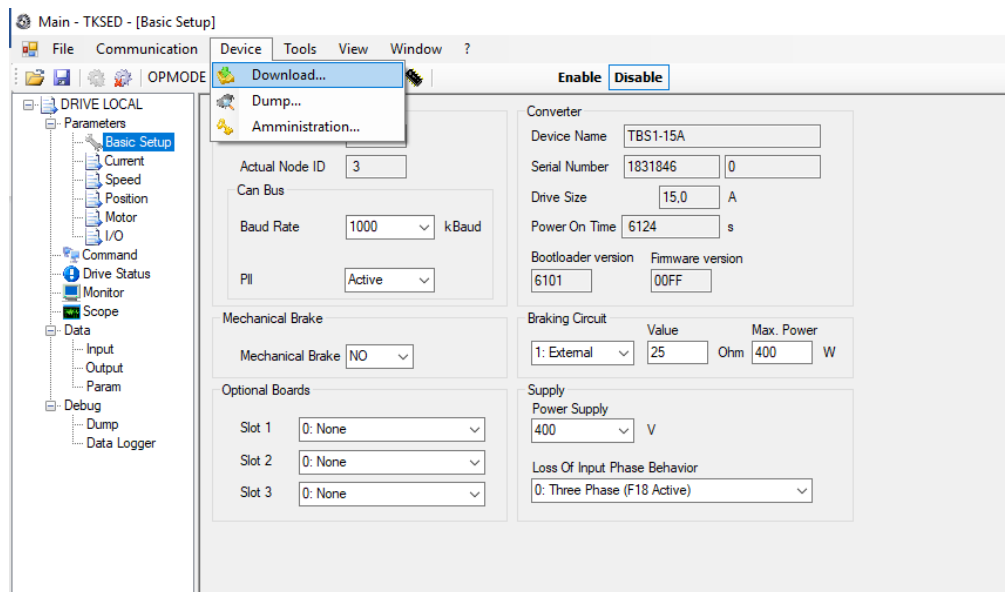
1 Introduction

This guide is for use the motion manager in combination with TBS1 24VDC drive and the specific version of TKSED 0.8.02

For any additional information, please contact our technical support by email or by phone:
 +43 720 513 258.

2 Update the firmware on the drive

Please select in the Device Menu -> Download. Load the Firmware to update the drive (File TBS1.mot)



3 Setting the motion table

For example, we consider a motion cycle like this:

NL040X motor with a pole pitch of 18 mm

So, one count is = $65536 / 18 = 0,000275$ mm.

2 point motion

Stroke = 45 mm -> target count $45 / 0,000275 = \mathbf{163840}$ counts

Acceleration = 25000 mm/sec^2 (2G) = **91022222 counts/s²**

Deceleration = 25000 mm/sec^2 (2G) = **91022222 counts/s²**

Speed = 1000 mm/sec -> target count/sec -> $1000 / 0,000275 = \mathbf{3640888}$ counts/sec

Position Window = 1 mm -> **3640 counts**

Wait time between motion = **0 sec**

Please go to Parameter windows and set the required motion table parameter starting from Parameter n.470.

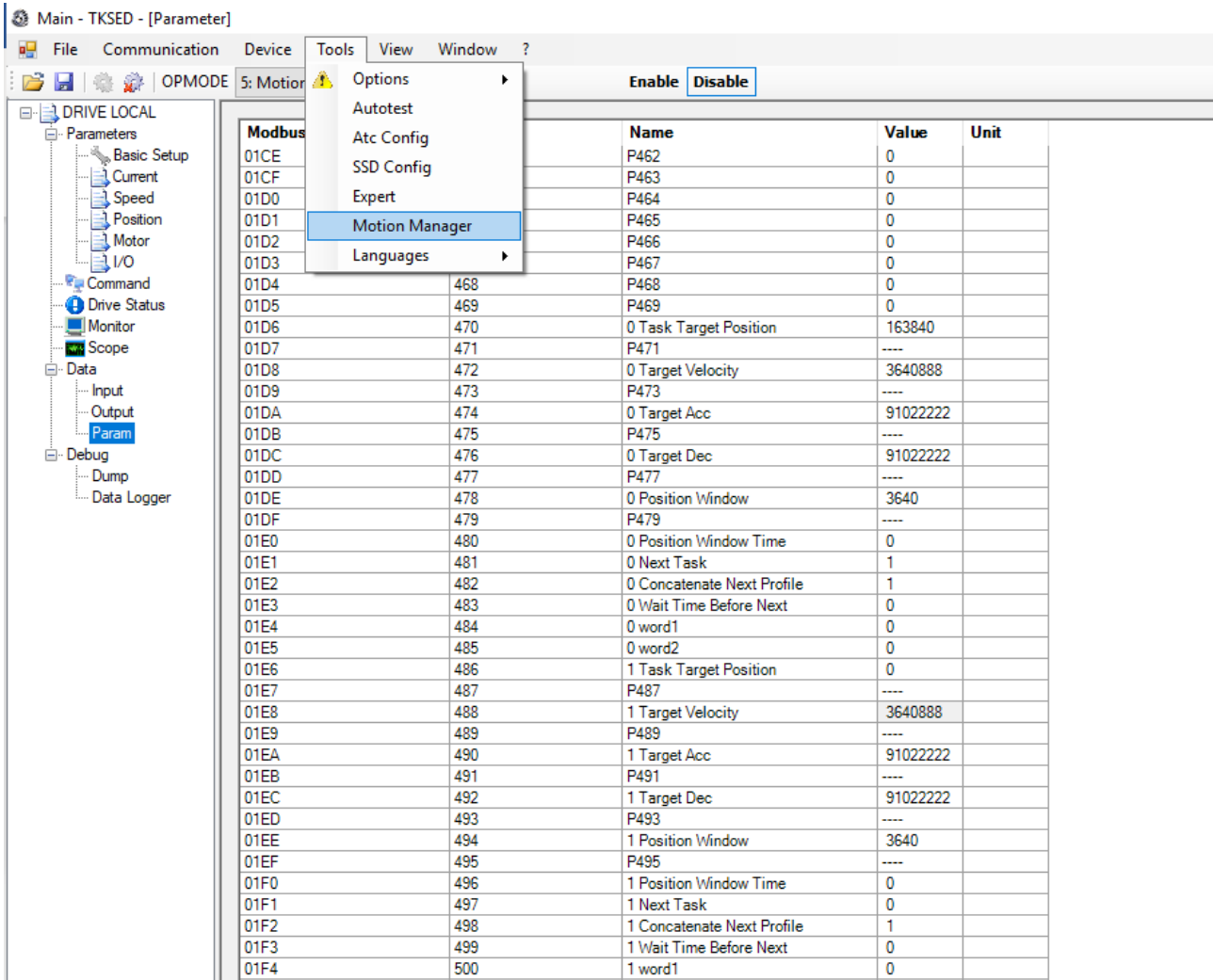
Modbus	Tag	Parameter name	Value
01D6	470	0 Task Target Position	163840
01D8	472	0 Target Velocity	3640888
01DA	474	0 Target Acc	91022222
01DC	476	0 Target Dec	91022222
01DE	478	0 Position Window	3640
01E0	480	0 Position Window Time	0
01E1	481	0 Next Task	1
01E2	482	0 Concatenate Next Profile	1
01E3	483	0 Wait Time Before Next	0

Modbus	Tag	Parameter name	Value
01E6	486	1 Task Target Position	163840
01E8	488	1 Target Velocity	3640888
01EA	490	1 Target Acc	91022222
01EC	492	1 Target Dec	91022222
01EE	494	1 Position Window	3640
01F0	496	1 Position Window Time	0
01F1	497	1 Next Task	1
01F2	498	1 Concatenate Next Profile	1
01F3	499	1 Wait Time Before Next	0

4 Set the 0 position using Homing

Go to Motion Task Window, selecting from Menu Tools -> Motion Manager

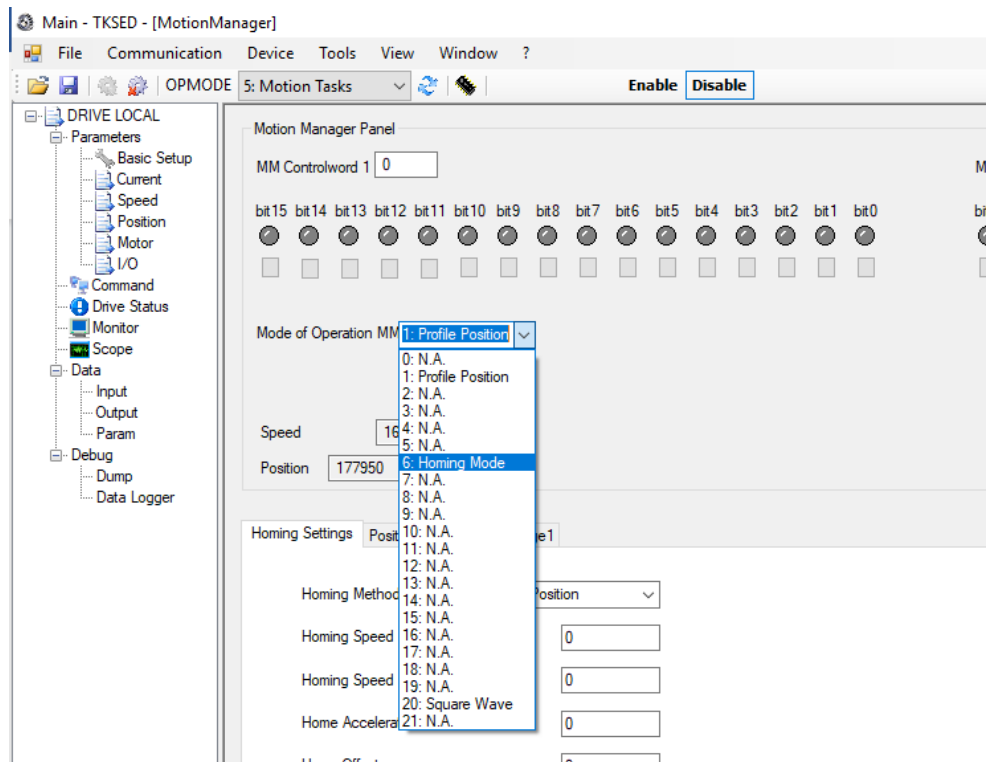
If the Motion Manager selection is not present, please go to Device -> Administration and set the password **fpcbl**



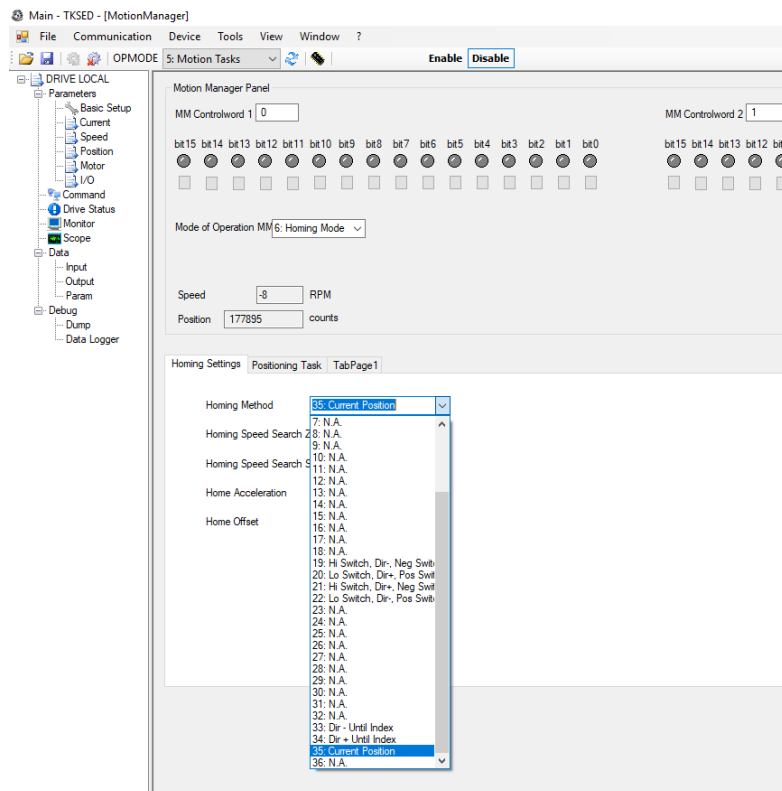
The screenshot shows the NiLAB software interface with the 'Tools' menu open, highlighting 'Motion Manager'. The 'Parameters' window is also open, displaying a table of parameters.

Modbus	Name	Value	Unit
01CE	P462	0	
01CF	P463	0	
01D0	P464	0	
01D1	P465	0	
01D2	P466	0	
01D3	P467	0	
01D4	P468	0	
01D5	P469	0	
01D6	0 Task Target Position	163840	
01D7	P471	----	
01D8	0 Target Velocity	3640888	
01D9	P473	----	
01DA	0 Target Acc	91022222	
01DB	P475	----	
01DC	0 Target Dec	91022222	
01DD	P477	----	
01DE	0 Position Window	3640	
01DF	P479	----	
01E0	0 Position Window Time	0	
01E1	0 Next Task	1	
01E2	0 Concatenate Next Profile	1	
01E3	0 Wait Time Before Next	0	
01E4	0 word1	0	
01E5	0 word2	0	
01E6	1 Task Target Position	0	
01E7	P487	----	
01E8	1 Target Velocity	3640888	
01E9	P489	----	
01EA	1 Target Acc	91022222	
01EB	P491	----	
01EC	1 Target Dec	91022222	
01ED	P493	----	
01EE	1 Position Window	3640	
01EF	P495	----	
01F0	1 Position Window Time	0	
01F1	1 Next Task	0	
01F2	1 Concatenate Next Profile	1	
01F3	1 Wait Time Before Next	0	
01F4	1 word1	0	

In the Motion Manager Panel select the Mode of Operation n.6 -> Homing mode and then press Return to confirm (the yellow color under the selection disappear).



Then, select the Homing Method to n.35: Current Position



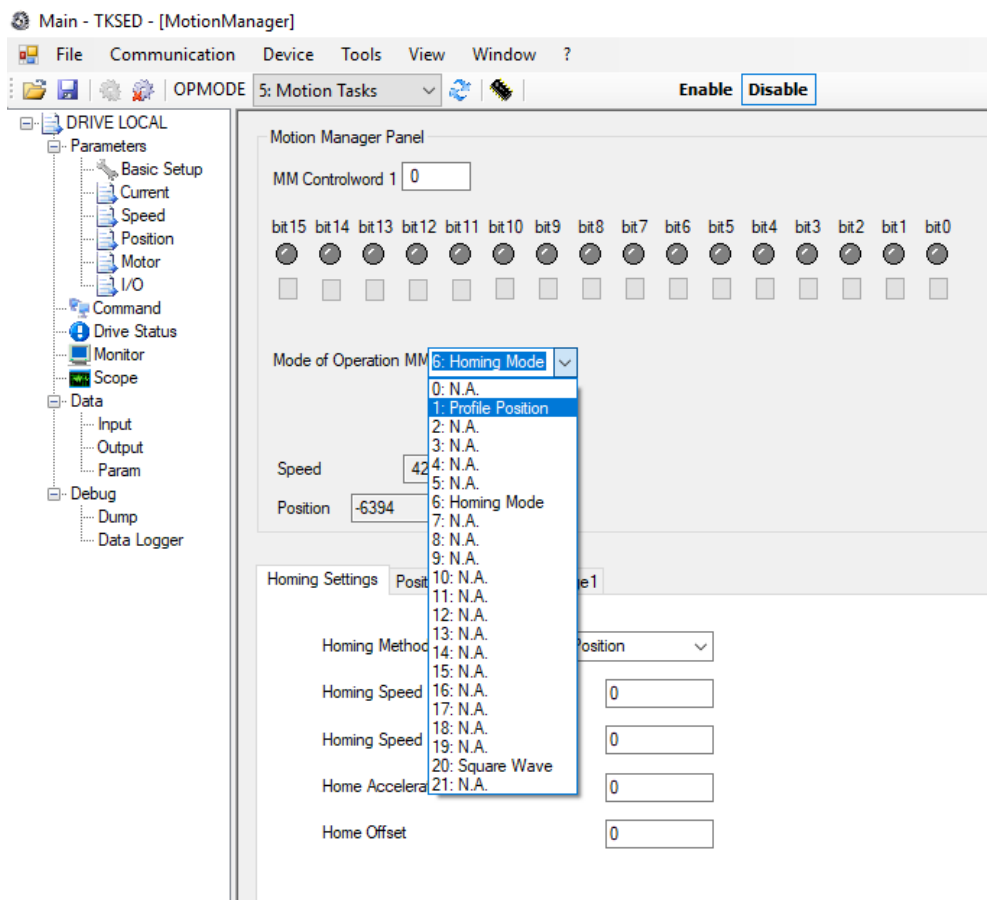
So, move the shaft by hand in the 0 position (for example at 10 mm from the motor flange)

Then click on the bit 0 to enable the motor and the on bit4 to set the homing position to 0.

The two led of the bit 0 and bit 4 becoming green colored. Then the position oscillate around the 0 position. Please remember that 1 counts means 0,000275 mm. Then press again bit 4 and bit 0 to release the condition. The green color on bit 4 and bit 0 disappear and the motor is disable.

5 Start the motion cycle

Now, we are ready to start with the motion cycle. Please, select the Mode of operation to Profile Position and press enter to confirm.



Then click on the bit 0 to enable the motor and on the bit 4 to start the motion sequence.