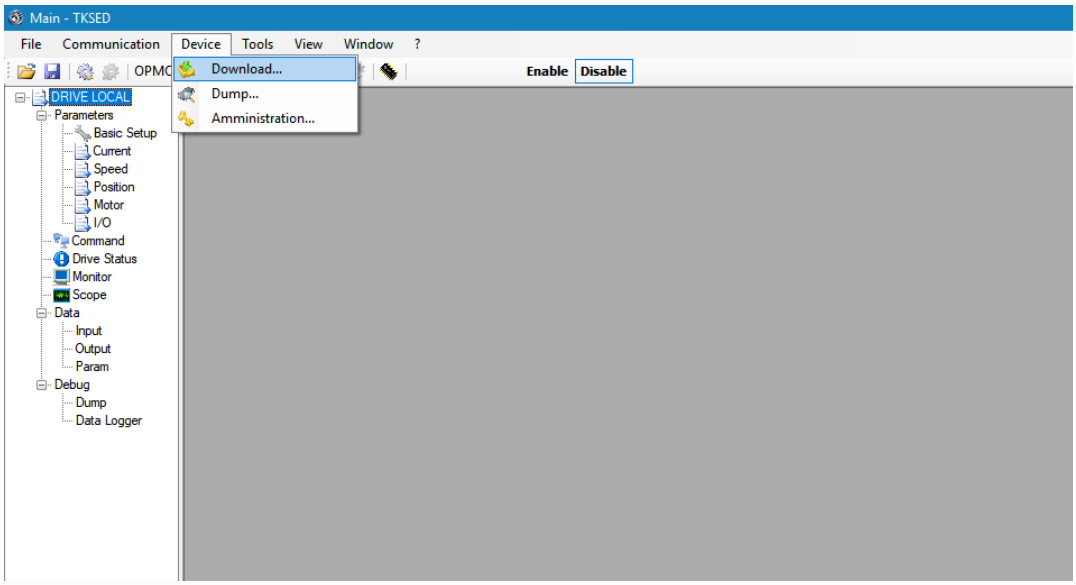
HOW TO USE MOTION MANAGER

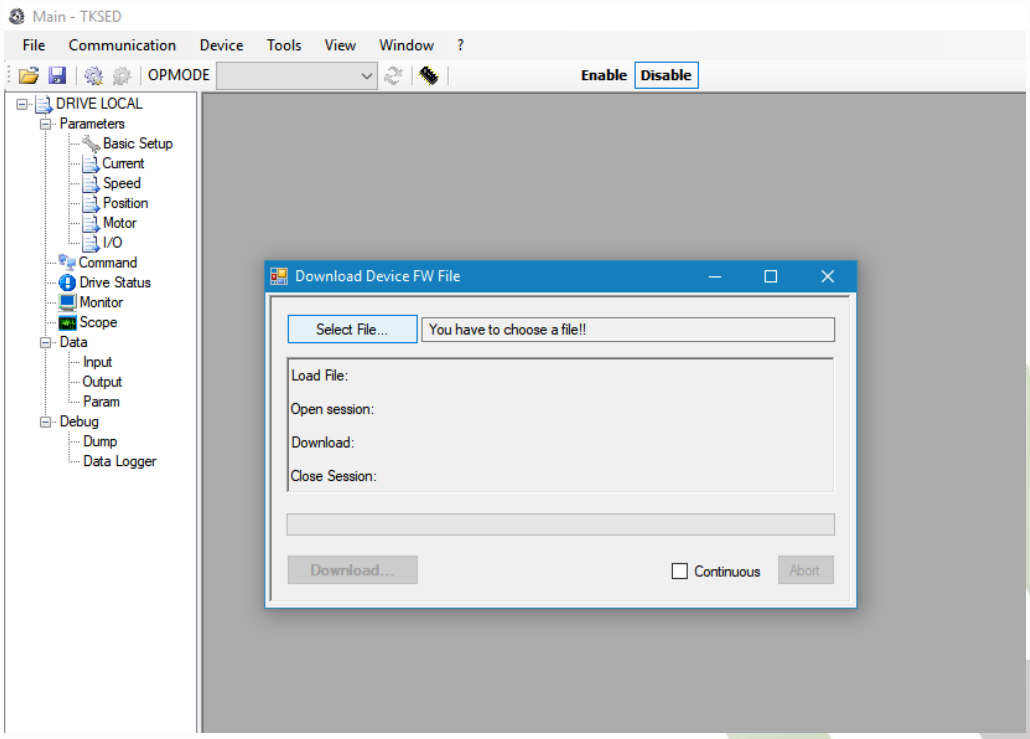
1. Firmware update

In order to use the motion manager feature of TBS1 NiLAB servo drive, you must update the drive with the last firmware release.

Go to Device menu and select Donwload…..

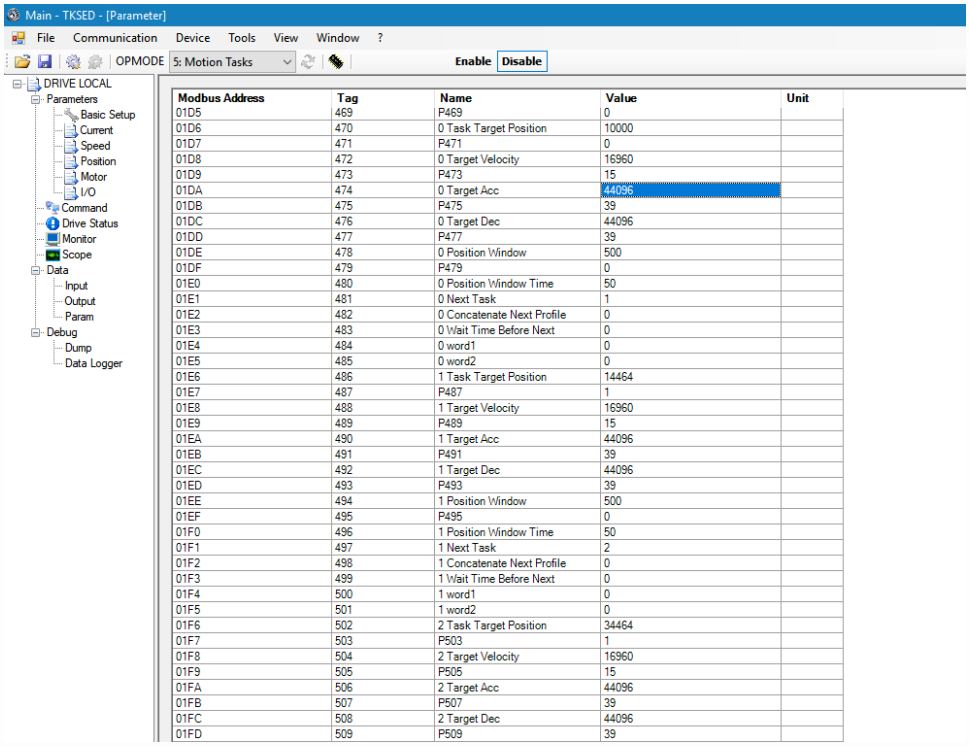


Then select the file to download and press the download button in the download device FW File.



2. Fill the required registers to arrange the motion sequence

Go to the Data – Parameter window and fill the register starting from Tag 470.



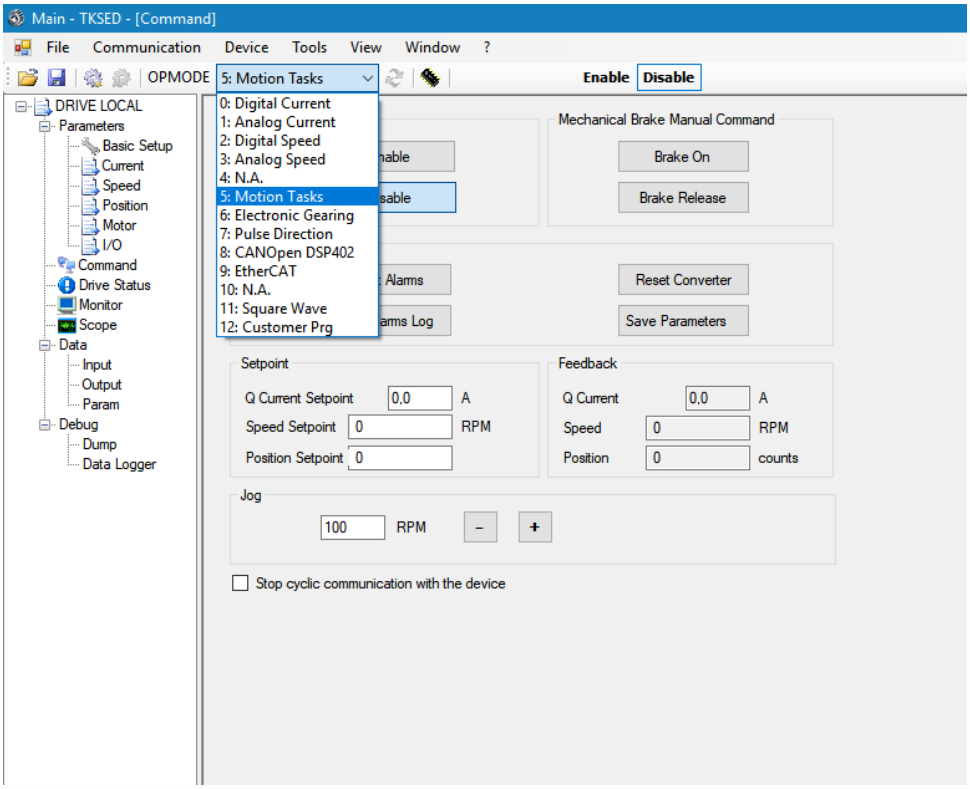
Modbus Address	Tag	Name	Value	Unit
01D5	469	P469	0	
01D6	470	0 Task Target Position	10000	
01D7	471	P471	0	
01D8	472	0 Target Velocity	16960	
01D9	473	P473	15	
01DA	474	0 Target Acc	44096	
01DB	475	P475	39	
01DC	476	0 Target Dec	44096	
01DD	477	P477	39	
01DE	478	0 Position Window	500	
01DF	479	P479	0	
01E0	480	0 Position Window Time	50	
01E1	481	0 Next Task	1	
01E2	482	0 Concatenate Next Profile	0	
01E3	483	0 Wait Time Before Next	0	
01E4	484	0 word1	0	
01E5	485	0 word2	0	
01E6	486	1 Task Target Position	14464	
01E7	487	P487	1	
01E8	488	1 Target Velocity	16960	
01E9	489	P489	15	
01EA	490	1 Target Acc	44096	
01EB	491	P491	39	
01EC	492	1 Target Dec	44096	
01ED	493	P493	39	
01EE	494	1 Position Window	500	
01EF	495	P495	0	
01F0	496	1 Position Window Time	50	
01F1	497	1 Next Task	2	
01F2	498	1 Concatenate Next Profile	0	
01F3	499	1 Wait Time Before Next	0	
01F4	500	1 word1	0	
01F5	501	1 word2	0	
01F6	502	2 Task Target Position	34464	
01F7	503	P503	1	
01F8	504	2 Target Velocity	16960	
01F9	505	P505	15	
01FA	506	2 Target Acc	44096	
01FB	507	P507	39	
01FC	508	2 Target Dec	44096	
01FD	509	P509	39	

Any motion tasks are composed by these registers:

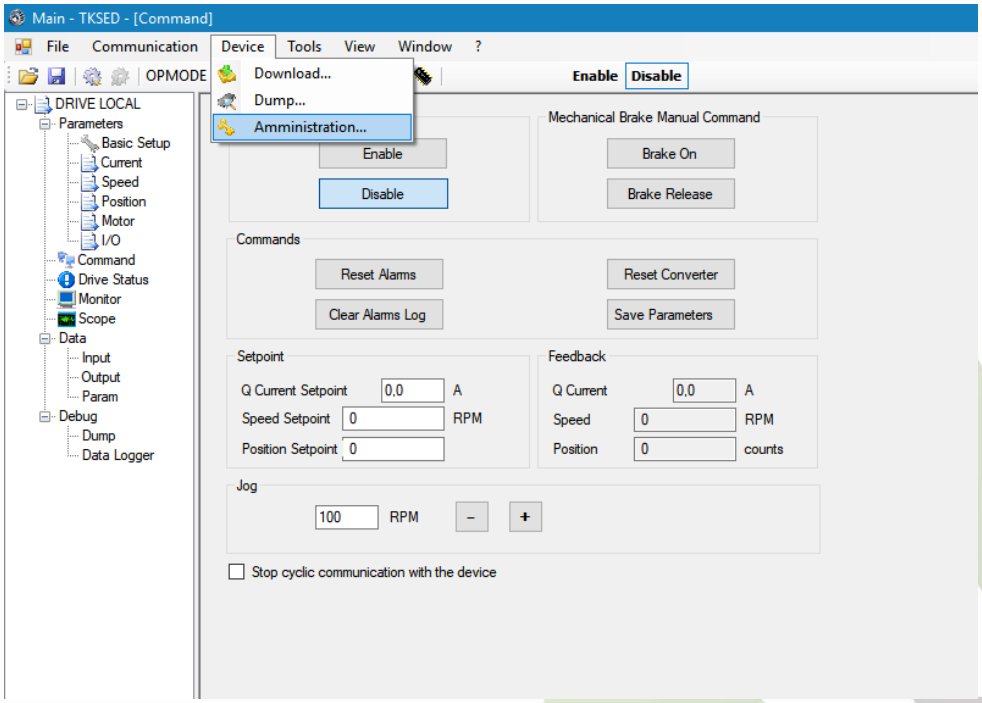
Task number	**Parameter**	**Value**
n	Target position	Counts
n	Target Velocity	Counts/sec per pole/pitch -> for example 65536 is 1 pole pitch per seconds (1 pole pitch in NL080i is 30 mm)
n	Target Acc	Counts/sec^2
n	Target Dec	Counts/sec^2
n	Position Window	Counts
n	Position window time	msec
n	Next task	Number of the successive task to go. For example for two position (0 -> 1) In the last motion task (1->0)
n	Concatenate next profile	If this is set to 1 the next task is executed, if this is set to to 0 the bit4 of the command word must be toggle.
n	Wait time before next	msec

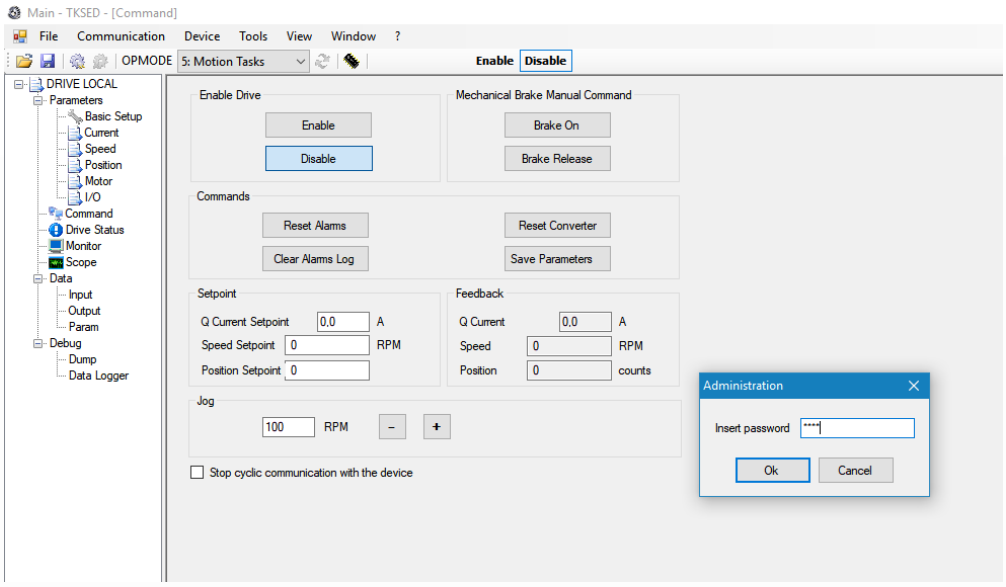
3. Select the OPMODE on the drive

Go to the OPMODE list and select Motion Tasks modality.

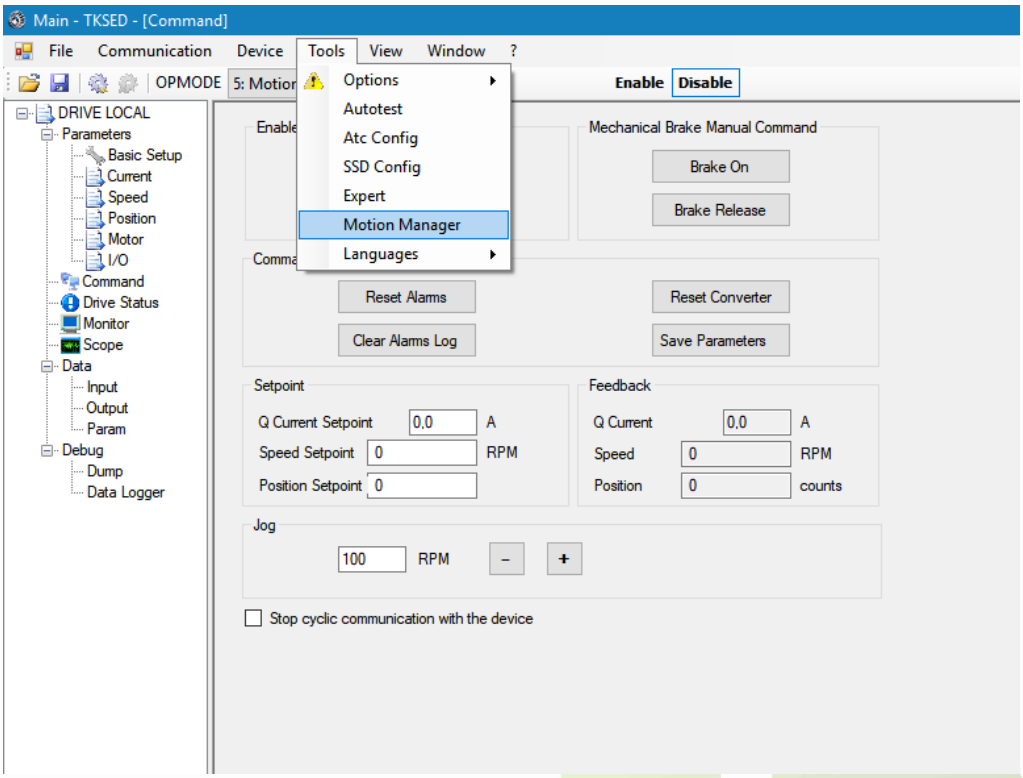


Then select the Diagnostic mode to use the Motion task debug window. Go to Administration and set the password **fpcb**.





Then do to Tools and selection Motion Manager.

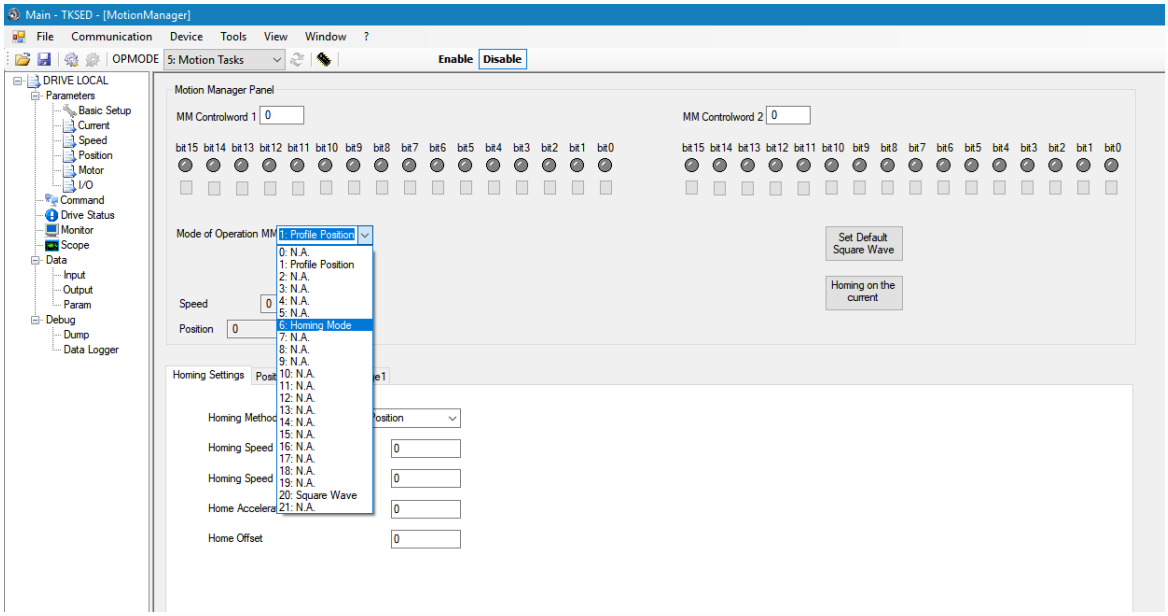


Using the motion manager you are able to set the bit of the control word manually to start homing and the sequence.

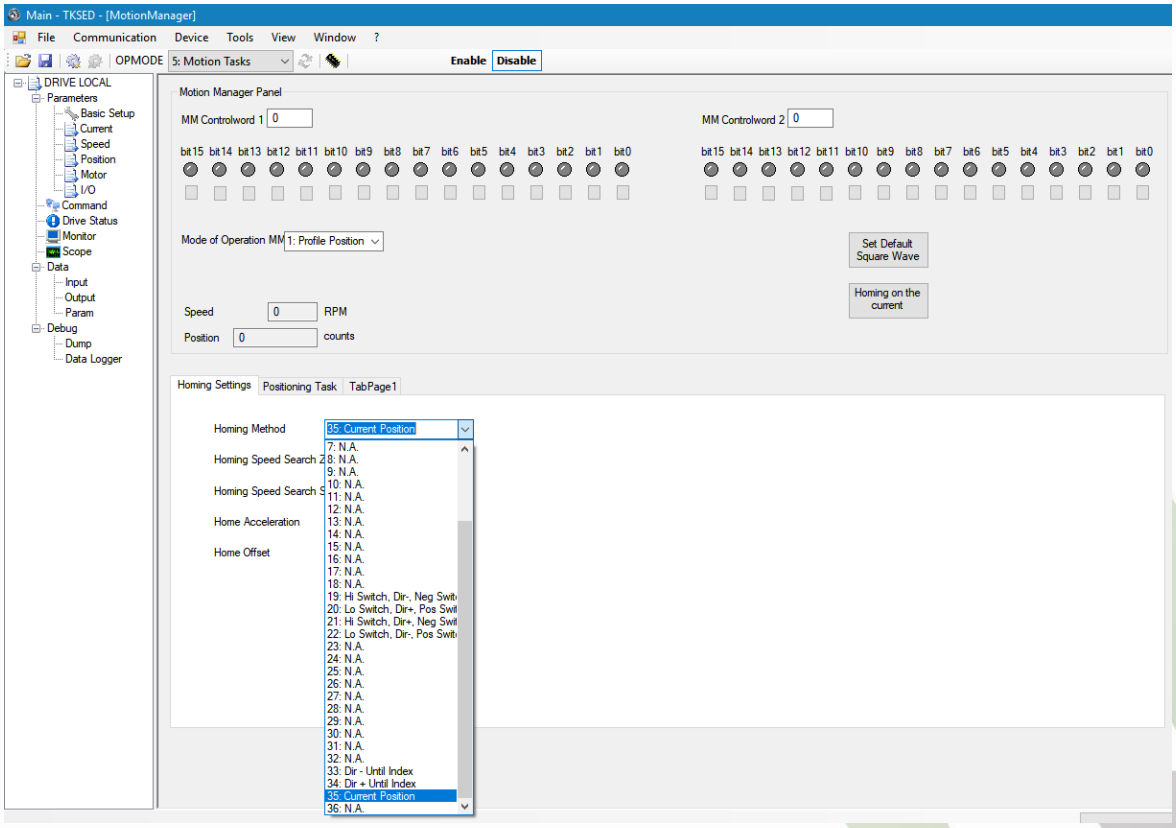
4. Homing the motor axis

Before starting the motion sequence you need to define the zero position of the axis.

So, select the mode of operation to Homing



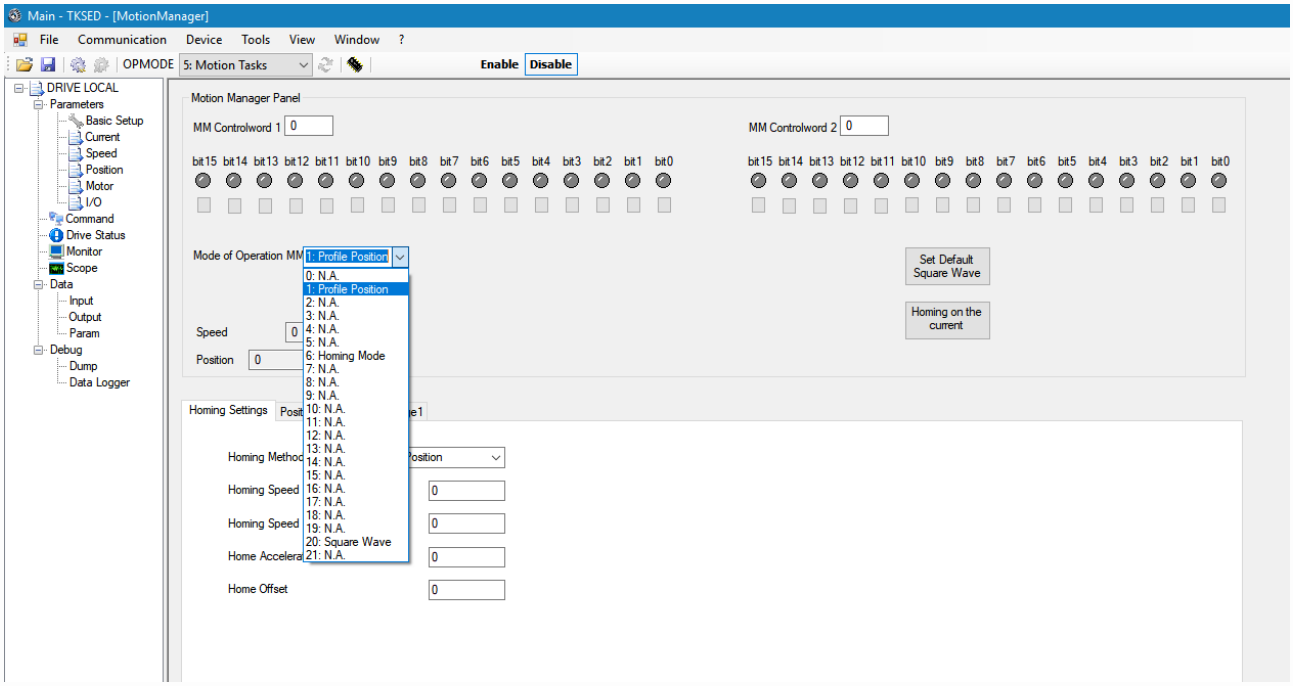
Then the most simple way is to do homing is select the homing method to 35. Current position



Then click on the corresponding led to bit0 to enable the drive and then toggle the bit4. The leds must become green to set and gray if are not setted. After bit4 is toggled the position must be close to 0 counts. Then disable the drive clickking on the bit0.

5. Start the motion sequence

Then select the mode of operation to 1: Profile position



Then enable the drive clikking on bit0 and then on bit4 to start the sequence.

If the concatenete next task is set to 0 the motor moves of 1 step and remaining in position until a new bit4 toggle is performed from this interface.