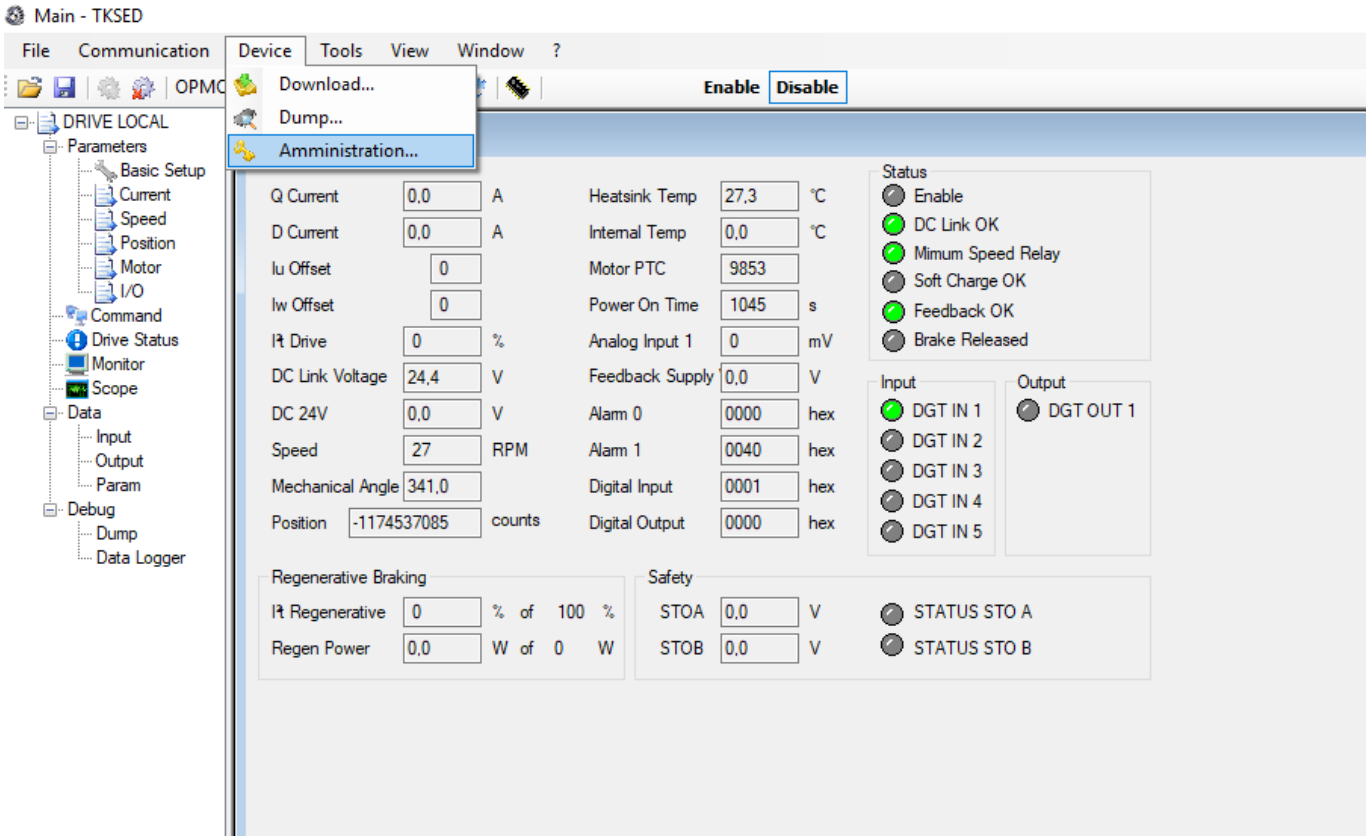
How to calculate the motor phase angle

Step 1. Unlock administative password.

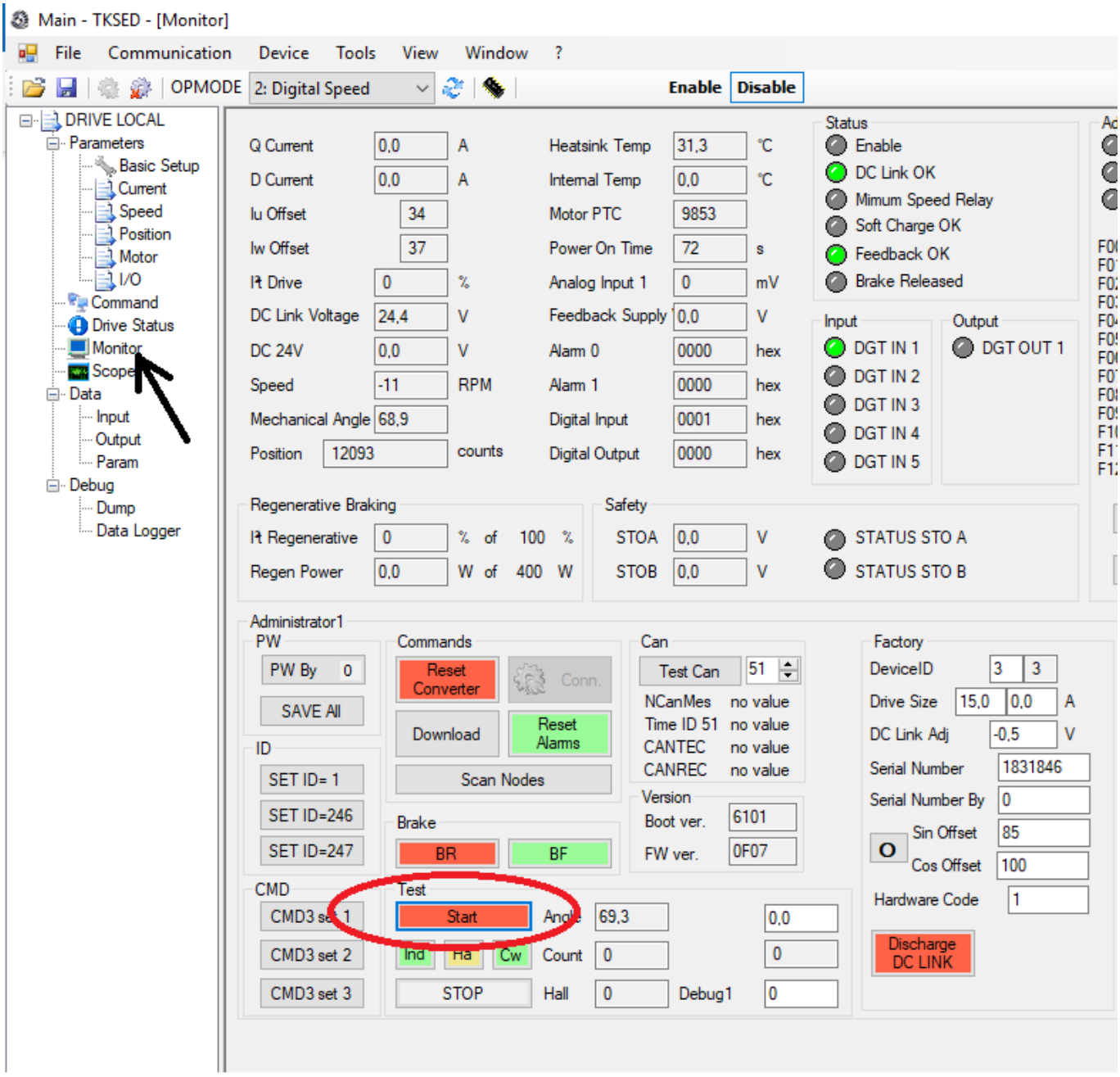
Considering from TKSED (ByInterface) version 10.4, the unlock password is 602043



Step 2. Calculate the right phase angle

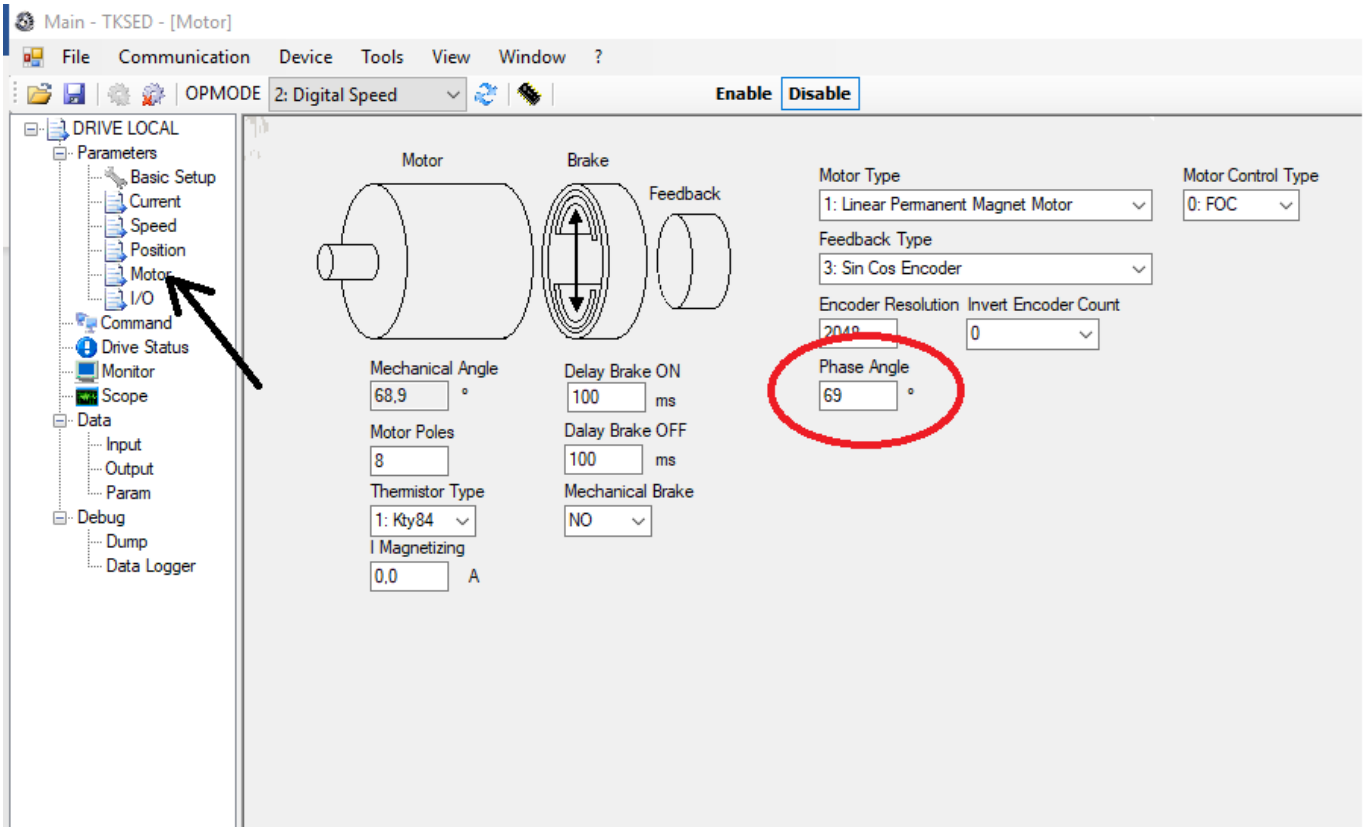
Pre-condition: the motor must be free to move forwward and backward without reach mechanical stop.

Go to Monitor window, and click Start button to calulcate the phase. The motor will move with a step to reach the max of phase U.
After 1 second, the calculated number is displayed. Here for example the calculated number is 69.3 degrees.



Step 3. Enter the motor phase value in the motor parameter

Go to Motor window to insert the calculate value.

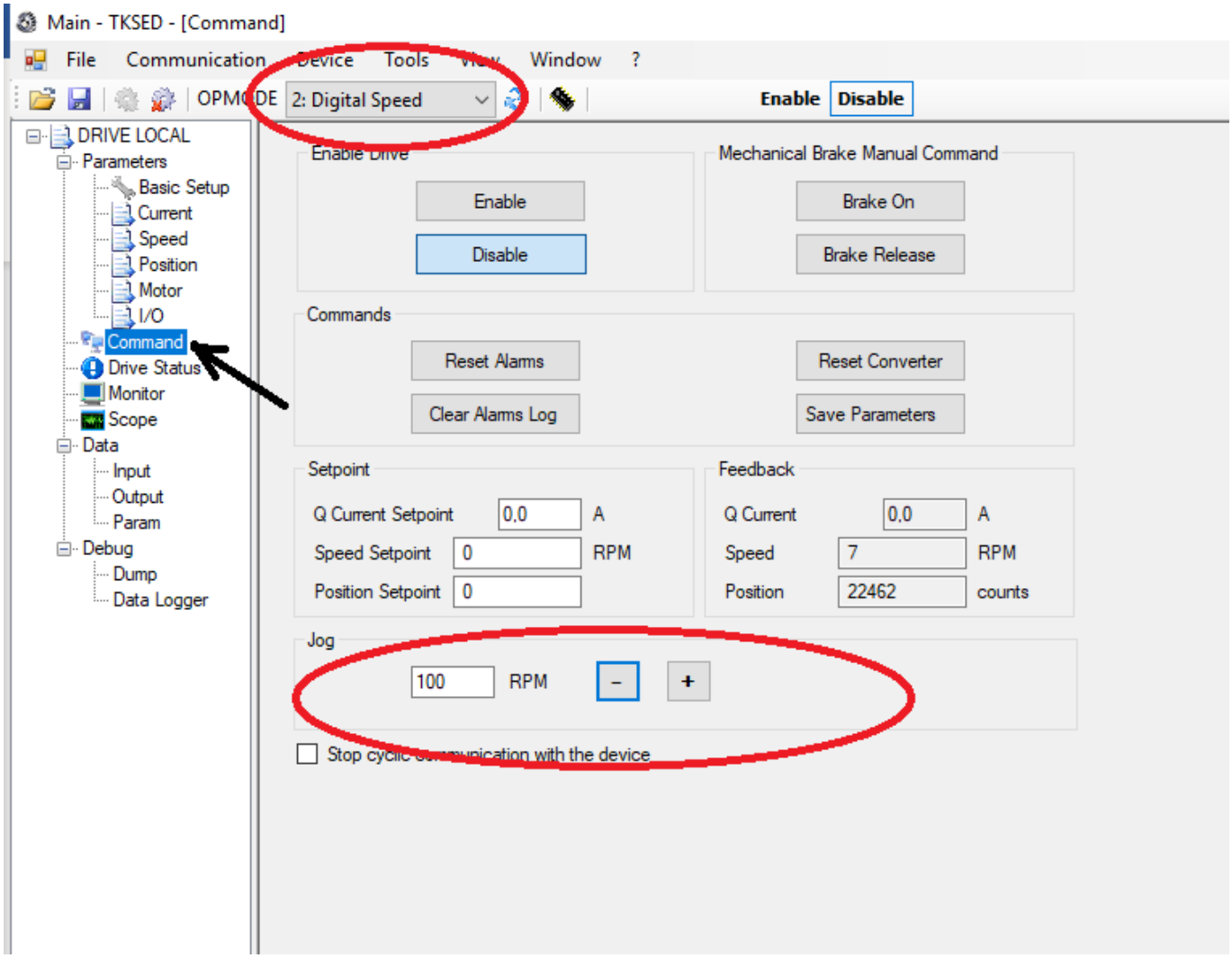


Step 4. Test the motor movement using JOG.

Go to Command window, select the Digital Speed as OPMODE. Click on Enable the drive, then use + and - button to move the motor forward and bacward.

Possible condition:

1. The motor is moving without problem ⇒ OK !
2. The motor is moving a little bit and the stop with and increasing Q current ⇒ NOT OK ⇒ the phase angle is not correct calculated or the sequence of the motor phases U,V,W are not OK ⇒ Please check the power cable connections.
3. The motor is moving without control reaching a mechnical stop ⇒ NOT OK ⇒ the phase angle is not correct calculated or the sequence of the motor phases U,V,W are not OK ⇒ Please check the power cable connections.



Step 5. Change the OPMODE to the corrected one and store the configuration to flash.

Select the right OPMODE. For example: for a Canopen controlled node select 8: CanOPEN DSP402. Then press the Integrated circuit icon to store the configuration inside the permanent memory.