

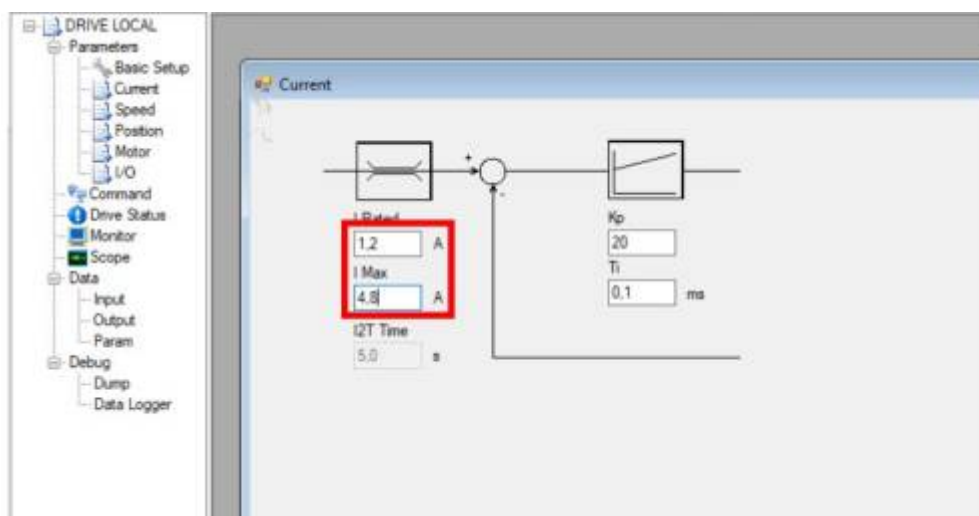
General Motor Configuration

Download TKSED Software here:

<https://www.nilab.at/download/tksed-software-pc-tool/?wpdmdl=2126&refresh=637351b08fa4b1668501936>

STEP 1

Please, considering the datasheet of the motor and set the correct value for I rated to Nominal current of the motor and the Peak values in the current window. For example 1,2 Amps rated and 4,8 Amps peak.



STEP 2

Specify the motor type, encoder resolution, number of poles, thermistor and feedback type in the motor window. For example 2000 counts per revolution, incremental + hall feedback type, 4 poles motor.

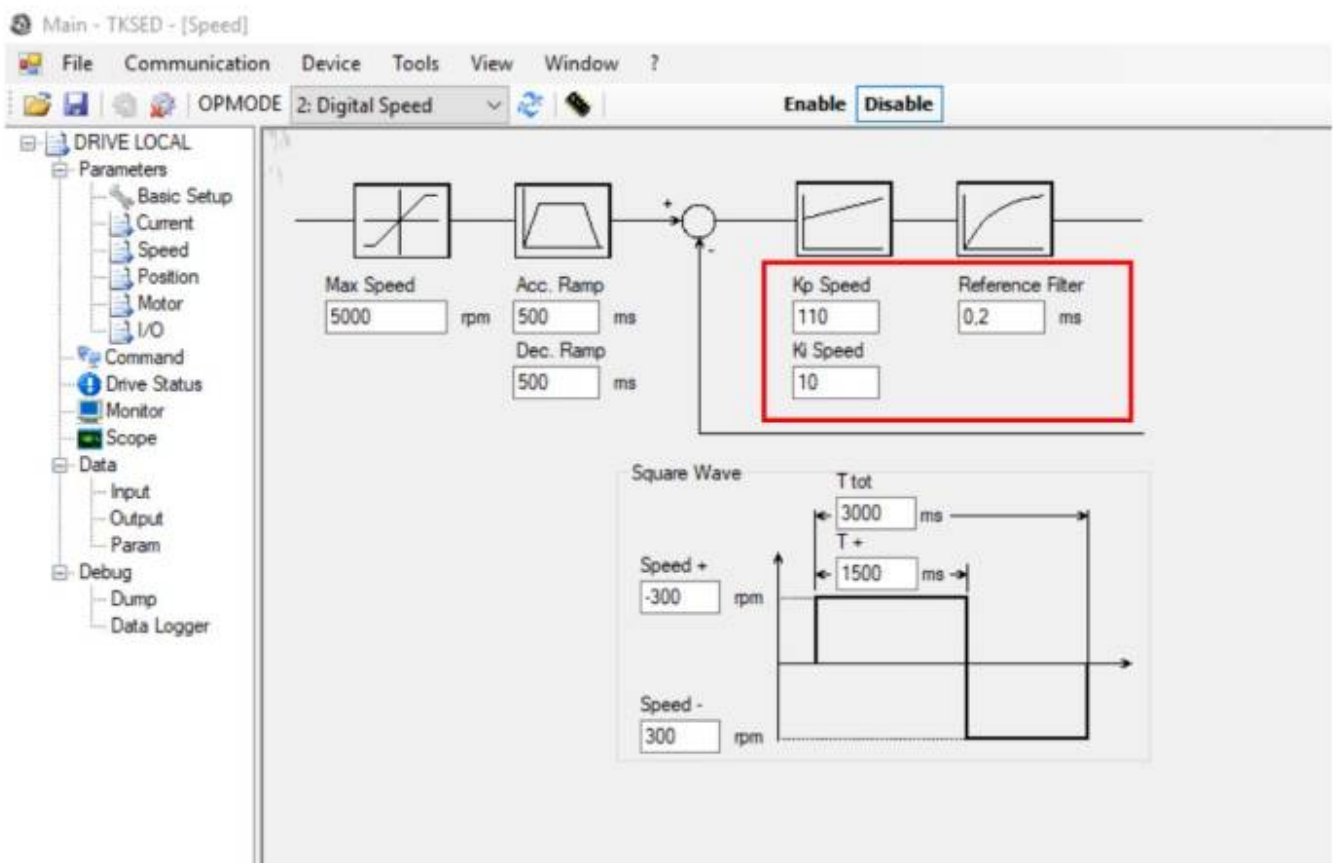
The image shows a motor configuration window with several sections:

- Motor Diagram:** A schematic of a motor with a shaft, a brake, and a feedback sensor.
- Motor Type:** A dropdown menu set to "0: Rotative Permanent Magnet Motor".
- Motor Control Type:** A dropdown menu set to "0: FOC".
- Feedback Type:** A dropdown menu set to "0: Incremental Encoder ABZ + Hall".
- Encoder Resolution:** A text input field set to "2000".
- Invert Encoder Count:** A dropdown menu set to "0".
- Phase Angle:** A text input field set to "260".
- Feedback Supply:** A text input field set to "5.3" V.
- Mechanical Angle:** A text input field set to "315.6" degrees.
- Motor Poles:** A text input field set to "4".
- Thermistor Type:** A dropdown menu set to "1: Kty84".
- Magnetizing:** A text input field set to "0.0" A.
- Delay Brake ON:** A text input field set to "100" ms.
- Delay Brake OFF:** A text input field set to "100" ms.
- Mechanical Brake:** A dropdown menu set to "NO".

Buttons at the bottom: "Ok", "Apply", and "Cancel".

STEP 3

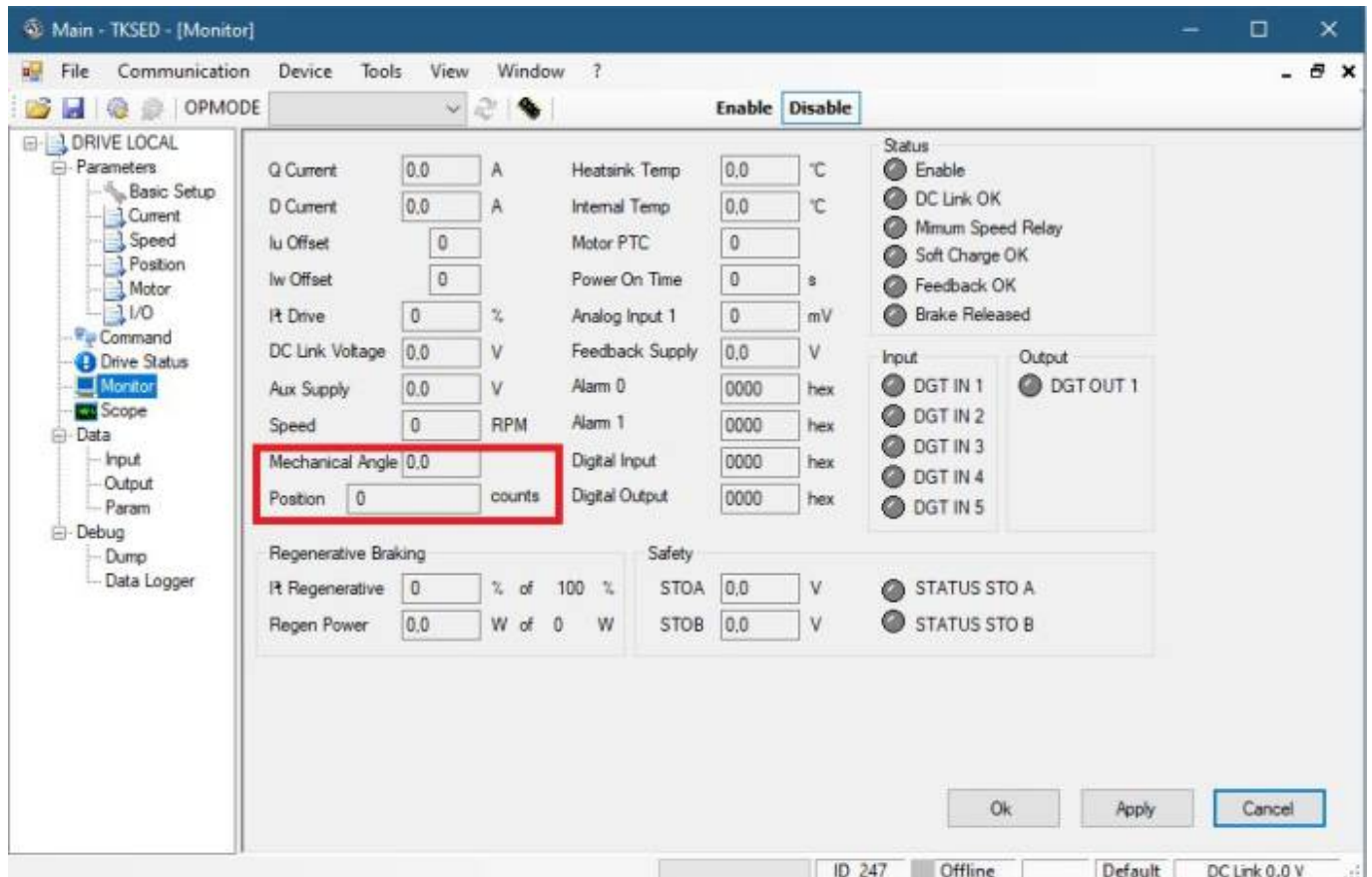
Set the gain, the integrative and the reference filter value inside the Speed window. For example, $K_p=110$, $K_i=10$ and 0.2 msec of speed loop filter. A general method to find the right values is increasing the K_p speed gain until vibration occurs then divide this value by 2. The K_i speed value is set typically 1/4 of the K_p gain. Then, fix the reference filter to reduce the noises.



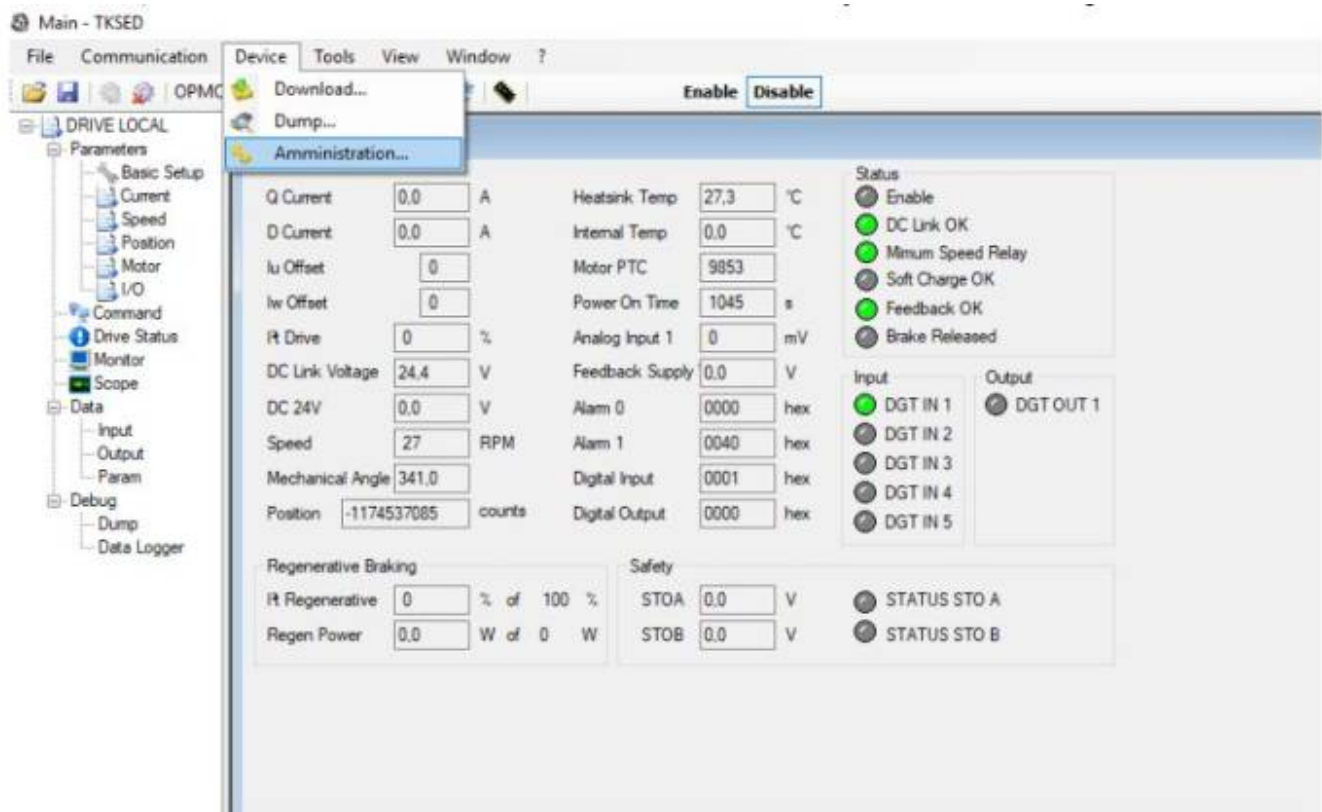
STEP 4

Please, check if the encoder is working correctly, using Mechanical angle information. When you rotate the shaft of the motor in clockwise direction the Mechanical angle value must increase from 0 to 360 degrees. Consequently, the position counts must increase.

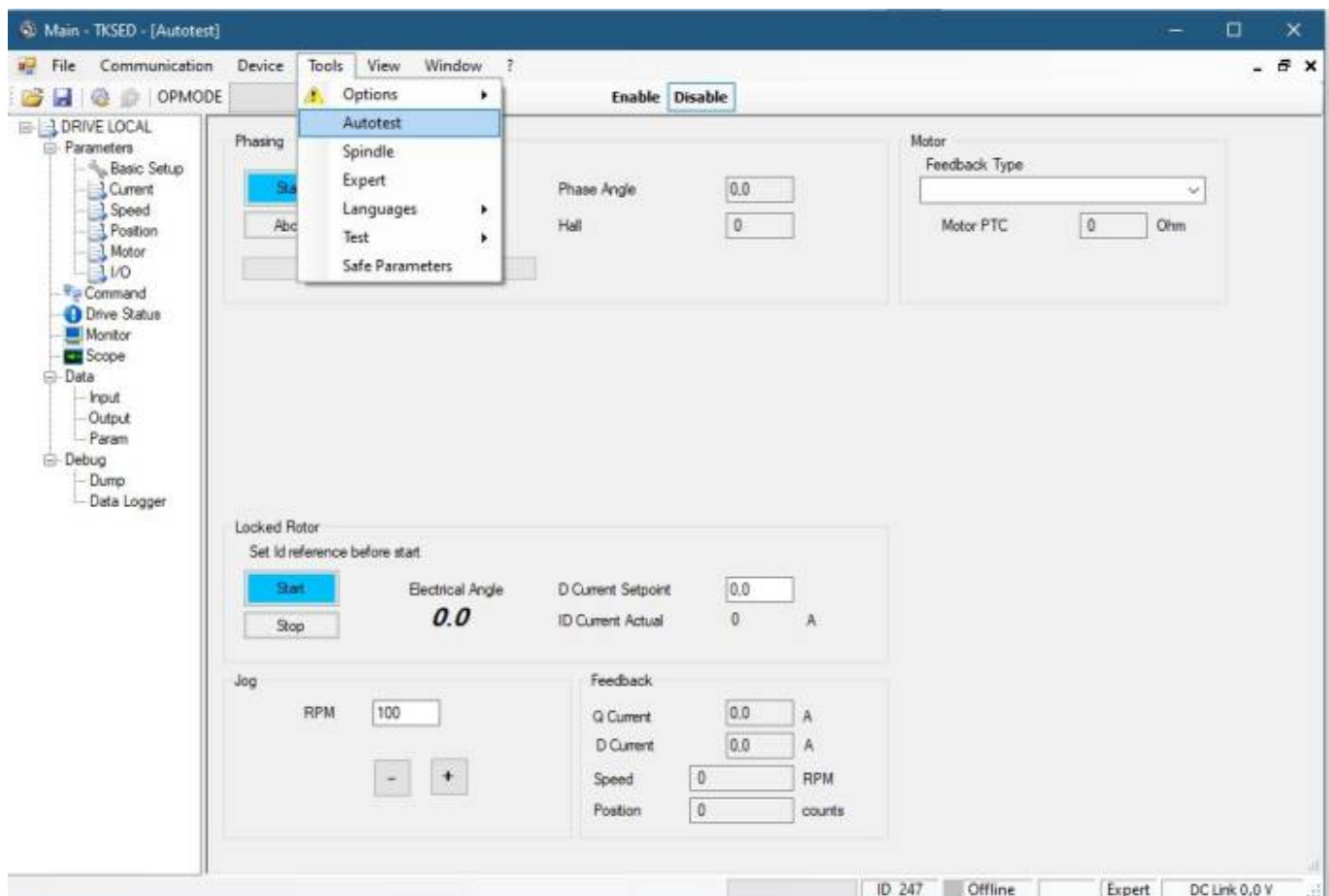
Please consider that Position counts are a normalized value (16 bits) from 0 to 65535.



Please, enter in Administration mode using Device→Administration menu with Password **BYstorm**.

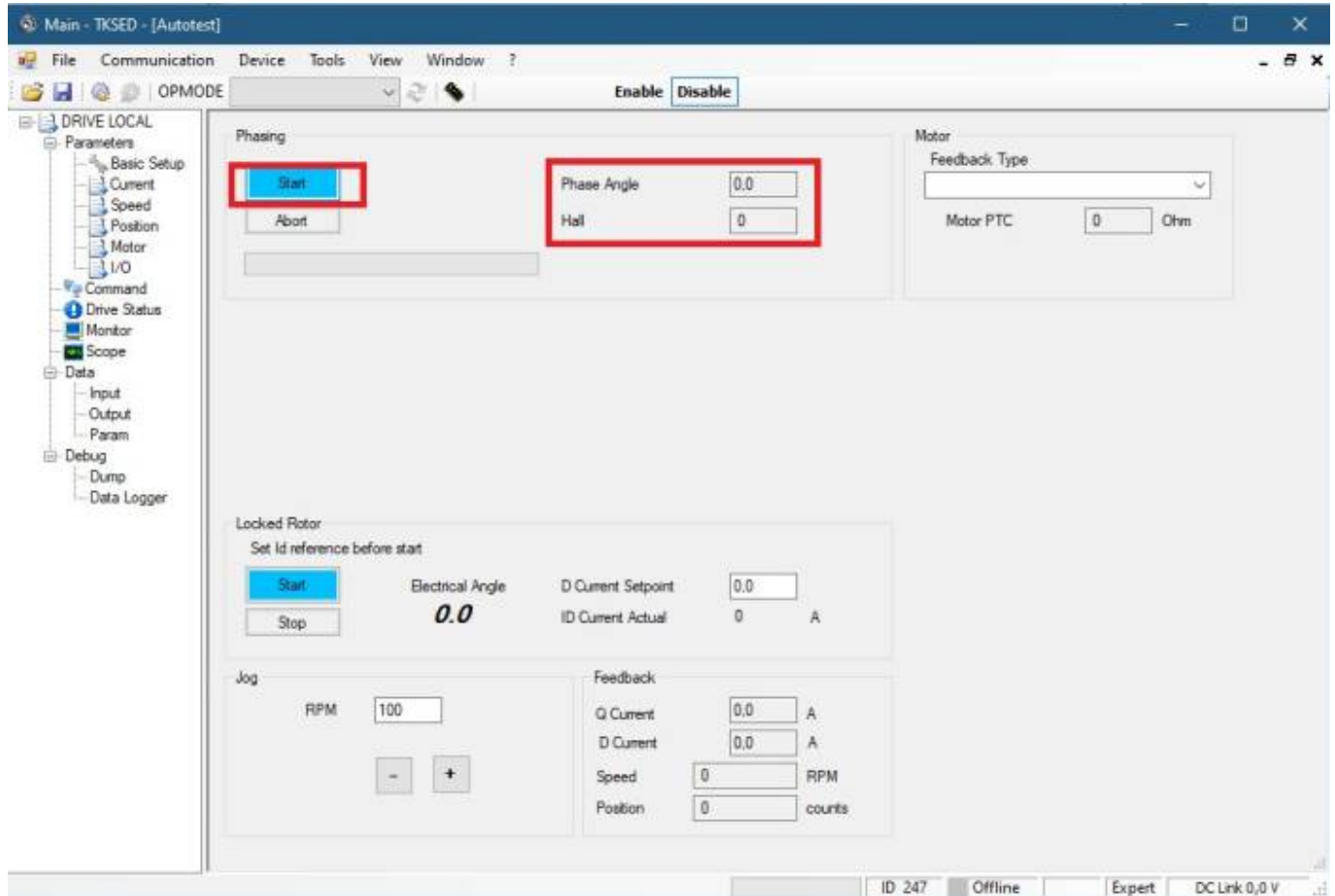


Then, select from Tools → Autotest to enter in setup window for the feedback.



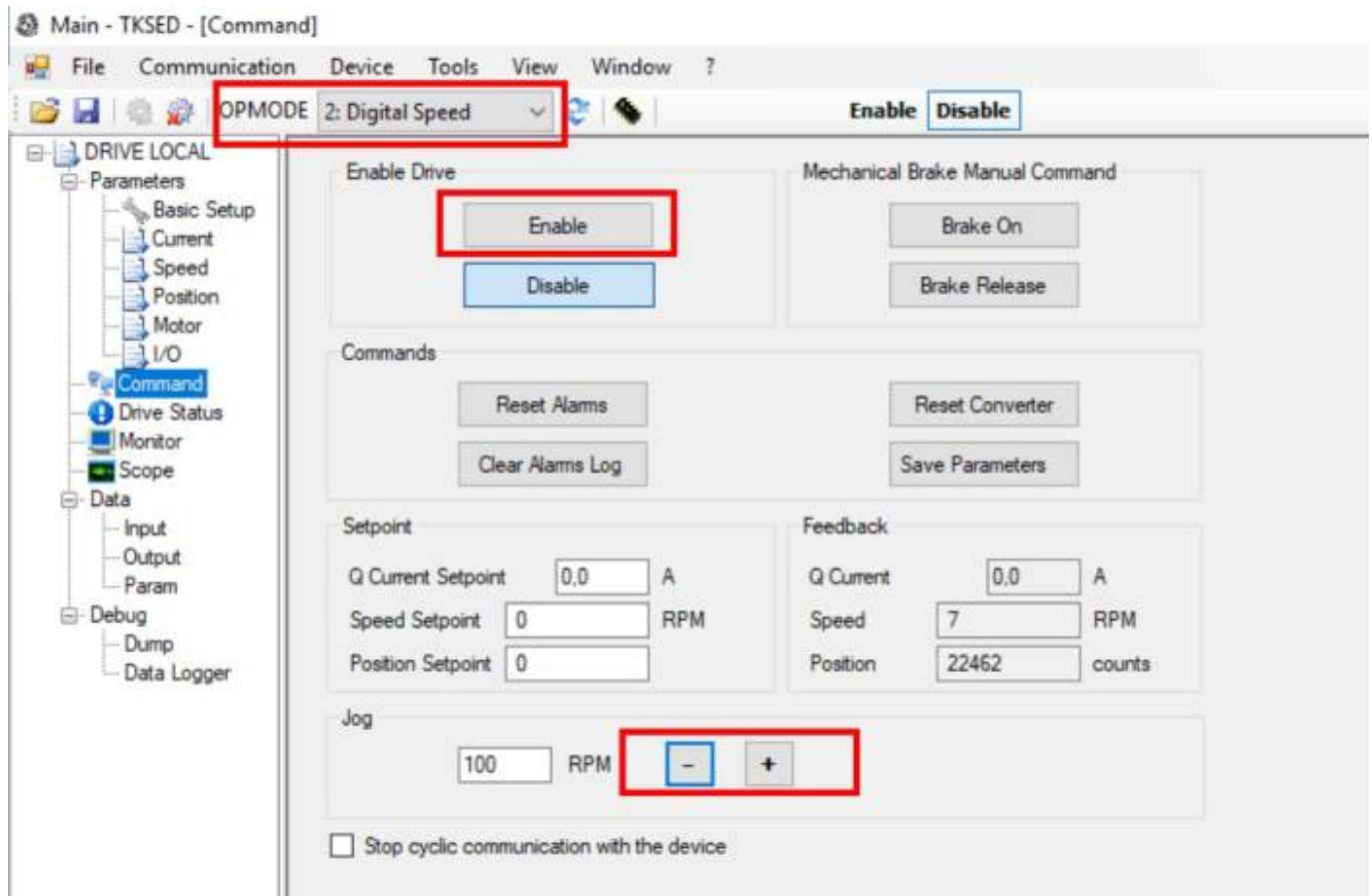
STEP 5

Please, press the button Start to start the procedure, the Hall number must increment during the phasing calculation. If the Hall numbers are not increasing the are faulty connections or the motor phases are not connected in the right sequences. At the end of the procedure the phase angle is calculated. The, write the phase value on the motor window on the field phase angle.



STEP 6

Use the command window to step the correct functionality of the motor, setting the OPMODE to Digital speed, press the enable button and use the button + and - to move the motor. You can also specify a RPM speed.



STEP 7

Please, remember to store all the data inside the EEPROM of the drive using the button on the toolbar before switch-off the 24VDC.



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