

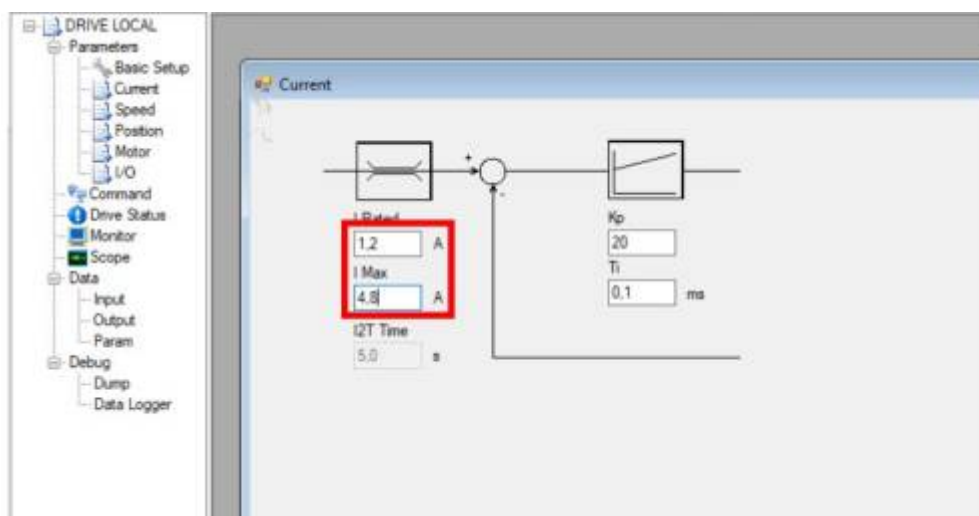
# General Motor Configuration

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.

Motor

Brake

Feedback

Mechanical Angle

315.6 °

Motor Poles

4

Thermistor Type

1: Kty84

I Magnetizing

0.0 A

Delay Brake ON

100 ms

Delay Brake OFF

100 ms

Mechanical Brake

NO

Motor Type

0: Rotative Permanent Magnet Motor

Motor Control Type

0: FOC

Feedback Type

0: Incremental Encoder ABZ + Hall

Encoder Resolution

2000

Invert Encoder Count

0

Phase Angle

260 °

Feedback Supply

5.3 V

Ok

Apply

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.

Main - TKSED - [Speed]

File

Communication

Device

Tools

View

Window

?

OPMODE

2: Digital Speed

Enable

Disable

DRIVE LOCAL

Parameters

Basic Setup

Current

Speed

Position

Motor

I/O

Command

Drive Status

Monitor

Scope

Data

Input

Output

Param

Debug

Dump

Data Logger

Max Speed

5000 rpm

Acc. Ramp

500 ms

Dec. Ramp

500 ms

Kp Speed

110

Ki Speed

10

Reference Filter

0.2 ms

Square Wave

T tot

3000 ms

T +

1500 ms

Speed +

-300 rpm

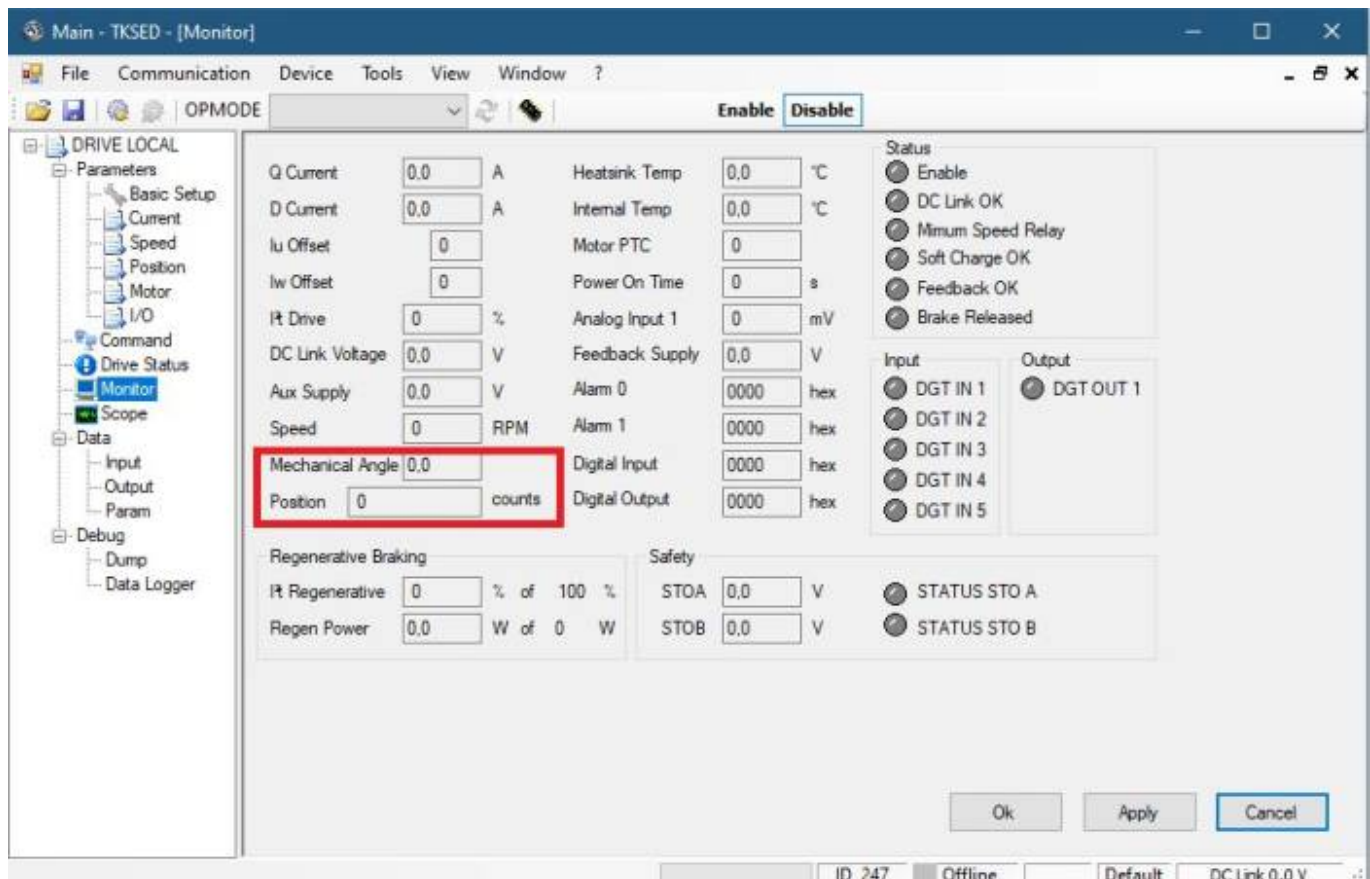
Speed -

300 rpm

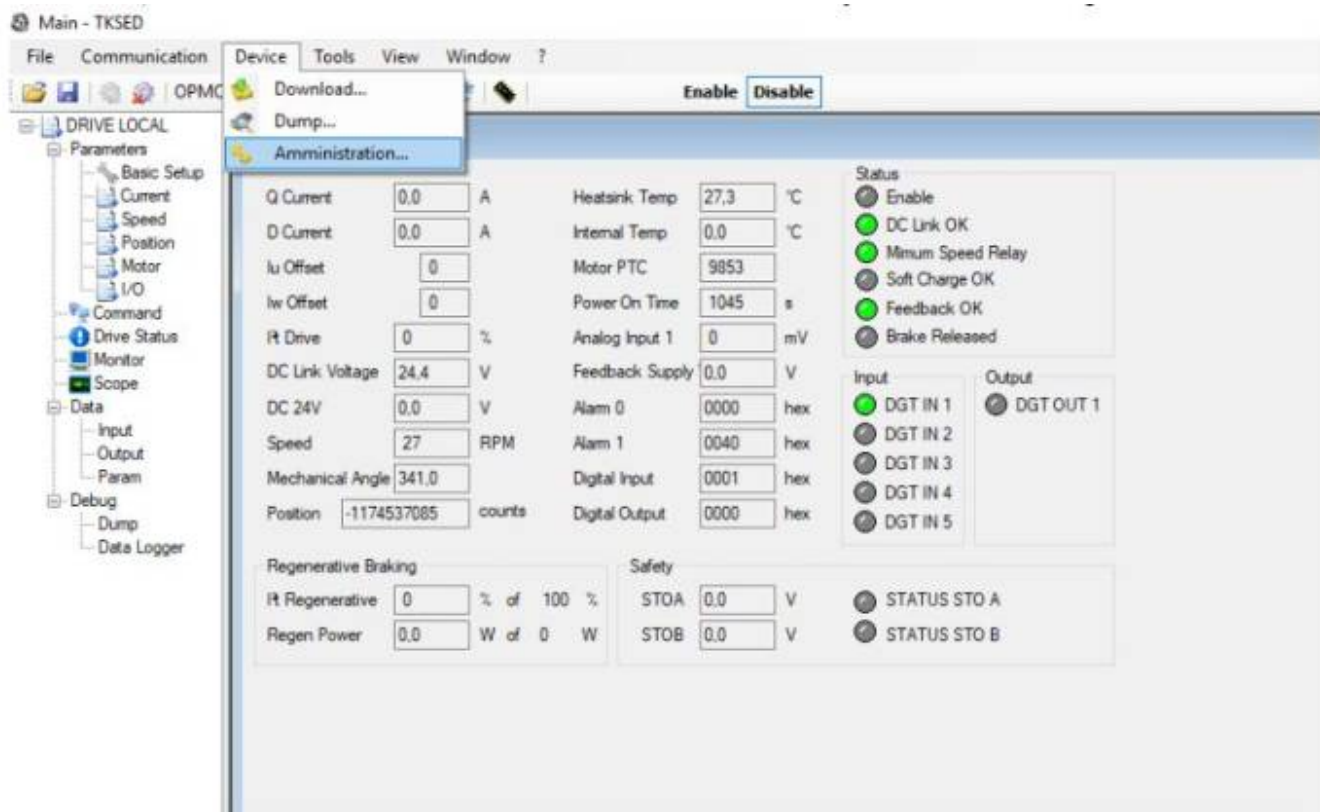
## STEP 4

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.

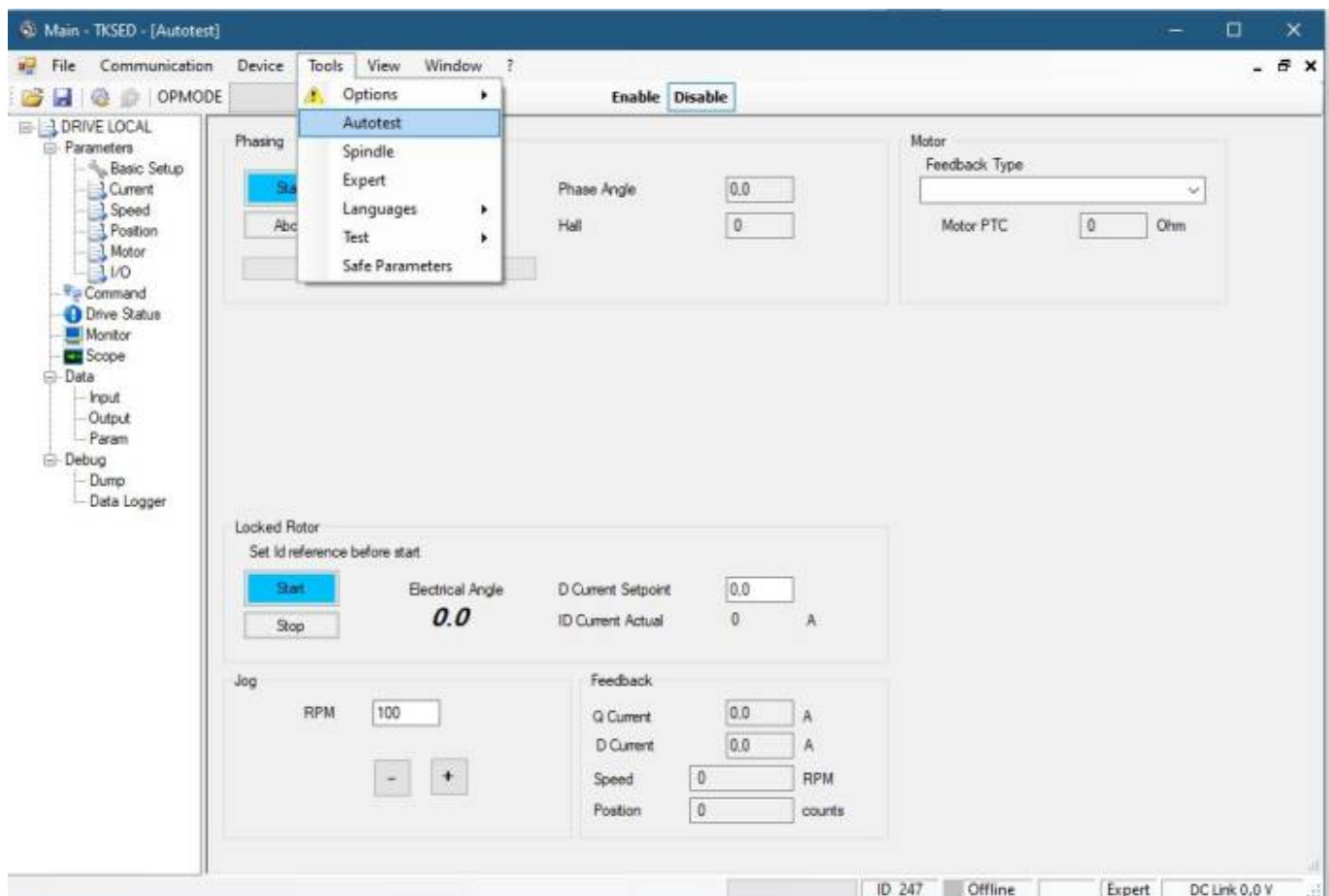
**Please consider that Position counts are a normalized value (16 bits) from 0 to 65535.**



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

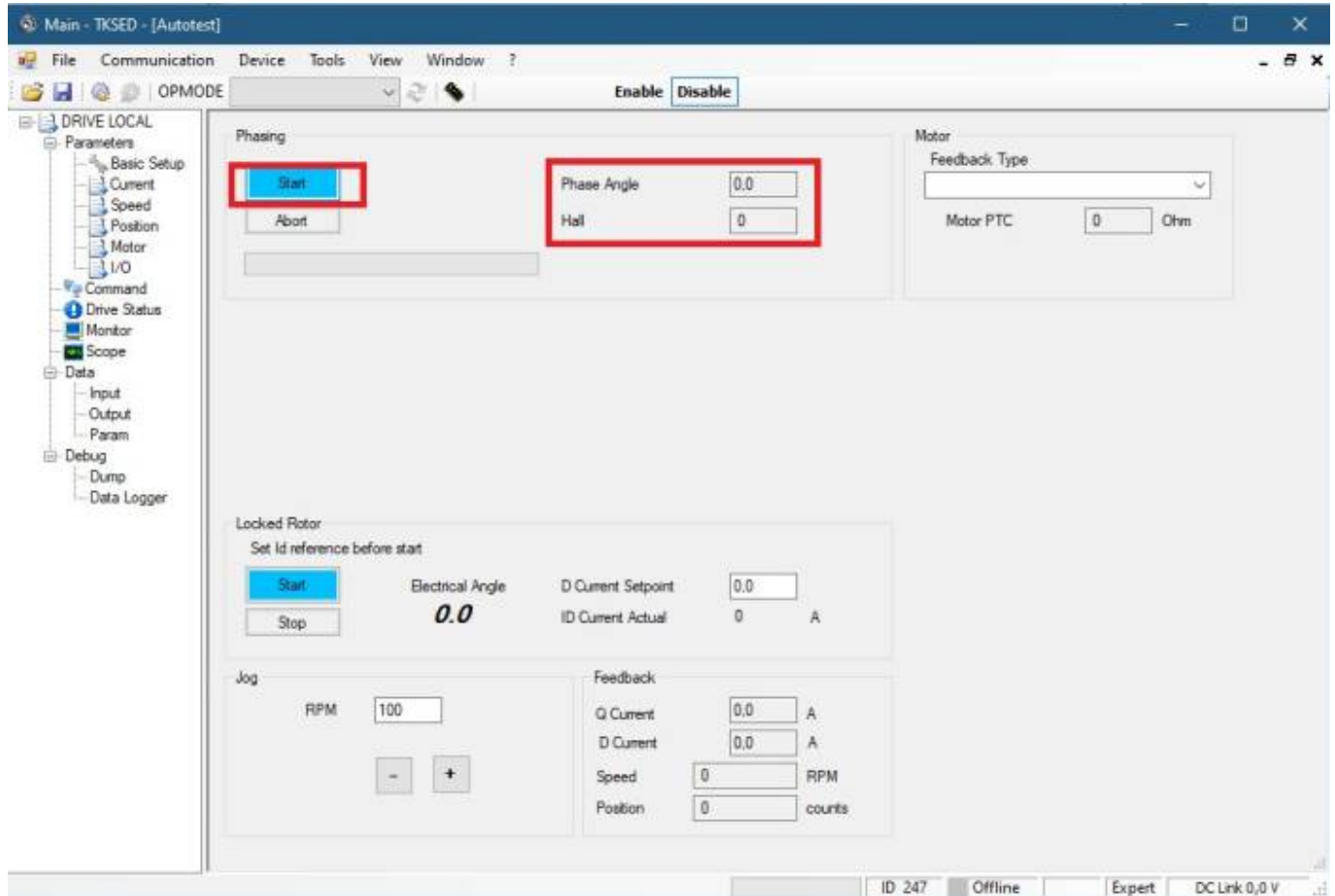


Then, select from Tools → Autotest to enter in setup window for the feedback.



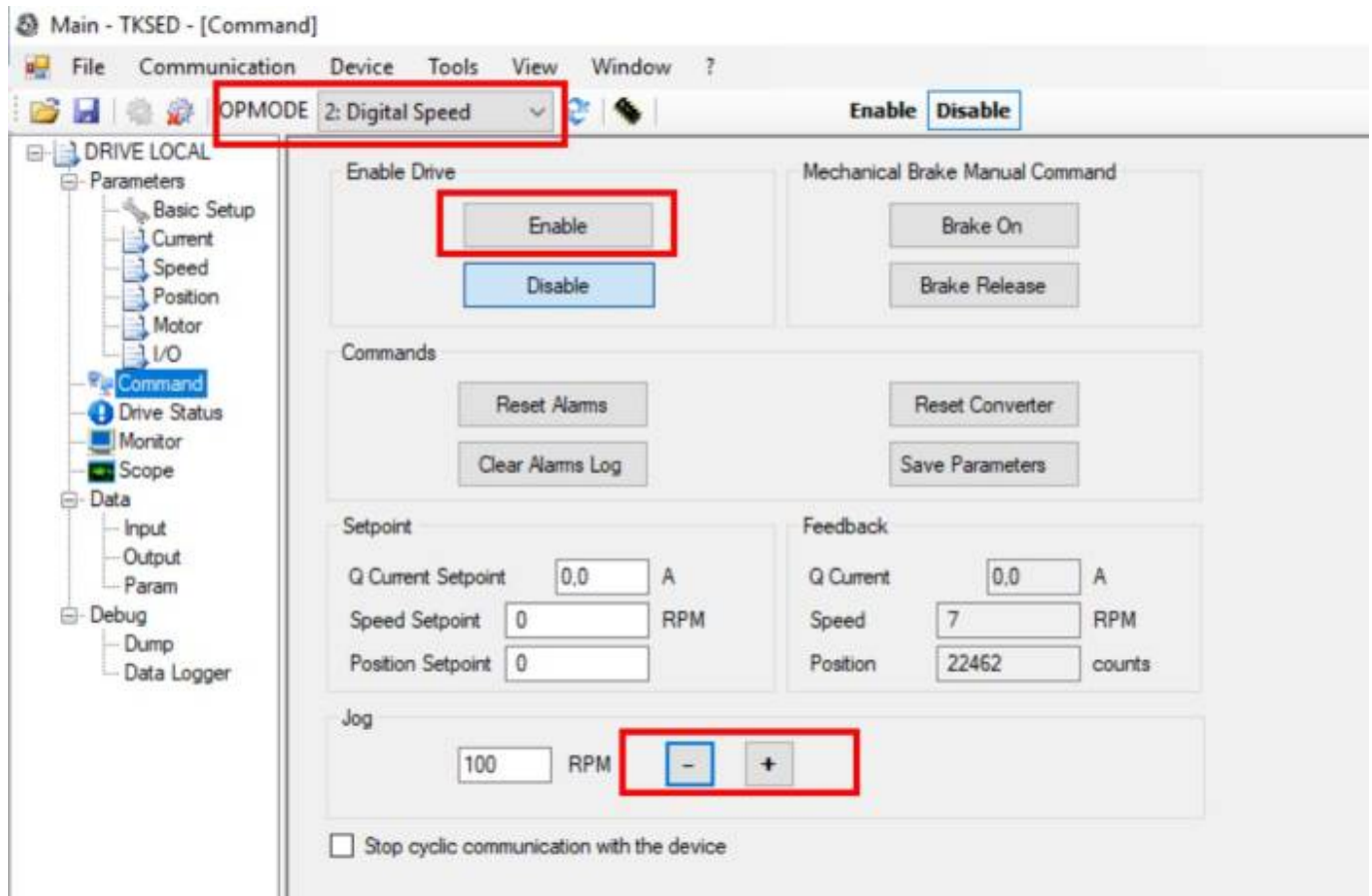
## STEP 5

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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