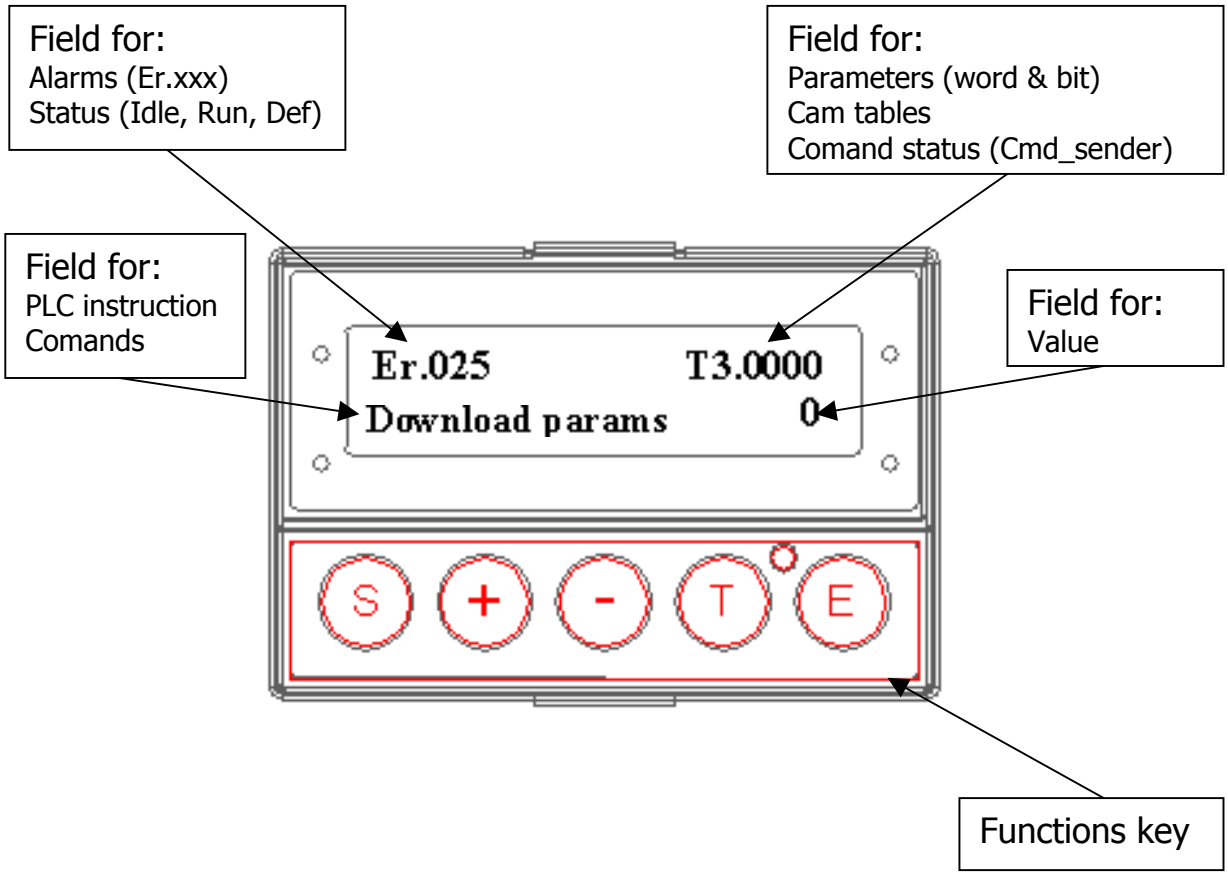
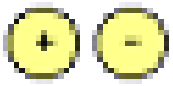
Parker Divisione S.B.C.

SUMMARY:

1. Using the keypad



Cyclically moves cursor position to next field



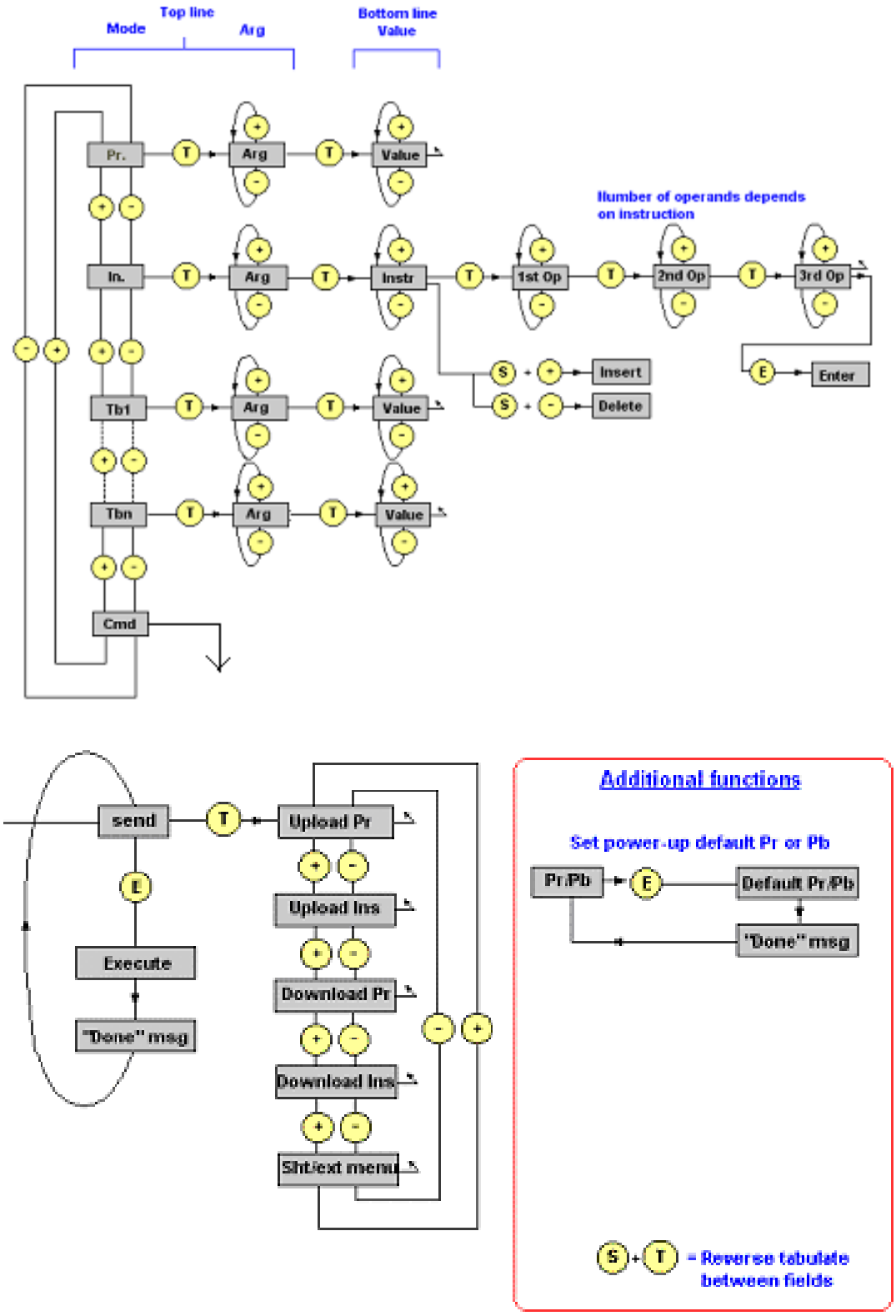
Increments/decrements value at cursor

Enters the change into drive

Shift – additional/special functions

Cursor moved by 'T'

For use the key-pad you can see the user's manual, here we can see only a picture:



With this information we are able to set the drive in the DEF mode

1. Restoring default parameters values

1) We assume that the drive is not in DEF mode.

2) Change these bits as follow (look the user's manual):
   - Pb40.9 = 0 or HW enable
   - Pb39.13 = 0
   - Pb42.12 = 1
   - Pb42.14 = 1
   - Pb42.15 = 1.

3) Switch off and on the drive… we can see the label DEF on the keypad (Pr23=15). If you are not able to see all the parameters on the key-pad probably you are in lock mode…. Unlock the key-pad!

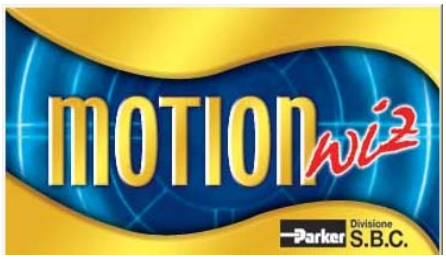
2. Motion Wiz

In this chapter we learn to use MotionWiz and take familiarity with the drive.

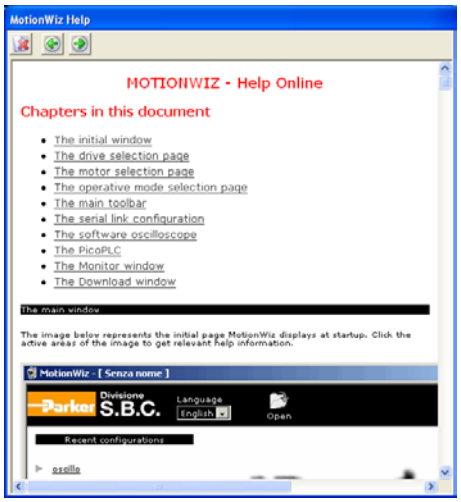
2. Configuration step (Step1.dat)

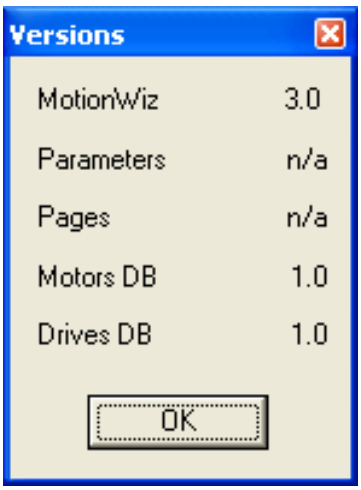
We build step by step the file named Step1.dat:

1) Open MotionWiz:



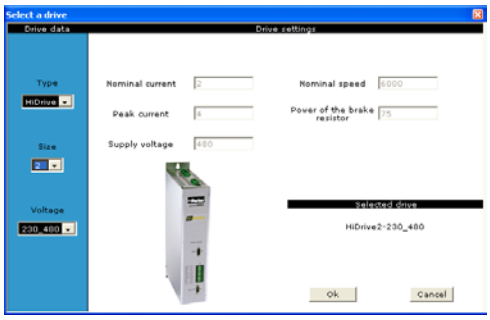
2) We can find and see some information (look the pictures):



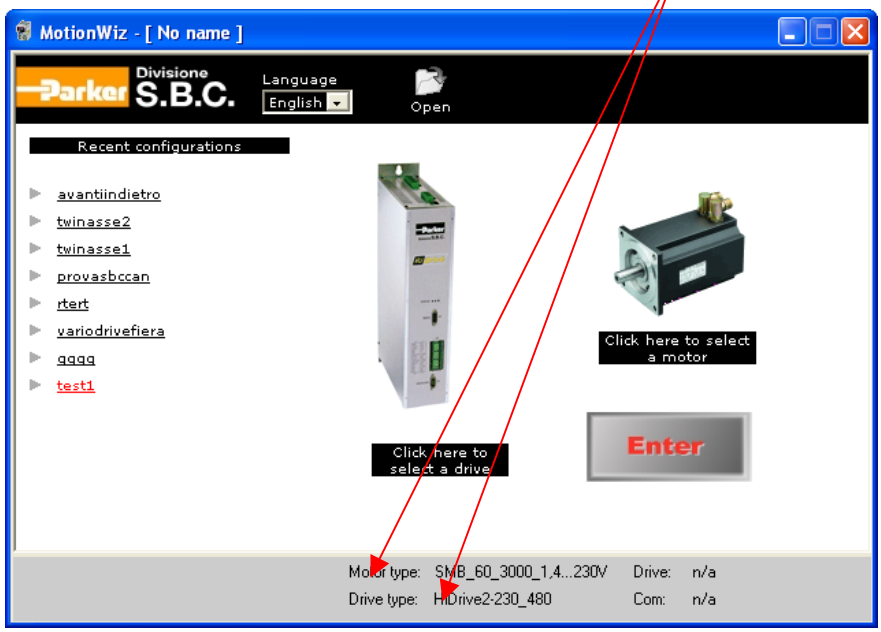


3) Select the drive (HiDrive 2A) and the motor (SMB^60^30^1.4^220).

(You can see the different options between drive and motor type).

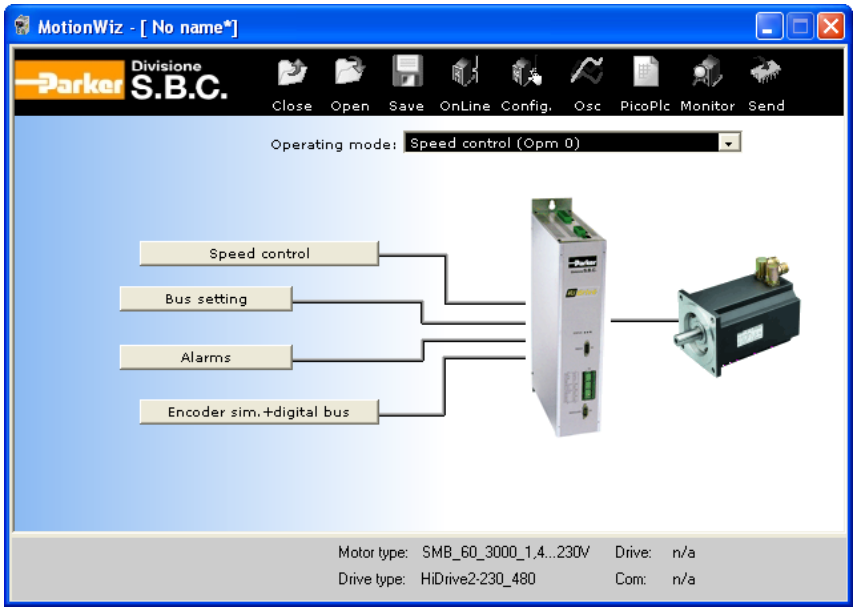


After that you can find your choose in the bottom bar:

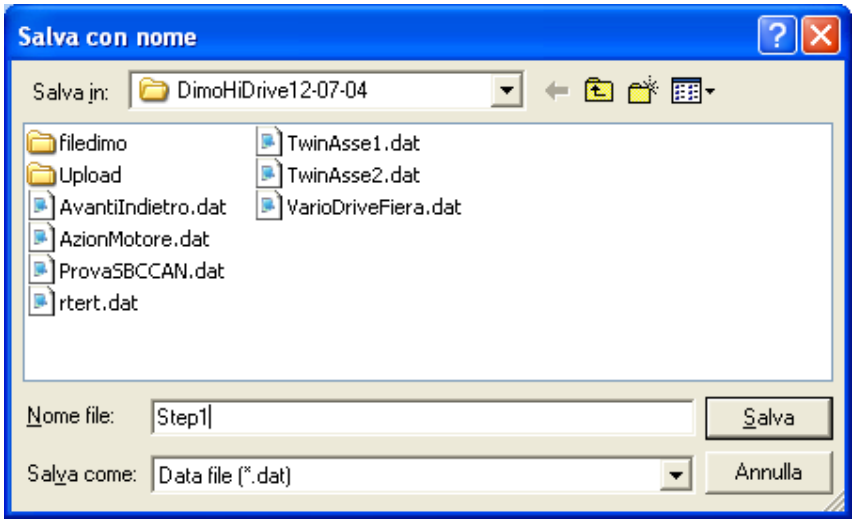


Push ENTER button and go to the next step (step 4):

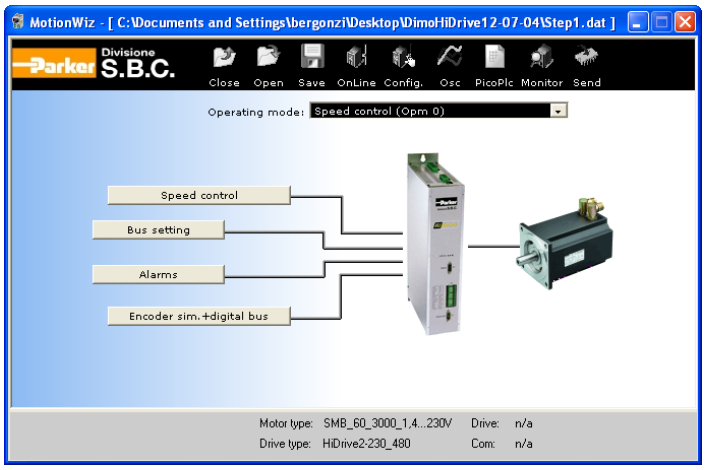
4) Look at the bar on the top… the file name is “No name*”; is meaning that is nececessary (not obbligation!) save the file. The star displaies that the user has made some change, we can understand better in the next steps.



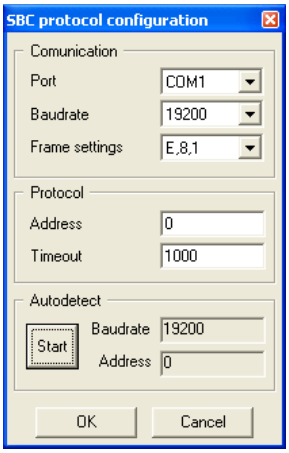
5) Save this file (Step1) on the PC… push “Save” button:



Now we can see the result on the main page (the star is not present…):

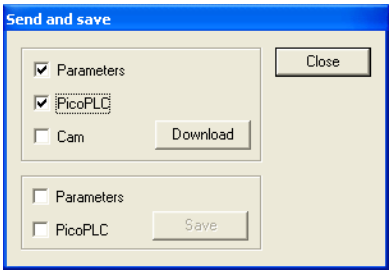


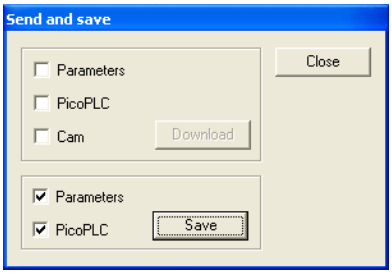
6) Now we can download the file in the drive: push the button Config and autodetect the serial configuration. After this operation select OK botton and **DON'T PRESS** OnLine ikon!



Look the top bar… we can see the star after the file name, it's meaning that somthing is changed… the serial configuration parameters are changed!!

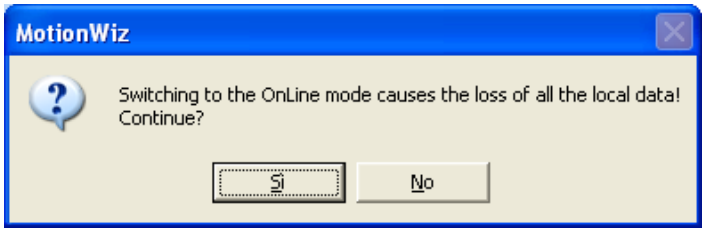
7) In this step we have the file stored in the MotionWiz memory and have the correct parameters for establishing the serial comunication between drive and PC.Select Send button and follow the indication from MotionWiz. Switch off and on the drive, this procedure is necessary because some parameters actualize their values only after this HW procedure.



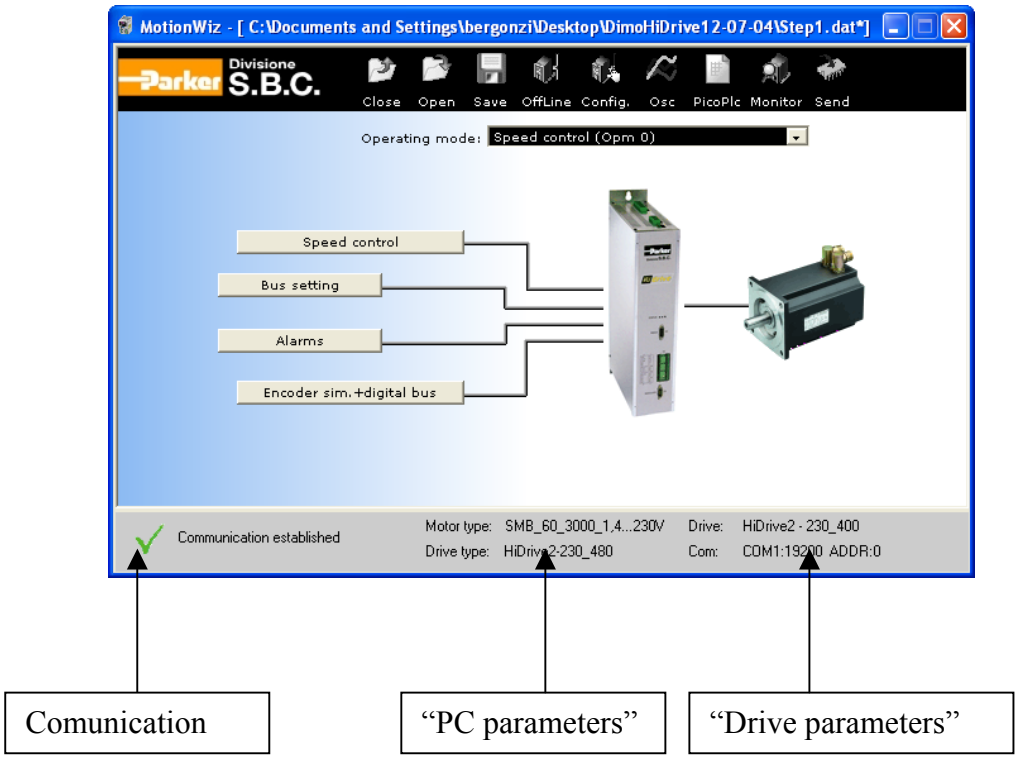


See the key-pad… the drive is not in DEF mode. Go on step 8.

8) Now we can press OnLine ikon without wary about the text inside of the MsgBox that MotionWiz diplaies:

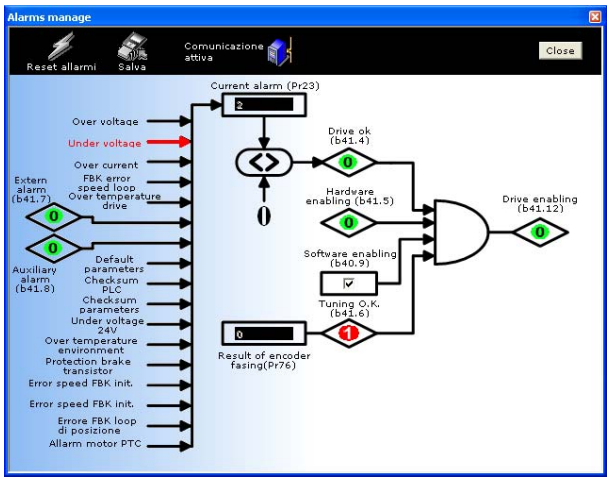


9) See the indications inside of this window:



At this step the MotionWiz and the drive are match together… if you change some parameters on the drive the MotionWiz change according to this change and if you change something on MotionWiz the parameters on the drive change too.Try to menage the windows on the PC…. Step 10

10) Open the Alarms windows and make some changes like resolver error (disconnect the Resolver cable) and see the result on the key-pad…Reset Alarms ikon…

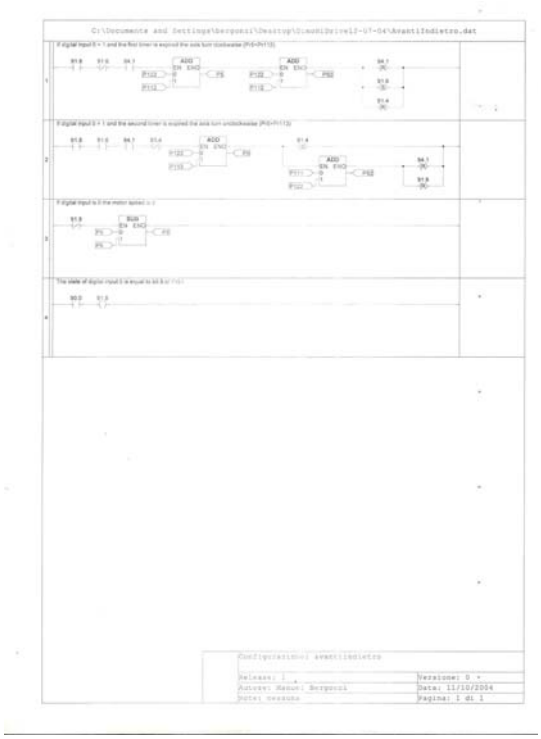


11) In this step we have the drive in IDLE, the parameters and the Pico-plc in default mode. We can control the motor… try some actions on the MotionWiz… try to change the Pico-plc (change Pb90.3 with 90.0 for stop and run the motor…). Remember that is necessary put the comunications not enable, change the Pico-plc instructions and go in OnLine
Try to make some windows changing and see the motor..

12) At this point we can try to put Step1.dat directly on the drive. For do this operation set the DEF mode on the drive by the key-pad and restart MotionWiz.
Select Step1.dat from the PC
Set the serial configuration
Send the file on the drive.
Save, switch off and on the drive
….Try to control the motor … OK!!

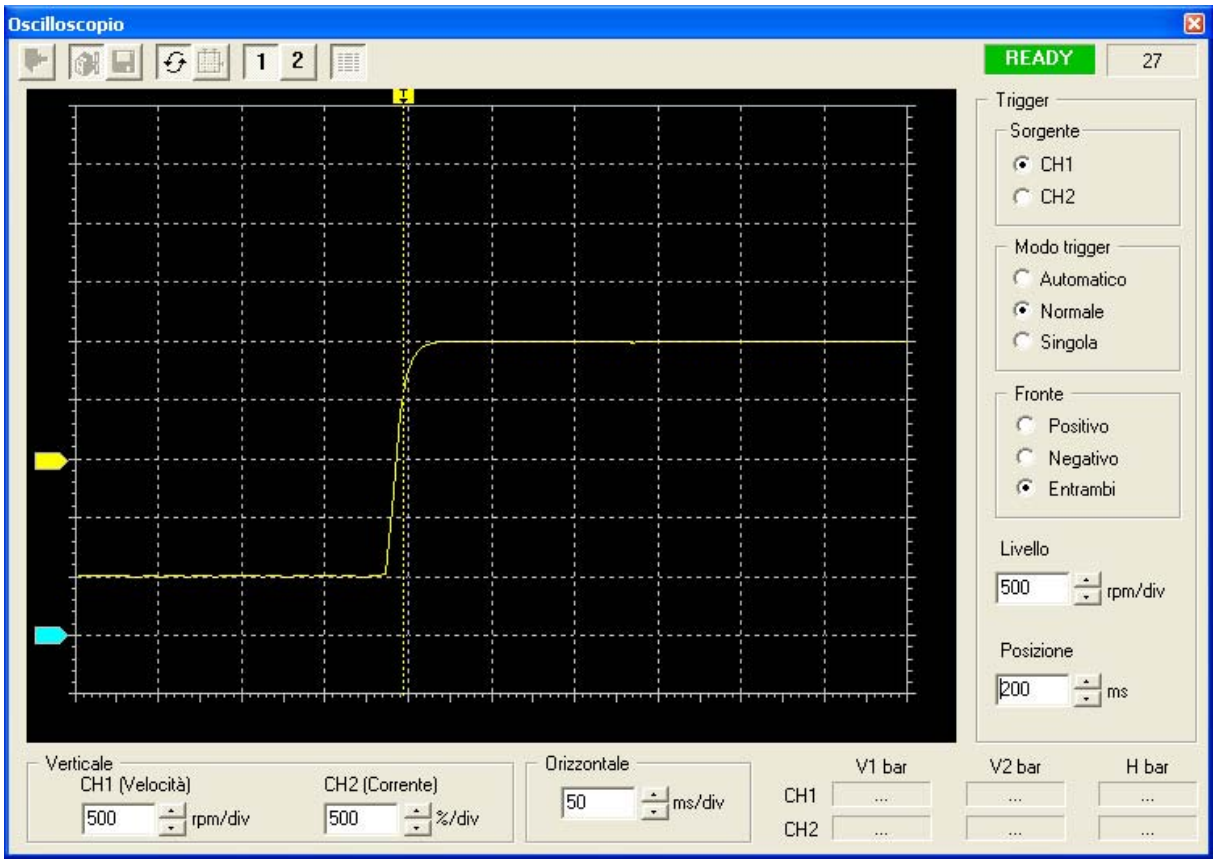
3. Speed control loop calibration

In this chapter we want restore the file named AvantiIndietro.dat, send it to the drive, give some advise about the Pico-plc confidence with MotionWiz Oscilloscope window.
Before going in OnLine see the Pico-plc, try to put new line comments and print it with some label like SW revision author etc. (see the pictures):

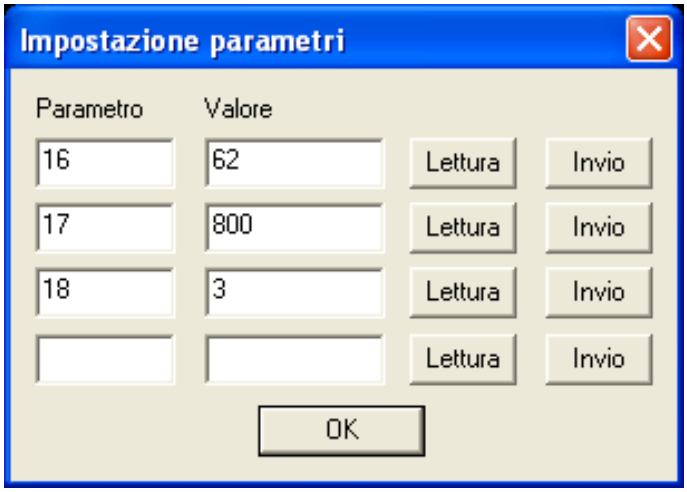


Be carefull that if you see the Pico-plc after the OnLine action you don't see the comments…. The notes are not store in the drive but they are store only in the file!!.
So, if you have restore a file, go OnLine, save the file you have loose the comments!!!

See the Oscilloscope window:

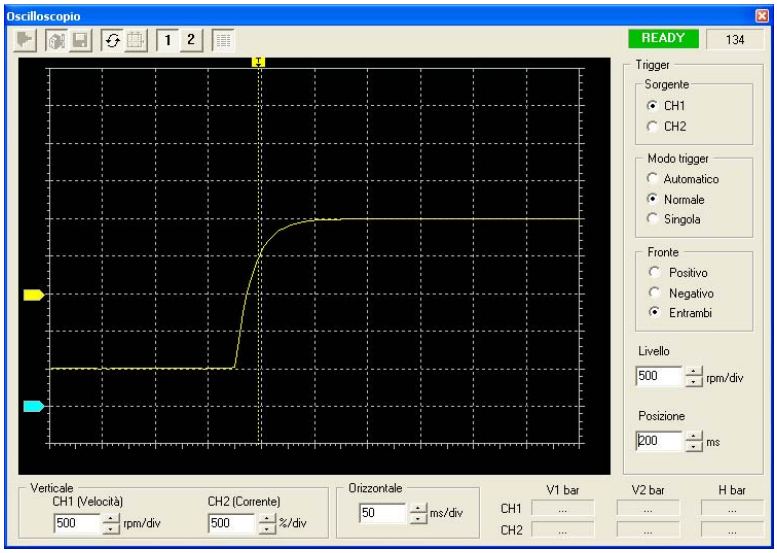


This waveform is the result with these parameters values:

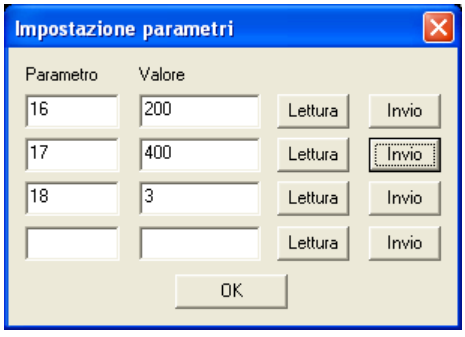


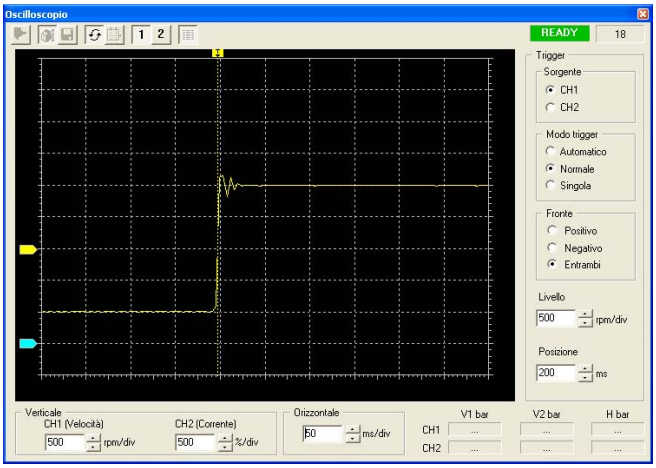
Modify these values, for example:

The waveform is:

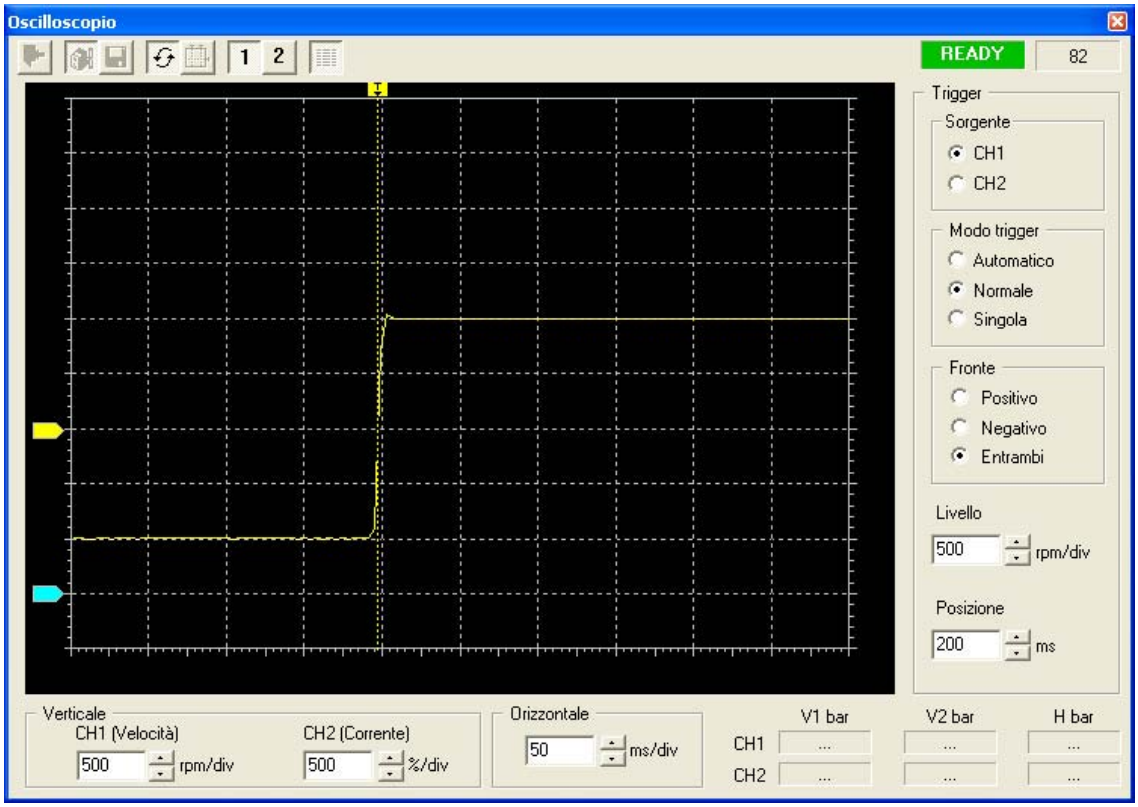


Change the values for have oscillations:





Return with the correct values: Pr16=62 and Pr17=800.
If we want the better reaction from the system put Pr16=200:

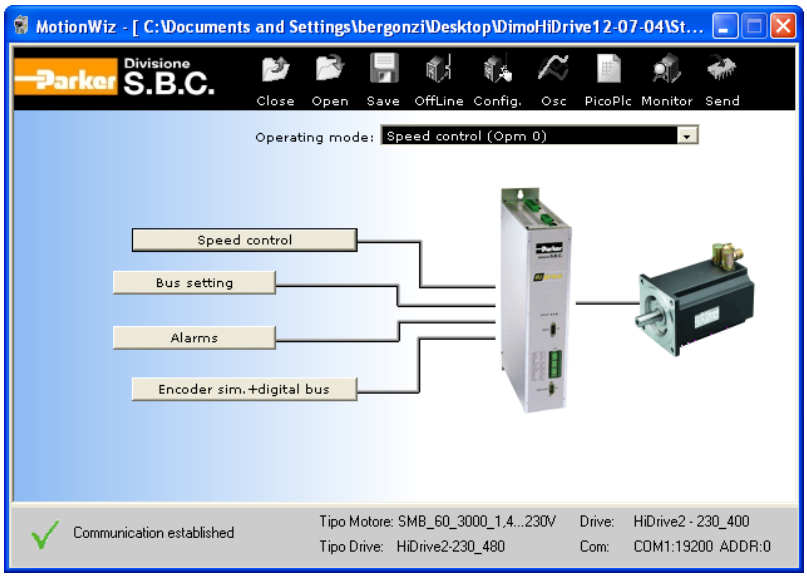


Chapter End!!

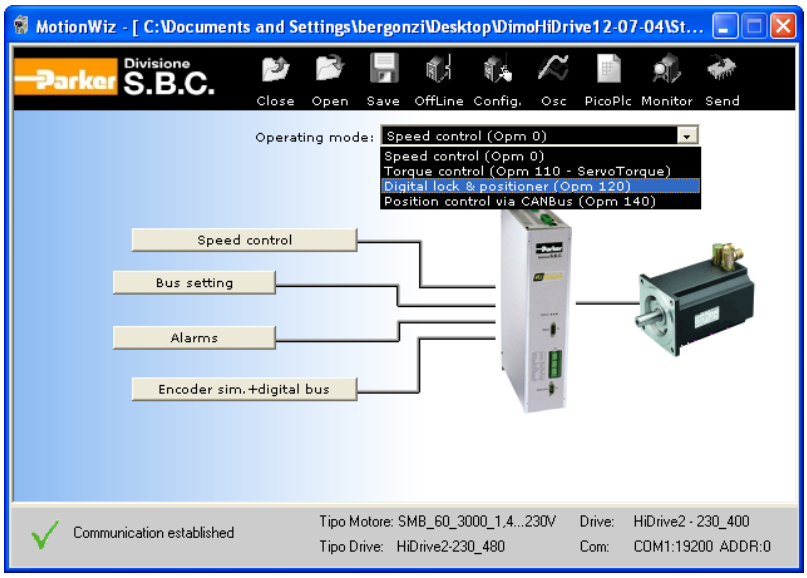
4. OPM 120 Digital lock and positioner

In this chapter we see a simple example of position.

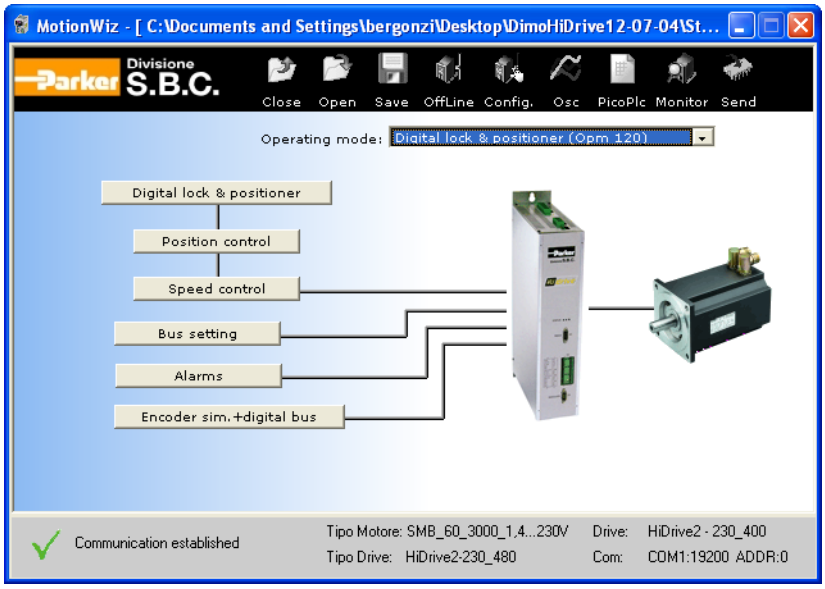
1) Put the drive in the DEF mode.
2) Send Step1.dat to the drive
3) Save the file on the drive
4) Switch off and on the drive
5) Go OnLine



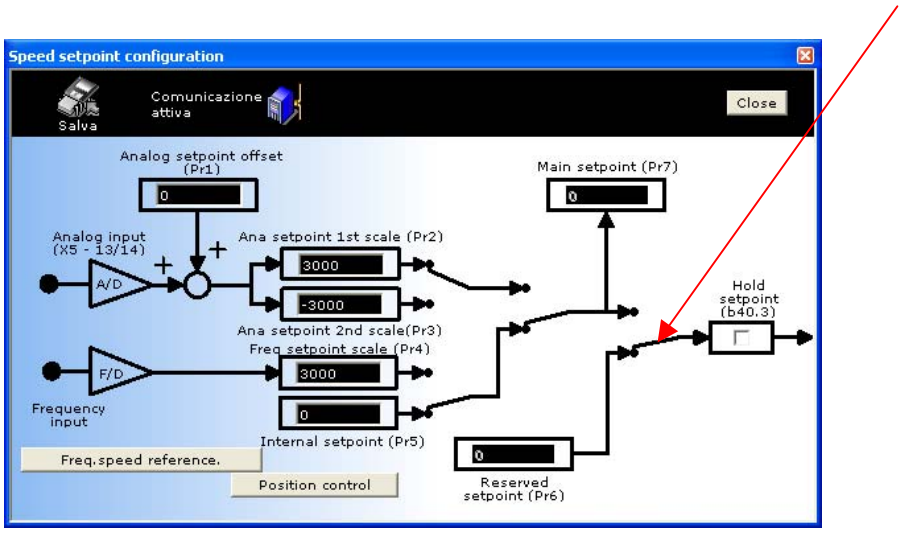
Select OPM120:



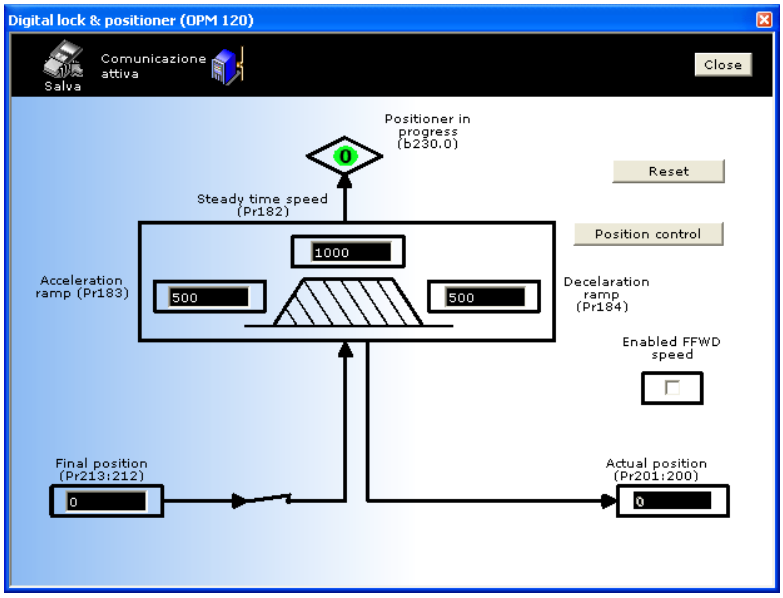
Confirm the MSGBOX… At this point we have the drive in OPM120 (see the key-pad during this operation!!):



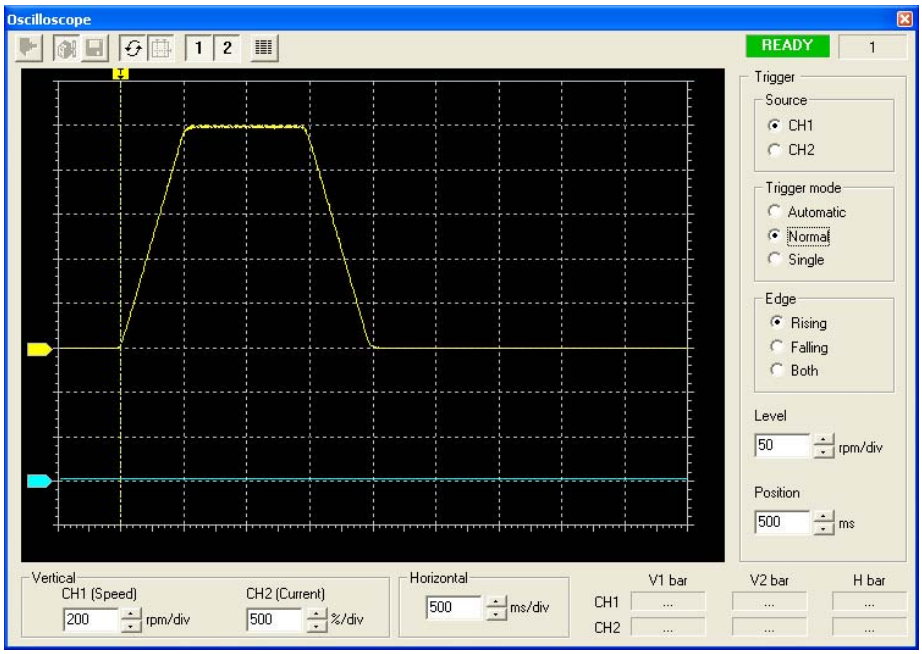
Select speed control, Set point and see the Pr40.2 is automatically change…



Return to the main page and select digital lock & positioner,"the arrow"and trapezional profile generator:



With the HW enable you can put Final Position = 10000 and see the motor… turn clockwise!!
If you put 0 the motor turn unclockwise…
You can see the profile with the Oscilloscope window…(Pr213:212=100000)

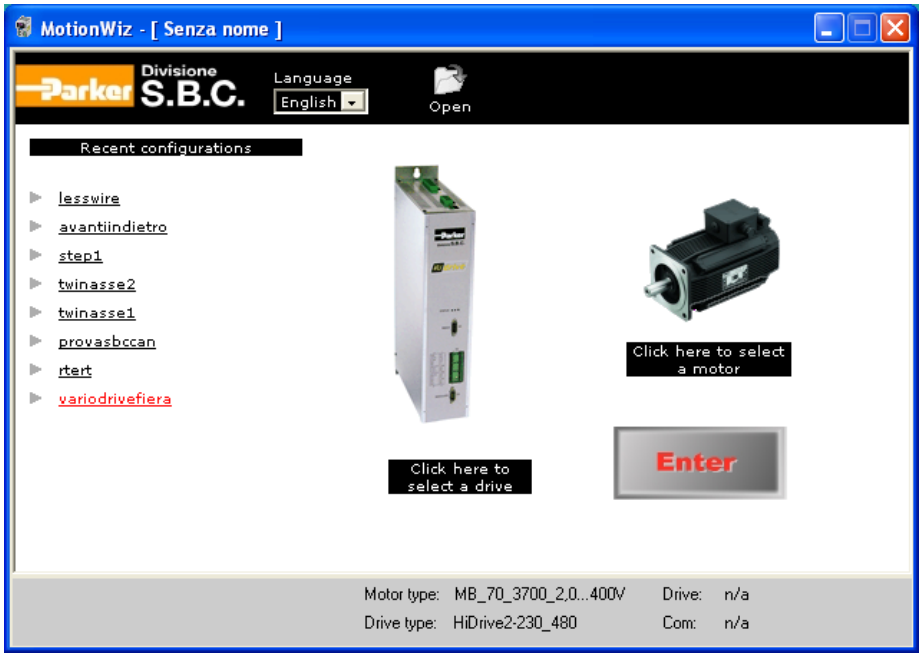


5. Speed Feedback Change

In this chapter we link another motor to the drive; this motor has a Less Wiring Encoder feedback.
The first operation is connect the motor to the drive at terminal X7 (link together PTC pins…).
Using the key-pad put the drive in DEF mode:

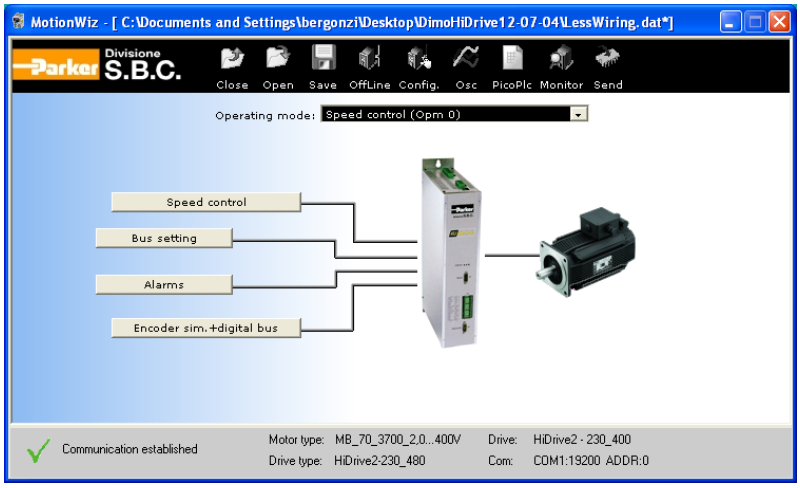
- Pb39.13 = 0
- Pb42.12 = 1
- Pb42.14 = 1
- Pb42.15 = 1.
- Switch off and on the drive

Open MotionWiz, select drive end motor:

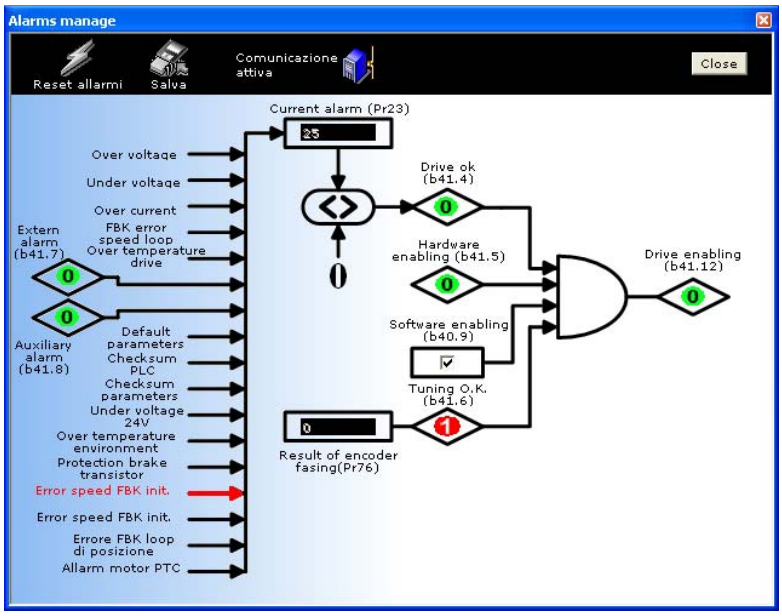


Push ENTER button and save these settings in LessWirinig.dat file (Save ikon).
Push Config button and autodetect the serial link.
Send the file on the drive (Send ikon).
Save and switch off and on the drive

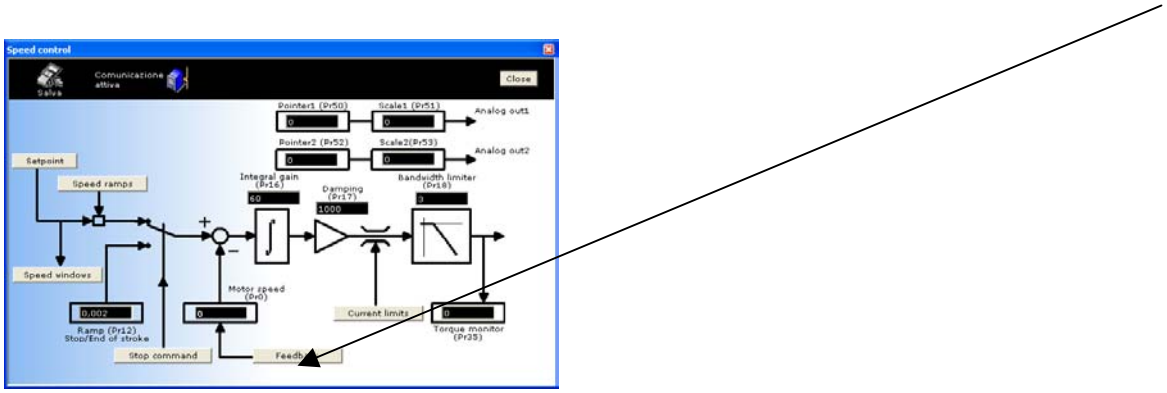
Go OnLine:

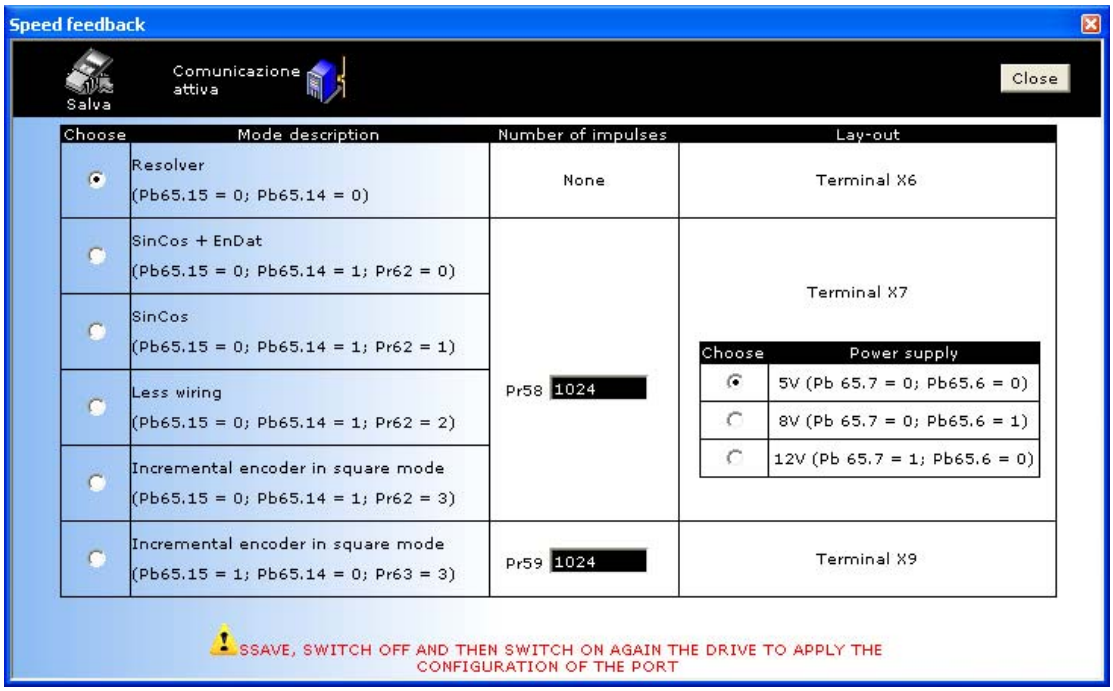


Open the Alarms Window:

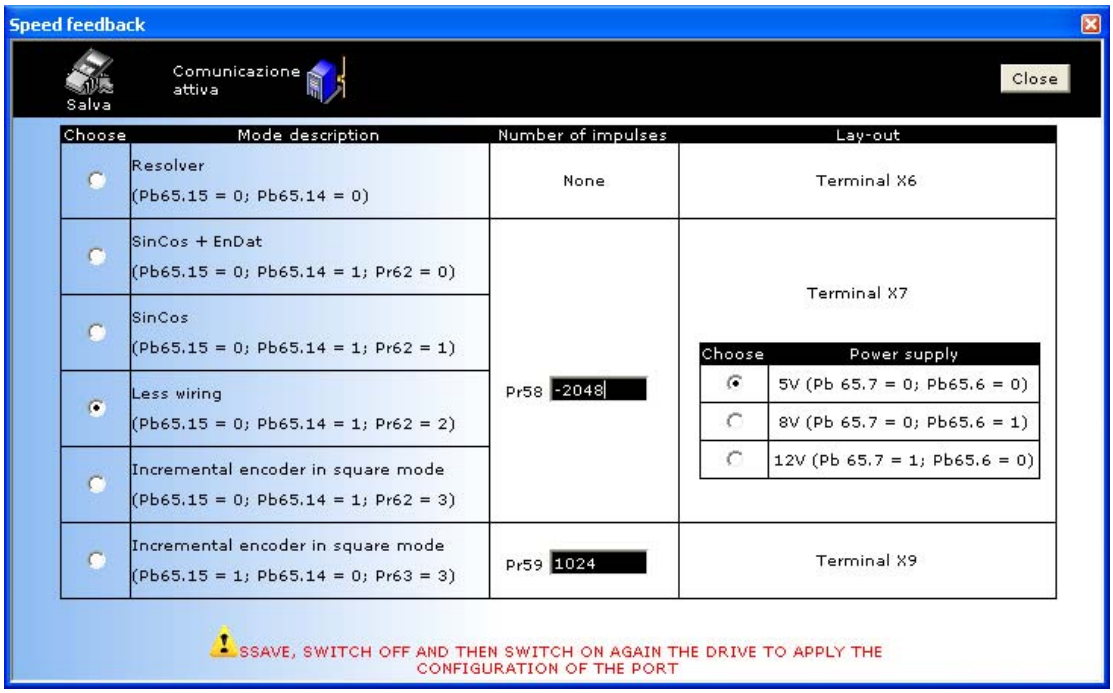


You can see error 25 (in the key-pad the message is the same..) and it's correct because we don't have select the feedback. For do this you must go in the speed control window and push feedback:





In this window select: LessWiring, -2048 (- is…) and 5V:



Save, switch off and on the drive…. You are in IDLE mode… procedure END!!
At this point you can control the motor how displyed to the top of this document: speed, positioner,etc…
The same philosophy is implemented for select the feedback position…. See it in the MotionWiz..
Try to download only the Pico-plc from AvantiIndietro.dat…..
I have build this file AvInLessWiring.dat and we try to restore it on the drive in DEF mode…