LinMot®

Easy Steps

Quick Start Help for the Drives:

B1100-PP (-HC, -XC)

Quick Start Guide B1100-PP

Table of Content

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System Overview

This manual gives a short step by step introduction to the functionality of the B1100-PP(-HC/-XC) drive family.

References

Ref	Name	Source
1	Installation_Guide_B1100.pdf	www.linmot.com
2	Usermanual_LinMot-Talk.pdf	www.linmot.com
3	Usermanual_EasySteps_Appl.pdf	www.linmot.com
4	Usermanual_MotionCtrlSW.pdf	www.linmot.com

The documentation is distributed with the LinMot-Talk configuration SW, which can be downloaded from the LinMot homepage for free.

For more detailed information about the functionality of the SW please refer to the manuals above:

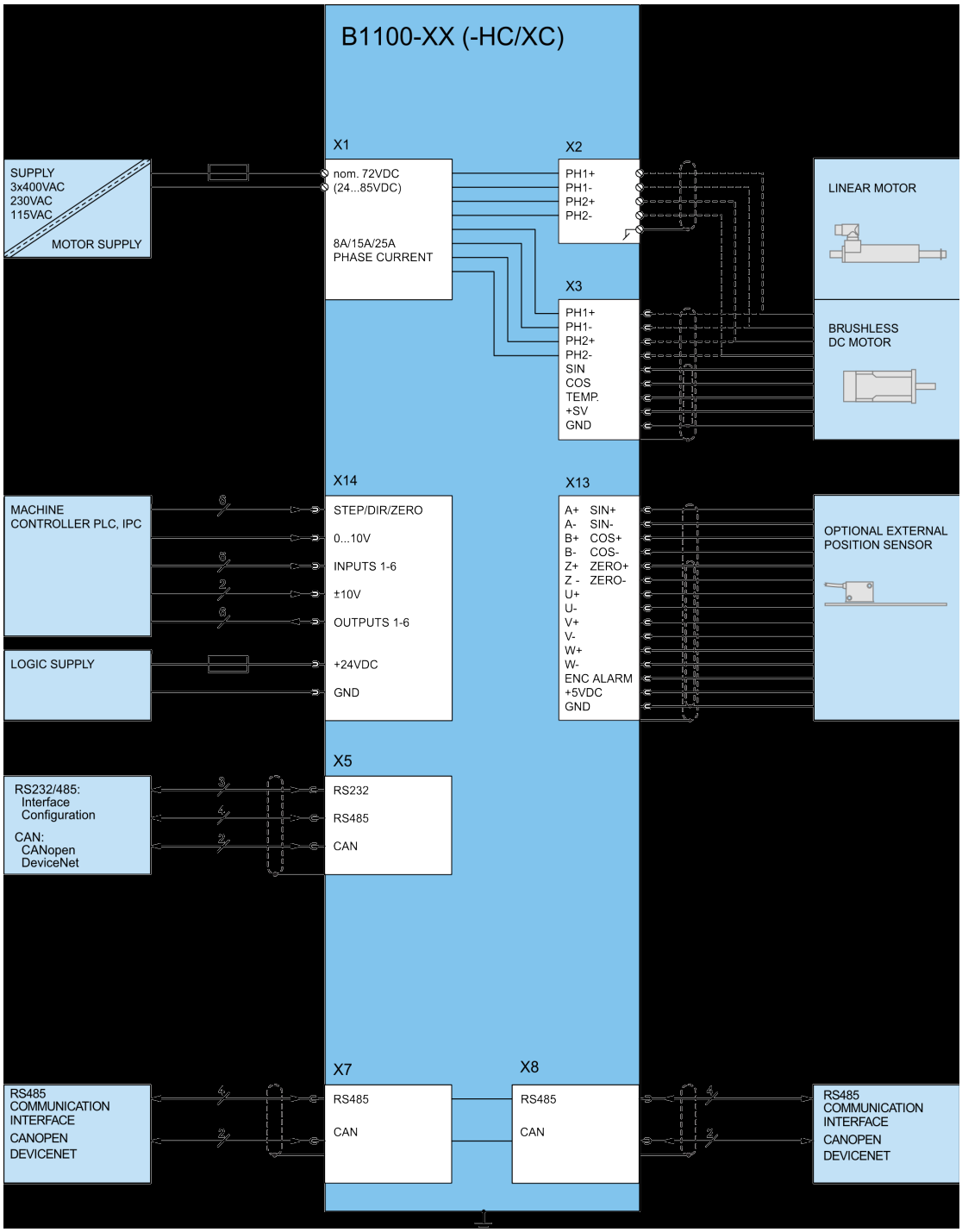
- Installation_Guide_B1100.pdf:
  data sheet, wiring and connections

- Usermanual_LinMot-Talk.pdf:
  how to use the configuration software

- Usermanual_EasySteps_Appl.pdf :
  EasySteps application software description (smart control word behavior, analog parameter scaling and IO motions)

- Usermanual_MotionCtrlSW.pdf:
  motion controller software description (State machine, motion interface)

Wiring



Typical servo system B1100-XX-YY: Drive, motor and power supply.

Getting Started

Connect the motor to the drive, wire at least the motor power supply on X1 and the 24VDC logic supply on X14.

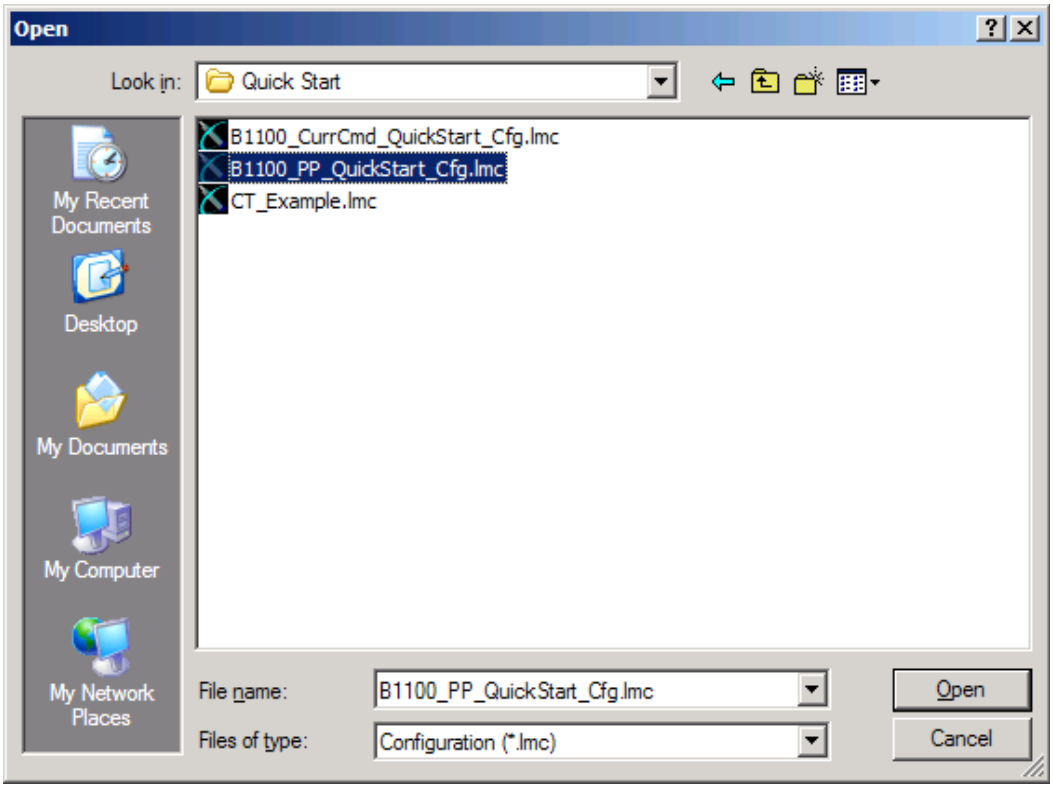
Connect your configuration PC using a 1:1 serial RS232 cable (female/female) with the drive's X5.

Switch on the 24V logic supply.

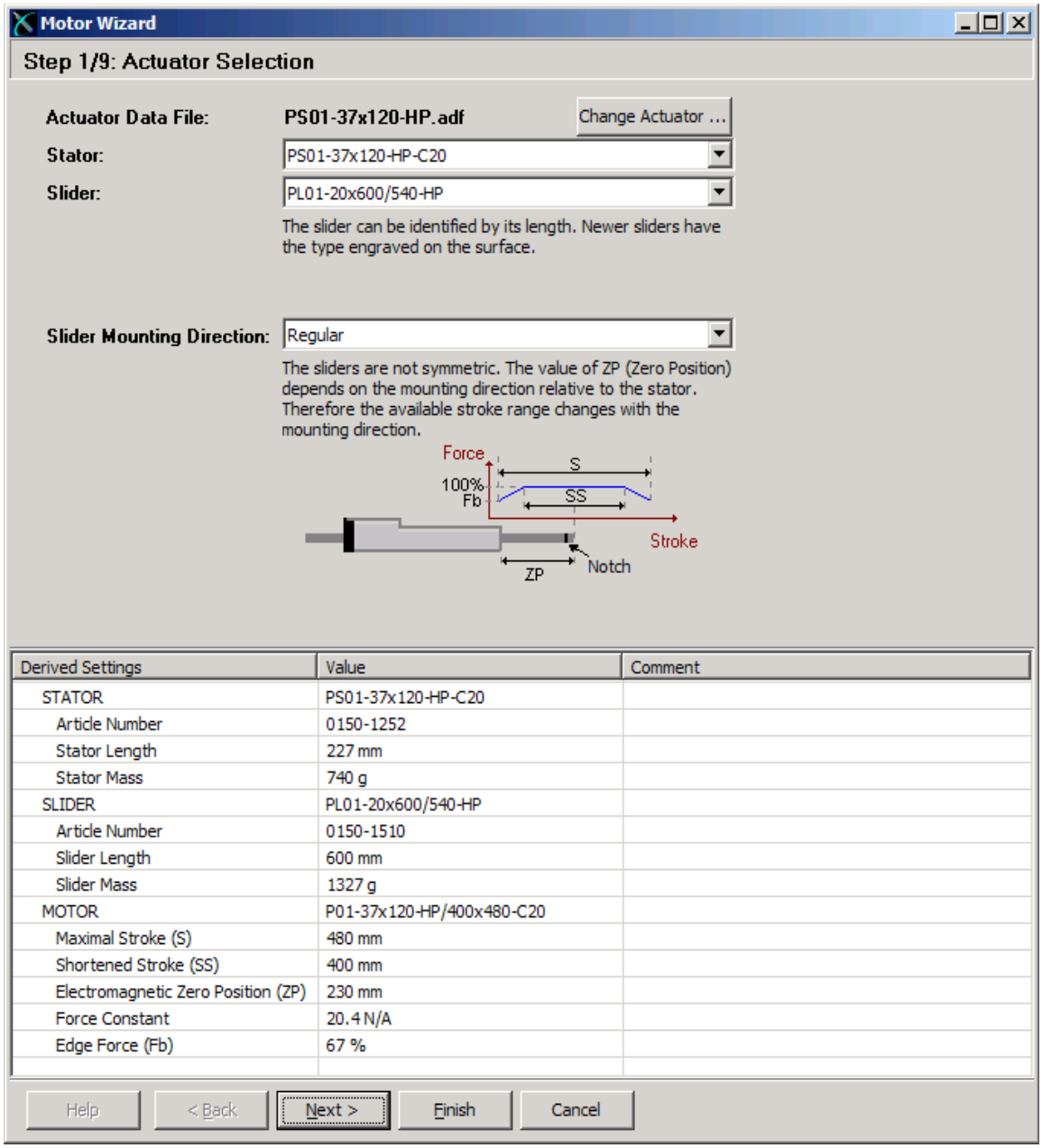
Start the LinMot-Talk configuration software.

Login the drive.

Import the B1100_PP_QuickStrt_Cfg.lmc configuration file:

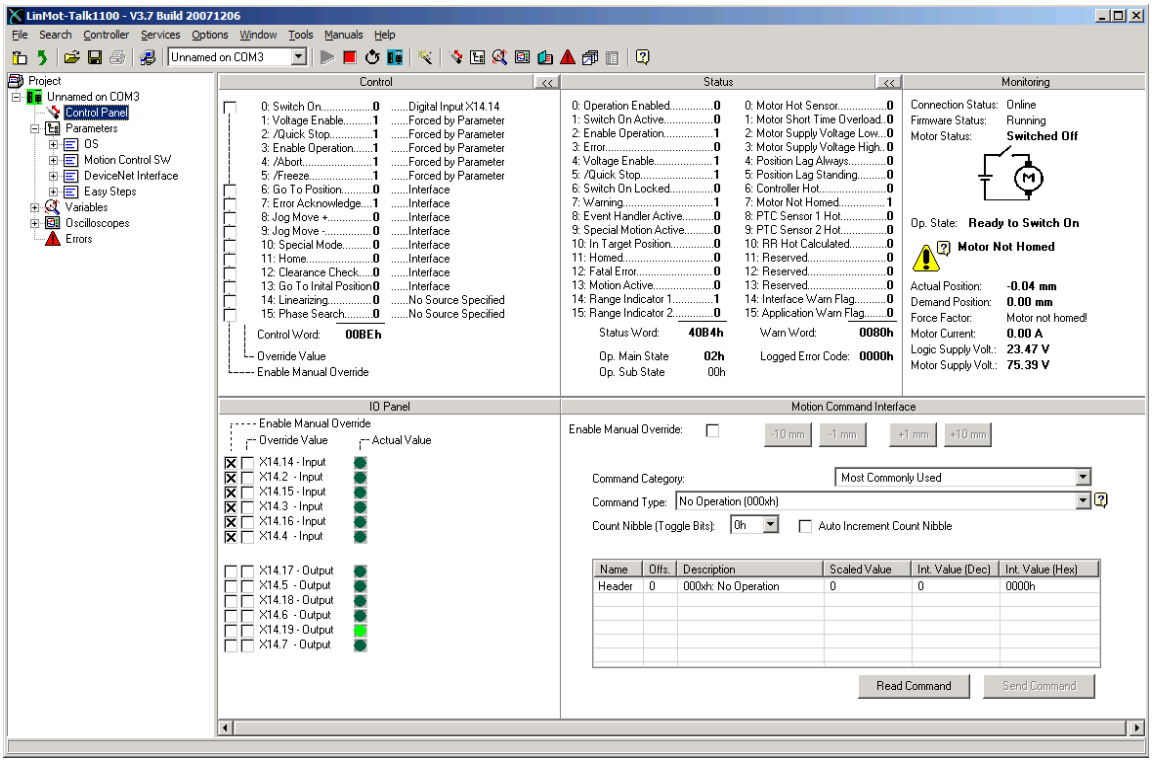


Start the motor wizard to configure your motor type, follow steps 1 to 9:

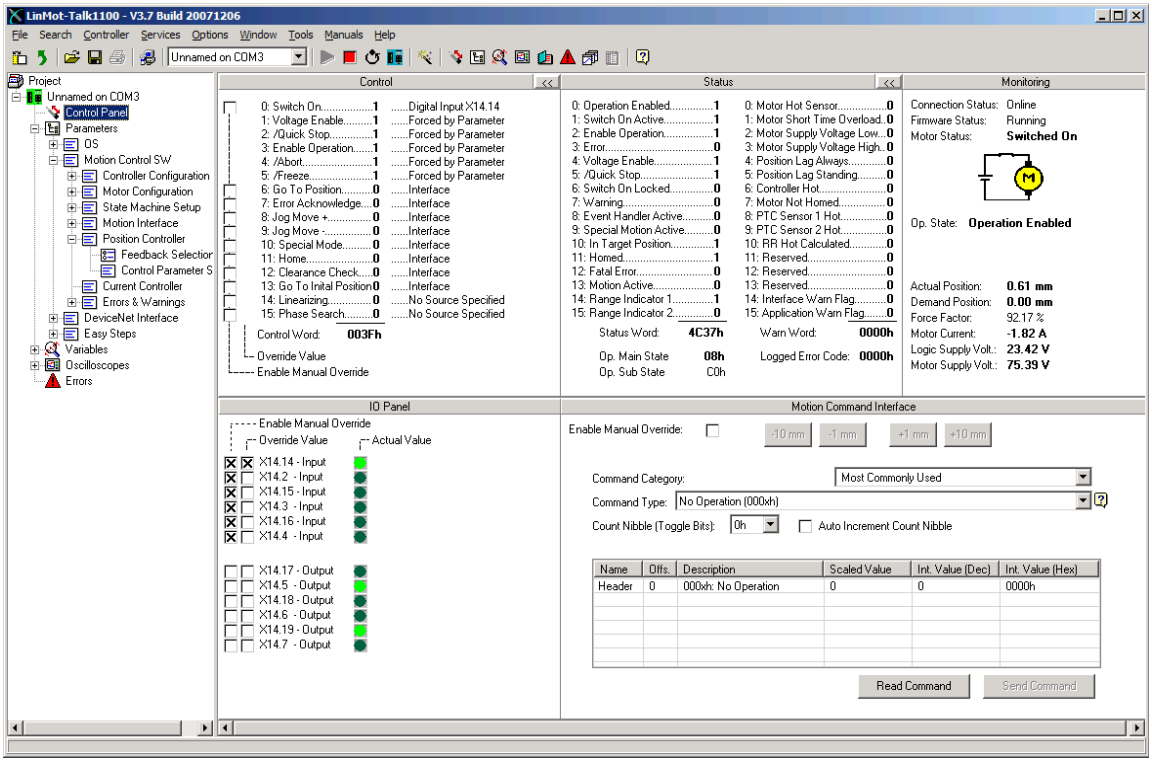


Switch on the motor power supply.

The EasySteps software can be used to control the motor over digital inputs and outputs. For testing purposes, you can wire these inputs and outputs to your control panel or simply force the values from the IO panel section in the control panel of the LinMot-Talk software:

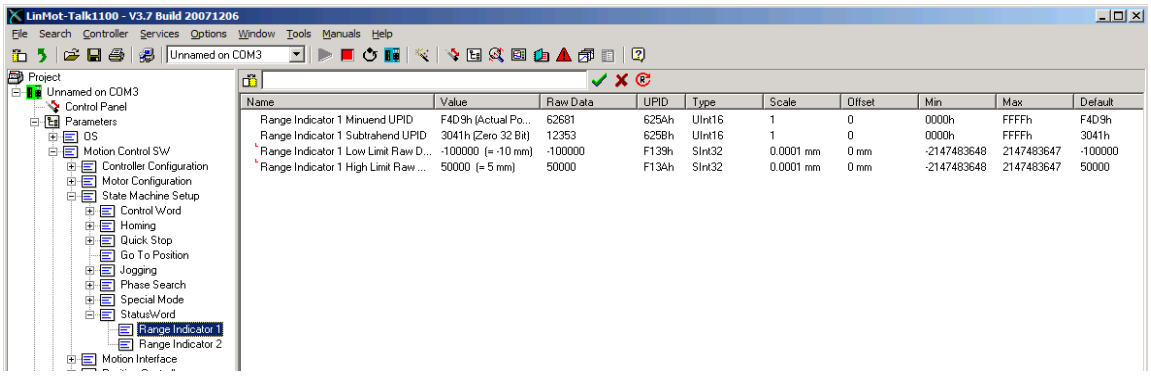


Set the input X14.14 high in order to get the motor controlled. It will automatically move for homing:



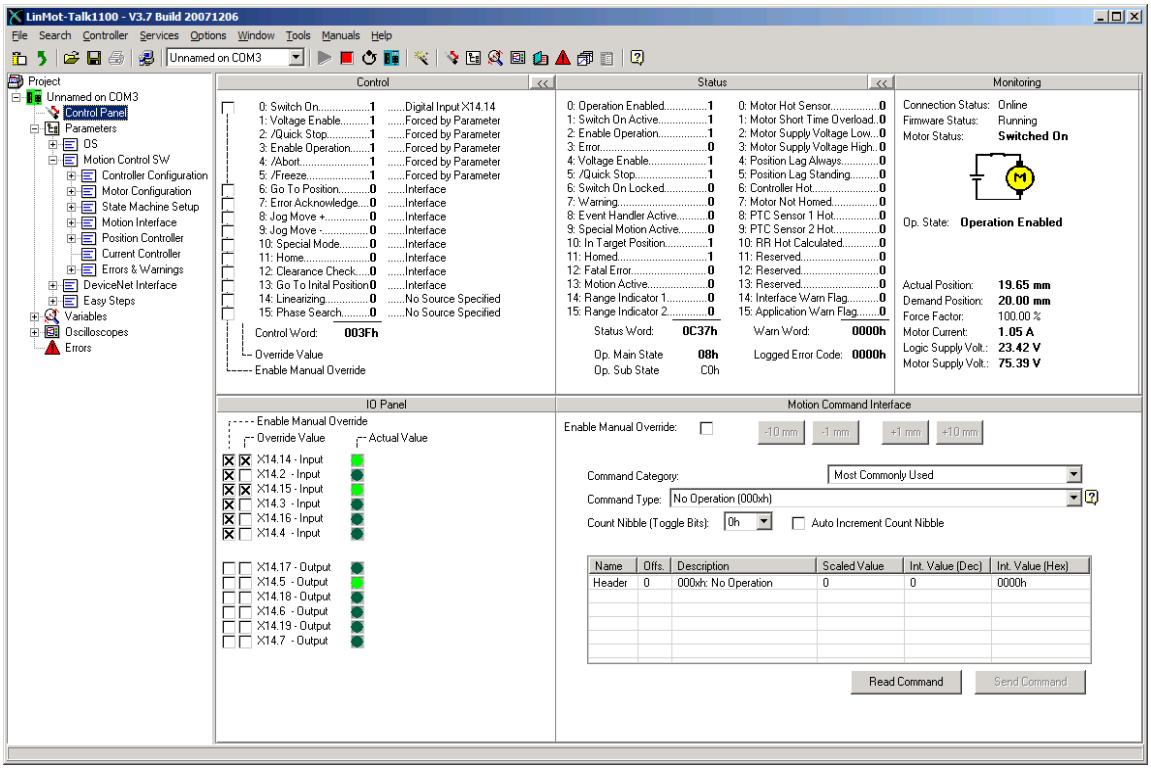
After the homing sequence, the output on X14.5 goes high indicating the motor is in target position. Also the range indicator 1 output goes high (position range between –10mm and 5mm).

The range indicator 1 is configured as shown:



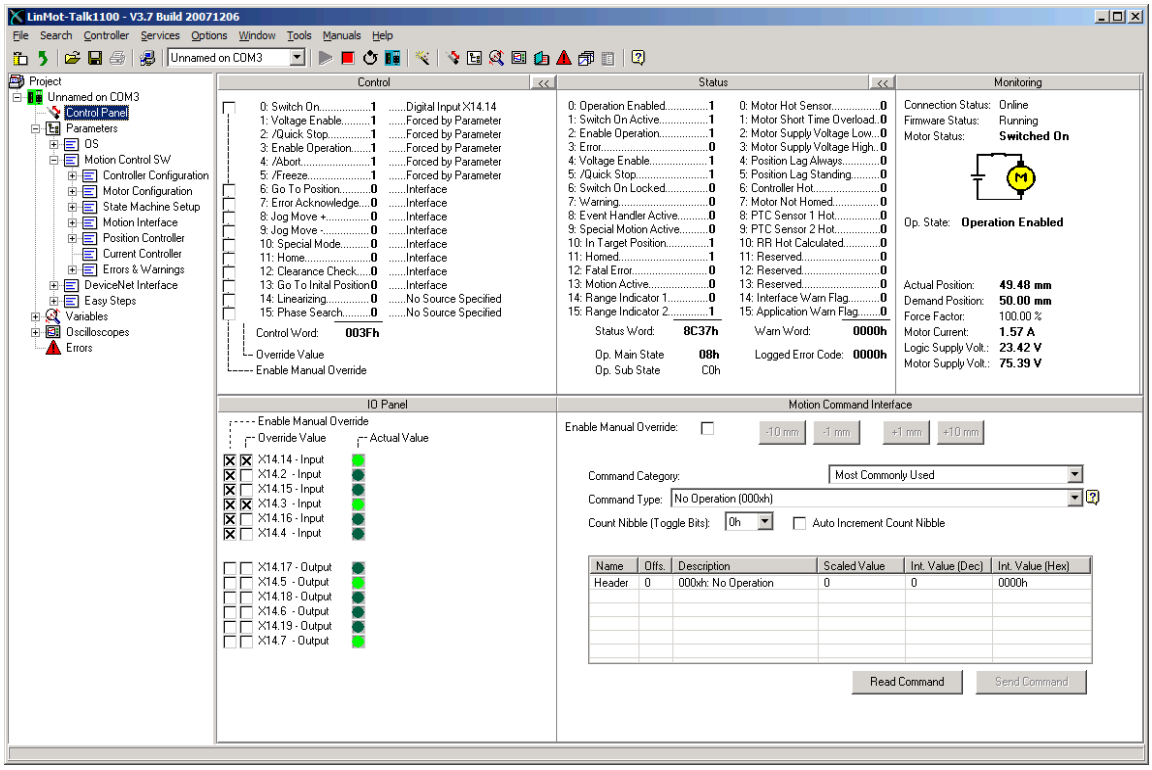
This output is high, if the term (Actual Position – 0) is in the range -10mm .. 5mm.

Set the input X14.15 high, so the motor moves to 20mm. This absolute motion command is configured in the EasySteps parameter section.



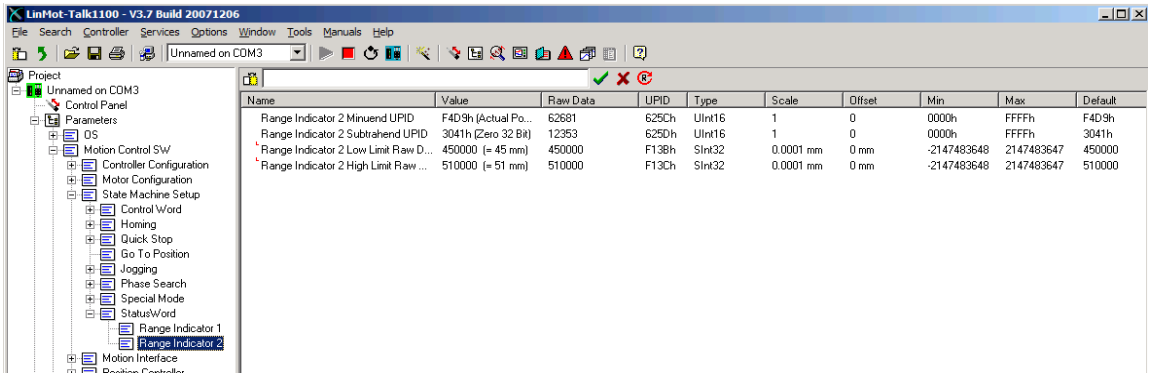
The output of range indicator 1 (mapped to X14.19) has been cleared. The output in target position (X14.5) may be cleared for a short time and will be set again.

Set the input X14.3 high, so motor moves to 50mm. This absolute motion command is configured in the EasySteps parameter section.



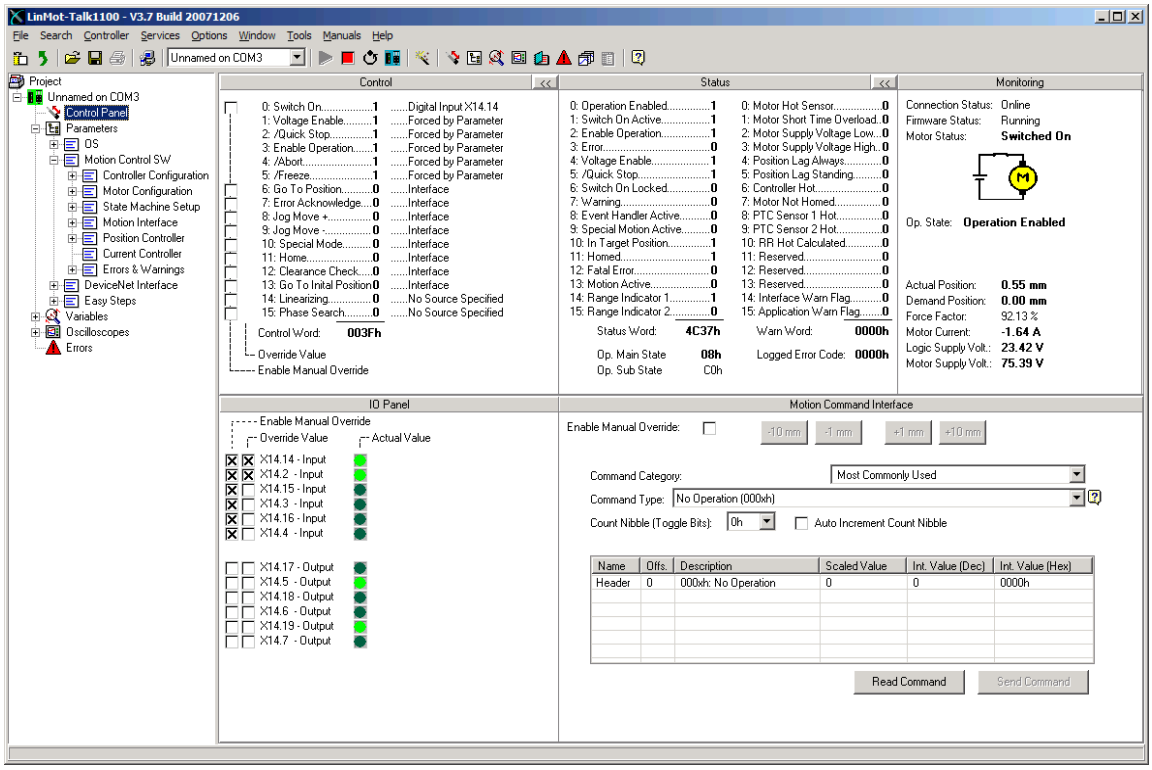
The output of range indicator 2 (mapped to X14.7) has been cleared. The output in target position (X14.5) may be cleared for a short time and will be set again.

The range indicator 2 is configured as shown:

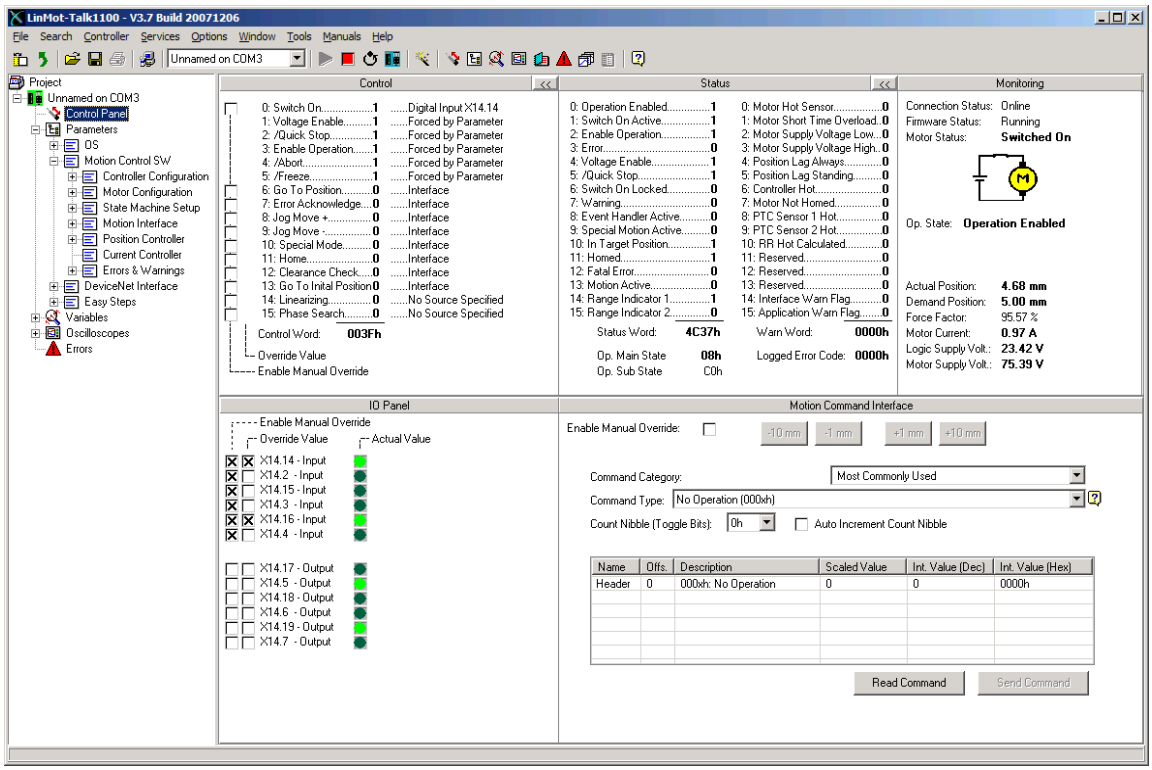


This output is high, if the term (Actual Position – 0) is in the range from 45mm to 51mm.

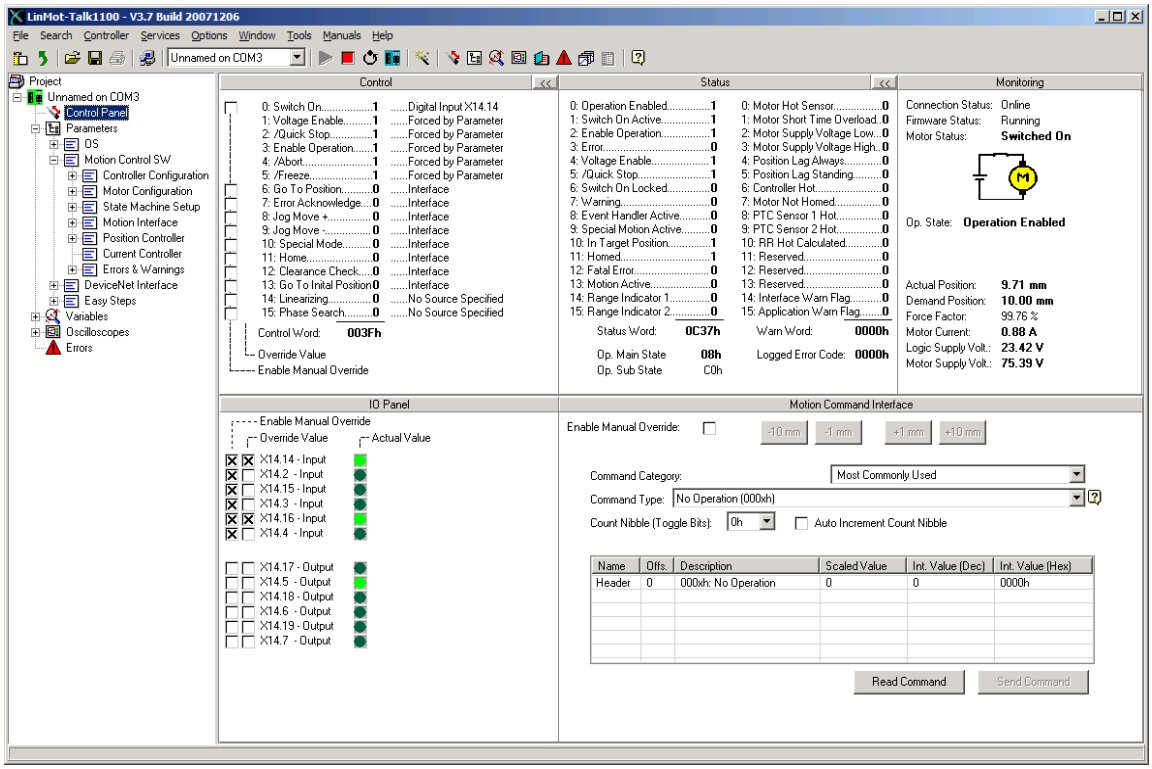
Set the input X14.2 high, the motor moves to 0mm. This absolute motion command is configured in the EasySteps parameter section:



Set the input X14.16 high, the motor moves to 5mm. This incremental motion command is configured in the EasySteps parameter section as well.



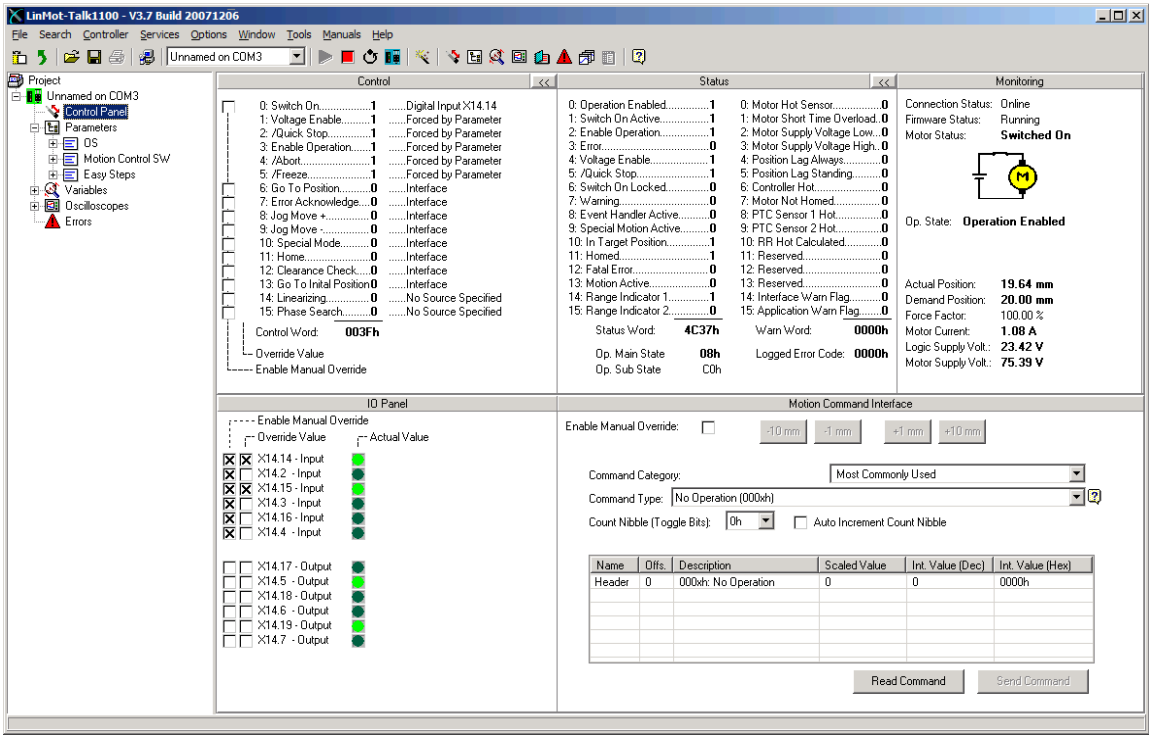
Set the input X14.16 high, the motor moves to 10mm. This incremental motion command is configured in the EasySteps parameter section.



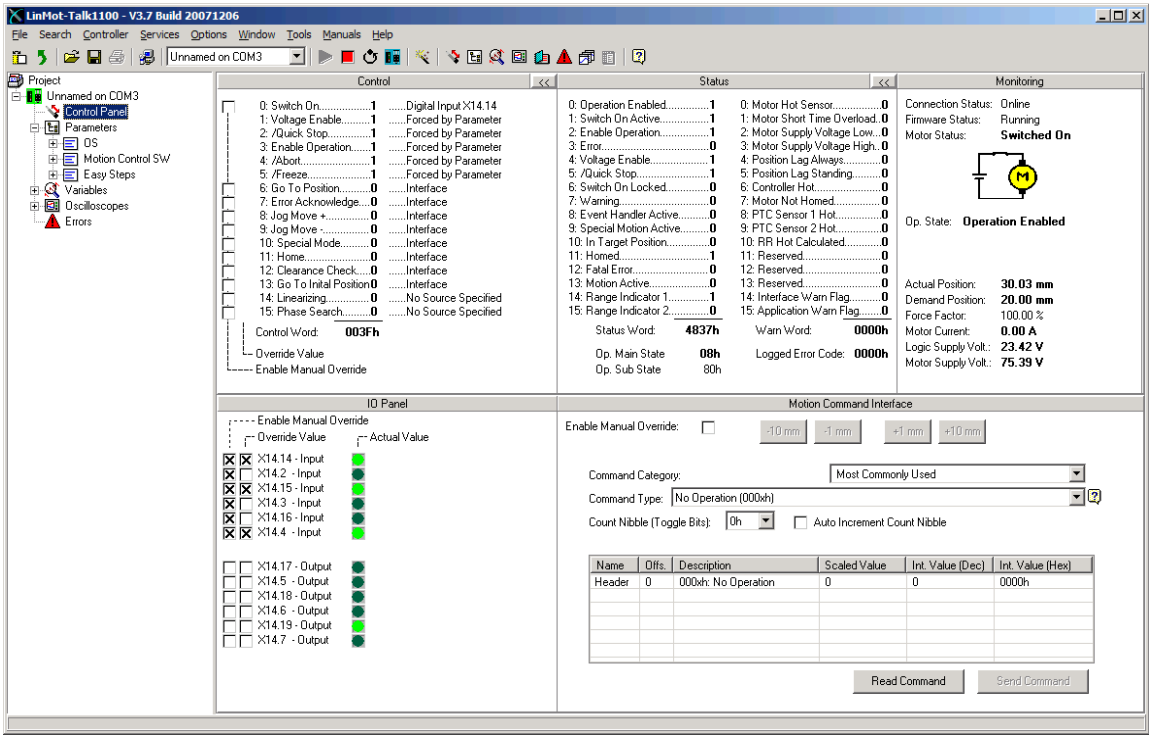
An incremental motion command can be used e.g. for stacking or de-stacking applications.

To change positions without using the LinMot-Talk software, the EasySteps software supports the possibility of teaching positions manually over a single separate input.
The following sequence has to be executed for a correct teaching:

First, select the motion, which has to be changed, by setting this output high. The motor moves to the position.



Then set the teach in input (X14.4 high), this makes the motor current less, so the motor can be moved manually to the new position (in this example 30.03mm). Note: in vertical applications the slider can drop down due to gravitation.

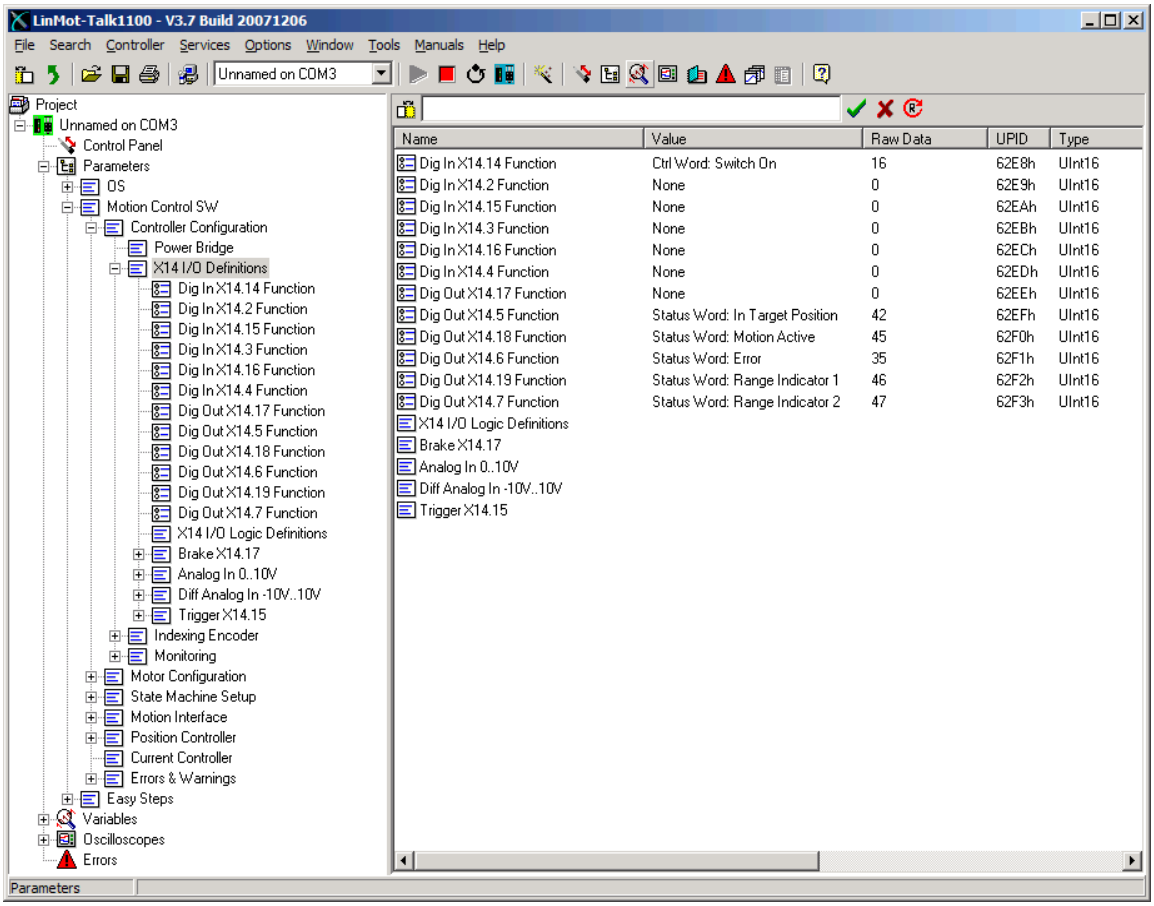


When the motor is moved to the desired position, set the teach in input low, the motor is now position controlled and powered again, and the new position for the selected IO motion is stored remanently (survives a power cycle).

Quick Start Configuration

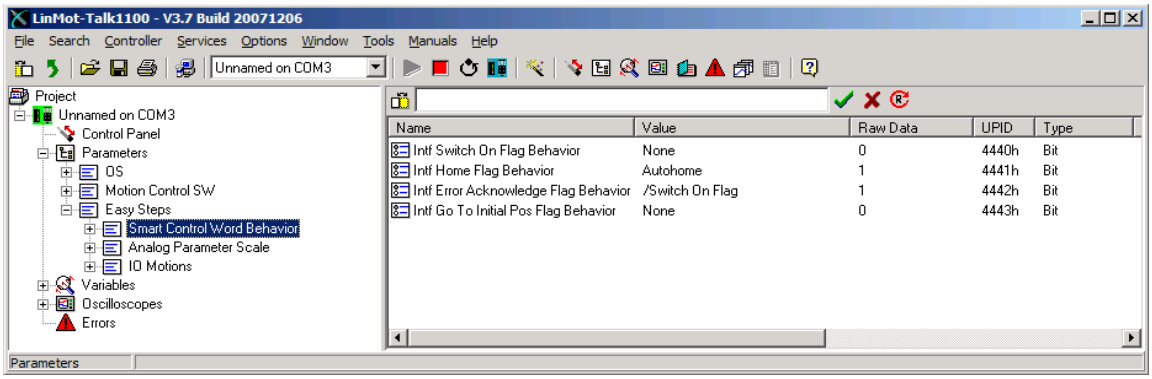
Input and Output Configuration

The inputs and outputs in the quick start example are configured as:



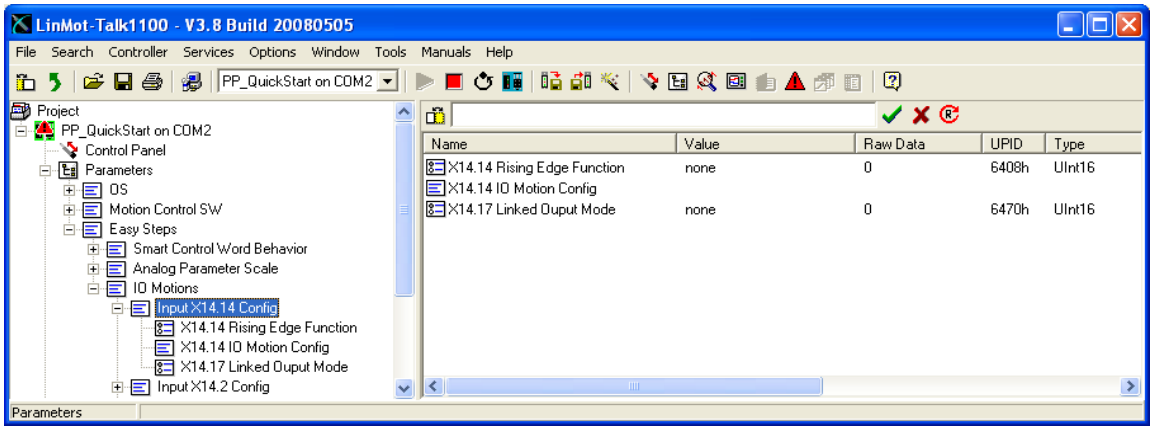
The input X14.4 is mapped to the control word bit switch ON. In the EasySteps configuration the additional behavior of this bit is configured as following:

- Auto home
- Error acknowledge to falling edge of the “Switch On“ flag

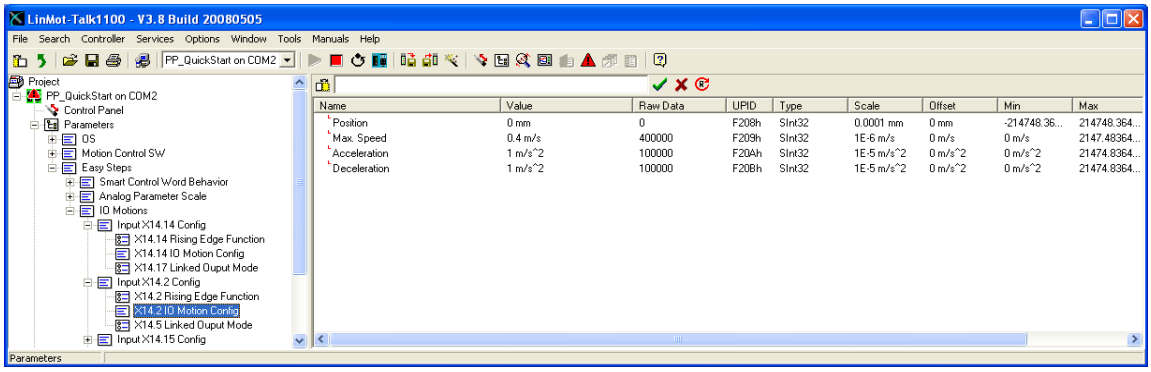


IO Motion Configuration

The input X14.14 is mapped to the control word bit “Switch On”, for this reason no IO motion functionality is configured for this input.

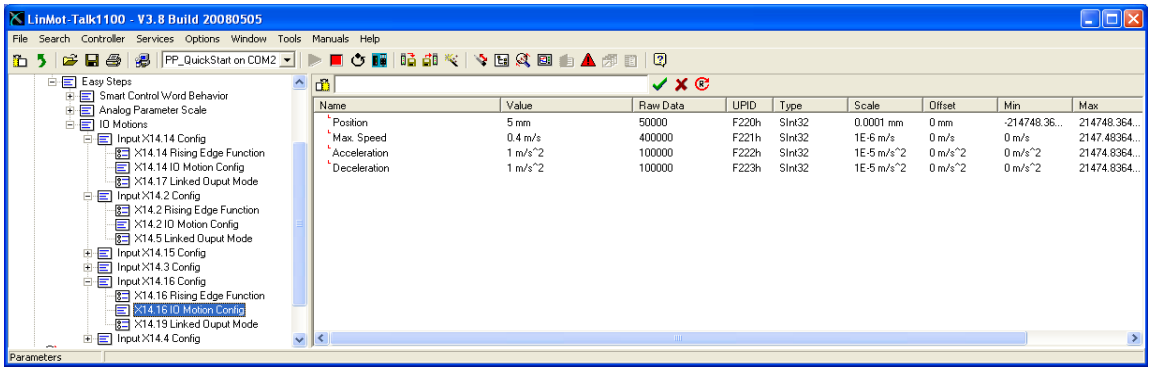


On the input X14.2 no MC SW functionality is mapped, so it’s free to use as IO motion input. In the quick start example the motion go to absolute position is configured. The motion parameters (target position = 0mm, max speed = 0.4m/s, acceleration = 1m/s^2 and deceleration = 1m/s^2) are configured in the section X14.2 IO Motion Config.



On the inputs X14.15 and X14.3 there are also configured “go to absolute position” commands, with target positions 20mm and 50mm.

On the input X14.16 ‘Increment Target Position’ IO motion command is configured. In this case the parameter position = 5mm, means not the absolute position but the target position’s increment. So on a rising edge of X14.16 the old target position is incremented by 5mm. A negative position value would decrement the target position. This kind of motion commands can be used for stacking or de-stacking applications.



On the input X14.4 the ‘Teach In IO Motion’ is configured. This functionality is only available on this input.

Contact Addresses

SWITZERLAND

NTI AG
Haerdlistr. 15
CH-8957 Spreitenbach

Sales and Administration:	+41-(0)56-419 91 91 office@linmot.com
Tech. Support:	+41-(0)56-544 71 00 support@linmot.com
Tech. Support (Skype) :	skype:support.linmot
Tech. Support (Skype) :	skype:support.linmot
Fax:	+41-(0)56-419 91 92
Web:	http://www.linmot.com/

USA

LinMot, Inc.
204 E Morrissey Dr.
Elkhorn, WI 53121

Sales and Administration:	877-546-3270 262-743-2555
Tech. Support:	877-804-0718 262-743-1284
Fax:	800-463-8708 262-723-6688
E-Mail:	us-sales@linmot.com
Web:	http://www.linmot-usa.com/

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