

LGA56: Commissioning and Closed-Loop operation



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This document provides instructions for commissioning linear actuators with integrated linear guides and attached encoders, specifically in conjunction with the **Closed-Loop controllers** of Nanotec.

You can find the data sheet and mechanical drawings for your actuator and encoder, as well as the manuals for the Nanotec controllers at us.nanotec.com.

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Auto setup

To determine a number of parameters related to the motor and the attached encoder and relish the advantages of the closed-loop operation, you must perform an auto setup, when using a Nanotec controller.



TIP

As long as the motor connected to the controller or the encoder are not changed, auto setup is only to be performed once during initial commissioning.

NOTICE



Note the following prerequisites for performing the auto setup:

- ▶ The motor must be load-free and must not be touched during the setup.
- ▶ At the start of the auto-setup, the motor must be positioned just before the negative limit (→ retract the spindle).
- ▶ Before performing the auto-setup, set the object 203C_h:04_h to "0".

For more information on closed-loop control and auto setup, please refer to the technical manual for your Nanotec controller. The software *Plug&Drive Studio 3* provides a dedicated control element for performing the auto setup and allows you to configure motor current and other parameters.

Homing on block

With this homing method, the motor is referenced to a block (end stop) rather than a limit switch. On Nanotec controllers, this method works only in *Closed Loop* mode.

For more information on closed-loop control and homing, please refer to the technical manual for your Nanotec controller.

NOTICE



To avoid damage during homing on block:

- ▶ Use a low speed for the homing run. For Nanotec controllers, configure this in the object 6099_h.
- ▶ Set the motor current and the corresponding current threshold for block detection (currently in objects 6075_h and 3219_h) to a low value. Refer to the table below for the maximum permissible value based on the exact part number.

Thread [mm]	LGA561S06	LGA561S13	LGA561S20	LGA561M10	LGA561M25	LGA561M39
UQBG: 9.53x1.27	0.18 A	0.39 A	0.60 A	0.24 A	0.60 A	0.94 A
UQBN:9.53x1.59	0.19 A	0.42 A	0.64 A	0.26 A	0.64 A	1.00 A
UQCD: 9.53x2.12	0.21 A	0.46 A	0.71 A	0.28 A	0.71 A	1.10 A
UQCN: 9.53x2.54	0.23 A	0.49 A	0.76 A	0.30 A	0.76 A	1.18 A
UQEG: 9.53x4.23	0.29 A	0.64 A	0.98 A	0.39 A	0.98 A	1.53 A
UQFC: 9.53x5.08	0.34 A	0.75 A	1.15 A	0.46 A	1.15 A	1.79 A
UQKE: 9.53x10.16	0.58 A	1.27 A	1.95 A	0.78 A	1.95 A	3.04 A
UQMS: 9.53x12.7	0.60 A	1.30 A	2.00 A	0.94 A	2.36 A	3.68 A
TSCA: 10x2	0.22 A	0.47 A	0.72 A	0.29 A	0.72 A	1.13 A
TSGA: 10x6	0.39 A	0.85 A	1.31 A	0.52 A	1.31 A	2.04 A