PLG110 Series Linear Positioning Stages

PLG110 SERIES



Linear Motor



Ballscrew with Frameless Motor



Ballscrew with In-Line Motor



Ballscrew with Parallel Motor

Feature Summary:

- Travels up to 600mm
- Loads up to 25 kg
- Internal linear or rotary encoder resolution to 0.1-microns
- Four motor options and two drivetrain options
- Adjustable limit & home sensors
- Aluminum or cast iron base
- All stages individually tested for accuracy, repeatability, straightness & flatness
- Class 10 cleanroom option

Overview

Primatics PLG110 Series positioning stages are the most compact of the all-purpose PLG series stages. Ideal for demanding applications such as inspection, attachment and alignment, the PLG110 offers unparalleled flexibility and allows the user to fit a high performance product into many different applications.

Motor Options

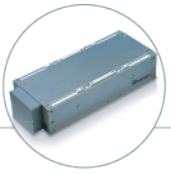
All PLG family stages are offered with four motor options; linear motor, frameless motor, in-line motor and parallel motor. The **linear motor** option offers the smoothness of a brushless linear motor in an entirely self-contained package. The **frameless motor** option integrates a brushless motor directly onto the ballscrew with no need for a motor coupler. The **in-line** and **parallel** versions accommodate a user supplied NEMA 23-sized servo or step motor. With over 6000 possible configurations, a model is available for any application.

For more information and complete datasheets, go to www.primatics.com

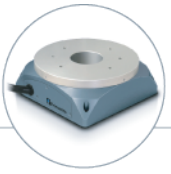
Precision Grade Performance Specs	**PLG110-50**	**PLG110-100**	**PLG110-150**	**PLG110-200**	**PLG110-300**	**PLG110-400**	**PLG110-500**	**PLG110-600**
Travel (mm)	50	100	150	200	300	400	500	600
Error Mapped Accuracy w/E6 Linear Encoder (µm)	+/- 1.4						+/- 2.0	
Error Mapped Accuracy w/E4 Linear Encoder (µm)	+/- 1.0						+/- 1.5	
Positional Repeatability w/ Linear Encoder (µm) (0.1, 0.5, 1.0 µm resolution) [2]	+/- 0.5, +/- 1.0, +/- 2.0							
Direct Loading Capacity (kg)	25							
Minimum Resolution w/ Linear Encoder (µm)	0.1							
PLG110 Linear Motor Only	**-**	**PLG110-100**	**-**	**PLG110-200**	**PLG110-300**	**PLG110-400**	**PLG110-500**	**PLG110-600**
Positional Accuracy (µm) over Total Table Travel [2,3]	-	+/- 3.5	-	+/- 5	+/- 6	+/- 7	+/- 9	+/- 10
Straightness of Travel (µm) over Total Table Travel [2]	-	+/- 2	-	+/- 3	+/- 3.5	+/- 5	+/- 6	+/- 7
Flatness of Travel (µm) over Total Table Travel [2]	-	+/- 1	-	+/- 2	+/- 2.5	+/- 3.5	+/- 4.5	+/- 5
Max Speed (mm/s) [4]	+/- 1000							
PLG110 Ballscrew Motor Only	**PLG110-50**	**PLG110-100**	**PLG110-150**	**PLG110-200**	**PLG110-300**	**PLG110-400**	**PLG110-500**	**PLG110-600**
Positional Accuracy w/Linear Encoder (µm) [2]	+/- 3	+/- 3.5	+/- 4	+/- 5	+/- 6	+/- 7	+/- 9	+/- 10
Straightness of Travel (µm) over Total Table Travel [2]	+/- 2	+/- 2.5	+/- 3	+/- 3.5	+/- 4	+/- 5	+/- 6	+/- 7
Flatness of Travel (µm) over Total Table Travel [2]	+/- 1	+/- 1.5	+/- 1.75	+/- 2	+/- 2.5	+/- 3.5	+/- 4.5	+/- 5
Max Speed (mm/s) [3]	300						200	

[1] For In-Line / Frameless motor mounts [2] Measured 50mm above center of carriage [3] 5 mm lead ballscrew [4] 0.1 µm linear encoder is limited to 300mm/s

Primatics



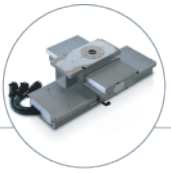
Linear Positioning



Rotary Positioning



Motion Controls

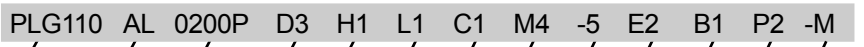


OEM Solutions

MODEL NUMBER CONFIGURATION

OPTIONS:

SAMPLE MODEL NUMBER:



Model Series & Table Width
Linear Guide Bearings - 110 mm.....**PLG110**

Base Material
Cast Iron[2].....**CI** Aluminum.....**AL**

Table Travel, Precision Grade

50 mm	**0050P**	300 mm[1]	**0300P**
100 mm[1]	**0100P**	400 mm[1]	**0400P**
150 mm	**0150P**	500 mm[1]	**0500P**
200 mm[1]	**0200P**	600 mm[1]	**0600P**

Drivetrain

5 mm Lead Ballscrew	**D1**	Linear Motor- Standard	**D3**
10 mm Lead Ballscrew[2]	**D2**	Linear Motor- Extended[3]	**D4**

Home Sensor
N.C. Current Sinking .....**H1** N.O. Current Sinking **H2**

Travel Limits
N.C. Current Sinking.....**L1** N.O. Current Sinking.....**L2**

Motor Coupling

No Coupling	**C1**	8mm Flexible Disk[4]	**C4**
0.25" Flexible Disk	**C2**	9mm Flexible Disk	**C5**
0.375" Flexible Disk	**C3**		

Motor Mount

Nema 23 In-Line	**M1**	Nema 23 Parallel, Position 2[5]	**M3**
Nema 23 Parallel, Position 1[5]	**M2**	Linear/Frameless	**M4**

Motor Type
Step Motor w/connector **1**
Brushless Servo Motor w/ 1250 Line Encoder **2**
Frameless Motor - Single Stack **4**
Linear Motor **5**
No Motor.....**6**
Frameless Motor - Double Stack.....**7**

Encoder

No Encoder	**E1**	Linear Encoder - 0.2 µm	**E6**
Linear Encoder - 1 µm	**E2**	Linear Encoder - 5.0 µm	**E7**
Linear Encoder - 0.5 µm	**E3**	Analog Output - 1VPP	**E8**
Linear Encoder - 0.1 µm	**E4**	Rotary Encoder - 2500 lines[6]	**E9**
Rotary Encoder - 1250 lines[6]	**E5**	Rotary Encoder - 5000 lines[6]	**E0**

Brake Option
No Brake.....**B1** Failsafe Brake[7].....**B2**

Protection Level
Level 1 - Hardcover.....**P1**
Level 2 - Hardcover, Belts, Hi Pressure.....**P2**
Level 5 - Class 10 Prep (Hardcover, Belts, Hi Flow).....**P5**

Options
Error Mapping .....**M**
No Options .....**(Leave Blank)**

[1] Standard Linear Motor Travel [2] Precision Rolled [3] Reduces Travel by 40mm
[4] Standard on In-line/Parallel Stages [5] Accuracy & Repeatability are Derated [6] On Ballscrew Shaft [7] Ballscrew Only
* **Not all configurations are valid. Consult factory for assistance.**

32114 Mallard Ave., PO Box 409, Tangent, OR 97389-0409, USA | Phone: [541] 791-9678 | Toll Free: [888] 754-3111 | Fax: [541] 791-9410
www.primatics.com