PLG210 Series Linear Positioning Stages

PLG210 SERIES



Linear Motor



Ballscrew with Frameless Motor



Ballscrew with In-Line Motor



Ballscrew with Parallel Motor

Feature Summary:

- Travels up to 1200mm
- Loads up to 100 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

Overview

Primatics PLG210 Series positioning stages are the largest of the all-purpose PLG series stages. Ideal for demanding applications such asinspection, attachment and alignment, the PLG210 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 34-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

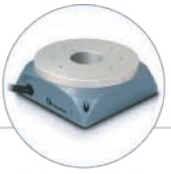
Precision Grade Performance Specs	**PLG210-100**	**PLG210-200**	**PLG210-300**	**PLG210-400**	**PLG210-600**	**PLG210-800**	**PLG210-1000**	**PLG210-1200**
Travel (mm)	100	200	300	400	600	800	1000	1200
Error Mapped Accuracy for Stage w/E6 Linear Encoder (µm)	+/- 1.4				+/- 2.0			
Error Mapped Accuracy for Stage w/E4 Linear Encoder (µm)	+/- 1.0				+/- 1.5			
Positional Repeatability w/ Linear Encoder (µm) (0.1, 0.5, 1.0 µ resolution) [2]	+/- 0.5, +/- 1.0, +/- 2.0							
Direct Loading Capacity (kg)	100							
Minimum Resolution w/ Linear Encoder (microns)	0.1							
PLG210 Linear Motor Only	**PLG210-100**	**PLG210-200**	**PLG210-300**	**PLG210-400**	**PLG210-600**	**PLG210-800**	**PLG210-1000**	**PLG210-1200**
Positional Accuracy (µm) over Total Table Travel [3]	+/- 3	+/- 5	+/- 6	+/- 7	+/- 10	+/- 13	+/- 16	+/- 19
Straightness of Travel (µm) over Total Table Travel [2]	+/- 2	+/- 3	+/- 3.5	+/- 4.5	+/- 7	+/- 9	+/- 11	+/-13
Flatness of Travel (µm) over Total Table Travel [2]	+/- 1.5	+/- 2.5	+/- 3	+/- 4	+/- 6	+/- 8	+/- 10	+/- 12
Max Speed (mm/s) [4]	1000							
PLG210 Ballscrew Motor Only	**PLG210-100**	**PLG210-200**	**PLG210-300**	**PLG210-400**	**PLG210-600**	**PLG210-800**	**PLG210-1000**	**PLG210-1200**
Positional Accuracy w/ Linear Encoder (µm) [2]	+/- 3	+/- 5	+/- 6	+/- 7	+/- 10	+/- 13	+/- 16	+/- 19
Straightness of Travel (µm) over Total Table Travel [2]	+/- 2.5	+/- 3	+/- 4	+/- 4.5	+/- 7	+/- 9	+/- 11	+/- 13
Flatness of Travel (µm) over Total Table Travel [2]	+/- 1.5	+/- 2.5	+/- 3	+/- 4	+/- 6	+/- 8	+/- 10	+/- 12
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

ORDERING INFORMATION MATRIX

OPTIONS:

SAMPLE MODEL NUMBER:



Model Series & Table Width
Linear Guide Bearings - 210 mm.....**PLG210**

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

Table Travel, Precision Grade
100 mm[1].....**0100P** 600 mm[1].....**0600P**
200 mm[1].....**0200P** 800 mm[1].....**0800P**
300 mm[1].....**0300P** 1000 mm[1,2].....**1000P**
400 mm[1].....**0400P** 1200 mm[1,2].....**1200P**

Drivetrain
5 mm Lead Ballscrew.....**D1** Linear Motor- Standard..**D5**
10 mm Lead Ballscrew[2].....**D2** Linear Motor- Extended[3].**D6**

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** 14mm Flexible Disk **C7**
0.5" Flexible Disk[4] .....**C6** 0.375" Flexible Disk **C8**

Motor Mount
Nema 34 In-Line.....**M1** Nema 34 Parallel, Position 2[5].....**M3**
Nema 34 Parallel, Position 1[5].....**M2** Linear/Frameless.....**M4**

Motor Type
Step Motor w/connector **1**
Brushless Servo Motor w/ 1250 Line Encoder.....**2**
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 75mm
[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.**

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