PLG160 Series Linear Positioning Stages

PLG160 SERIES



Linear Motor



Ballscrew with Frameless Motor



Ballscrew with In-Line Motor



Ballscrew with Parallel Motor

Feature Summary:

- Travels up to 800mm
- Loads up to 50 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 PLG160 Series positioning stages are the mid-size entries of the all-purpose PLG series stages. Ideal for demanding applications such as inspection, attachment and alignment, the PLG160 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	PLG160-50	PLG160-100	PLG160-150	PLG160-200	PLG160-300	PLG160-400	PLG160-500	PLG160-600	PLG160-800
Travel (mm)	50	100	150	200	300	400	500	600	800
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)	50								
Minimum Resolution w/ Linear Encoder (µm)	0.1								
PLG160 Linear Motor Only	-	PLG160-100	-	PLG160-200	PLG160-300	PLG160-400	PLG160-500	PLG160-600	PLG160-800
Positional Accuracy (µm) over Total Table Travel [3]	-	+/- 3	-	+/- 5	+/- 6	+/- 7	+/- 9	+/- 10	+/- 13
Straightness of Travel (µm) over Total Table Travel [2]	-	+/- 1.75	-	+/- 2.5	+/- 3.5	+/- 4.5	+/- 6	+/- 7	+/- 9
Flatness of Travel (µm) over Total Table Travel [2]	-	+/- 1	-	+/- 1.5	+/- 2.5	+/- 3.5	+/- 4.5	+/- 5	+/- 7
Max Speed (mm/s) [4]	1000								
PLG160 Ballscrew Motor Only	PLG160-50	PLG160-100	PLG160-150	PLG160-200	PLG160-300	PLG160-400	PLG160-500	PLG160-600	PLG160-800
Positional Accuracy w/Linear Encoder (µm) [2]	+/- 2.5	+/- 3	+/- 4	+/- 5	+/- 6	+/- 7	+/- 9	+/- 10	+/- 13
Straightness of Travel (µm) over Total Table Travel [2]	+/- 1.75	+/- 2.5	+/- 3	+/- 3	+/- 3.5	+/- 4.5	+/- 6	+/- 7	+/- 9
Flatness of Travel (µm) over Total Table Travel [2]	+/- 1	+/- 1.25	+/- 1.5	+/- 1.75	+/- 2.5	+/- 3.5	+/- 4.5	+/- 5	+/- 7
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

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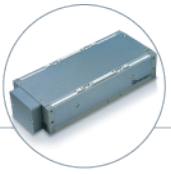
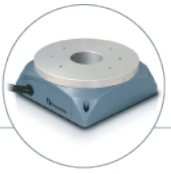


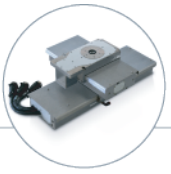
Linear Positioning



Rotary Positioning



Motion Controls

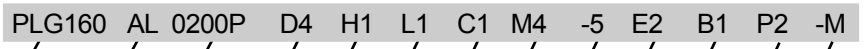


OEM Solutions

MODEL NUMBER CONFIGURATION

OPTIONS:

SAMPLE MODEL NUMBER:



Model Series & Table Width
Linear Guide Bearings - 160 mm.....**PLG160**

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

Table Travel, Precision Grade
50 mm.....**0050P** 400 mm[1].....**0400P**
100 mm[1].....**0100P** 500 mm[1].....**0500P**
150 mm.....**0150P** 600 mm[1].....**0600P**
200 mm[1].....**0200P** 800 mm[1].....**0800P**
300 mm[1].....**0300P**

Drivetrain
5 mm Lead Ballscrew.....**D1** Linear Motor- Standard..**D4**
10 mm Lead Ballscrew[2] ...**D2** Linear Motor- Extended[3].**D5**

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]Allow Longer Delivery Time [3]Reduces Travel by 50mm
[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.**

Primatics
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