

High-Load Linear Actuator

Dynamic, High-Resolution Precision Drive with DC or Stepper Motor



L-239

- High drive force up to 300 N
- Travel range 52 mm (2")
- Minimum incremental motion 0.1 μm
- Velocity to 50 mm/s
- Preloaded, low-friction ball screw

Product overview

High-resolution high-load linear actuator. Stepper motor for high torque. Highly dynamic, closed-loop DC and BLDC motors for high velocities. Robust design for industrial environments.

High-quality components

- Ground ball screw for high velocities
- Low-friction output shaft bearing can handle lateral forces to 100N
- Nonrotating tip for uniform motion prevents wobble, torque, and wear at the point of contact
- Contactless limit switches protect the mechanics, a direction-sensing reference switch simplifies automation tasks
- Optional on request and at additional charge: Increase of drive force to 1000 N.

Application fields

Research. Automation. Optical alignment.

Motion	Unit		L-239.033232	L-239.035232	L-239.50AD	L-239.50SD
Active axes			X	X	X	X
Travel range in X	mm		52	52	52	52
Maximum velocity in X, unloaded	mm/s		50	50	50	25

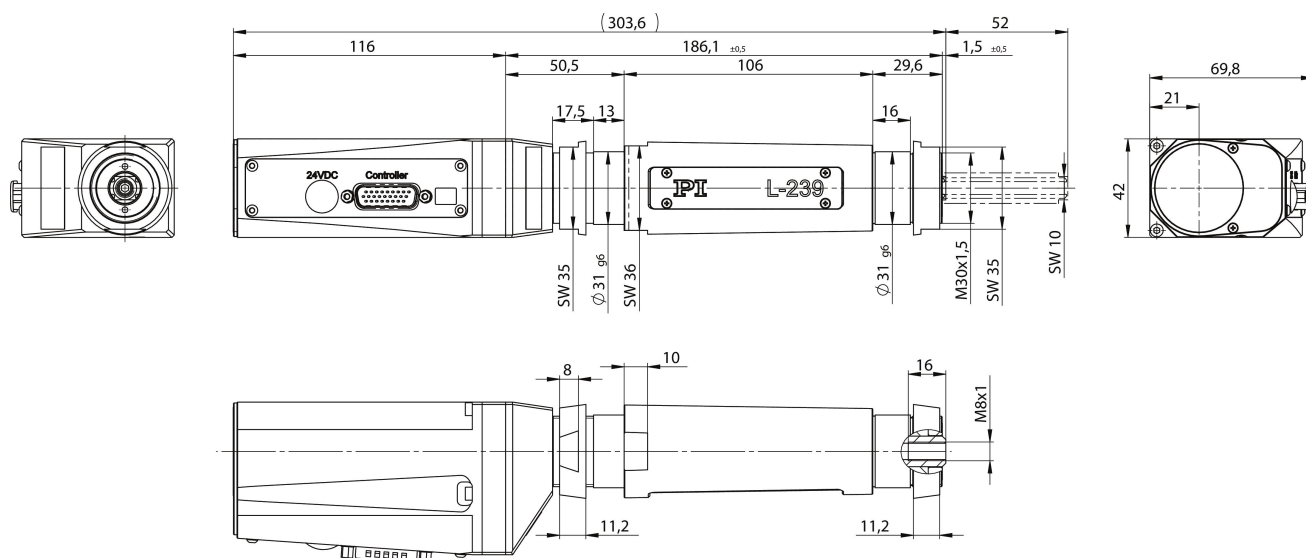
Positioning	Unit	Tolerance	L-239.033232	L-239.035232	L-239.50AD	L-239.50SD
Integrated sensor			Incremental rotary encoder	Incremental rotary encoder	Incremental rotary encoder	
Unidirectional repeatability in X	μm	Typ.	0.2	0.2	0.2	0.1
Bidirectional repeatability in X	μm	Typ.	± 1	± 1	± 1	± 1
Minimum incremental motion in X	μm	Typ.	0.2	0.2	0.2	0.1
Sensor signal			A/B quadrature, RS-422	A/B quadrature, RS-422	A/B quadrature, RS-422	
Sensor resolution	Cts./rev.		20000	20000	20000	
Reference switch			Hall effect, N/C contact, 5 V, NPN	Hall effect, N/C contact, 5 V, NPN	Hall effect, N/C contact, 5 V, TTL	Hall effect, N/C contact, 5 V, NPN
Limit switches			Hall effect, N/C contact, 5 V, NPN	Hall effect, N/C contact, 5 V, NPN	Hall effect, N/C contact, 5 V, TTL	Hall effect, N/C contact, 5 V, NPN

Drive Properties	Unit	Tolerance	L-239.033232	L-239.035232	L-239.50AD	L-239.50SD
Drive type			DC motor	Brushless DC motor	DC motor with Active-Drive	2-phase stepper motor
Motor resolution	Full steps/rev.					200
Nominal voltage	V		24	24	24	24
Peak voltage	V		48	48	24	48
Drive force in positive direction of motion in X	N	Typ.	300	300	300	300
Drive force in negative direction of motion in X	N	Typ.	300	300	300	300

Mechanical Properties	Unit	Tolerance	L-239.033232	L-239.035232	L-239.50AD	L-239.50SD
Guide			Recirculating ball bearing guide	Recirculating ball bearing guide	Recirculating ball bearing guide	Recirculating ball bearing guide
Drive screw type			Ball screw	Ball screw	Ball screw	Ball screw
Drive screw pitch	mm		1	1	1	1
Holding force in X, passive	N		40	40	40	80
Moved mass in X, unloaded	g		155	155	155	155
Permissible push force in Y	N	Max.	10	10	10	10
Overall mass	g		1750	1750	1720	1650
Material			Aluminum, stainless steel	Aluminum, stainless steel	Aluminum, stainless steel	Aluminum, stainless steel

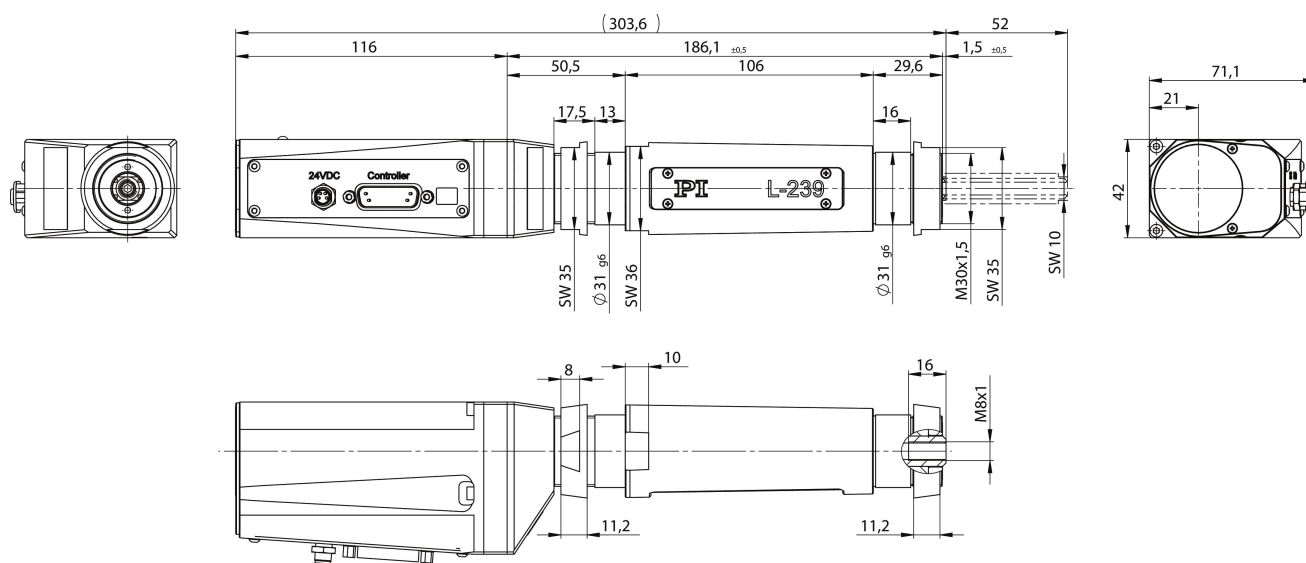
Miscellaneous	Unit		L-239.033232	L-239.035232	L-239.50AD	L-239.50SD
Operating temperature range	°C		5 to 40	5 to 40	5 to 40	5 to 40
Connector			HD D-sub 26-pin (m)	HD D-sub 26-pin (m)	D-sub 15-pin (m)	HD D-sub 26-pin (m)
Connector for supply voltage					M8 4-pin (m)	
Recommended controllers / drivers			C-863 C-885 with C-863.20C885 C-884 Modular ACS controller	C-891 C-885 with C-891.11C885 Modular ACS controller	C-863 C-885 with C-863.20C885 C-884	C-663.12 C-885 with C-663.12C885 Modular ACS controller

Drawings / Images



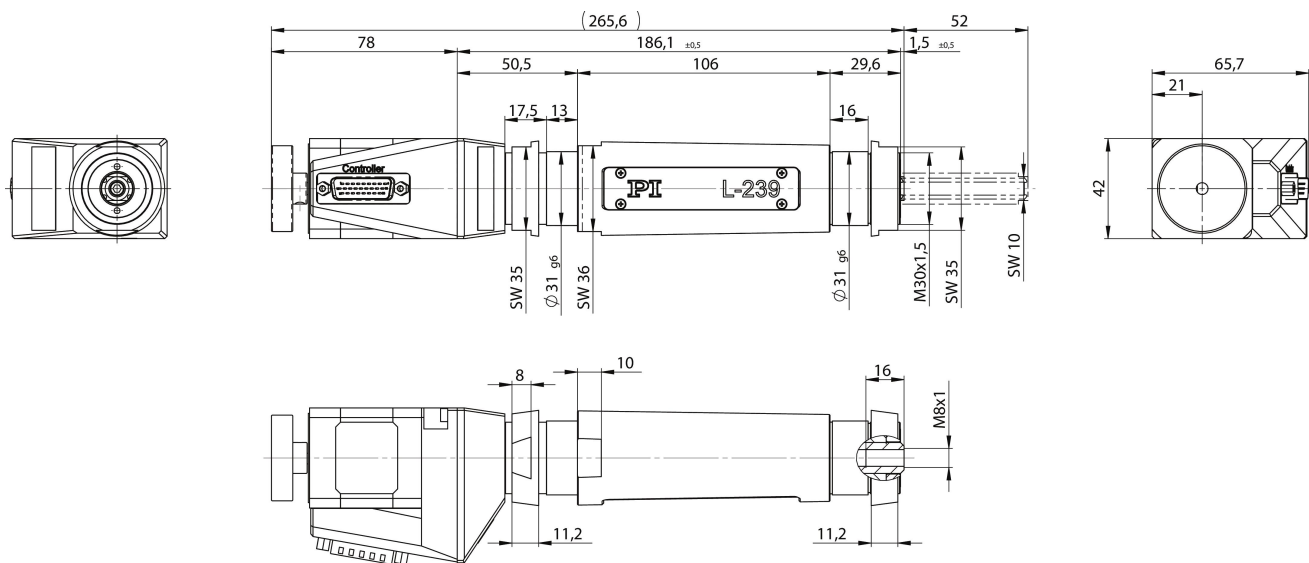
L-239.03x232, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.

Drawings / Images



L-239.50AD, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.

Drawings / Images



L-239.50SD, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.

Order Information

L-239.033232

High-load linear actuator; DC motor; 52 mm travel range; 300 N feed force; 50 mm/s maximum velocity; ball screw; incremental rotary encoder, 20000 counts/rev. sensor resolution, A/B quadrature, RS-422; limit switches: Hall effect, opener, 5 V, NPN

L-239.035232

High-load linear actuator; brushless DC motor; 52 mm travel range; 300 N feed force; 50 mm/s maximum velocity; ball screw; incremental rotary encoder, 20000 counts/rev. sensor resolution, A/B quadrature, RS-422; limit switches: Hall effect, opener, 5 V, NPN

L-239.50AD

High-load linear actuator; DC motor with ActiveDrive; 52 mm travel range; 300 N feed force; 50 mm/s maximum velocity; ball screw; incremental rotary encoder, 20000 counts/rev. sensor resolution, A/B quadrature, RS-422; limit switches: Hall effect, opener, 5 V, TTL

L-239.50SD

High-load linear actuator; 2-phase stepper motor; 52 mm travel range; 300 N feed force; 25 mm/s maximum velocity; ball screw; limit switches: Hall effect, opener, 5 V, NPN