

High-Load Linear Actuator

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



L-239

- High push/pull force 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 screws for high velocities.
- Stable bearing at shaft output reduces lateral forces on the pusher.
- Nonrotating tip for uniform motion prevents wobble, torque, and wear at the point of contact.
- Noncontact limit switches protect the mechanics. A direction-sensing reference switch supports automation applications.
- Optional on request and at additional charge: Increase of push/pull force to 1000 N.

Application fields

Research. Automation. Optical alignment.

Specifications

Motion	L-239.50AD L-239.033232 L-239.035232	L-239.50SD	Unit	Tolerance
Active axis	X	X		
Travel range	52	52	mm	
Velocity	50	25	mm/s	Max.

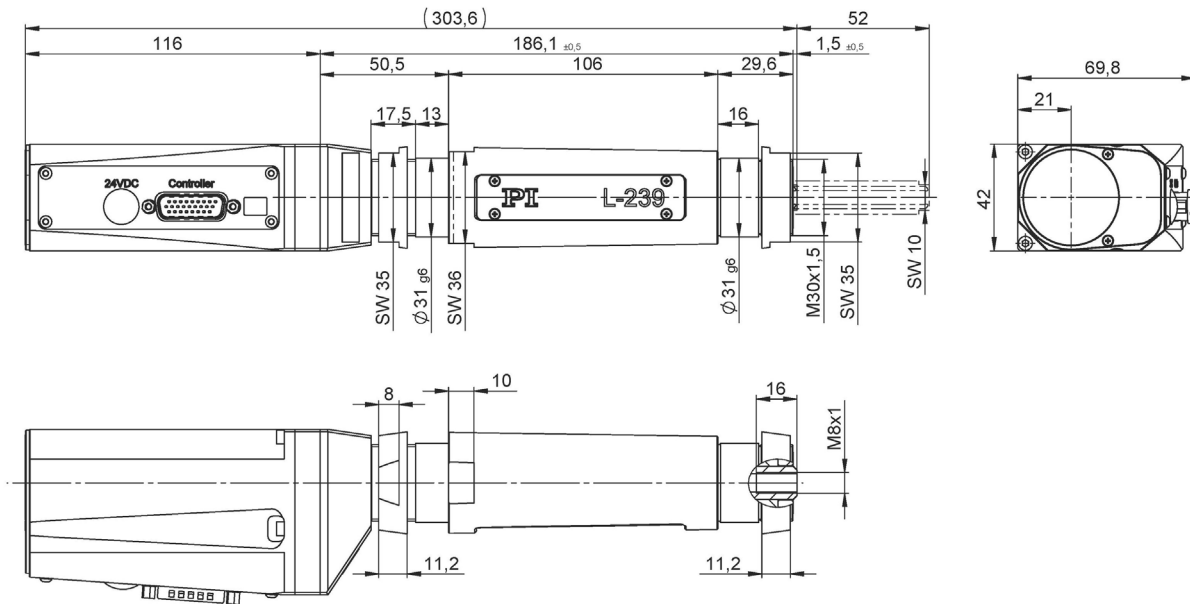
Positioning	L-239.50AD L-239.033232 L-239.035232	L-239.50SD	Unit	Tolerance
Integrated sensor	Rotary encoder	–		
Sensor resolution	20000	–	Counts/rev.	
Design resolution	0.05	5 (full step)	μm	Typ.
Minimum incremental motion	0.2	0.1	μm	Typ.
Unidirectional repeatability	0.2	0.1	μm	Typ.
Bidirectional repeatability	±1	±1	μm	Typ.
Reference and limit switches	L-239.50AD: Hall effect, N/C contact, 5V, TTL L-239.03x232: Hall effect, N/C contact, 5V, NPN	Hall effect, N/C contact, 5V, NPN		

Mechanical properties	L-239.50AD L-239.033232 L-239.035232	L-239.50SD	Unit	Tolerance
Guide type	Recirculating ball bearing guide	Recirculating ball bearing guide		
Drive screw type	Ball screw	Ball screw		
Drive screw pitch	1	1	mm	
Push / pull force	300	300	N	Max.
Holding force, power off	40	80		
Permissible lateral force	10	10	N	Max.

Drive properties	L-239.50AD	L-239.50SD	L-239.033232	L-239.035232	Unit	Tolerance
Motor type	ActiveDrive DC motor (PWM)	2-phase stepper motor ⁽¹⁾	DC motor	BLDC motor		
Operating voltage, nominal	24	24	24	24	V	Nom.
Operating voltage, max.	24	48	48	48		Max.
Step resolution	–	200	–	–	Full steps/rev	

Miscellaneous	L-239.50AD	L-239.50SD	L-239.033232	L-239.035232	Unit	Tolerance
Operating temperature range	5 to 40	5 to 40	5 to 40	5 to 40	°C	
Material	Aluminum, stainless steel	Aluminum, stainless steel	Aluminum, stainless steel	Aluminum, stainless steel		
Mass	1.72	1.65	1.75	1.75	kg	±5 %
Moved mass	0.155	0.155	0.155	0.155	kg	±5 %
Connector	D-sub 15 (m)	HD D-sub 26 (m)	HD D-sub 26 (m)	HD D-sub 26 (m)		
Recommended controllers/drivers	C-863 (single axis) C-884 (up to 6 axes) C-885 with C-863.20C885 (to 40 axes)	C-663.12 (single axis) SMC Hydra (double axis) C-885 with C-663.12C885 (up to 20 axes) ACS modular controller	C-863 (single axis) C-884 (up to 6 axes) C-885 with C-863.20C885 (to 40 axes) ACS modular controller	C-891 (single axis) C-885 with C-891.11C885 (up to 20 axes) ACS modular controller		

Connecting cables are not in the scope of delivery and must be ordered separately.
Ask about customized versions.



L-239.033232 with DC motor and L-239.035232 with brushless DC motor, dimensions in mm

Ordering Information

L-239.50AD

High-load linear actuator, 31 mm \varnothing shaft, ActiveDrive DC motor, 52 mm travel range, 300 N push force, Hall effect limit switches

L-239.50SD

High-load linear actuator, 31 mm \varnothing shaft, stepper motor, 52 mm travel range, 300 N push force, Hall effect limit switches

L-239.033232

High-load linear actuator, 31 mm \varnothing shaft, DC motor, 52 mm travel range, 300 N push force, Hall effect limit switches

L-239.035232

High-load linear actuator, 31 mm \varnothing shaft, brushless DC motor, 52 mm travel range, 300 N push force, Hall effect limit switches