

High-Resolution Linear Actuator with DC Motor

Compact due to Folded Drive



M-232

- Travel range 17 mm
- Minimum incremental motion 0.1 μm
- Velocity up to 1.5 mm/s
- Closed-loop DC motor
- MTBF >5000 h

Compact precision-class linear drive

High-resolution linear actuator, DC motor. Compact design due to folded drive. Rotating tip, rotating pusher. Position-controlled DC motors with a gearhead and high-resolution rotary encoders allow for incremental motion and repeatability of just 100 nm. Fits on the M-105 microtranslation stage.

High-quality components

Extremely low-friction and backlash-free construction. Noncontact limit switches protect the mechanics. Position-controlled variants with differential encoder driver in the connector for safe signal transfer over distances up to 10 m

Application fields

Precision alignment, motorized alternative for micrometer screws.

Motion	Unit		M-232.17
Active axes			X
Travel range in X	mm		17
Maximum velocity in X, unloaded	mm/s		1.5

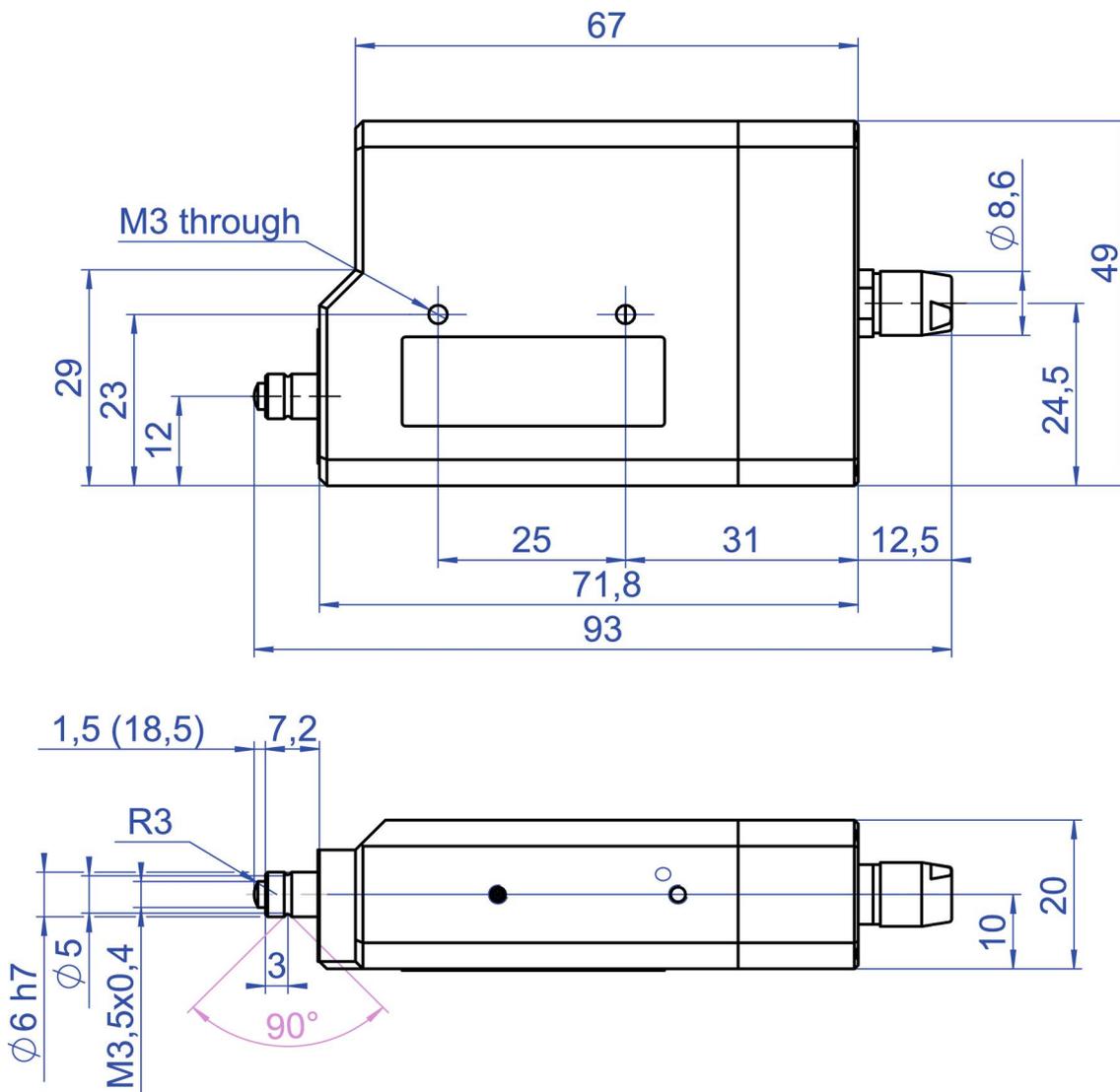
Positioning	Unit	Tolerance	M-232.17
Minimum incremental motion in X	μm	Typ.	0.1
Unidirectional repeatability in X	μm	Typ.	± 0.2
Backlash in X	μm	Typ.	2
Reference switch			Encoder index
Limit switches			Hall effect
Integrated sensor			Incremental rotary encoder
Sensor resolution	Cts./rev.		2048

Drive Properties	Unit	Tolerance	M-232.17
Drive type			DC gear motor
Operating voltage	V		0 to ± 12
Drive force in X	N	Typ.	40

Mechanical Properties	Unit	M-232.17
Drive screw type		Trapezoidal drive screw
Drive screw pitch	mm	0.4
Gear ratio i		28,44444 : 1
Overall mass	g	170
Material		Aluminum anodized, chrome steel

Miscellaneous	Unit	M-232.17
Operating temperature range	°C	-20 to 65
Connector		D-sub 15-pin (m)
Cable length	m	0.5
Recommended controllers / drivers		C-863.12 C-885 with C-863.20C885 C-884

Drawings / Images



M-232, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.

Order Information

M-232.17

High-resolution linear actuator with DC motor; DC gear motor; 17 mm travel range; 40 N feed force; 1.5 mm/s maximum velocity; trapezoidal-threaded spindle; incremental rotary encoder, 2048 counts/rev. sensor resolution; limit switches: Hall effect; 0.5 m cable length