

High-Resolution Linear Actuator with DC Motor

With Optional Piezo Drive

M-227



- Minimum incremental motion 0.05 μm
- Nonrotating tip
- Sub-nm resolution with optional piezo drive

Compact precision-class linear drive

High-resolution DC mike with closed-loop gearhead motors and rotary encoder. For installing into mechanical systems with external limit switches.

High-quality components

Nonrotating tip for uniform motion prevents wobble, torque, and wear at the point of contact. Incl. flat tip for decoupling forces. With differential encoder driver in the connector for a safe position signal transmission at distances up to 10 m

Application fields

OEM, alignment, set-and-forget

Motion	Unit		M-227.10	M-227.25	M-227.50
Active axes			X	X	X
Travel range in X	mm		10	25	50
Maximum velocity in X, unloaded	mm/s		0.75	0.75	0.75

Positioning	Unit	Tolerance	M-227.10	M-227.25	M-227.50
Minimum incremental motion in X	μm	Typ.	0.05	0.05	0.05
Unidirectional repeatability in X	μm	Typ.	± 0.1	± 0.1	± 0.1
Backlash in X	μm	Typ.	10	10	10
Reference switch			Encoder index	Encoder index	Encoder index
Integrated sensor			Incremental rotary encoder	Incremental rotary encoder	Incremental rotary encoder
Sensor resolution	Cts./rev.		2048	2048	2048

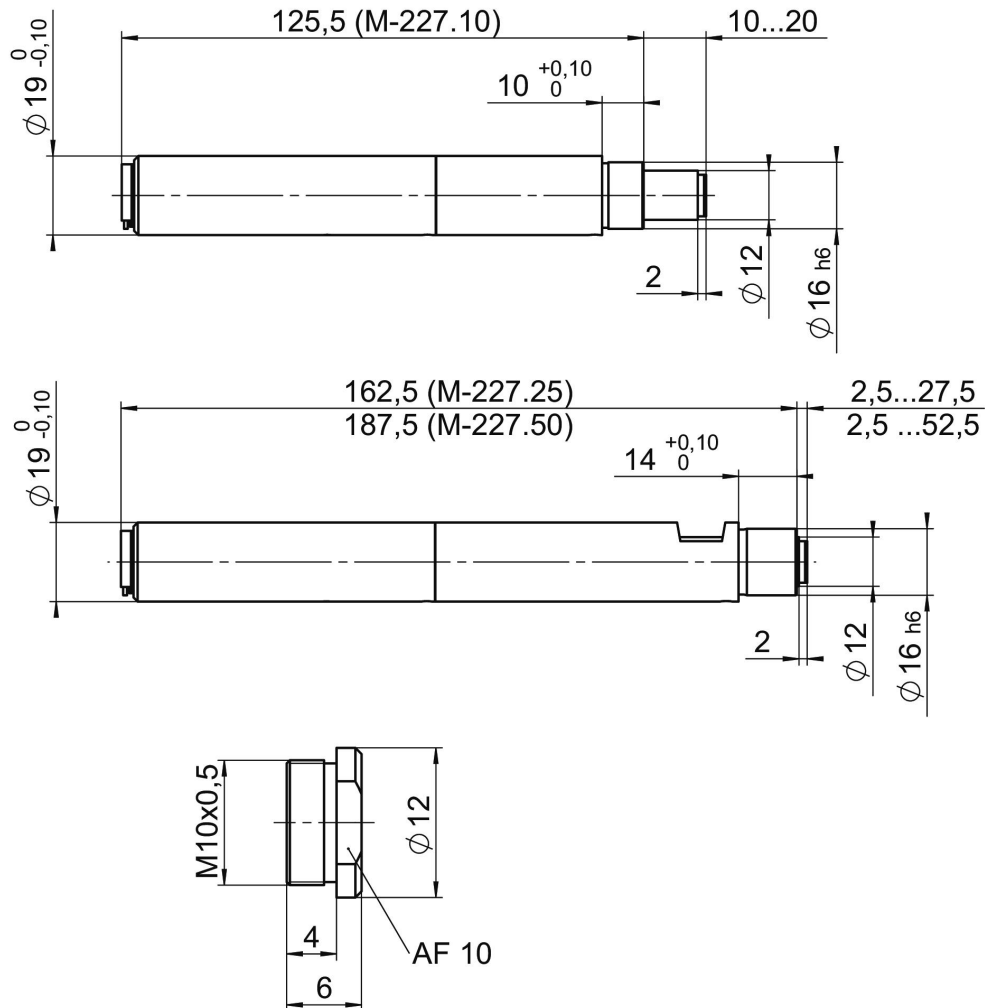
Drive Properties	Unit	Tolerance	M-227.10	M-227.25	M-227.50
Drive type			DC gear motor	DC gear motor	DC gear motor
Operating voltage	V		0 to ± 12	0 to ± 12	0 to ± 12
Drive force in X	N	Typ.	40	40	40

Mechanical Properties	Unit	Tolerance	M-227.10	M-227.25	M-227.50
Permissible push force in Y	N	Max.	0.1	0.1	0.1
Drive screw type			Trapezoidal drive screw	Trapezoidal drive screw	Trapezoidal drive screw
Drive screw pitch	mm		0.5	0.5	0.5
Gear ratio i			69,12 : 1	69,12 : 1	69,12 : 1
Overall mass	g		160	220	260
Material			Aluminum anodized, chrome steel	Aluminum anodized, chrome steel	Aluminum anodized, chrome steel

Miscellaneous	Unit		M-227.10	M-227.25	M-227.50
Operating temperature range	°C		-20 to 65	-20 to 65	-20 to 65
Connector			D-sub 15-pin (m)	D-sub 15-pin (m)	D-sub 15-pin (m)
Cable length	m		0.1	0.1	0.1
Recommended controllers / drivers			C-863.12 C-885 with C-863.20C885 C-884	C-863.12 C-885 with C-863.20C885 C-884	C-863.12 C-885 with C-863.20C885 C-884

Note on drive force: higher forces on request

Drawings / Images



M-227, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.

Order Information

M-227.10

High-resolution linear actuator with DC motor; DC gear motor; 10 mm travel range; 40 N feed force; 0.75 mm/s maximum velocity; trapezoidal-threaded spindle; incremental rotary encoder, 2048 counts/rev. sensor resolution; 0.1 m cable length

M-227.25

High-resolution linear actuator with DC motor; DC gear motor; 25 mm travel range; 40 N feed force; 0.75 mm/s maximum velocity; trapezoidal-threaded spindle; incremental rotary encoder, 2048 counts/rev. sensor resolution; 0.1 m cable length

M-227.50

High-resolution linear actuator with DC motor; DC gear motor; 50 mm travel range; 40 N feed force; 0.75 mm/s maximum velocity; trapezoidal-threaded spindle; incremental rotary encoder, 2048 counts/rev. sensor resolution; 0.1 m cable length