

Precision Z Stage

COMPACT XYZ COMBINATIONS WITH M-511 TRANSLATION STAGE SERIES



M-501

- + Travel range 12.5 mm (1/2")
- + Ultra- high- resolution encoder
- + ActiveDrive motor
- + Zero- backlash ball screws
- + Noncontact limit and reference point switches
- + Stress- Relieved Aluminum Base for Highest Stability
- + MTBF >20,000 h
- + Self locking to 10 kg

Specifications

	M-501.1PD	M-501.1DG	Unit	Tolerance
Active axes	Z	Z		
Motion and positioning				
Travel range	12.5	12.5	mm	
Integrated sensor	Rotary encoder	Rotary encoder		
Sensor resolution	40,960	2048	Cts./ rev.	
Design resolution	0.024	0.005	µm	
Incremental motion	<0.1	<0.1	µm	min.
Unidirectional repeatability	0.1	0.1	µm	
Pitch	±15	±15	µrad	
Yaw	±15	±15	µrad	
Velocity	3	1	mm/ s	max.
Reference point switch repeatability	1	1	µm	
Mechanical properties				
Thread pitch	1	1	mm	
Gear ratio	80/26 (belt drive)	80/26 (belt drive); (28/12) ⁴ :1 ~ 29.6:1 gearhead		
Load capacity	50	100	N	max.
Holding force	20	100	N	max.
Drive properties				
Motor type	DC motor, ActiveDrive	DC gear motor		
Operating voltage	24 (PWM)	0 to ±12	V	
Motor power	17	4	W	
Reference point and limit switches	Hall effect	Hall effect		
Miscellaneous				

Operating temperature range	-20 to 50 °C	-20 to 50 °C
Material	Al (black anodized)	Al (black anodized)
Recommended controller / driver	C-863 (single- axis) C-843 PCI board, for up to 4 axes	C-863 (single- axis) C-843 PCI board, for up to 4 axes

Ask about custom designs!

Order Information

M-501.1PD

Vertical Stage, 12.5 mm, ActiveDrive DC Motor (Includes 24 V Power Supply)

M-501.1DG

Vertical Stage, 12.5 mm, DC Gear Motor

Ask about custom designs!

Controllers / Drivers / Amplifiers

[C-863 Mercury Servo Controller](#)

[C-884 Four Axis Motion Controller](#)

[C-843 DC- Servo- Motor Controller](#)

Related Products

[M-511 • M-521 • M-531 High- Precision Linear Translation Stage](#)

[M-511.HD Nano- Precision Heavy- Duty Stage](#)

[M-451 High- Load Precision Z Stage](#)

Drawings / Images

