

# Piezo Positioner | PP-12

The PP-12 is an ultra-compact linear piezo stage. Low profile and high load capacity are achieved through the use of a multi-phase piezo motor combined with a ball slide, which allows for smooth travel up to 4mm. The PP-12 can be directly X-Y mounted without the use of adapter plates. Vacuum versions are available. The PP-12 is compatible with the MMC-100 and MMC-110 controllers.

## KEY FEATURES

- Travel range of up to 4 mm
- Closed loop encoder resolution of 20 nm
- Load capacity up to 0.1 kg
- Ball slide
- Low profile, 7 mm height
- Vacuum versions available

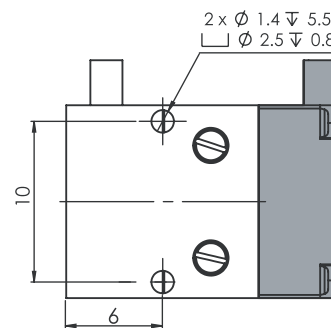
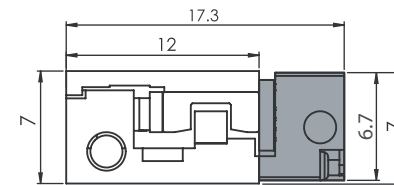
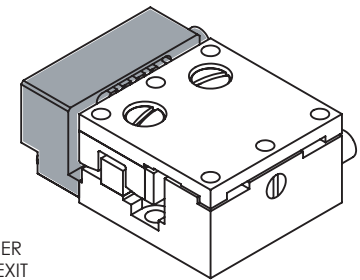
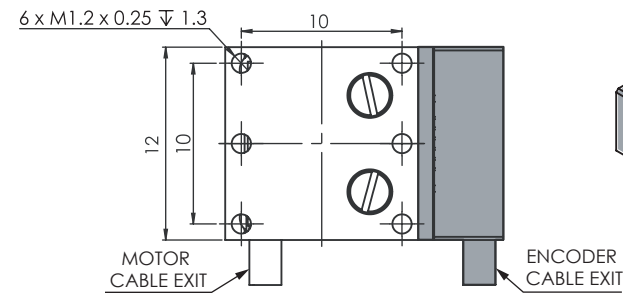
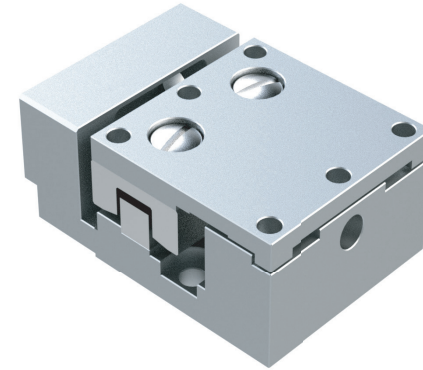
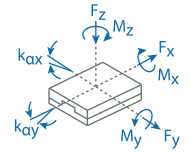
## TECHNICAL DATA

Travel range [mm]	4	
Straightness / Flatness [ $\mu\text{m}$ ]	$\pm 2$	
Pitch [ $\mu\text{rad}$ ]	$\pm 150$	
Yaw [ $\mu\text{rad}$ ]	$\pm 150$	
Weight [g], Open Loop	4	
Weight [g], Closed Loop	5	
Motor option	Piezo Motor	
Speed, max [mm/s]	1 (MMC-100), 3 (MMC-110)	
Encoder option	None (open loop)	Digital (RS-422)
Resolution, typical [nm]	1	20
Repeatability, bi-directional [nm]	n/a	$\pm 200$
Repeatability, uni-directional [nm]	n/a	200
Materials	aluminum body, steel bearing (other materials, i.e. stainless steel, titanium, etc. available upon request)	

## ORDERING INFORMATION

	PP-12-	1	1	0	
<b>DRIVE</b>	Piezo Motor, PM-002 .....	1			
<b>TRAVEL</b>	4 mm .....	1			
<b>ENCODER</b>	None .....		0		
	Digital (RS-422) .....		3		
<b>LIMIT SWITCH</b>	None .....		0		
<b>ENVIRONMENT</b>	Atmospheric .....		0		
	High Vacuum, $10^{-6}$ mbar .....		6		

Load, max	$F_x$ [N]	$F_y$ [N]	$F_z$ [N]	$M_x$ [N-m]	$M_y$ [N-m]	$M_z$ [N-m]	$k_{ax}$ [ $\mu\text{rad/N-m}$ ]	$k_{ay}$ [ $\mu\text{rad/N-m}$ ]
PM-002	1	1	1	0.1	0.1	0.1	-	-



\* all dimensions are in millimeters  
\* grey parts for closed loop version only

Specifications are subject to change without notice.