

NEW

# Precision Positioning Stage | PPS-50PM

www.micronixusa.com | info@micronixusa.com | phone: +1 (949) 480 0538 | fax: +1 (949) 480 0538

The precision piezo stage PPS-50 allows nanopositioning of high loads. Anti-creep, crossed roller bearings assure high stiffness for loads up to 20N. The PPS-50 is fully integrated with our patented multi-phase piezo motor and optional high resolution encoder (up to 1nm resolution) or absolute encoder. PPS-50 can also be combined with our rotary and gonio stages for ultimate motion flexibility. The PPS-50 is compatible with MMC-100 and MMC-110 controllers.

## KEY FEATURES

- Standard travel range of up to 100 mm
- Closed loop incremental encoder resolution to 1nm
- Optional absolute optical encoder resolution to 12.5 nm\*
- Load capacity up to 2kg
- Crossed roller bearing (anti-creep)
- Low profile, 15mm height
- Vacuum, and non-magnetic versions available

## TECHNICAL DATA

Travel range [mm]	26	50	75	100
Straightness / Flatness [µm]	±2	±3	±4	±5
Pitch [µrad]				
Yaw [µrad]				
Weight [g], Open Loop	170	300	400	500
Weight [g], Closed Loop	180	310	410	510
<b>Motor option</b>	<b>Piezo Motor</b>			
Speed, max [mm/s]	>10 (NanoDrive and MMC-110)			
<b>Encoder option</b>	<b>None (Open Loop)</b>	<b>Digital (RS-422)</b>	<b>Absolute (BiSS C) *</b>	
Resolution, typical [nm]	1	1	12.5 *	
Repeatability, bi-directional [nm]	n/a	± 20	± 50	
Repeatability, uni-directional [nm]	n/a	± 20	± 50	
<b>Materials</b>	aluminum, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)			

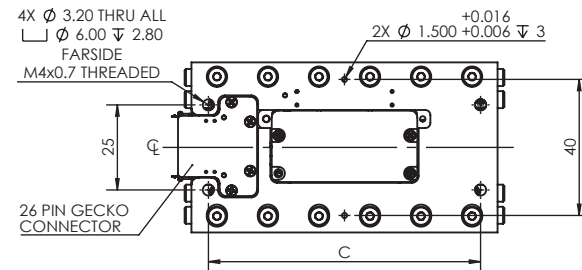
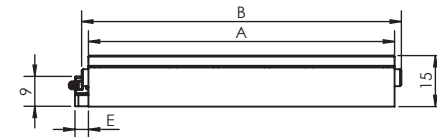
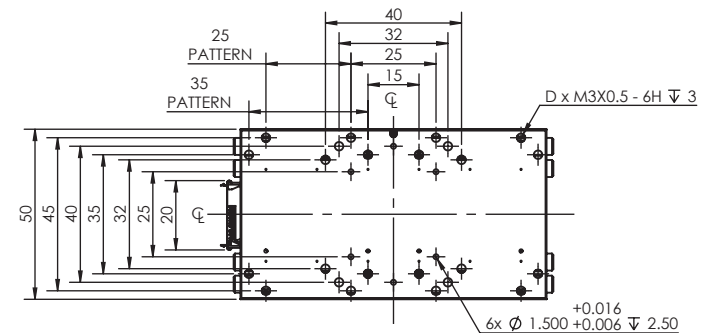
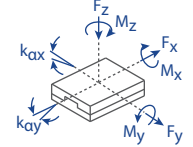
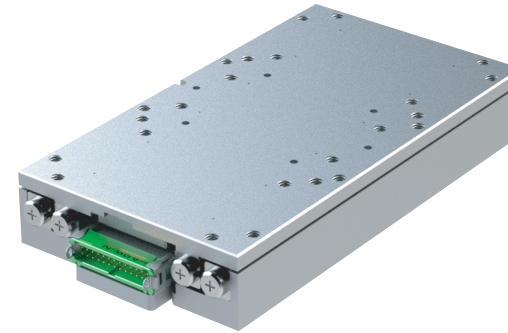
## ORDERING INFORMATION

PPS-50- 1 - E

<b>DRIVE</b>	Piezo Motor, PM-002 .....	1
<b>TRAVEL</b>	26 mm .....	1
	50 mm .....	2
	75 mm .....	3
	100 mm .....	4
<b>ENCODER</b>	None .....	0
	Digital (RS-422) .....	3
	*Absolute (BiSS C) .....	5
<b>LIMIT SWITCH</b>	None .....	0
	Magnetic .....	1
<b>ENVIRONMENT</b>	Atmospheric .....	0
	High Vacuum, 10 <sup>-6</sup> mbar .....	6
	**Ultra High Vacuum, 10 <sup>-9</sup> mbar .....	9
	Non-Magnetic .....	M
<b>CONTROLLER</b>	External .....	E

\* Only compatible with MMC-110 controller (higher encoder resolution available upon request)  
 \*\* Only available with Open Loop or Digital Encoder

Load, max	F <sub>x</sub> [N]	F <sub>y</sub> [N]	F <sub>z</sub> [N]	M <sub>x</sub> [N-m]	M <sub>y</sub> [N-m]	M <sub>z</sub> [N-m]	k <sub>ax</sub> [µrad/N-m]	k <sub>ay</sub> [µrad/N-m]
PM-002	5 (peak)	20	20	0.2	0.2	0.125	-	-



TRAVEL	A	B	C	D
26	50	50	45	16
50	90	94	80	24
75	120	124	60	24
100	150	154	80	48

E (EXTERNAL CONTROLLER)
12.5
4.2
2.5
2.5

- all dimensions are in millimeters
- 50 mm travel, connector version shown

**micronix** USA  
PRECISION MOTION SOLUTIONS

Specifications are subject to change without notice.