

# Precision Positioning Stage | PPS-20LM

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

The PPS-20 Linear Motor version is suitable for applications requiring very fast speeds. Miniature crossed roller bearings assure high stiffness and guiding accuracy for loads up to 2 N (horizontal orientation). Closed loop encoder resolution of 10 nm is achievable. The PPS-20LM is compatible with the MMC-300 controller.

## Not recommended for new designs (Use PPS-50 instead)

### KEY FEATURES

- Travel range of up to 25 mm
- 10 nm encoder resolution
- Load capacity up to 2 N
- Crossed roller bearing
- Low profile, 13 mm height

### TECHNICAL DATA

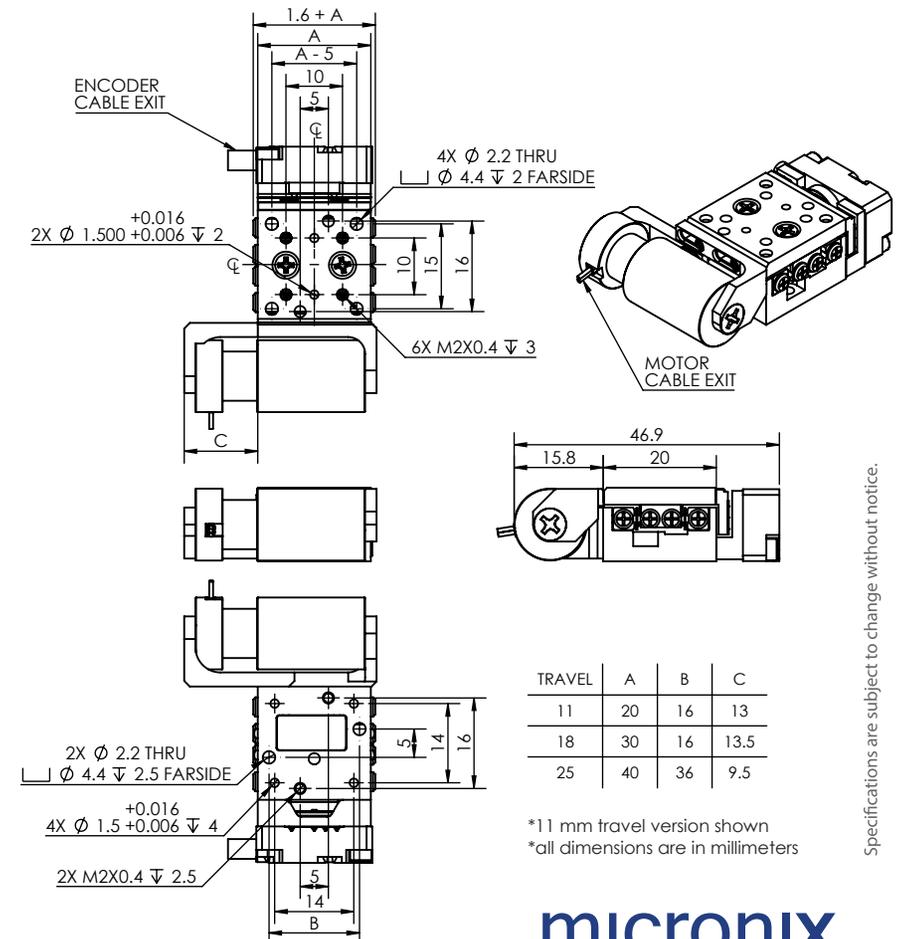
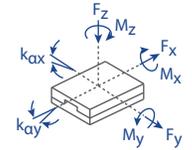
Travel range [mm]	11	18	25
Straightness / Flatness [ $\mu\text{m}$ ]	$\pm 1$	$\pm 1.5$	$\pm 1.5$
Pitch [ $\mu\text{rad}$ ]	$\pm 60$	$\pm 80$	$\pm 80$
Yaw [ $\mu\text{rad}$ ]	$\pm 70$	$\pm 90$	$\pm 90$
Weight [g]	40	50	60
Motor option	Voice Coil Linear Motor		
Speed, max [mm/s]	100		
Encoder option	Analog (1 V <sub>pp</sub> )	Digital (RS-422)	
Resolution, typical [nm]	10	10	
Repeatability, bi-directional [nm]	$\pm 100$	$\pm 100$	
Repeatability, uni-directional [nm]	100	100	
Materials	aluminum body, steel bearing, stainless steel bracket, brass nut (other materials i.e. stainless steel, titanium, etc. available upon request)		

### ORDERING INFORMATION

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DRIVE	TRAVEL	ENCODER	LIMIT SWITCH	ENVIRONMENT
Linear Motor, LM-003	11 mm	Analog (1 V <sub>pp</sub> )	None	Atmospheric
	18 mm	Digital (RS-422)	Magnetic	
	25 mm			

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> [ $\mu\text{rad/N-m}$ ]	k <sub>ay</sub> [ $\mu\text{rad/N-m}$ ]
LM-003	1 peak	2	2	0.7	0.7	0.7	-	-



Specifications are subject to change without notice.