

Precision Positioning Stage | PPS-20LM

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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

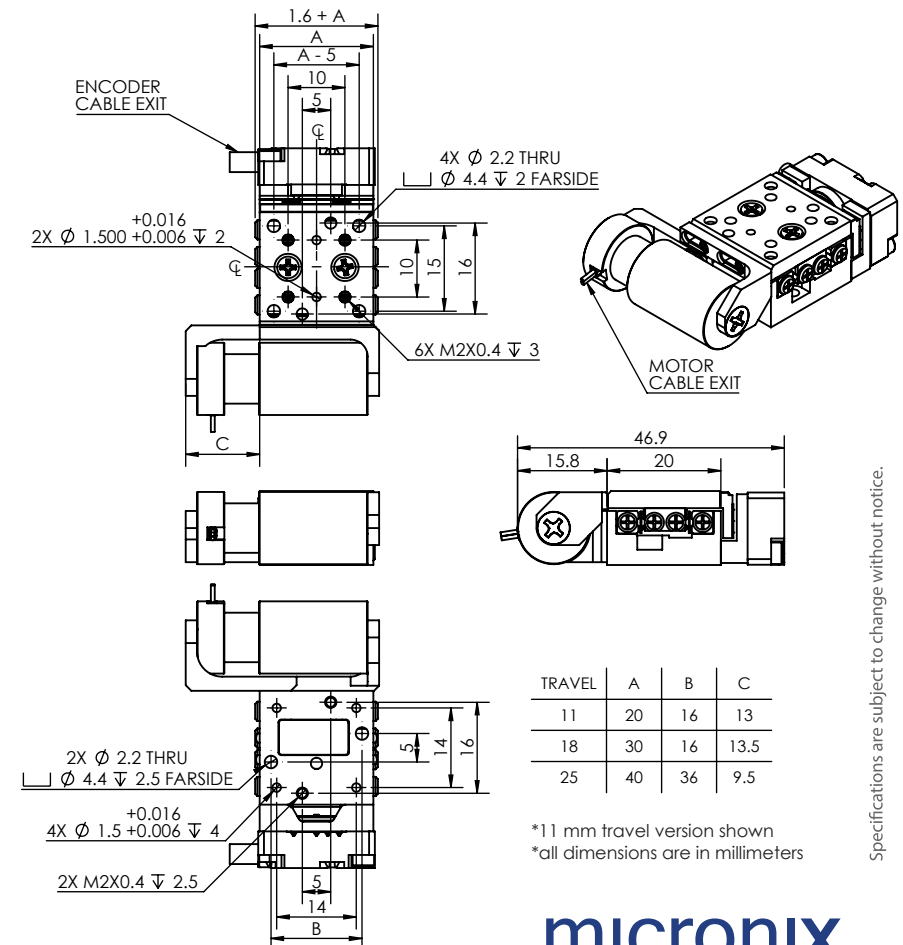
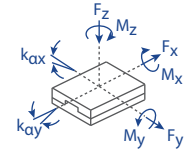
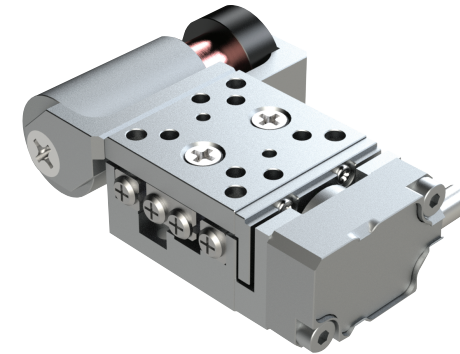
| Travel range [mm] | 11 | 18 | 25 |
|---|---|------------------|-----------|
| Straightness / Flatness [μm] | ± 1 | ± 1.5 | ± 1.5 |
| Pitch [μrad] | ± 60 | ± 80 | ± 80 |
| Yaw [μrad] | ± 70 | ± 90 | ± 90 |
| Weight [g] | 40 | 50 | 60 |
| Motor option | Voice Coil Linear Motor | | |
| Speed, max [mm/s] | 100 | | |
| Encoder option | Analog (1 V _{pp}) | Digital (RS-422) | |
| Resolution, typical [nm] | 10 | 10 | |
| Repeatability, bi-directional [nm] | ± 100 | ± 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

PPS-20- 3

| | 3 | | | | 0 |
|---------------------|-----------------------------------|---|--|--|---|
| DRIVE | Linear Motor, LM-003 | 3 | | | |
| TRAVEL | 11 mm | 1 | | | |
| | 18 mm | 2 | | | |
| | 25 mm | 3 | | | |
| ENCODER | Analog (1 V _{pp}) | 2 | | | |
| | Digital (RS-422) | 3 | | | |
| LIMIT SWITCH | None | 0 | | | |
| | Magnetic | 1 | | | |
| ENVIRONMENT | Atmospheric | 0 | | | |

| 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} [$\mu\text{rad/N-m}$] |
|-----------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|---|---|
| LM-003 | 1 peak | 2 | 2 | 0.7 | 0.7 | 0.7 | - | - |



Specifications are subject to change without notice.