

Linear Piezo Apatur Stage → preliminary data sheet



LPS_60A

- PiezoMotor driven system
- Travel range 30mm/ 30mm Aperture
- Bidirectional repeatability down to 1nm
- Maximum operation speed 10mm/sec
- Intergeated *zero drift encoder* with 0,5 nm resolution and Zerodur® similar scale.
- Force 6/12N
- Ultra precise and robust design
- High stiffness and fast response.
- Material Stainless steel, Titan or Invar with ceramic bearing
- Vacuum compatibe, nonmagnetic
- flexible cable

The LPS_60A is a low profile linear stage with an integrated customized PiezoMotor and linear encoder systems developed by NANOS Instruments. The stiff and robust design with cross roller bearings in steel or ceramic guarantee a smooth and highly accurate movement in the range of sub nanometers. This stage is ultra precise in high quality and available in Stainless steel, Titan or Invar, together with a robax scale. The optical sensor only generates 20mW in the stage and has a special cooling profile. This results in practically zero drift with highest resolution.

Specifications

LPS_60A with the dimension 60x60x16mm			
Electronic	PMD101	MC101	LEGS-Drive®-Ultra
Travel range (mm)	30	30	30
Force standard/HF (N)	6/12	6/12	6/12
Open loop stiffness (N/μm)	3	3	3
Straightness/ Flatness (μm)	on request	on request	on request
operation speed (mm/s)	10	10	10
fast move 1μm and 10μm*	6ms/ 15ms	6ms/ 15ms	<4ms/ 4ms
fast movement** (mm/s)	10	10	50
Hybrid encoder V2 (nm) with ABZ, 18mA @ 5V ***	61	10*	10*
Hybrid encoder V3 (nm) with ABZLL, 18mA @ 5V ***	61	10*	10*
Hybrid encoder V4 (nm) with ABZ, 3mA @ 5V	10	10	10
Optical Encoder with ABZ ; 4mA @5V (nm) glass/robax scale Casting Stainless/ Titan/ Invar	0,5 (ask for PMD101 with high resolution firmware → 0,7nm)	0,5 (ask for MC101 with high resolution firmware → 0,7nm)	0,5