

XY axis | P13.XY50S/K

Piezo Nanopositioning Stage



Characteristics >>

- Move in X, Y
- Travel to 43 μ m/axis
- Small size
- Millisecond response time

Applications >>

- 2D scanning
- Optical path adjustment
- Semiconductor
- Micromanipulation
- AFM
- Nanopositioning

Introduction

P13.XY50S/K is an XY piezo nanopositioning stage. It adopts parallel kinematic mechanism with built-in high-performance piezo actuator with displacement of 43 μ m/axis. Open loop or closed loop version is available.



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Technical Data >>

Type	S-Closed loop K-Open loop	P13.XY50S	P13.XY50K	Units
Active axes		X, Y	X, Y	
Travel range(0~120V)		34/axis	34/axis	$\mu\text{m}\pm 20\%$
Travel range(0~150V)		43/axis	43/axis	$\mu\text{m}\pm 20\%$
Integrated sensor		SGS	-	
Resolution		1.5	0.5	nm
Linearity		0.2	-	%F.S.
Repeatability		0.1	-	%F.S.
Unloaded resonant frequency		X0.55/Y0.52	X0.55/Y0.52	kHz $\pm 20\%$
Unloaded step time		30	3	ms $\pm 20\%$
Load capacity		0.8	0.8	kg
El. capacitance		0.8/axis	0.8/axis	$\mu\text{F}\pm 20\%$
Operating temperature ^[1]		-20~80	-20~80	$^{\circ}\text{C}$
Material		Al, Steel	Al, Steel	
Size (L×W×H)		35×35×36	35×35×36	mm
Mass		120	120	g $\pm 5\%$
Cable length ^[2]		1.5	1.5	m $\pm 10\text{mm}$

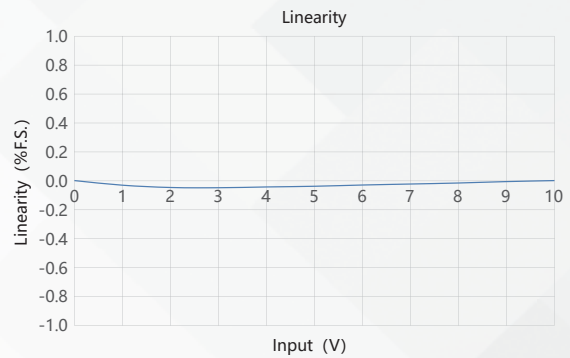
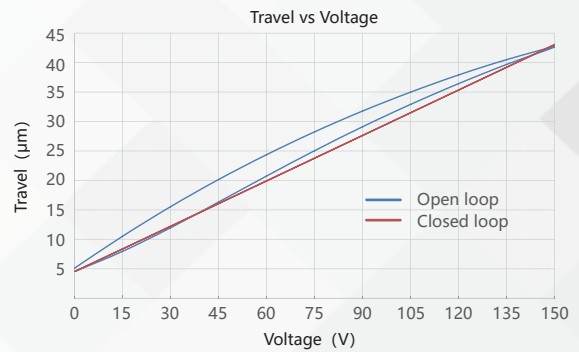
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25 $^{\circ}\text{C}$.

[1] Custom ultralow temperature and ultrahigh vacuum versions are available.

[2] Custom cable length and connector is available.

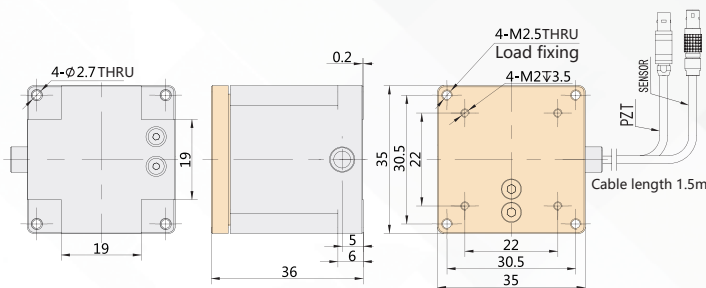
Note: The parallelism of the moving platform is about 20 μm , and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

Curves >>



Disclaimer: The data here are typical, only for reference. Some variations will occur for different batch.

Drawing >>



Recommended Controllers >>



E01.D3
LCD, membrane button, up to 625mA
RS-232/RS-422/USB interface
Software secondary development



E70
Small size, 70mA
RS-232/RS-422/USB interface
Software secondary development



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