

XY axis | P13.XY30S/K

Piezo Nanopositioning Stage



Characteristics >>

- Move in X,Y
- Travel to 45μm/axis
- Small size
- Millisecond response time

Applications >>

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

Introduction

P13.XY30S/K is an XY piezo nanopositioning stage. It adopts parallel kinematic mechanism with built-in high-performance piezo actuator with displacement of 45μm/axis. Open loop or closed loop version is available.



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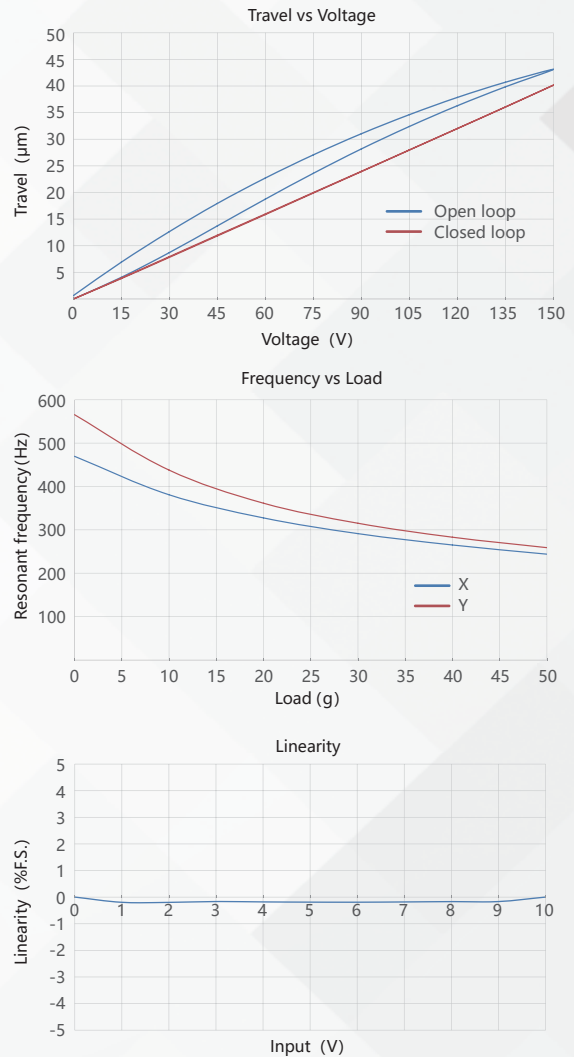
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Technical Data >>

Type	S-Closed loop K-Open loop	P13.XY30S	P13.XY30K	Units
Active axes		X, Y	X, Y	
Travel range(0~120V)		36/axis	36/axis	$\mu\text{m} \pm 20\%$
Travel range(0~150V)		45/axis	45/axis	$\mu\text{m} \pm 20\%$
Integrated sensor		SGS	-	
Resolution		1	0.05	nm
Linearity		0.2	-	%F.S.
Repeatability		0.1	-	%F.S.
Pitch/yaw/roll		<30	<30	μrad
Push/pull force capacity		5/2	5/2	N
Stiffness		X0.15/Y0.2	X0.15/Y0.2	$\text{N}/\mu\text{m} \pm 20\%$
Unloaded resonant frequency		0.6	0.6	$\text{kHz} \pm 20\%$
Unloaded step time		20	3	$\text{ms} \pm 20\%$
Load capacity		0.2/0.05or0.1/0.2	0.2/0.05or0.1/0.2	kg
El. capacitance		0.4/axis	0.4/axis	$\mu\text{F} \pm 20\%$
Operating temperature ^[1]		-20~80	-20~80	$^{\circ}\text{C}$
Material		Steel, Aluminum	Steel, Aluminum	
Size (L×W×H)		26×26×17.5	26×26×17.5	mm
Mass		110	110	$\text{g} \pm 5\%$
Cable length ^[2]		1.5	1.5	$\text{m} \pm 10\text{mm}$
Sensor/voltage connector ^[2]		-	-	

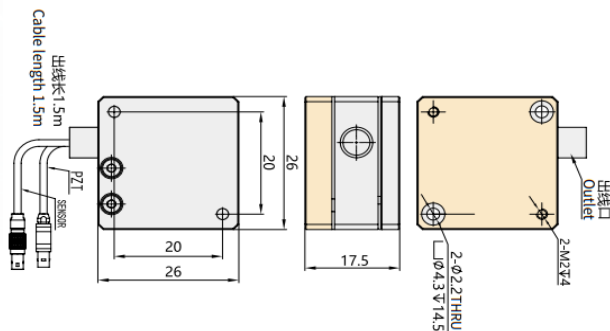
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

Curves >>



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

Drawing >>



Recommended Controllers >>



IO1.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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