

XYZ axis | P13.XY50Z7S/K

Piezo Nanopositioning Stage



Introduction

P13.XY50Z7S/K is an XYZ piezo nanopositioning stage. It adopts parallel kinematic mechanism with built-in high-performance piezo actuator with XY displacement of 43 μ m/axis and Z displacement of 8 μ m. Open loop or closed loop version is available.

Characteristics >>

- Move in X,Y, Z
- XY travel to 43 μ m/axis, and Z travel to 8 μ m
- Small size
- Millisecond response time

Applications >>

- 3D scanning
- Optical path adjustment
- Semiconductor
- Micromanipulation
- AFM
- Nanopositioning



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Technical Data >>

Type	S-Closed loop K-Open loop	P13.XY50Z7S	P13.XY50Z7K	Units
Active axes		X, Y, Z	X, Y, Z	
Travel range(0~120V)		34/34/6	34/34/6	μm±20%
Travel range(0~150V)		43/43/8	43/43/8	μm±20%
Integrated sensor		SGS	-	
Resolution		XY1.5, Z0.5	XY0.5, Z0.1	nm
Linearity		0.2	-	%F.S.
Repeatability		0.1	-	%F.S.
Unloaded resonant frequency		X0.55/Y0.52/Z8.7	X0.55/Y0.52/Z8.7	kHz±20%
Unloaded step time		30	3	ms±20%
Load capacity		0.8	0.8	kg
El. capacitance		0.8/axis	0.8/axis	μF±20%
Operating temperature ^[1]		-20~80	-20~80	°C
Material		Steel, Aluminum	Steel, Aluminum	
Size (L×W×H)		35×35×36	35×35×36	mm
Mass		200	200	g±5%
Cable length ^[2]		1.5	1.5	m±10mm

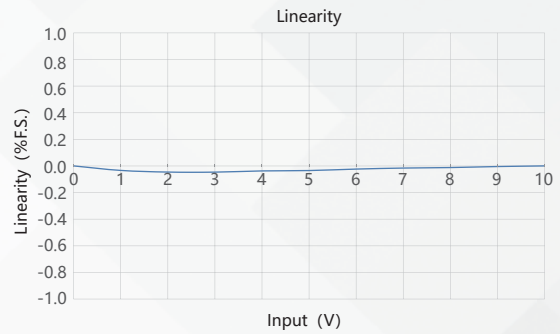
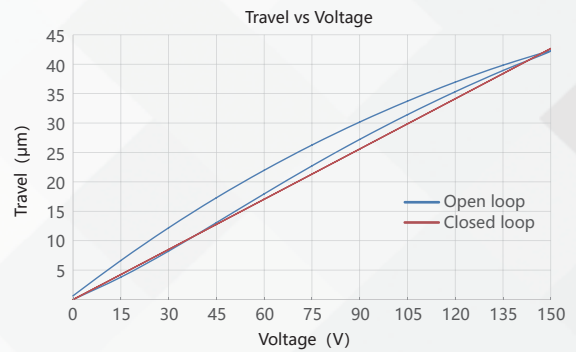
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25° C.

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

[2] Custom cable length and connector is available.

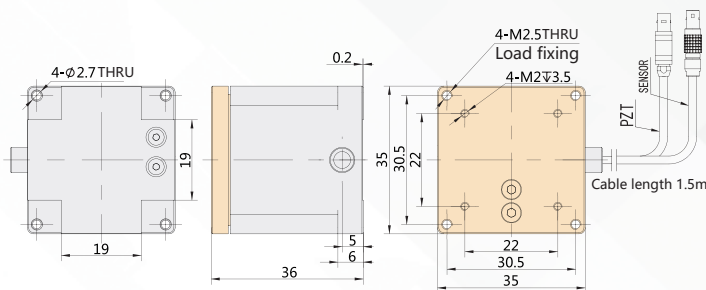
Note: The parallelism of the moving platform is about 20μm, and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

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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