

XYZ axes | XD731.XYZ100S/K

Piezo Nanopositioning Stages



Introduction

XD731 Series XYZ piezo stage is designed for the application in vacuum, and it has vacuum compatibility up to 10E-7mbar.

Characteristics >>

- XYZ motion
- Vacuum compatibility
- Very compact
- Optional feedback sensor

Applications >>

- XYZ fast scanning in vacuum
- Nano positioning
- Biotechnology
- Quantum measurement



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Technical Data >>

Types	S-Closed loop K-Open loop	XD731.XYZ100S	XD731.XYZ100K	Units
Active axes		X, Y, Z	X, Y, Z	
Driving channels		4	4	
Nominal travel(0~120V)		80/axis	80/axis	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		100/axis	100/axis	$\mu\text{m}\pm 10\%$
Sensor type		SGS	-	
Resolution		3	1	nm
Linearity		0.07	-	%F.S.
Repeatability		0.03	-	%F.S.
Pitch/yaw/roll		≤ 35	≤ 35	μrad
Push/pull force		50/15	50/15	N
Stiffness in motion direction		1.5/1.5/0.9	1.5/1.5/0.9	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		400	400	$\text{Hz}\pm 20\%$
Resonant frequency @250g		150	150	$\text{Hz}\pm 20\%$
Unloaded step time		20	<20	$\text{ms}\pm 20\%$
Step time @250g		30	-	$\text{ms}\pm 20\%$
Load capacity		0.5	0.5	kg
El.capacitance		7.2/axis	7.2/axis	$\mu\text{F}\pm 20\%$
Operating temperature ^[1]		-20~80	-20~80	$^{\circ}\text{C}$
Material		Steel, Al	Steel, Al	
Size(L×W×H)		60×60×58	60×60×58	mm
Mass		680	680	$\text{g}\pm 5\%$
Vacuum compatibility		10E-7	10E-7	mbar
Cable length ^[2]		1.5	1.5	$\text{m}\pm 10\text{mm}$

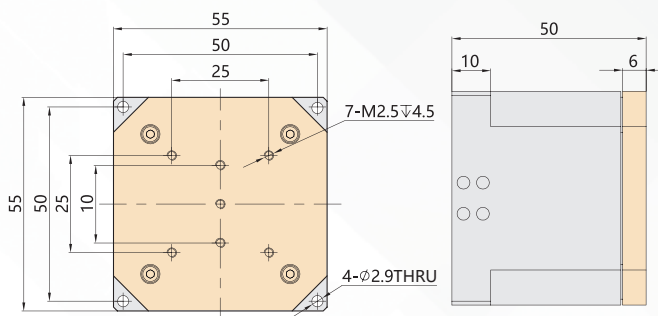
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

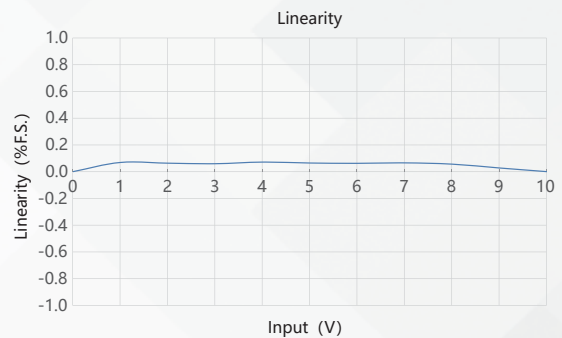
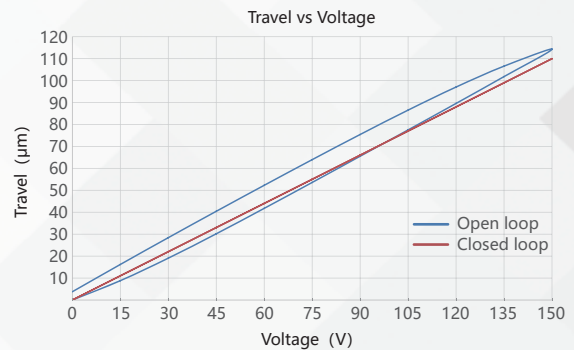
[2] Custom cable length and connector is available.

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.

Drawing >>



Curves >>



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

Recommended Controllers >>



E01.D3

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



E70

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



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