

# XZ axes | P63.XZ7S/K

## Piezo Nanopositioning Stage



## Introduction

P63.XZ7 is small-size piezo nanopositioning stage with direct drive mechanism inside. Its important characteristics are ultra-precision and very small size, which is very easy to integrate into any scanning instrument.

### Characteristics >>

- Active axes XZ
- Stroke to 6.8 $\mu$ m/axis
- Load to 0.5kg
- Fast response time
- Repeatability to nanometer

### Applications >>

- Microimaging
- Nanopositioning
- Biotechnology
- Quality assurance testing
- Semiconductor technology
- Minicars cut
- AFM



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## Technical Data >>

Type	S-Closed loop K-Open loop	P63.XZ7S	P63.XZ7K	Units
Active axis		XZ	XZ	
Travel range(0~120V)		5.5/axis	5.5/axis	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		6.8/axis	6.8/axis	$\mu\text{m}\pm 10\%$
Sensor		SGS	-	
Resolution		0.2	0.1	nm
Closed-loop linearity		0.4	-	%F.S.
Repeatability		0.2	-	%F.S.
Pitch/yaw/roll		<10	<10	$\mu\text{rad}$
Push/pull force capacity		9/2	9/2	N
Stiffness		X1.2/Z1.5	X1.2/Z1.5	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		X1.5/Z1.6	X1.5/Z1.6	$\text{kHz}\pm 20\%$
Unloaded Step time		1.5	0.3	$\text{ms}\pm 20\%$
Load capacity		0.5	0.5	kg
El. capacitance		0.8/axis	0.8/axis	$\mu\text{F}\pm 20\%$
Operating temperature <sup>[1]</sup>		-20~80	-20~80	$^{\circ}\text{C}$
Material		Aluminum	Aluminum	
Size(L×W×H)		30×30×33	30×30×33	mm
Mass		120	120	$\text{g}\pm 5\%$
Cable length <sup>[2]</sup>		1.5	1.5	$\text{m}\pm 10\text{mm}$
Sensor/voltage connector <sup>[2]</sup>		-	-	

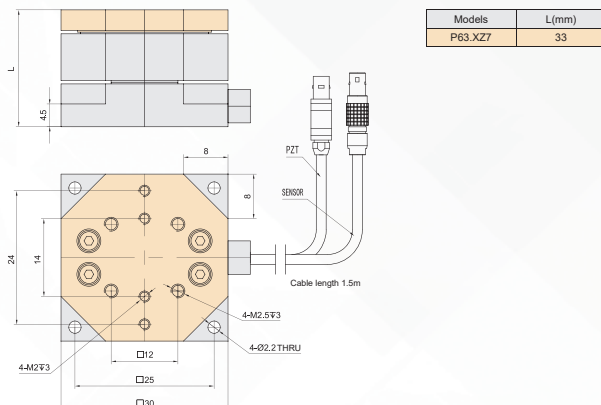
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

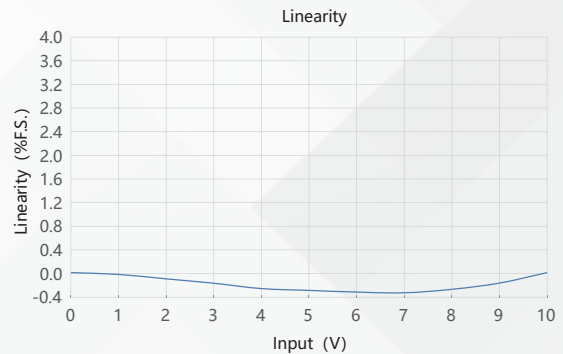
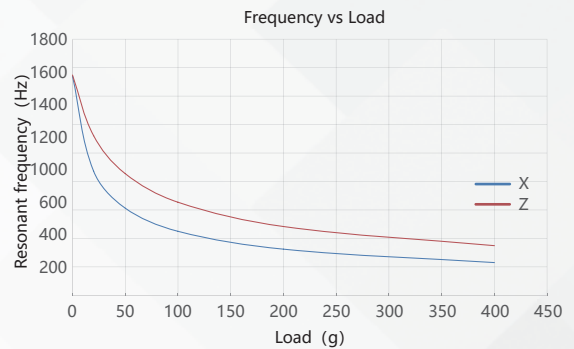
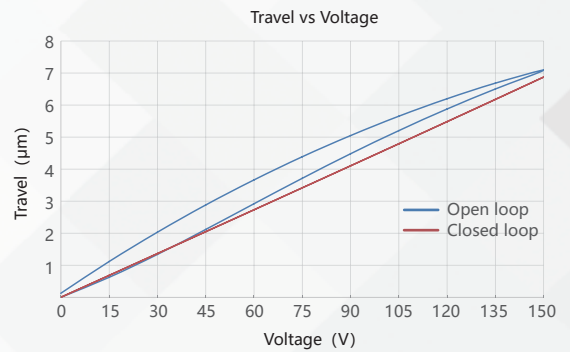
[2] Custom cable length and connector is available.

Note: The parallelism of the moving platform is about 20 $\mu\text{m}$ , 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, ave current 70mA/channel  
RS-232/RS-422/USB interface  
Software secondary development



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