

XYZ axes | P63.XY18Z8S/K

Piezo Nanopositioning Stage



Introduction

P63.XY18Z8S/K 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 XYZ
- Travel range: XY 18 μ m, Z 8 μ m
- Load to 0.5kg
- Open/closed loop
- Optional UHV version

Applications >>

- Nano-imprinting
- Nanoscale
- Biotechnology
- Nanometer lithography
- Optical fiber end face detection
- Micro manipulation
- Semiconductor technology
- Micro machining/precision control



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Technical Data >>

Type	S-Closed loop K-Open loop	P63.XY18Z8S	P63.XY18Z8K	Units
Active axis		XYZ	XYZ	
Travel range(0~120V)		XY16, Z6	XY16, Z6	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		XY18, Z8	XY18, Z8	$\mu\text{m}\pm 10\%$
Sensor		SGS	-	
Resolution		X0.6, Z0.2	X0.2, Z0.1	nm
Closed-loop linearity		XY0.3, Z1	-	%F.S.
Repeatability		0.25	-	%F.S.
Pitch/yaw/roll		<15	<15	μrad
Unloaded resonant frequency		XY2/Z1	XY2/Z1	kHz $\pm 20\%$
Unloaded Step time		8	0.5	ms $\pm 20\%$
Load capacity		0.5	0.5	kg
El. capacitance		XY1.8, Z0.8	XY1.8, Z0.8	$\mu\text{F}\pm 20\%$
Operating temperature ^[1]		-20~80	-20~80	$^{\circ}\text{C}$
Material		Aluminum	Aluminum	
Size(L×W×H)		40×40×42	40×40×42	mm
Cable length ^[2]		1.5	1.5	m $\pm 10\text{mm}$
Mass		235	235	g $\pm 5\%$

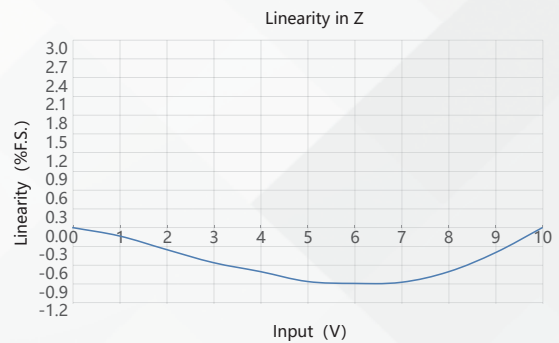
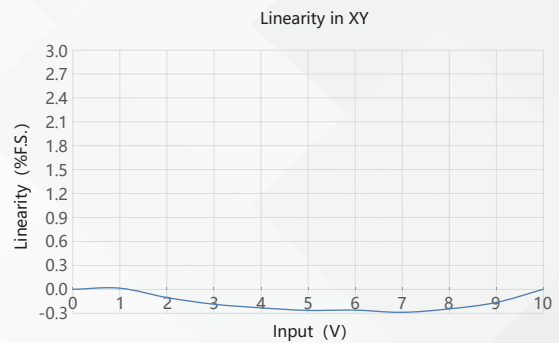
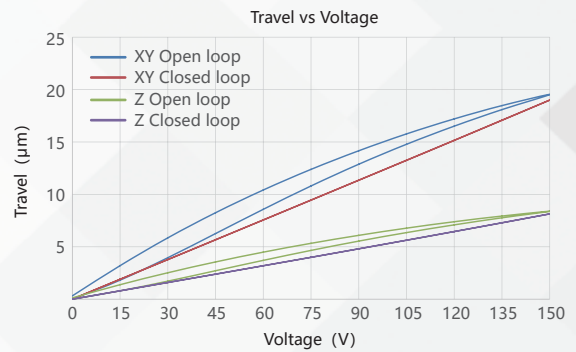
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

[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.

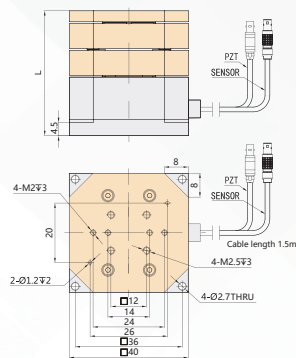
Curves >>



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

Drawing >>

Type	L(mm)
P63.XY18Z8	42



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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