

Z axis | XP-611.Z100S/K

Piezo Nanopositioning Stage



Characteristics >>

- Active axes Z
- Max stroke to 100 μ m
- Small size
- Fast response time
- Nanoscale positioning accuracy

Applications >>

- Biotechnology
- Precision positioning
- Nanometer positioning
- Fiber optic positioning/optical scanning
- Microimaging
- Micro machining/precision control
- Semiconductor technology
- Interferometry/scanning microscopy

Introduction

XP-611.Z100 is an Z-axis piezo nanopositioning stage. It adopts amplified mechanism and built-in high-performance piezo actuator. It could realize 100 μ m displacement in Z-axis. Closed-loop version has high positioning accuracy and is ideal for precision positioning and scanning.



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Technical Data >>

Type	S-Closed loop K-Open loop	XP-611.Z100S	XP-611.Z100K	Units
Active axis		Z	Z	
Travel range(0~120V)		80	80	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		100	100	$\mu\text{m}\pm 10\%$
Sensor		SGS	-	
Resolution		3	1	nm
Closed-loop linearity		0.2	-	%F.S.
Repeatability		0.05	-	%F.S.
Pitch/yaw/roll		<15	<15	μrad
Push/pull force capacity		30/10	30/10	N
Stiffness		0.3	0.3	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		0.28	0.28	$\text{kHz}\pm 20\%$
Unloaded Step time		10	0.8	$\text{ms}\pm 20\%$
Load capacity		1.2	1.2	kg
El. capacitance		1.8	1.8	$\mu\text{F}\pm 20\%$
Operating temperature ^[1]		-20~80	-20~80	$^{\circ}\text{C}$
Material		Steel, Aluminum	Steel, Aluminum	
Size(L×W×H)		35×35×22	35×35×22	mm
Mass		80	80	$\text{g}\pm 5\%$
Cable length ^[2]		1.5	1.5	$\text{m}\pm 10\text{mm}$
Sensor/voltage connector ^[2]		-	-	

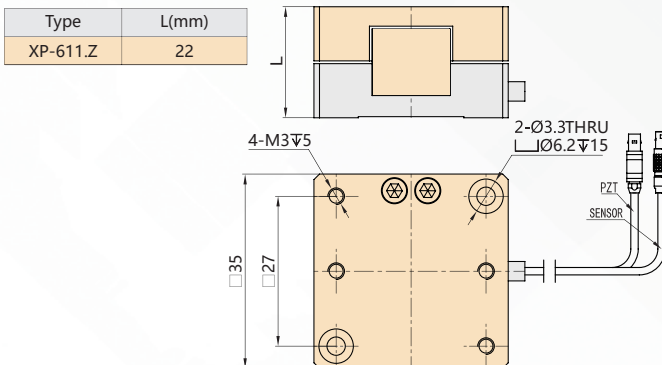
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

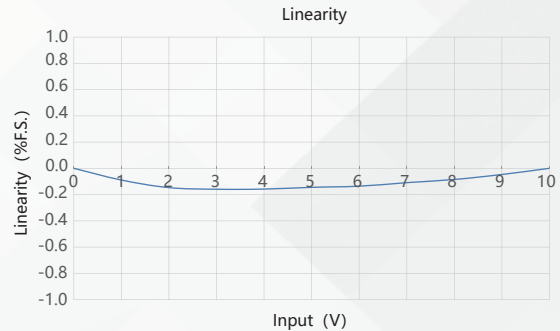
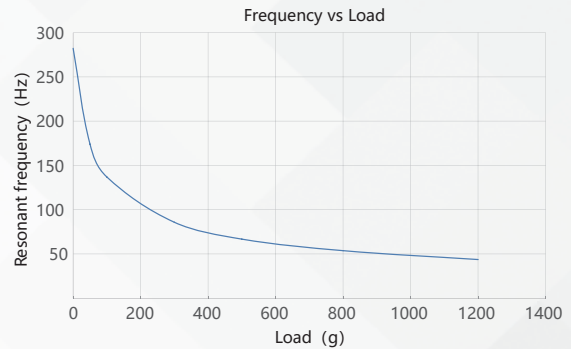
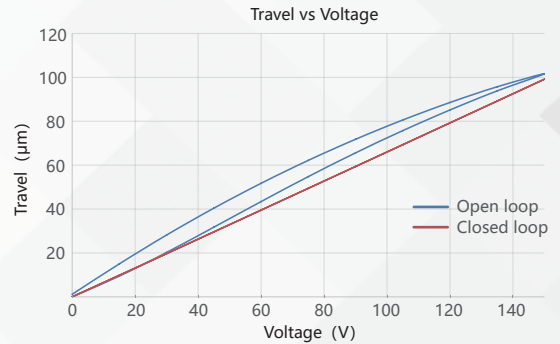
[2] Custom cable length and connector is available.

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.D1
LCD, membrane button, up to 625mA
RS-232/RS-422/USB interface
Software secondary development



E53
Small size, 60mA
RS-232/RS-422/USB interface
Software secondary development



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