

# XYZ axes | P66.XYZ30S/K

## Piezo Nanopositioning Stage



### Characteristics >>

- Active axes XYZ
- Travel range to 30 $\mu$ m/axis
- Max load to 1kg
- Fast response time
- Open/closed loop

### Applications >>

- Metering
- Nanometer positioning
- semiconductor technology
- Micro machining/precision control
- Interference / scanning
- CD disc test
- Quality assurance testing

## Introduction

P66.XYZ30 is a piezo nanopositioning stage with XYZ motion using direct-drive mechanism. It is nanopositioning system combining piezo and flexible hinges, which could reach millisecond response time, sub-nano accuracy, and optional highprecision sensors for closed-loop control. It is ideal for positioning applications such as optical path length correction in interference, sample positioning in microscopy or scanning applications, etc.



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## Technical Data >>

Type	S-Closed loop K-Open loop	P66.XYZ30S	P66.XYZ30K	Units
Active axis		XYZ	XYZ	
Travel range(0~120V)		24/axis	24/axis	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		30/axis	30/axis	$\mu\text{m}\pm 10\%$
Sensor		SGS	-	
Resolution		1	0.5	nm
Closed-loop linearity		0.15	-	%F.S.
Repeatability		0.1	-	%F.S.
Pitch/yaw/roll		<15	<15	$\mu\text{rad}$
Push/pull force capacity		30/10	30/10	N
Stiffness		1.1	1.1	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		X0.6/Y0.7/Z1.2	X0.6/Y0.7/Z1.2	$\text{kHz}\pm 20\%$
Unloaded Step time		30	1	$\text{ms}\pm 20\%$
Closed-loop operating frequency (-3dB)		100 (unloaded)	100 (unloaded)	$\text{Hz}\pm 20\%$
Load capacity		1	1	kg
El. capacitance		3.6/axis	3.6/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)		60×60×55	60×60×55	mm
Mass		460	460	$\text{g}\pm 5\%$
Cable length <sup>[2]</sup>		1.5	1.5	$\text{m}\pm 10\text{mm}$
Sensor/voltage connector <sup>[2]</sup>		-	-	

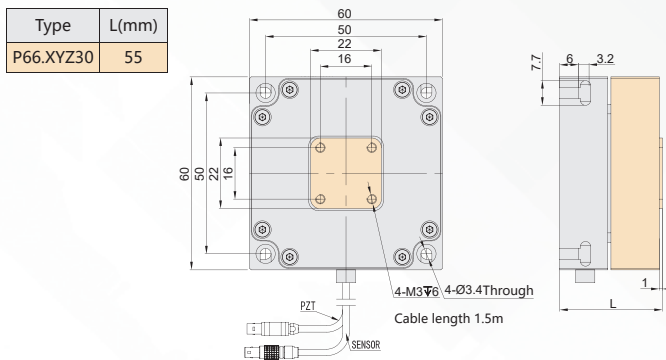
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

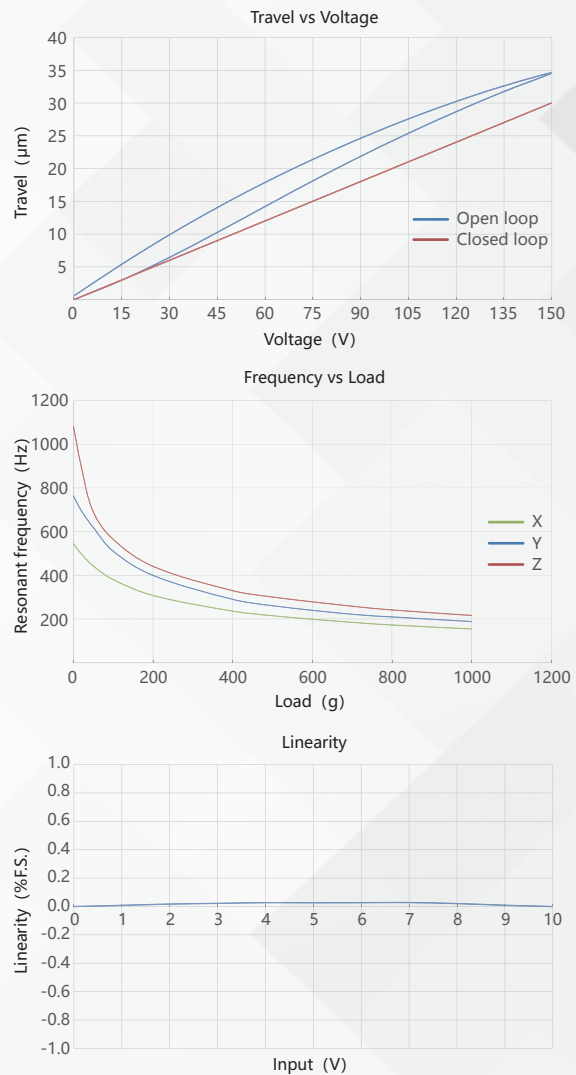
[2] Custom cable length and connector is available.

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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