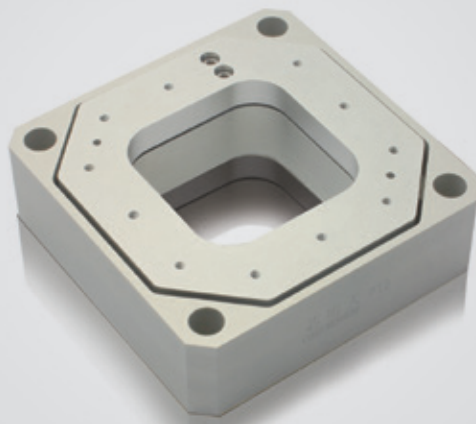


# Z axis | P12A.Z100S/K

## Piezo Nanopositioning Scanner



### Characteristics >>

- Motion in Z
- Travel to 100 $\mu$ m
- Load capacity to 0.7kg
- Aperture of 45 $\times$ 45mm
- Open/closed-loop version

### Applications >>

- Scanning microscopy
- Confocal microscopy
- Surface measurement
- Semiconductor test
- Image process and stability
- Micromanipulation

## Introduction

The P12A.Z100S/K piezo scanning stage moves in Z direction, and optionally equipped with a high-resolution sensor, which detects the position in real time and feeds it back to the piezo controller.

P12A piezo scan stage, matched with CoreMorrow E70 modular controller, is applied to optical microscopy imaging to realize Z axis precision scanning.



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## Technical Data >>

Type	S-Closed loop K-Open loop	P12A.Z100S	P12A.Z100K	Units
Active axes		Z	Z	
Travel range(0~120V)		80	80	μm±10%
Travel range(0~150V)		100	100	μm±10%
Integrated sensor		SGS	-	
Aperture		45×45	45×45	mm
Resolution		3	1	nm
Linearity		0.1	-	%F.S.
Repeatability		0.04	-	%F.S.
Pitch/yaw/roll		<10	<10	μrad
Push/pull force		30/10	30/10	N
Stiffness		0.3	0.3	N/μm±20%
Unloaded resonant frequency		200	200	Hz±20%
Unloaded step time		10	0.8	ms±20%
Load capacity		0.7	0.7	kg
El. capacitance		3.6	3.6	μF±20%
Operating temperature <sup>[1]</sup>		-20~80	-20~80	°C
Material		Steel, Al	Steel, Al	
Size (L×W×H)		85×85×28	85×85×28	mm
Mass		240	240	g±5%
Cable length <sup>[2]</sup>		1.5	1.5	m±10mm
Sensor/voltage connector <sup>[2]</sup>		-	-	

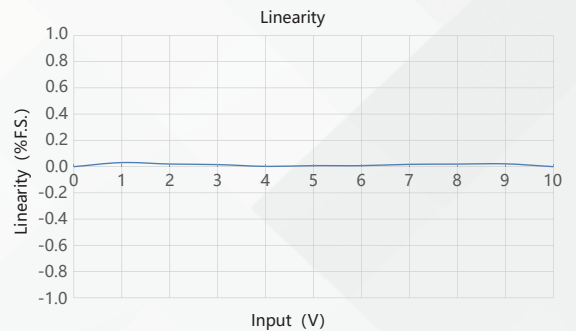
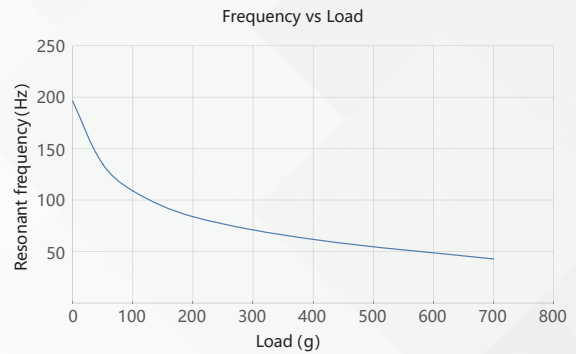
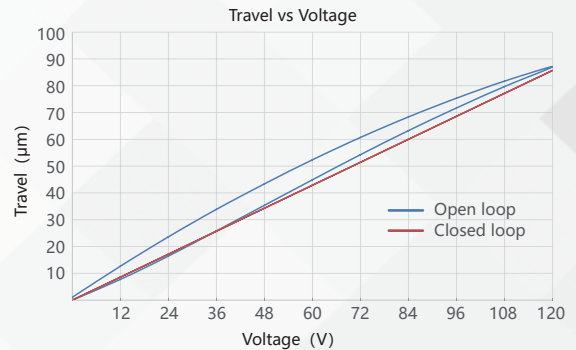
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25° C.

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

[2] Custom cable length and connector is available.

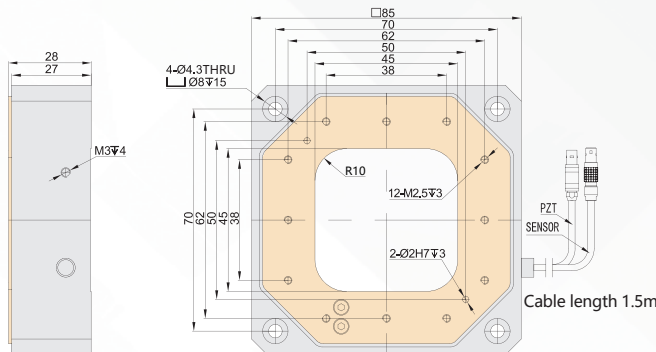
Note: The parallelism of the moving platform is about 20μm, and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

## Curves >>



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

## Drawing >>



Note: Max driving voltage could be -20V~150V, recommended voltage 0~120V for long-term, high-reliability operation. Technical data is measured by CoreMorrow E00/E01 series piezo controller.

## 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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