

## Z axis | P12.Z300S/K

Aperture Ø25mm | Piezo Nanopositioning Stages



### Introduction

P12.Z300 is Z axis motion piezo scanning stage. The piezo scanner could realize displacement of 300µm. The aperture diameter as 25mm, which is suitable for lighttransmitted applications such as microscopy.

#### Characteristics >>

- Z motion
- Travel to 300µm
- Load capacity to 0.4kg
- Optional UHV compatible version
- Closed-loop version for high repeatability

#### Applications >>

- Scanning interference
- Surface measurement
- Optical capture
- Confocal microscopy
- Wafer positioning
- Image processing and stabilization



**Harbin Core Tomorrow Science & Technology Co., Ltd.**

Tel: +86-451-86268790    Email: info@coremorrow.com  
Fax: +86-451-86267847    Web: www.coremorrow.com

Headquarters: Building I2, No.191 Xuefu Road, Nangang District, Harbin  
Shanghai Office: Building 2, No.608 Shengxia Road, Pudong District, Shanghai

### Technical Data >>

Type	S-Closed loop K-Open loop	P12.Z300S	P12.Z300K	Units
Active axes		Z	Z	
Travel range(0~120V)		240	240	μm±10%
Travel range(0~150V)		300	300	μm±10%
Sensor		SGS	-	
Aperture		Ø25	Ø25	mm
Closed/open loop resolution		8	2.5	nm
Linearity		0.15	-	%F.S.
Repeatability		0.1	-	%F.S.
Pitch/yaw/roll		<15	<15	μrad
Push/pull force		30/10	30/10	N
Stiffness		0.1	0.1	N/μm±20%
Unloaded resonant frequency		100	100	Hz±20%
Closed/open-loop unloaded step time		30	2.4	ms±20%
Load capacity		0.4	0.4	kg
El. capacitance		5.4	5.4	μF±20%
Operating temperature <sup>[1]</sup>		-20~80	-20~80	°C
Material		Steel, Al	Steel, Al	
Size(L×W×H)		60×60×24	60×60×24	mm
Mass		260	260	g±5%
Cable length <sup>[2]</sup>		1.5	1.5	m±10mm
Connector <sup>[2]</sup>		-	-	

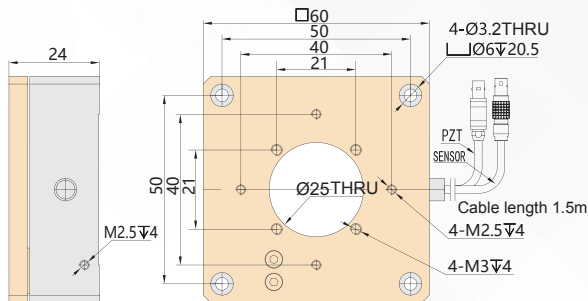
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

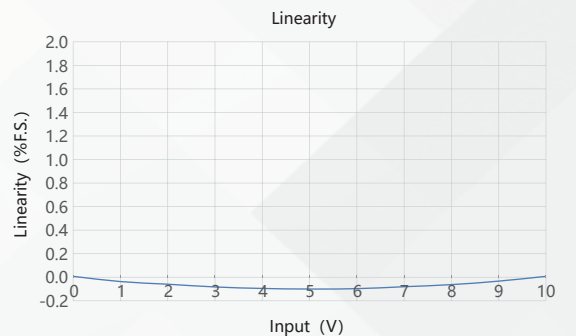
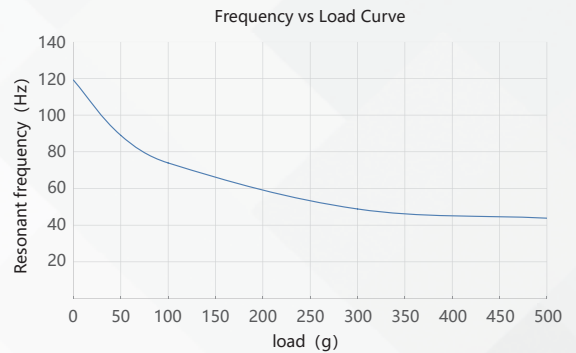
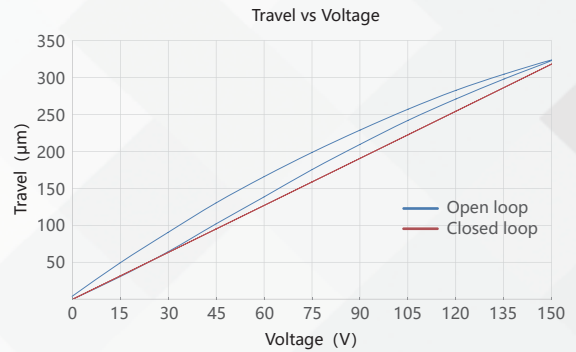
[2] Custom cable length and connector is available.

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.

### 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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