

Z axis | P78.Z300S/K

Piezo Z Microscope Scanner



Characteristics >>

- Active axes Z
- Max stroke to 262.5 μ m
- Resolution to 2.5nm
- Aperture size: 64 \times 64mm

Applications >>

- Biotechnology
- Microscopic imaging
- Interferometry/measurement
- Confocal microscopy
- Super-resolution microscopy
- Autofocus system
- Semiconductor test
- 3D imaging

Introduction

P78.Z300 piezo scanner is ideal for applications such as nanoscale alignment and measurement. Closed-loop sensor with bridge configuration can be selected to eliminate temperature drift and ensure the positioning stability in the nanometer range.



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Technical Data >>

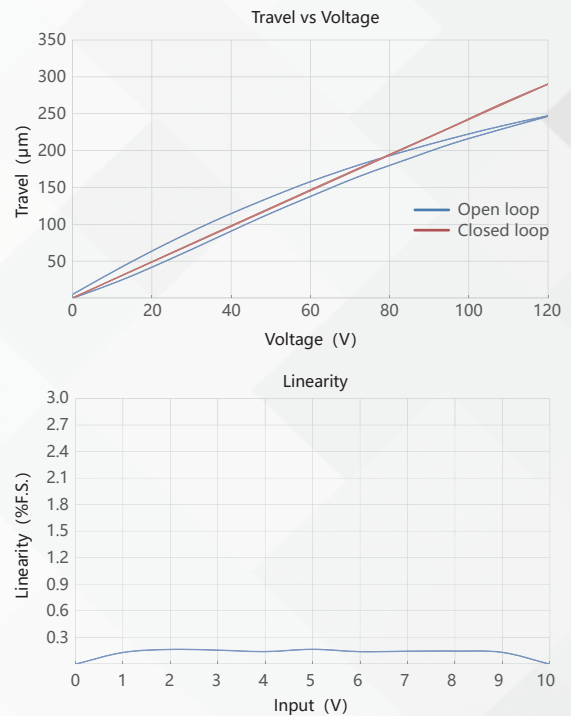
Type	S-Closed loop K-Open loop	P78.Z300S	P78.Z300K	Units
Active axis		Z	Z	
Travel range(0~120V)		210	210	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		262.5	262.5	$\mu\text{m}\pm 10\%$
Sensor		SGS	-	
Aperture		64×64	64×64	mm
Resolution		7	2.5	nm
Closed-loop linearity		0.15	-	%F.S.
Repeatability		0.1	-	%F.S.
Pitch/yaw/roll		<30	<30	μrad
Push/pull force capacity		30/5	30/5	N
Stiffness		0.15	0.15	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		200	200	$\text{Hz}\pm 20\%$
Unloaded Step time		50/6.4	50/6.4	$\text{ms}\pm 20\%$
Load capacity		0.5	0.5	kg
El. capacitance		14.4	14.4	$\mu\text{F}\pm 20\%$
Operating temperature ^[1]		-20~80	-20~80	°C
Material		Aluminum	Aluminum	
Size(L×W×H)		100×100×30	100×100×30	mm
Mass		340	340	$\text{g}\pm 5\%$
Cable length ^[2]		1.5	1.5	$\text{m}\pm 10\text{mm}$
Sensor/voltage connector ^[2]		LEMO	LEMO	

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.

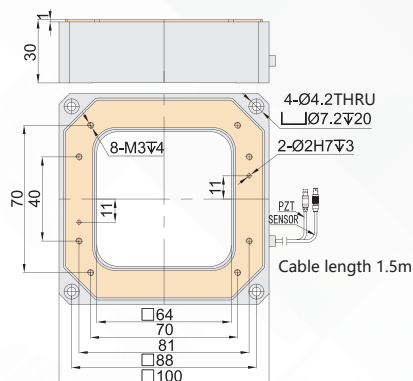
[1] Custom ultralow temperature and ultrahigh vacuum versions are available.

[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 >>

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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