

Z axis | P63.Z7S/K

Piezo Nanopositioning Stage



Introduction

P63.Z7 is small-size piezo nanopositioning stage with direct drive mechanism inside. Its important characteristics are ultra-precision and very small size, which is very easy to integrate into any scanning instrument. .

Characteristics >>

- Active axes Z
- Stroke to 6.8 μ m
- Load to 0.8kg
- Fast response time
- Repeatability to nanometer

Applications >>

- Microimaging
- Nanopositioning
- Biotechnology
- Quality assurance testing
- Semiconductor technology
- Minicars cut
- AFM



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Technical Data >>

| Type | S-Closed loop K-Open loop | P63.Z7S | P63.Z7K | Units |
|---|------------------------------|----------|----------|--------------------------------|
| Active axis | | Z | Z | |
| Travel range(0~120V) | | 5.5 | 5.5 | $\mu\text{m}\pm 10\%$ |
| Travel range(0~150V) | | 6.8 | 6.8 | $\mu\text{m}\pm 10\%$ |
| Sensor | | SGS | - | |
| Resolution | | 0.2 | 0.1 | nm |
| Closed-loop linearity | | 0.4 | - | %F.S. |
| Repeatability | | 0.2 | - | %F.S. |
| Pitch/yaw/roll | | <5 | <5 | μrad |
| Push/pull force capacity | | 12/2 | 12/2 | N |
| Stiffness | | 2 | 2 | $\text{N}/\mu\text{m}\pm 20\%$ |
| Unloaded resonant frequency | | 2.5 | 2.5 | $\text{kHz}\pm 20\%$ |
| Unloaded Step time | | 1.5 | 0.3 | $\text{ms}\pm 20\%$ |
| Load capacity | | 0.8 | 0.8 | kg |
| El. capacitance | | 0.8 | 0.8 | $\mu\text{F}\pm 20\%$ |
| Operating temperature ^[1] | | -20~80 | -20~80 | $^{\circ}\text{C}$ |
| Material | | Aluminum | Aluminum | |
| Size(L×W×H) | | 30×30×24 | 30×30×24 | mm |
| Mass | | 70 | 70 | $\text{g}\pm 5\%$ |
| Cable length ^[2] | | 1.5 | 1.5 | $\text{m}\pm 10\text{mm}$ |
| Sensor/voltage connector ^[2] | | - | - | |

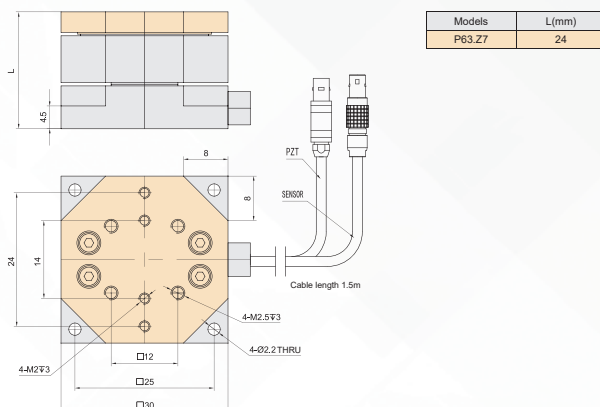
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

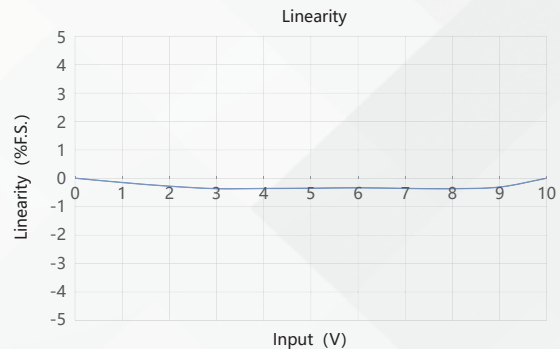
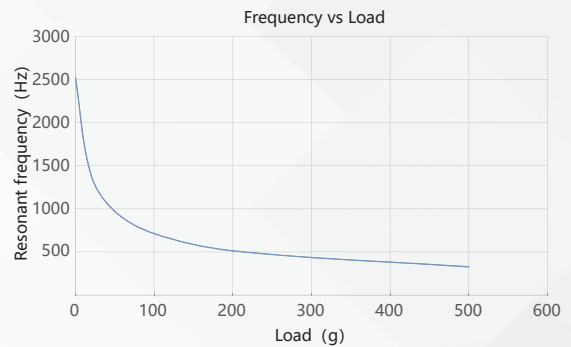
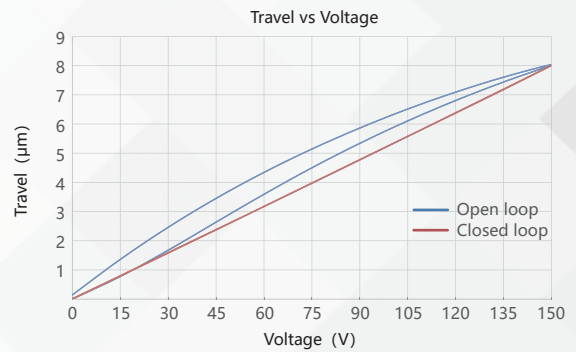
[2] Custom cable length and connector is available.

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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