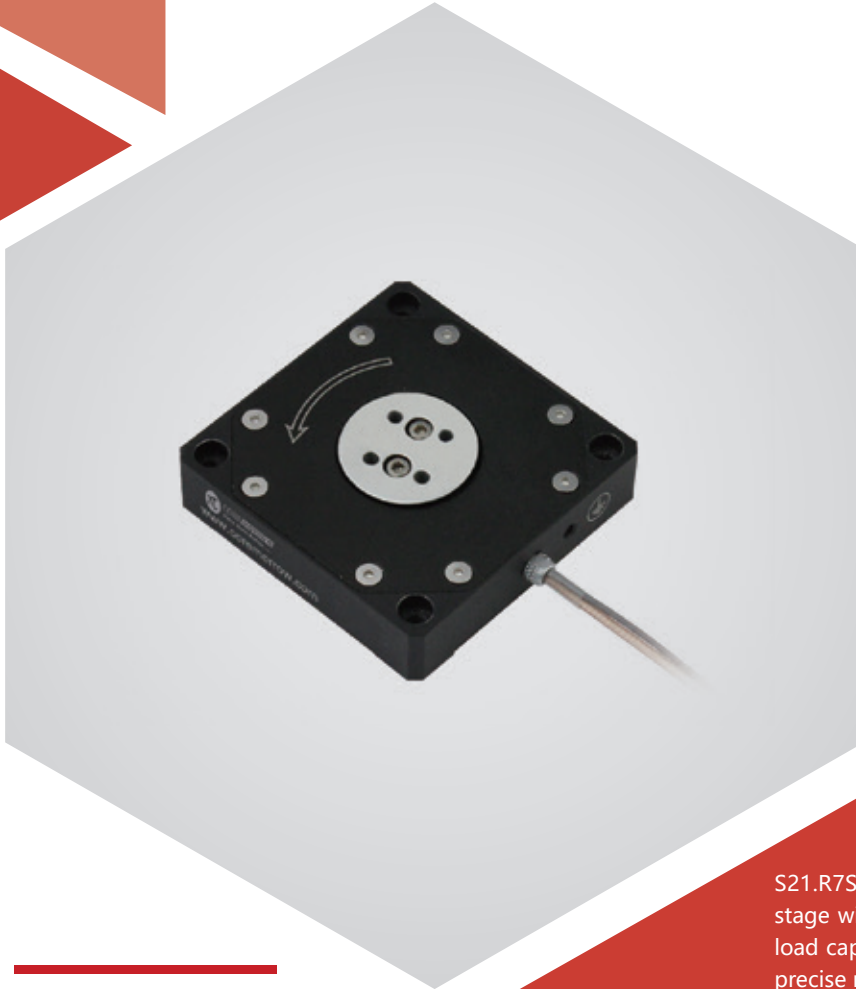


θ_z axis | S21.R7S/K Piezo Rotation Stage



Introduction

S21.R7S/K piezoelectric rotation stage is a θ_z rotation stage with small size, a rotation angle of 7.5mrad and a load capacity of 0.1kg, which can drive the lens to make precise rotation motion.

Characteristics >>

- θ_z rotary motion
- Rotation angle range to 7.5mrad
- Small size
- Closed loop for high accuracy
- Fast response
- For calibration of angular velocity sensor

Applications >>

- Optical beam scanning
- Light path adjustment
- Graphical stability
- Interference/metering
- Large loading tilt motion
- Space perturbation simulation system
- Calibration of acceleration sensor
- Calibration of angular velocity sensor



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Technical Data >>

| Type | S-Closed loop K-Open loop | S21.R7S | S21.R7K | Units |
|-----------------------------------------|------------------------------|-----------------------------|-----------------------------|---------------------------|
| Active axis | | θ_z | θ_z | |
| Rotation angle(0~120V) | | 6($\approx 1240^\circ$) | 6($\approx 1240^\circ$) | mrad $\pm 10\%$ |
| Rotation angle(0~150V) | | 7.5($\approx 1500^\circ$) | 7.5($\approx 1500^\circ$) | mrad $\pm 10\%$ |
| Integrated sensor | | SGS | - | |
| Resolution | | 0.2($\approx 0.04^\circ$) | 0.1($\approx 0.02^\circ$) | μrad |
| Closed-loop linearity | | 0.5 | - | %F.S. |
| Closed-loop repeatability | | 0.2 | - | %F.S. |
| Push/pull force | | 10/5 | 10/5 | N |
| Stiffness | | 1 | 1 | N/ $\mu\text{m} \pm 20\%$ |
| Unloaded resonant frequency | | 1.1 | 1.1 | kHz $\pm 20\%$ |
| Unloaded step time | | 30 | 1.5 | ms $\pm 20\%$ |
| Load capacity | | 0.1 | 0.1 | kg |
| Operating temperature ^[1] | | -20~80 | -20~80 | $^\circ\text{C}$ |
| El. capacitance | | 1.8 | 1.8 | $\mu\text{F} \pm 20\%$ |
| Material | | Aluminum | Aluminum | |
| Mass | | 105 | 105 | g $\pm 5\%$ |
| Cable length ^[2] | | 1.5 | 1.5 | m $\pm 10\text{mm}$ |
| Sensor/voltage connector ^[2] | | - | - | |

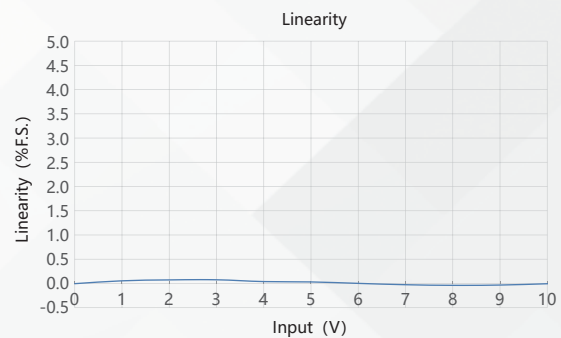
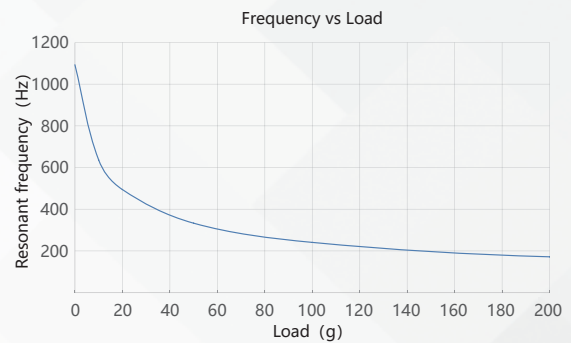
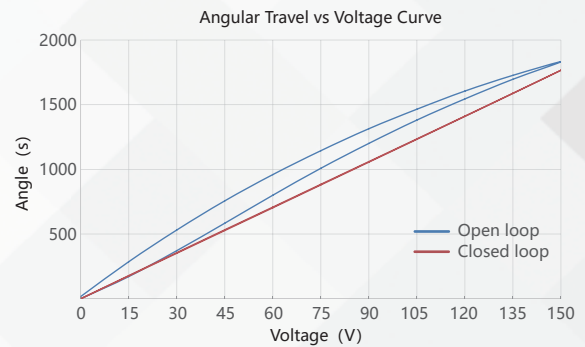
Note: Technical data are measured by CoreMorrow E00/E01 series piezo controller. Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25 $^\circ\text{C}$.

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

[2] Custom cable length and connector is available.

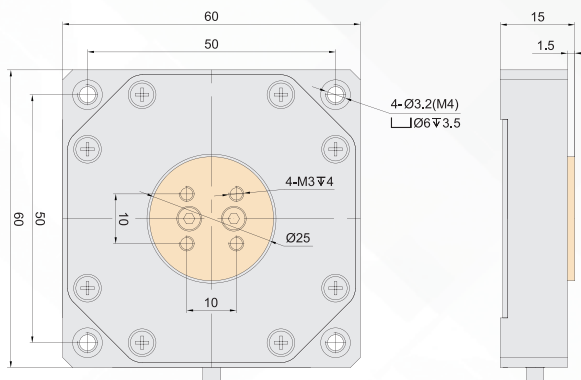
Note: The parallelism of the moving platform is about 20 μm , and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

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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