

X axis | XP-631.XS/K

Piezo Nanopositioning Stage



Introduction

XP-631.X piezo nanopositioning stage adopts frictionless flexible hinge guiding mechanism and has the characteristics of high rigidity, high resolution and fast response time. XY, XYZ versions could be available through adapter.

Characteristics >>

- Active axes X
- Max stroke to 30µm
- Load to 5kg
- Fast response time
- Repeatability 0.05%F.S.

Applications >>

- Biotechnology
- Precision positioning
- Nanometer positioning
- Fiber optic positioning/optical scanning
- Microimaging
- Micro machining/precision control
- Semiconductor technology
- Interferometry/scanning microscopy



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Technical Data >>

| Type | S-Closed loop K-Open loop | XP-631.XS | XP-631.XK | Units |
|---|------------------------------|-----------|-----------|--------------------------------|
| Active axis | | X | X | |
| Travel range(0~120V) | | 24 | 24 | $\mu\text{m}\pm 10\%$ |
| Travel range(0~150V) | | 30 | 30 | $\mu\text{m}\pm 10\%$ |
| Sensor | | SGS | - | |
| Resolution | | 1 | 0.2 | nm |
| Closed-loop linearity | | 0.15 | - | %F.S. |
| Repeatability | | 0.05 | - | %F.S. |
| Pitch/yaw/roll | | <25 | <25 | μrad |
| Push/pull force capacity | | 480/80 | 480/80 | N |
| Stiffness | | 20 | 20 | $\text{N}/\mu\text{m}\pm 20\%$ |
| Unloaded resonant frequency | | 2.4 | 2.4 | $\text{kHz}\pm 20\%$ |
| Unloaded Step time | | 3 | 1.6 | $\text{ms}\pm 20\%$ |
| Load capacity | | 5 | 5 | kg |
| El. capacitance | | 3.6 | 3.6 | $\mu\text{F}\pm 20\%$ |
| Operating temperature ^[1] | | -20~80 | -20~80 | $^{\circ}\text{C}$ |
| Material | | Aluminum | Aluminum | |
| Size(L×W×H) | | 78×45×18 | 78×45×18 | mm |
| Mass | | 250 | 250 | $\text{g}\pm 5\%$ |
| Cable length ^[2] | | 1.5 | 1.5 | $\text{m}\pm 10\text{mm}$ |
| Sensor/voltage connector ^[2] | | LEMO | LEMO | |

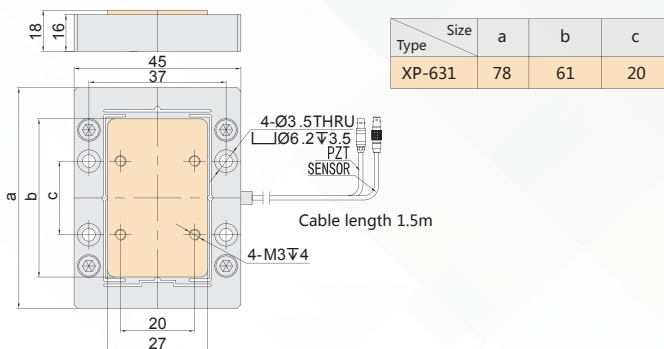
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

[2] Custom cable length and connector is available.

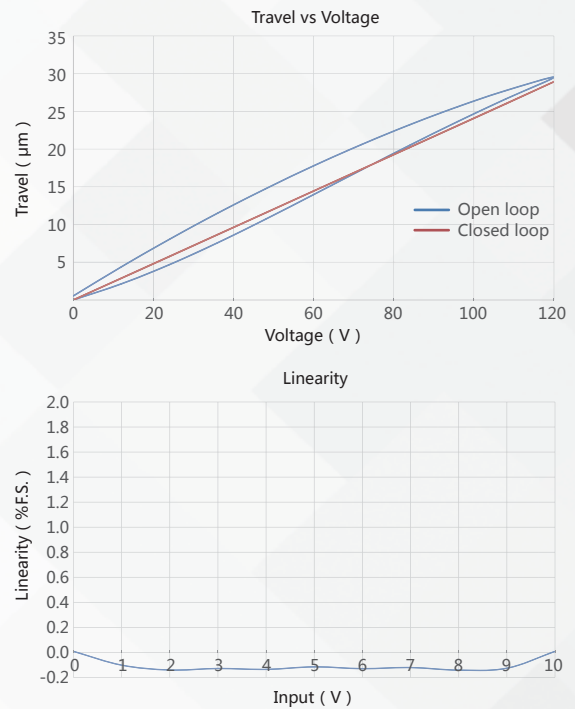
Note: The parallelism of the moving platform is about 20 μm , and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

Drawing >>



Note: XP-63X.XY/XP-63X.XYZ, drawings, please refer to CoreMorrow website or consult sales engineer.

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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