# ANGp101/RES

closed loop goniometer with resistive encoder for Φ-positioning

## Technical Specifications

| Technology | |
|---|---|
| travel mechanism | inertial piezo drive |

| Size and Dimensions | |
|---|---|
| footprint; height | 24 x 24; 11 mm |
| maximum size | 28.9 x 26.5; 11.6 mm |
| distance center of rotation to bottom | 62 mm (above center) |
| weight | 18 g |

| Coarse Positioning Mode | @ 300 K | @ 4 K |
|---|---|---|
| input voltage range | 0 .. 60 V | 0 .. 60 V |
| typical actuator capacitance | 1.05 µF | 0.15 µF |
| travel range (step mode) | 5.4° | 5.4° |
| typical minimum step size | 0.1 m° | 20 µ° |
| maximum drive velocity | ≈ 1 °/s | |

| Fine Positioning Mode | |
|---|---|
| fine positiong range | no fine positioning capability |

| Materials (non-magnetic) | |
|---|---|
| positioner body | titanium (upgrade option: beryllium copper) |
| actuator | PZT ceramics |
| connecting wires | insulated twisted pair, copper |

| Load (@ ambient conditions) | mounting orientation: axis horizontal |
|---|---|
| maximum load | 1 N (100 g) |
| maximum dynamic force along the axis | 2 N |

| Mounting | |
|---|---|
| from the top | 2 through holes dia 2.2 mm, cntrbr. f. M2 |
| from the bottom | 2 threads M2.5 x 6 mm |
| load on top | 6 threads M2 x 3 mm |

| Article Numbers | |
|---|---|
| /RT Version | 1002793 |
| /HV Version | 1002795 |
| /UHV Version | 1002797 |
| /LT Version | 1002799 |
| /LT/HV Version | 1002801 |
| /LT/UHV Version | 1002803 |

| Compatibility with Electronics | |
|---|---|
| ANC350 piezo positioning controller | ANC350/RES |

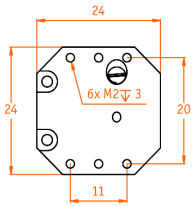
| Working Conditions | |
|---|---|
| mounting orientation | axis horizontal |
| magnetic field range | 0 .. 31 T |
| temperature range (/LT, /LT/HV, /LT/UHV) | 10 mK .. 373 K |
| max. bake out temperature (/UHV, /LT/UHV) | 150 °C |
| minimum pressure (/RT, /LT) | 1E-4 mbar |
| minimum pressure (/HV, /LT/HV) | 1E-8 mbar |
| minimum pressure (/UHV, /LT/UHV) | 5E-11 mbar |

| Position Encoder | |
|---|---|
| readout mechanism | resistive sensor |
| sensor power (when measuring) | 1 µW .. 1 mW |
| encoded travel range | full travel |
| sensor resolution | 0.1 m° |
| repeatability | 1..2 µm |
| linearity (over full travel) | < 1% |
| absolute accuracy | typically < 1 % of travel range |

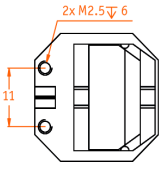
| Connectors and Feedthroughs | /RT, /LT Versions | all /HV, /UHV Versions |
|---|---|---|
| connector type | 2-pole pin plug, ø 0.5 mm, d = 2 mm, 30 cm cable with connector | 2-pole pin plug (PEEK), ø 0.5 mm, d = 2 mm, 30 cm cable with connector |
| encoder connector | additional 3-pole plug | additional 3-pole plug (PEEK) |
| electrical feedthrough solution | VFT/LT | VFT/HV, VFT/UHV |

## Technical Drawings

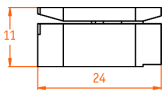
top view



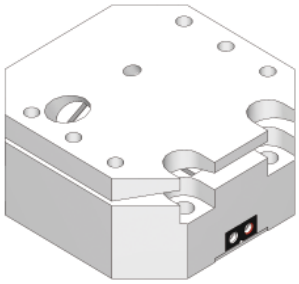

bottom view



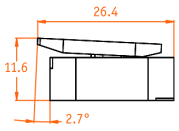

side view



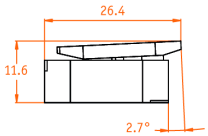

3D view



inner position




outer position






attocube
pioneers of precision