

# ANGp101/NUM(+)

closed loop goniometer with optoelectronic encoder for  $\Phi$ -positioning

## Technical Specifications

### Technology

travel mechanism inertial piezo drive

### Size and Dimensions

footprint; height 24 x 28; 11 mm  
 maximum size 28.6 x 28; 11.8 mm  
 distance center of rotation to bottom 62 mm (above center)  
 weight 25.5 g

### Coarse Positioning Mode

@ 300 K

input voltage range 0 .. 60 V  
 typical actuator capacitance 1.11  $\mu$ F  
 travel range (step mode) 5.4°  
 typical minimum step size 0.1 m°  
 maximum drive velocity  $\approx 1$  °/s

### Fine Positioning Mode

fine positioning range no fine positioning capability

### Materials (non-magnetic)

positioner body titanium (upgrade option: copper beryllium)  
 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 1003282  
 /HV version #  
 /UHV version #

### Compatibility with Electronics

ANC350 piezo positioning controller ANC350/NUM

### Working Conditions

mounting orientation axis horizontal  
 magnetic field range 0 .. 7 T  
 temperature range (/RT, /HV, /UHV) 0 .. 100 °C  
 max. bake out temperature (/UHV) 150 °C  
 minimum pressure (/RT) 1E-4 mbar  
 minimum pressure (/HV) 1E-8 mbar  
 minimum pressure (/UHV) 5E-11 mbar

### Position Encoder

readout mechanism optoelectronic: /NUM & /NUM+/(U)HV  
 sensor power (when measuring) /NUM: 300 mW & /NUM+/(U)HV: 50 mW  
 encoded travel range full travel  
 wavelength of illumination 870 nm  
 sensor resolution 10  $\mu$ °  
 repeatability 400  $\mu$ °  
 linearity (over full travel) < 0.01 %  
 absolute accuracy < 0.01 % of travel range

### Connectors and Feedthroughs

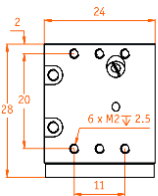
/RT Versions

all /HV, /UHV Versions

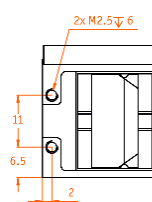
connector type 14-pole connector 15-pin D-Sub connector  
 electrical feedthrough solution --- VFT/HV, VFT/UHV

## Technical Drawings

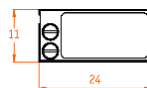
top view



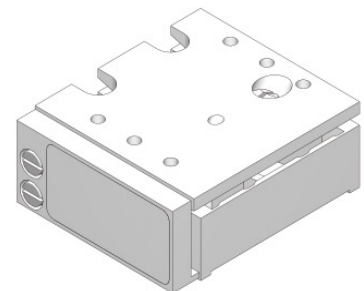
bottom view



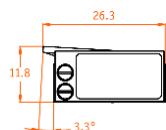
side view



3D view



inner position



outer position

