

ECGt5050/NUM(+)

nanoprecise closed loop stepper goniometer providing Θ -positioning with optoelectronic sensor

Technical Specifications

Technology

travel mechanism inertial piezo drive

Size and Dimensions

footprint; height 50 x 55.4; 17 mm
 maximum size 50 x 61.1; 19.4 mm
 distance center of rotation to bottom 77 mm
 weight (aluminum/stainless steel) 137 / 247 g

Coarse Positioning Mode

input voltage range 0 .. 60 V
 typical actuator capacitance 1.11 μ F
 travel range (step mode) 10°
 typical minimum step size 0.1 m°
 maximum drive velocity (@ 45 V) 3 °/s

Fine Positioning Mode

input voltage range 0 .. 100 V
 fine positioning range 0 .. 1.4 m°
 fine positioning resolution μ °

Materials

positioner body (/RT) aluminum
 positioner body (/HV, /UHV) stainless steel
 actuator PZT ceramics
 connecting wires insulated twisted pair, copper
 bearings stainless steel

Load (@ ambient conditions)

mounting orientation: axis horizontal

maximum load 10 N (1 kg)
 maximum dynamic torque around axis 8.7 Ncm
 /HL/RT - ambient conditions 43.5 Ncm

Mounting

from the top 4 through holes dia 2.2 mm, cntrbr. f. M2
 from the bottom 4 threads for M2.5 x 2 mm
 load on top 12 threads M2 x 2.3 mm
 load at the front L-bracket

Article Numbers

/RT version aluminum 1006215
 /HV version stainless steel #
 /UHV version stainless steel #
 /HL/RT version 1008844

Compatibility with Electronics

ECC100 piezo positioning controller all versions

Working Conditions

mounting orientation arbitrary
 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 entire travel
 wavelength of illumination 870 nm
 sensor resolution 1 μ °
 repeatability 50 μ °
 absolute accuracy < 0.01% of travel range

Connectors and Feedthroughs /RT Versions

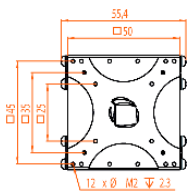
connector type 14-pole connector
 50 cm cable with connector
 electrical feedthrough solution ---

all /HV, /UHV Versions

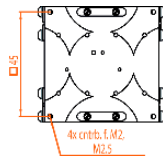
15-pin D-Sub connector
 50 cm cable with connector
 VFT/HV, VFT/UHV

Technical Drawings

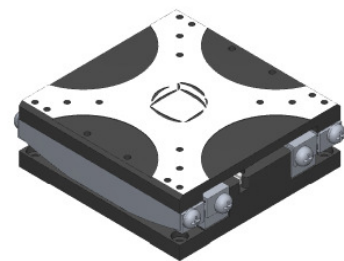
top view



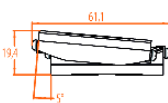
bottom view



3D view



inner position



outer position

