ANPz101/NUM(+)

closed loop, linear, vertical stepper positioner with optoelectronic encoder

Technical Specifications

Technology	
travel mechanism	inertial piezo drive

Size and Dimensions	
footprint; height	24 x 28; 20 mm
maximum size	24 x 28; 25 mm
weight	52.8 g

Coarse Positioning Mode	@ 300 K
input voltage range	0 .. 60 V
typical actuator capacitance	1.11µF
travel range (step mode)	5 mm
typical minimum step size	50 nm
maximum drive velocity	≈ 3 mm/s

Fine Positioning Mode	@ 300 K
input voltage range	0 .. 100 V
fine positiong range	0 .. 5 µm
fine positioning resolution	sub-nm

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 vertical
maximum load	2 N (200 g)
maximum dynamic force along the axis	5 N

Mounting	
from the top	2 through holes dia 2.2 mm, cntrbr. f. M2
from the bottom	2 threads M2.5 x 3.4 mm
load on top	10 threads M2 x 3.3 mm

Article Numbers	
/RT version	1002657
/HV version	#
/UHV version	#

Compatibility with Electronics	
ANC350 piezo positioning controller	ANC350/NUM

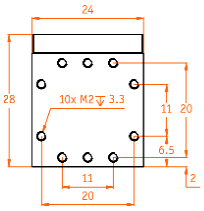
Working Conditions	
mounting orientation	axis vertical
magnetic field range	0 .. 7 T
temperature range (/RT, /HV, /UHV)	0 ..100 °C
max. bake out temperature (/UHV)	150 °C
minimum pressure (/RT)	1E-4 mbar
minimum pressure (/HV)	1E-8 mbar
minimum pressure (/UHV)	5E-11 mbar

Position Encoder	
readout mechanism	optoelectronic sensor: /NUM & /NUM+/(U)HV
sensor power (when measuring)	300 mW
encoded travel range	full travel
wavelength of illumination	870 nm
sensor resolution	10 nm
repeatability	150 nm
linearity (over full travel)	< 0.01 %
absolute accuracy	< 0.1 % of travel range

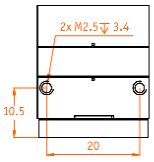
Connectors and Feedthroughs	/RT Versions	all /HV, /UHV Versions
connector type	14-pole connector	15-pin D-Sub connector
electrical feedthrough solution	---	VFT/HV, VFT/UHV

Technical Drawings

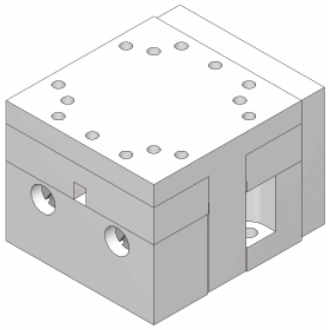
top view



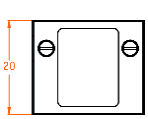
bottom view



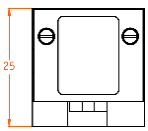
3D view



inner position



outer position



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