

ANPx321/RES

closed loop, bearing based, linear, horizontal stepper positioner with resistive encoder

Technical Specifications

Technology		Compatibility with Electronics	
travel mechanism	inertial piezo drive	ANC350 piezo positioning controller	ANC350/RES
Size and Dimensions		Working Conditions	
footprint; height	41.6 x 44; 11.5 mm	mounting orientation	axis horizontal
maximum size	49.1 x 44; 11.5 mm	magnetic field range	0 .. 31 T
weight	80 g	temperature range (/RT, /HV, /UHV)	0 .. 100 °C
Coarse Positioning Mode		temperature range (/LT, /LT/HV, /LT/UHV)	10 mK .. 373 K
	@ 300 K	@ 4 K	max. bake out temperature (/UHV, /LT/UHV)
input voltage range	0 .. 60 V	0 .. 60 V	150 °C
typical actuator capacitance	1.55 µF	220 nF	minimum pressure (/RT, /LT)
travel range (step mode)	15 mm	15 mm	1E-4 mbar
typical minimum step size	100 nm	20 nm	minimum pressure (/HV, /LT/HV)
maximum drive velocity	≈ 3 mm/s		1E-8 mbar
Fine Positioning Mode		minimum pressure (/UHV, /LT/UHV)	5E-11 mbar
	@ 300 K	@ 4 K	
input voltage range	0 .. 100 V	0 .. 150 V	
fine positioning range	0 .. 7.5 µm	0 .. 1.2 µm	
fine positioning resolution	sub-nm	sub-nm	
Materials		Position Encoder	
positioner body	titanium	readout mechanism	resistive sensor
actuator	PZT ceramics	sensor power (when measuring)	1 µW .. 1 mW
connecting wires	insulated twisted pair, copper	encoded travel range	full travel
bearings	ceramics	sensor resolution	≈ 200 nm
Load (@ ambient conditions)		repeatability	1..2 µm
	mounting orientation: axis horizontal	linearity (over full travel)	< 1%
maximum load	20 N (2 kg)	absolute accuracy	typically < 1% of travel range
maximum dynamic force along the axis	2 N		
Mounting		Connectors and Feedthroughs	
from the top	4 through holes dia 2.2 mm, cntrbr. f. M2	/RT, /LT Versions	all /HV, /UHV Versions
from the bottom	4 threads M2.5 x 2 mm	connector type	2-pole pin plug (PEEK), ø 0.5 mm, d = 2 mm, 30 cm cable with connector
load on top	10 threads M 2 x 3 mm	encoder connector	additional 3-pole plug
		electrical feedthrough solution	VFT/LT
Article Numbers		High Load Option (/HL)	
/RT version	1006350	mounting orientation: axis vertical	
/HV version	1006351	/HL/RT - ambient conditions	3 N
/UHV version	1006352	/HL/UHV - UHV conditions	2 N
/LT version	1006353	/HL/LT - cryogenic temperature conditions	1.5 N
/LT/HV version	1006354		
/LT/UHV version	1006355	Article Numbers /HL Option	
		/HL/RT version	1008334
		/HL/HV version	1008332
		/HL/UHV version	1008340
		/HL/LT version	1008342
		/HL/LT/HV version	1008341
		/HL/LT/UHV Version	1008335

Technical Drawings

