

ANPx341/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	44 x 45; 11.5 mm	mounting orientation	axis horizontal
maximum size	40 x 53.3; 11.5 mm	magnetic field range	0 .. 31 T
weight	82.2 g	temperature range (/RT, /HV, /UHV)	0 .. 100 °C
		temperature range (/LT, /LT/HV, /LT/UHV)	10 mK .. 373 K
		max. bake out temperature (/UHV, /LT/UHV)	150 °C
Coarse Positioning Mode		minimum pressure (/RT, /LT)	1E-4 mbar
	@ 300 K	@ 4 K	minimum pressure (/HV, /LT/HV)
input voltage range	0 .. 60 V	0 .. 60 V	minimum pressure (/UHV, /LT/UHV)
typical actuator capacitance	1.55 µF	220 nF	5E-11 mbar
travel range (step mode)	20 mm	20 mm	
typical minimum step size	100 nm	20 nm	
maximum drive velocity	≈ 3 mm/s		
Fine Positioning Mode		Position Encoder	
	@ 300 K	@ 4 K	readout mechanism
input voltage range	0 .. 100 V	0 .. 150 V	resistive sensor
fine positioning range	0 .. 7.5 µm	0 .. 1.2 µm	sensor power (when measuring)
fine positioning resolution	sub-nm	sub-nm	1 µW .. 1 mW
			encoded travel range
			full travel
			sensor resolution
			≈ 200 nm
			repeatability
			1..2 µm
			linearity (over full travel)
			< 1%
			absolute accuracy
			typically < 1 % of travel range
Materials		Connectors and Feedthroughs	
positioner body	titanium	/RT, /LT Versions	all /HV, /UHV Versions
actuator	PZT ceramics	connector type	2-pole pin plug, ø 0.5 mm, d = 2 mm, 30 cm cable with connector
connecting wires	insulated twisted pair, copper	encoder connector	additional 3-pole plug
bearings	ceramics	electrical feedthrough solution	VFT/LT
			VFT/HV, VFT/UHV
Load (@ ambient conditions)		High Load Option (/HL)	
	mounting orientation: axis horizontal		mounting orientation: axis vertical
maximum load	20 N (2 kg)	/HL/RT - ambient conditions	3 N
maximum dynamic force along the axis	2 N	/HL/UHV - UHV conditions	2 N
		/HL/LT - cryogenic temperature conditions	1.5 N
Mounting		Article Numbers /HL Option	
from the top	4 through holes dia 2.2 mm, cntrbr. f. M2	/HL/RT Version	1008359
from the bottom	4 threads M2.5 x 2 mm	/HL/HV Version	1008355
load on top	10 threads M 2 x 3 mm	/HL/UHV Version	1008360
		/HL/LT Version	1008354
		/HL/LT/HV Version	1008356
		/HL/LT/UHV Version	1008358
Article Numbers			
/RT Version	1006753		
/HV Version	1006754		
/UHV Version	1006755		
/LT Version	1007276		
/LT/HV Version	1007277		
/LT/UHV Version	1007278		

Technical Drawings

