attoMOTION

ANRv51/RES

compact, closed loop, rotary stepper positioner with horizontal rotation axis and resisistive encoder

Technical Specifications

Technology		
travel mechanism	inertial piezo drive	
Size and Dimensions		
footprint; height	10 x 20; 21 mm	
weight	10 g	
through hole in the middle of the axis	Ø 1.5 mm	
Coarse Positioning Mode	@ 300 K	@ 4 K
input voltage range	060V	060V
typical actuator capacitance	1.9 μF	0.4 µF
travel range (step mode)	360° endless, both directions	
typical minimum step size	1 m°	0.5 m°
maximum drive velocity	$\approx 10 \text{ °/s}$	
Fine Positioning Mode	@ 300 K	@ 4 K
input voltage range	060V	0 150 V
fine positiong range	040 m°	06 m°
fine positioning resolution	μ°	μ°
Materials (non-magnetic)		
positioner body	titanium (upgrade option: beryllium copper)	
actuator	PZT ceramics	
connecting wires	insulated twisted pair, copper	
Load (@ ambient conditions)	mounting orientation: axis horizontal	
maximum load	0.2 N (20g)	
maximum dynamic torque around axis	0.2 Ncm	
Mounting		
from the bottom	2 threads M2 x 3 mm	
from the top	2 threads M2 x 3 mm	
load on top	2 threads M1.6 x 1 mm	
Article Numbers		
/RT Version	1003303	
/HV Version	1003305	
/IIII// Vorcion	1002206	

1003306

1003304

1003307

1003308

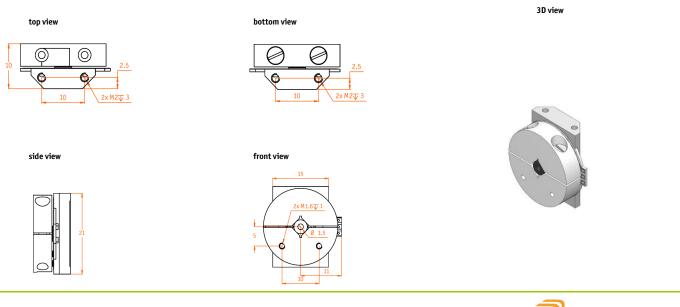
Compatibility with Electronics ANC350 piezo positioning controller		ANC350/RES		
Working Conditions				
mounting orientation		axis horizontal		
magnetic field range		031T		
temperature range (/LT, /LT/HV, /LT/UHV)		10 mK 373 K		
max. bake out temperature (/UHV, /LT/UHV)		150 °C		
minimum pressure (/RT, /LT)		1E-4 mbar		
minimum pressure (/HV, /LT/HV)		1E-8 mbar		
minimum pressure (/UHV, /LT/UHV)		5E-11 mbar		
Position Encoder				
readout mechanism		resistive senso	r	
sensor power (when measuring)		1μW1mW		
encoded travel range		315°		
sensor resolution		≈6m°		
repeatability		≈ 50 m°		
linearity (over full travel)		< 1%		
absolute accuracy	typically < 1 %		of travel range	
Connectors and Feedthroughs	/RT, /LT Versions		all /HV, /UHV Versions	
connector type	2-pole pin pl	lug,	2-pole pin plug (PEEK),	
	ø 0.5 mm, d = 2 mm,		ø 0.5 mm, d = 2 mm,	
	30 cm cable with connector		30 cm cable with connector	
encoder connector	additional 3-pole plug		additional 3-pole plug (PEEK)	
electrical feedthrough solution	VFT/LT		VFT/HV, VFT/UHV	

Technical Drawings

/UHV Version

/LT/UHV Version

/LT Version /LT/HV Version



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