

ANPz51eXT

Technical Specifications

travel mechanism inertial piezo drive positioner type linear Size and Dimensions footprint; height 15x15; 17mm max installation space 15x15; 23mm weight 13 g Materials positioner body titanium (upgrade option: copper beryllium) actuator PZT ceramics connecting wires insulated twisted pair, copper Options environmental options /HV, /LT, /LT/HV, /LT/UHV, /RT, /UHV Compatibility with Electronics ANC300 piezo positioning controller ANM150, ANM300 Load (@ ambient conditions) maximum torque on the axis 10 Ncm maximum load 0.5 N maximum dynamic force along the axis 1 N Coarse Positioning Mode input voltage range 0 - 60 V travel range (step mode) 6 mm maximum drive velocity @ 300 K approx. 1 mm/s Fine Positioning Mode fine positioning range @ 300 K 5 µm input DC voltage range @ 300 K 0 - 100 V input DC voltage range @ 300 K 0 - 100 V input DC voltage range @ 4 K 0.8 µm input DC voltage range @ 300 K 0 - 100 V	Technology	
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Compatibility with Electronics ANC300 piezo positioning controller ANM150, ANM300 Load (@ ambient conditions) maximum torque on the axis 10 Ncm maximum load 0.5 N maximum dynamic force along the axis 1 N Coarse Positioning Mode input voltage range 0 - 60 V travel range (step mode) maximum drive velocity @ 300 K prine Positioning Mode fine positioning resolution sub-nm fine positioning range @ 300 K 5 µm fine positioning range @ 4 K 0.8 µm input DC voltage range @ 300 K 0 - 100 V	Options	
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Coarse Positioning Mode input voltage range 0 - 60 V travel range (step mode) 6 mm maximum drive velocity @ 300 K approx. 1 mm/s Fine Positioning Mode fine positioning resolution sub-nm fine positioning range @ 300 K 5 µm fine positioning range @ 4 K 0.8 µm input DC voltage range @ 300 K 0 - 100 V	maximum load	0.5 N
input voltage range 0 - 60 V travel range (step mode) 6 mm maximum drive velocity @ 300 K approx. 1 mm/s Fine Positioning Mode fine positioning range @ 300 K 5 μm fine positioning range @ 4 K 0.8 μm input DC voltage range @ 300 K 0 - 100 V	maximum dynamic force along the axis	1 N
travel range (step mode) 6 mm maximum drive velocity @ 300 K approx. 1 mm/s Fine Positioning Mode fine positioning resolution sub-nm fine positioning range @ 300 K 5 µm fine positioning range @ 4 K 0.8 µm input DC voltage range @ 300 K 0 - 100 V	Coarse Positioning Mode	
maximum drive velocity @ 300 K approx. 1 mm/s Fine Positioning Mode fine positioning resolution sub-nm fine positioning range @ 300 K $5 \mu m$ fine positioning range @ 4 K $0.8 \mu m$ input DC voltage range @ 300 K $0 - 100 V$	input voltage range	0 - 60 V
Fine Positioning Mode fine positioning resolution sub-nm fine positioning range @ 300 K 5 μm fine positioning range @ 4 K 0.8 μm input DC voltage range @ 300 K 0 - 100 V	travel range (step mode)	6 mm
fine positioning resolution sub-nm fine positioning range @ 300 K 5 μ m fine positioning range @ 4 K 0.8 μ m input DC voltage range @ 300 K 0 - 100 V	maximum drive velocity @ 300 K	approx. 1 mm/s
fine positioning range @ 300 K	Fine Positioning Mode	
fine positioning range @ 4 K 0.8 μm input DC voltage range @ 300 K 0 - 100 V	fine positioning resolution	sub-nm
input DC voltage range @ 300 K 0 - 100 V	fine positioning range @ 300 K	5 μm
	fine positioning range @ 4 K	0.8 μm
input DC voltage range @ 4 K 0 - 150 V	input DC voltage range @ 300 K	0 - 100 V
	input DC voltage range @ 4 K	0 - 150 V

Accuracy of Movement	
repeatability of step sizes	typically 5 % over full range
typ. forward / backward step asymmetry	typically 5 - 10 % depending on load
Working Conditions	
mounting orientation	axis vertical
magnetic field range	0 - 31 T
minimum pressure (/RT)	1E-4 mbar
minimum pressure (/HV)	1E-8 mbar
minimum pressure (/UHV)	5E-11 mbar
temperature range (/RT)	273K 373K
temperature range (/LT)	10mK 373K
Connectors and Feedthroughs	
cable	30 cm cable with connector
connector type	2-pole pin plug, ø 0.5 mm, d = 2 mm
electrical feedthrough solution	VFT/LT
Versions	
/RT version	1009004
/HV version	1009005
/UHV version	1009006
/LT version	1009007
/LT/HV version	1009008
/LT/UHV version	1009009

Technical Drawings









