

ANSxyz50

compact, modular open loop xyz-scanner for 1" scanning probe applications

Technical Specifications

Technology			
travel mechanism	piezo driven lever arm mechanism		
Size and Dimensions			
footprint; height	15 x 15; 13 mm		
weight	11,5 g		
Fine Positioning Mode		@ 300 K	@ 4 K
fine positioning range (xyz)	30 x 30 x 4.3 μm^3	15 x 15 x 2 μm^3	
input voltage range	0 .. 60 V	0 .. 150 V	
typical actuator capacitance (xy)	1.4 μF	0.2 μF	
typical actuator capacitance (z)	2.5 μF	0.35 μF	
fine positioning resolution	sub-nm		
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 torque on the axis	20 Ncm		
maximum load	1 N (100 g)		
Mounting			
from the top	2 through holes dia 1.7 mm, cntrbr. f. M1.6		
from the bottom	4 cntrbr. f. M1.6		
load on top	4 threads M1.6 x 2 mm		
Article Numbers			
/RT Version	1007598		
/HV Version	1007588		
/UHV Version	1007599		
/LT Version	1007600		
/LT/HV Version	1007601		
/LT/UHV Version	1007602		
Compatibility with Electronics			
ANC300 piezo positioning controller	ANM200, ANM300		
ANC350 piezo positioning controller	ANC350 scan and readout controller		
Analog voltage amplifier	ANC250		
Accuracy of Movement			
repeatability of step sizes	no coarse positioning capability		
scan repeatability	typically 0.1 %		
forward / backward step asymmetry	no coarse positioning capability		
creep	typically 0.5 - 0.8 % per decade of time		
linearity	typically 5 - 10 %		
Working Conditions			
mounting orientation	xy horizontally, z vertically		
magnetic field range	0 .. 31 T		
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		
minimum pressure (/RT, /LT)	1E-4 mbar		
minimum pressure (/HV, /LT/HV)	1E-8 mbar		
minimum pressure (/UHV, /LT/UHV)	5E-11 mbar		
Connectors and Feedthroughs		/RT, /LT Versions	all /HV, /UHV Versions
connector type	three 2-pole pin plugs, \varnothing 0.5 mm, d = 2 mm, 30 cm cable with connector	three 2-pole pin plugs (PEEK), \varnothing 0.5 mm, d = 2 mm, 30 cm cable with connector	
electrical feedthrough solution	VFT/LT	VFT/HV, VFT/UHV	

Technical Drawings

