

ANSz110

large range z-scanner

Technology	
travel mechanism	piezo driven lever arm mechanism
Size and Dimensions	
footprint; height	24 x 24; 12 mm
Fine Positioning Mode	
scan range	40 µm @ 300 K, 30 µm @ 4 K
scan resolution	sub-nm resolution
Coarse Positioning Mode	
travel (step mode)	no coarse positioning capability
Materials (non-magnetic)	
positioner body	Titanium (other materials on request)
actuator	PZT ceramics
connecting wires	twisted pair, Cu wires
weight	19 g
Load	
maximum vertical load	100 g
maximum torque on the axis	20 Ncm
maximum bandwidth	100 Hz
Mounting	
frontside mounting	two through holes for M2
backside mounting	two threads M2.5 x 5 mm
load mounting	four threads M2 x 3 mm
Article Numbers	
/RT Version	/LT Version
/HV Version	/LT/HV Version
/UHV Version	/LT/UHV Version
Compatibility with Electronics	
ANC300 piezo positioning controller	all versions
ANC350 piezo controller	all versions

Working Conditions		
mounting orientation	scanner moving 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, Test @ 4.2 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	2-pole pin plug, ø 0.5 mm, d = 2 mm,	2-pole pin plug (PEEK), ø 0.5 mm, d = 2 mm,
connector type	30 cm cable with connector	30 cm cable with connector
electrical feedthrough solution	COC230/LT	COC230/HV, COC230/UHV
Temperature Dependent Data		
	@ 300K	@ 4K (only /LT versions)
input voltage range	0 .. +60 V	0 .. +150 V
typical actuator capacitance	5400 nF	750 nF
typical step size (min .. max)	---	---
fine positioning range		
Accuracy of Movement		
repeatability	typically 0.1 %	
resonance frequency (typically higher than)	---	
creep	typically 0.5 - 0.8 % per decade of time	
linearity	typically 5 - 10 %	

