

ANSxyz100

open loop xyz-scanner for 2" scanning probe applications

Size and Dimensions Size and Dimensions Size and Dimensions Fine Positioning Mode Ge 300 K Ge 4 K fine positioning range (xy) Input Voltage range O. 60 V O. 150 V Sub-nm Sub-nm Materials (non-magnetic) Materials (non-magnetic) Fire Creamics Insulated twisted pair, copper Insulated twisted pair, copper maximum torque on the axis maximum load In Y(100 g) Mounting Mounting Mounting Form the top from the position the top from	ANC350 piezo positioning controller Analogy of tage amplifier Ancas A	Technology			Compatibility with Electronics			
Size and Dimensions 24 x 24; 10 mm 24 x 24; 10 mm 19 g 24 x 24; 10 mm 24 x 24	Analog voltage amplifier	travel mechanism	piezo driven lever a	rm mechanism	ANC300 piezo positioning contro	ller		
The position of the position of a part of the position of part of p	The Positioning Mode Part					ller		nd readout controller
Accuracy of Movement Pine Positioning Mode	Fine Positioning Mode G 300 K		0/ 0/ 10		Analog voltage amplifier		ANC250	
Fine Positioning Mode @ 30 K	Fine Positioning Mode @ 300 K		·		Accuracy of Movement			
Since Sistioning Mode Since S	Fine Positioning Mode	weight	19 g				no coarco nocit	ioning canability
Fine positioning range (xyz) 50 x 50 x 24 μm³ 30 x 30 x 15 μm³ forward / backward step asymmetry no coarse positioning capability input voltage range 0.60 V 0.150 V creep typical growth of the property of typical actuator capacitance (xy) 1.4 μF 200 nF	Fine positioning range (xyz) 50 x 50 x 24 μm³ 30 x 30 x 15 μm³ forward / backward step asymmetry no coarse positioning capability input voltage range 060 V 0150 V creep typical (0.5 - 0.8 % per decade of the typical actuator capacitance (xy) 5.4 μF 750 nF tinearity typical (1.4 μF 200 nF typical actuator capacitance (z) 1.4 μF 200 nF	Fine Positionina Mode	@ 300 K	@ 4 K				ioning capability
input voltage range	input voltage range	3				trv		ioning capability
Typical actuator capacitance (2) 1.4 μF 200 nF sub-nm sub	Typical actuator capacitance (2) 1.4 μF 200 nF sub-nm sub-nm sub-nm when positioning resolution sub-nm when positioning resolution sub-nm when positioning resolution sub-nm when positioning orientation magnetic field range temperature range (/RT, /HV, /UHV) 0.100 °C temperature range (/RT, /HV, /UHV) 10 mK. 373 K actuator PZT ceramics insulated twisted pair, copper in		,	'		- 3	,	5 1 5
### Sub-nm Materials (non-magnetic)	### Sub-nm Materials (non-magnetic)	typical actuator capacitance (xy)	5.4 μF	750 nF	linearity		typically 5 - 10	%
mounting orientation xy horizontally, z vertically magnetic field range 0 31 T temperature range (/RT, /HV, /UHV) 0100 °C temperature range (/RT, /HV, /UHV) 10 mK. 373 K actuator PZT ceramics misulated twisted pair, copper minimum pressure (/WHV, /LT/UHV) 150 °C minimum pressure	mounting orientation	typical actuator capacitance (z)	1.4 μF	200 nF	•			
Materials (non-magnetic) magnetic field range (NT, /HV, /LHV) 0100 °C temperature range (/RT, /HV, /LT/HV) 0100 °C positioner body actuator PZT ceramics max. bake out temperature (/HV, /LT/HV) 150 °C 150 °C connecting wires insulated twisted pair, copper minimum pressure (/HV, /LT/HV) 150 °C 150 °C Load (@ ambient conditions) mounting orientation: axis horizontal maximum forque on the axis 20 Ncm minimum pressure (/HV, /LT/HV) 5E-11 mbar 5E-1 mbar Mounting 1 N (100 g) Connectors and Feedthroughs (PHV, /LT/UHV) 5E-11 mbar all /HV, /UHV Version Mounting 2 through holes M2 x 5 mm connector type three 2-pole pin plugs, 00.5 mm, d = 2 mm, 00.5 mm, d = 2	Materials (non-magnetic) magnetic field range to magnetic field range temperature range (/RT, /HV, /UHV) 031 T temperature range (/RT, /HV, /UHV) 0100 °C positioner body titanium (upgrade option: beryllium copper) actuator temperature range (/RT, /HV, /UHV) 10 mK333 K actuator PZT ceramics max. bake out temperature (/UHV, /LT/UHV) 150 °C connecting wires insulated twisted pair, copper minimum pressure (/RT, /LT) 1E-4 mbar Load (@ ambient conditions) mounting orientation: axis horizontal minimum pressure (/HV, /LT/UHV) 5E-11 mbar maximum load 1 N (100 g) Connectors and Feedthroughs /RT, /LT Version all /HV, /UHV Version Mounting 1 N (100 g) Connector type three 2-pole pin plugs, w 0.5 mm, d = 2 mm, w 0.5 mm, d = 2 m	fine positioning resolution	sub-nm		Working Conditions			
Materials (non-magnetic) temperature range (/RT, /HV, /UHV) 0100 °C positioner body actuator PZT ceramics max. bake out temperature (/UHV, /LT/UHV) 150 °C connecting wires insulated twisted pair, copper minimum pressure (/HV, /LT/HV) 150 °C Load (@ ambient conditions) mounting orientation: axis horizontal minimum pressure (/HV, /LT/HV) 1 F-4 mbar maximum torque on the axis 20 Ncm maximum load 1 N (100 g) Connectors and Feedthroughs /RT, /LT Versions all /HV, /UHV Versions Mounting Connectors and Feedthroughs /RT, /LT Versions all /HV, /UHV Versions from the top 2 through holes M2 x 5 mm electrical feedthrough solution VFT/LT WFT/LT WFT/LT WFT/HV, VFT/UHV Article Numbers /RT Version 1001239 /HV Version 1001312 /LT Yersion 1001238 /LT/HV Version 1001311	Materials (non-magnetic)temperature range (/RT, /HV, /UHV)0100 °Cpositioner body actuatortitanium (upgrade option: beryllium copper)temperature range (/RT, /LT/HV, /LT/UHV)10 mK 373 KactuatorPZT ceramicsmax. bake out temperature (/UHV, /LT/UHV)150 °Cconnecting wiresinsulated twisted pair, copperminimum pressure (/RT, /LT)1E-4 mbarminimum pressure (/HV, /LT/HV)1E-8 mbarLoad (@ ambient conditions)mounting orientation: axis horizontalminimum pressure (/HV, /LT/UHV)5E-11 mbarmaximum torque on the axis20 Ncmmaximum load1 N (100 g)Connectors and Feedthroughs/RT, /LT versionsall /HV, /UHV versionfrom the top2 through holes M2 x 5 mmconnector typethree 2-pole pin p plugs, wo 0.5 mm, d = 2 mm, wo 0.5				mounting orientation		xy horizontally	, z vertically
titanium (upgrade option: beryllium copper) actuator PZT ceramics connecting wires insulated twisted pair, copper mounting orientation: axis horizontal maximum torque on the axis maximum load I N (100 g) Mounting from the top from the bottom load on top 6 threads M2 x 3 mm Article Numbers //RT Version 1001329 //LT Version 1001312 //LT Version 1001312 //LT Version 1001312 //LT Version 1001238 //LT Version 1001238 //LT Version 1001312	titanium (upgrade option: beryllium copper) actuator PZT ceramics insulated twisted pair, copper insulated twisted pair, copper maximum forque on the axis maximum load I N (100 g) Mounting from the top from the bottom load on top 6 threads M2 x 3 mm Article Numbers //RT Version //UHV Version							
actuator PZT ceramics max. bake out temperature (/UHV, /LT/UHV) 150 °C connecting wires insulated twisted pair, copper minimum pressure (/RT, /LT) 1E-4 mbar minimum pressure (/HT, /LT/HV) 1E-8 mbar minimum pressure (/HT, /LT/HV) 1E-8 mbar minimum pressure (/HV, /LT/UHV) 5E-11 mbar minimum pressure (/UHV, /LT/UHV) 5E-11 mbar mini	actuator PZT ceramics max. bake out temperature (/UHV, /LT/UHV) 150 °C connecting wires insulated twisted pair, copper minimum pressure (/RT, /LT) 1E-4 mbar minimum pressure (/HV, /LT/UHV) 1E-8 mbar maximum torque on the axis 20 Ncm maximum load 1 N (100 g) Connectors and Feedthroughs /RT, /LT Version 1001239 /LT Version 1001238 /LT Version 1001311	Materials (non-magnetic)			temperature range (/RT, /HV, /U	HV)	0100°C	
insulated twisted pair, copper minimum pressure (/RT,/LT) 1E-4 mbar minimum pressure (/RT,/LT) 1E-8 mbar minimum pressure (/HV,/LT/HV) 1E-8 mbar minimum pressure (/HV,/LT/HV) 5E-11 mbar minimum pressur	insulated twisted pair, copper minimum pressure (/RT, /LT) 1E-4 mbar minimum pressure (/RT, /LT) 1E-8 mbar minimum pressure (/HV, /LT/HV) 1E-8 mbar minimum pressure (/HV, /LT/HV) 5E-11 mbar suraimum torque on the axis 20 Ncm maximum load 1N (100 g) Connectors and Feedthroughs /RT, /LT Versions all /HV, /UHV Version 1001238 Article Numbers VIEVA mbar minimum pressure (/RT, /LT) 1E-4 mbar minimum pressure (/HV, /LT/HV) 5E-11 mbar minimum pressure	positioner body	titanium (upgrade o	ption: beryllium copper)	temperature range (/LT, /LT/HV,	/LT/UHV)	10 mK 373 K	
Load (@ ambient conditions) mounting orientation: axis horizontal maximum torque on the axis aximum load 1 N (100 g) Mounting Mounting Mounting Mounting Trom the top from the bottom load on top 4 threads M2 x 3 mm electrical feedthrough solution Article Numbers Article Numbers //HV Version 1001239 //HV Version 1001319 //LT Version 1001238 //LT Version minimum pressure (/HV, /LT/HV) 5E-11 mbar ### Mounting Connectors and Feedthroughs /RT, /LT Versions all /HV, /UHV Versions onnector type three 2-pole pin plugs, (Pl Ø 0.5 mm, d = 2 mm, Ø 0.5 mm, d	minimum pressure (/HV, /LT/HV) 1E-8 mbar minimum pressure (/HV, /LT/HV) 5E-11 mbar 20 Ncm	actuator			max. bake out temperature (/UH	V,/LT/UHV)	150 °C	
Load (@ ambient conditions) mounting orientation: axis horizontal maximum torque on the axis maximum load 1 N (100 g) Mounting from the top from the bottom load on top 4 threads M2 x 3 mm Article Numbers /RT version /HV Version /UHV, /LT /UHV) 5E-11 mbar /Connectors and Feedthroughs /RT, /LT Versions all /HV, /UHV Versions connector type three 2-pole pin plugs, pluss, pl	Load (@ ambient conditions) mounting orientation: axis horizontal maximum torque on the axis maximum torque on the axis maximum toad 1 N (100 g) Mounting Mounting From the top from the bottom load on top 4 threads M2.5 x 5 mm load on top 6 threads M2 x 3 mm Article Numbers /RT Version /UHV version /UNY versi	connecting wires	insulated twisted pa	air, copper	,,,			
maximum torque on the axis maximum torque on the axis maximum load 1 N (100 g) Mounting From the top connector type three 2-pole pin plugs,	maximum torque on the axis maximum torque on the axis maximum load 1 N (100 g) Mounting From the top 2 through holes M2 x 5 mm of threads M2.5 x 5 mm electrical feedthrough solution of threads M2 x 3 mm Article Numbers /RT Version 1001239 /HV Version 1001319 /LT Version 1001238 /LT Version 1001311				,,,,			
maximum load	maximum load 1 N (100 g) Connectors and Feedthroughs /RT, /LT Versions all /HV, /UHV Version Connector type three 2-pole pin plugs, w 0.5 mm, d = 2 mm, w 0.5 mm, d = 2 mm 30 cm cable with connector some electrical feedthrough solution 2 threads M2.5 x 5 mm load on top 6 threads M2.5 x 5 mm load on top Article Numbers /KT Version	, ,		ion: axis horizontal	minimum pressure (/UHV, /LT/U	HV)	5E-11 mbar	
Connector type Conn	Connector type						_	
Mounting from the top 2 through holes M2 x 5 mm from the bottom 2 threads M2.5 x 5 mm electrical feedthrough solution VFT/LT VFT/HV, VFT/UHV Article Numbers /RT Version 1001239 /HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	Mounting Ø 0.5 mm, d = 2 mm, Ø 0.5 mm, d = 2 mm, <th< td=""><td>maximum load</td><td>1 N (100 g)</td><td></td><td></td><td>, ,,</td><td></td><td>, .,</td></th<>	maximum load	1 N (100 g)			, ,,		, .,
from the bottom 2 threads M2.5 x 5 mm electrical feedthrough solution VFT/LT VFT/HV, VFT/UHV load on top 6 threads M2 x 3 mm Article Numbers Article Numbers /HV Version 1001239 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	from the bottom 2 threads M2.5 x 5 mm electrical feedthrough solution VFT/LT VFT/HV, VFT/UHV load on top 6 threads M2 x 3 mm electrical feedthrough solution VFT/LT VFT/HV, VFT/UHV Article Numbers /HV Version 1001239 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	Mounting			connector type			, , , , ,
Load on top 6 threads M2 x 3 mm Article Numbers /RT Version 1001239 /HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	Article Numbers /RT Version 1001239 /HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	from the top	2 through holes M2 x 5 mm			30 cm cable	with connector	30 cm cable with connector
Article Numbers /RT Version 1001239 /HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	Article Numbers /RT Version 1001239 /HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	from the bottom	2 threads M2.5 x 5 mm		electrical feedthrough solution VFT/LT			
/RT Version 1001239 /HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	/RT Version 1001239 /HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	load on top	6 threads M2 x 3 mm	n	-	·		
/HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	/HV Version 1001309 /UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	Article Numbers						
/UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	/UHV Version 1001312 /LT Version 1001238 /LT/HV Version 1001311	/RT Version	1001239					
/LT Version 1001238 //LT/HV Version 1001311	/LT Version 1001238 //LT/HV Version 1001311	/HV Version	1001309					
/LT/HV Version 1001311	/LT/HV Version 1001311	/UHV Version	1001312					
		/LT Version	1001238					
/LT/UHV Version 1001310	/LT/UHV Version 1001310	/LT/HV Version	1001311					
		/LT/UHV Version	1001310					



