ANPx341/NUQ

bearing-based, linear, horizontal positioner with 20 mm travel range and ultra-high resolution encoder for closed loop operation

Technology	
travel mechanism	inertial piezo drive

Size and Dimensions	
footprint; height	47.5 x 45; 14 mm
maximum size	47.5 x 61.6 x 14 mm

Coarse Positioning Mode	
travel range (step mode)	20 mm
typical minimum step size	50 nm
maximum speed (@ 300 K, no load)	approx. 3 mm/s

Fine Positioning Mode	
scan range	7.5 µm
scan resolution	sub-nm resolution

Materials	
positioner body	Titanium (other materials on request)
actuator	PZT ceramics
connecting wires	insulated Cu wires
weight	81 g

Load	
maximum vertical load	up to 80 N
maximum static forces along the axis	5 N
maximum dynamic force along the axis	2.5 N

Mounting	
frontside mounting	four through holes for M2
backside mounting	four threads M2.5 x 2 mm
load mounting	six threads M2 x 3 mm

Article Numbers	
/RT Version	1005607
/HV Version	1005608
/UHV Version	1005609

Compatibility with Electronics	
ANC350 piezo positioning controller	all versions

Working Conditions	
mounting orientation	axis horizontal
magnetic field range	---
temperature range (/RT, /HV, /UHV)	0 .. 100 °C
temperature range (/LT, /LT/HV, /LT/UHV)	---
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	14-pole connector	15-pin Sub-D
	50 cm cable with connector	50 cm cable with connector
electrical feedthrough solution	---	VFT/HV, VFT/UHV

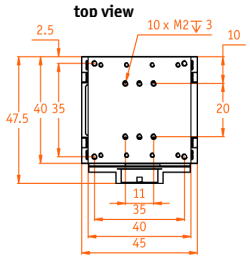
Temperature Dependent Data	@ 300K	@ 4K (only /LT versions)
input voltage range	0 .. +100 V	---
typical actuator capacitance	1550 nF	---
typical step size (min .. max)	0.05 .. 3 µm	---
fine positioning range	7.5 µm	---

Accuracy of Movement	
repeatability of step sizes	typically 5 % over full range
forward / backward step asymmetry	typically 5 %

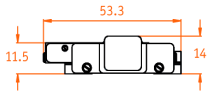
Position Encoder	
readout mechanism	optoelectronic encoder (non-contact)
encoded travel range	full travel
sensor resolution	1.2 nm
repeatability	10 nm

Drawings

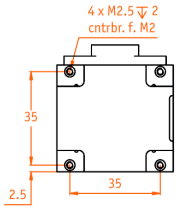
top view



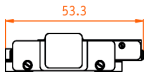
inner position



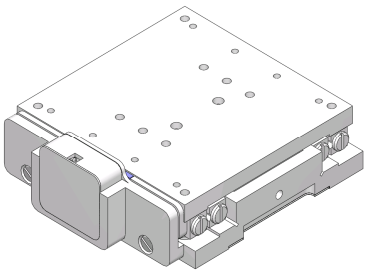
bottom view



outer position



3D view



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