ECSxy5050

nanoprecise open loop stepper positioner for linear, horizontal motion

Technical Specifications

Technology	
travel mechanism	inertial piezo drive

Size and Dimensions	
footprint; height	50 x 50; 16.4 mm
maximum size	62.5 x 62.5; 16.4 mm
weight	111 g

Coarse Positioning Mode	
input voltage range	0 .. 100 V
typical actuator capacitance	0.6 µF @ 300K
travel range (step mode)	25 x 25 mm²
typical minimum step size	0.05 µm
maximum drive velocity (@ 45 V)	4.5 mm/s

Fine Positioning Mode	
input voltage range	0 .. 60 V
fine positiong range	0 .. 1.6 µm
fine positioning resolution	sub-nm

Materials	
positioner body (/RT)	aluminum
actuator	PZT ceramics
connecting wires	insulated twisted pair, copper
bearings	stainless steel

Load (@ ambient conditions)	mounting orientation: axis horizontal
maximum load	150 N (15 kg)
maximum dynamic force along the axis	2 N

Mounting	
from the top	4 through holes dia 2.2 mm, cntrbr. f. M2
from the bottom	4 threads for M2.5 x 2 mm
load on top	12 threads M2 x 2.3 mm
load at the front	L-bracket

Compatibility with Electronics	
ECC100 piezo positioning controller	all versions

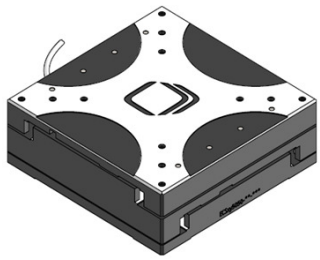
Working Conditions	
mounting orientation	arbitrary
temperature range (/RT, /HV, /UHV)	0 ..100 °C
minimum pressure (/RT)	1E-4 mbar

Accuracy of Movement	
repeatability of step sizes	typically 5 % over full range
forward / backward step asymmetry	10%
yaw angle (over 10 mm travel)	< 0.1 mrad
pitch angle (over 10 mm travel)	< 0.1 mrad
roll angle (over 10 mm travel)	< 0.1 mrad

Position Encoder	
encoder options	-

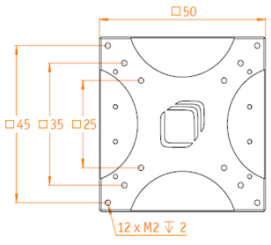
Connectors and Feedthroughs	/RT Versions
connector type	two 14-pole connectors 50 cm cable with connector
electrical feedthrough solution	---

Article Numbers	
/RT version aluminum	1011872

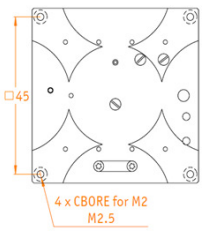


Technical Drawings

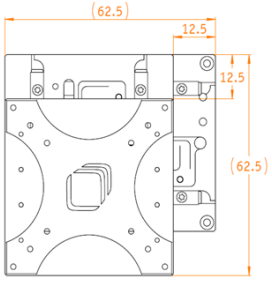
top view



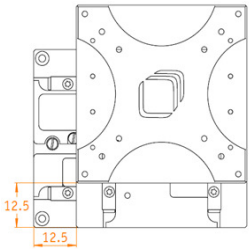
bottom view



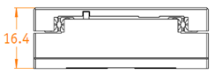
inner position



outer position



side view



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