

ANSz50

compact, stand-alone z-scanner for 1" scanning probe applications

Technical Specifications

Technology

travel mechanism piezo driven lever arm mechanism

Size and Dimensions

footprint; height 15 x 15; 6 mm
weight 4.5 g

Fine Positioning Mode

| | @ 300 K | @ 4 K |
|------------------------------|-----------|------------|
| fine positioning range | 4.3 µm | 2 µm |
| input voltage range | 0 .. 60 V | 0 .. 150 V |
| typical actuator capacitance | 2.5 µF | 340 nF |
| maximum bandwidth | 100 Hz | |
| fine positioning resolution | sub-nm | |

Materials (non-magnetic)

positioner body titanium (other materials on request)
actuator PZT ceramics
connecting wires insulated twisted pair, copper

Load

mounting orientation: axis vertical (@ 300 K)
maximum torque on the axis 10 Ncm
maximum load 0.5 N (50 g)

Mounting

from the top 2 through holes dia 1.7 mm, cntrbr. f. M1.6
from the bottom 2 threads M2 x 2.3 mm
load on top 4 threads M1.6 x 2 mm

Article Numbers

| | |
|-----------------|---------|
| /RT Version | 1002601 |
| /HV Version | 1002602 |
| /UHV Version | 1002603 |
| /LT Version | 1002604 |
| /LT/HV Version | 1001588 |
| /LT/UHV Version | 1002605 |

Compatibility with Electronics

| | |
|-------------------------------------|--------------|
| ANC300 piezo positioning controller | all versions |
| ANC350 piezo positioning controller | all versions |

Working Conditions

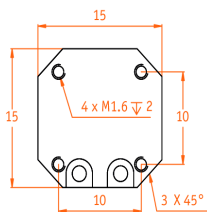
| | |
|---|---------------------------|
| mounting orientation | scanner moving vertically |
| magnetic field range | 0 .. 31 T |
| temperature range (/RT, /HV, /UHV) | 0 .. 100 °C |
| temperature range (/LT, /LT/HV, /LT/UHV) | 10 mK .. 373 K |
| max. bake out temperature (/UHV, /LT/UHV) | 150 °C |
| 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

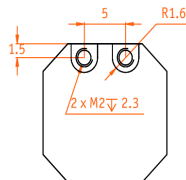
| | /RT, /LT Versions | all /HV, /UHV Versions |
|---------------------------------|---|--|
| connector type | 2-pole pin plug, ø 0.5 mm, d = 2 mm, 30 cm cable with connector | 2-pole pin plug (PEEK), ø 0.5 mm, d = 2 mm, 30 cm cable with connector |
| electrical feedthrough solution | VFT/LT | VFT/HV, VFT/UHV |

Technical Drawings

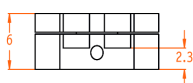
top view



bottom view



side view



3D view

