

CRYO LINEAR SCANNER (CLS)



Features

- Robust: easy handling and high load capacity
- Open aperture through the scanner body
- Bipolar driving voltage in cryo to increase stroke
- Dynamical operation possible
- Non-magnetic
- Axis direction markers simplify use
- Can be easily combined to yield xyz motion
- 20 mK to 375K, vacuum compatible
- Materials: titanium

Description / Applications

A linear scanner series for all-round fine positioning applications in a cryo-vacuum. Special attention is given to realize a robust mechanism that can tolerate significant handling and payload forces. The central open aperture allows the transfer of fibers, wires or light through the scanner body. The xy-scanner can be simply combined with the z-scanner for motion along all 3 linear axes. The use of non-magnetic materials allows operation in high magnetic fields

Specifications

specs	unit	CLS ₁ -XY	CLS ₁ -Z	CLS ₂ -XY
SYSTEM SPECIFICATIONS				
Active axes	-	xy	z	xy
Type of motion	-	Linear		
Scan actuator	-	Piezo ceramic		
Scan range @ 300K, unipolar voltage *	µm	30 x 30	28	135 x 135
Scan range @ 4K, unipolar voltage *	µm	8 x 8	8	27 x 27
Scan range @ 4K, bipolar voltage **	µm	14 x 14	13	50 x 50
Open aperture diameter	mm	3	1,5	11
Maximum load, any direction	N	5	5	5
Operating temperature	K	0.02-375		
Main construction material	-	Titanium		
Mass	grams	15	10	63
Max driving frequency, no load	Hz	30	30	30
DRIVE ELECTRONICS				
Controller/driver	-	CAB-230(115), CADM ₂ , PSM		
Sensor readout	-	N/A		
* Using a CADM ₂ , -20V to +130V, 10 bits resolution, setpoint rate approx. 10Hz. Alternative: PSM amplifier with PSMIL -20V to +130V.				
** Using the PSM without PSMIL, this is only allowed at deep cryogenic temperatures and -150V to +150V is not to be exceeded.				

Ordering Information

CLS1-XY /HV

CLS1-Z /HV

I1-CLS1

CLS2-XY /HV

Cryo Linear Stage 1 for xy motion

Cryo Linear Stage 1 for z motion

Interface plate to mount CLS1-XY or CLS1-Z on CBS10

Cryo Linear Stage 2 for xy motion

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