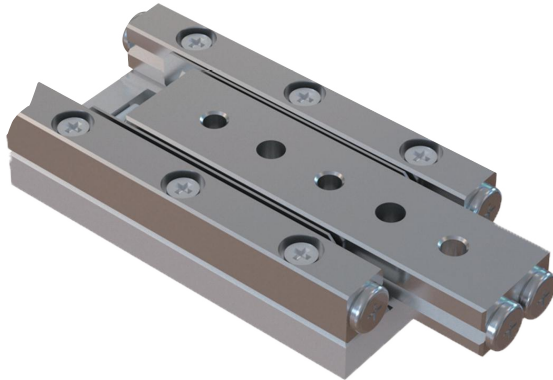


Piezoelectric Inertia Motor



Features

- High-speed displacement
- High resolution
- Compact size
- Suitable for high vacuum environments

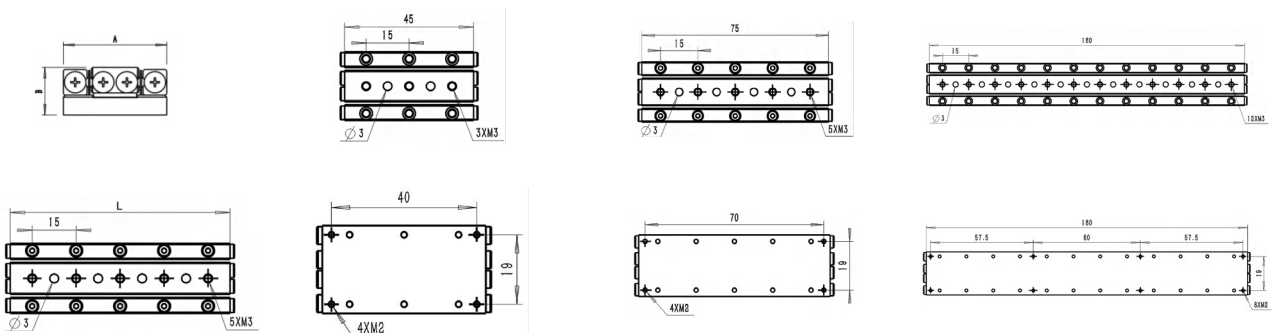
Description

Piezoelectric Inertia Motor is a linear motion positioning device based on stick-slip drive logic, which can achieve millimeter-level motion stroke and nanometer-level positioning accuracy, with the advantages of small size, high stiffness and fast positioning, the motor integrates high-precision closed-loop sensors, which is very suitable for nano-micro displacement control systems.

Applications

- Optical stage
- Precision semiconductor equipment
- Precision medical testing equipment
- Aerospace

Interface Definition



General dimension, Unit: mm

Applicable model: PMIN-C24-30A
Unit: mm

Applicable model: PMIN-C24-50A
Unit: mm

Applicable model: PMIN-C24-160A
Unit: mm

Technical Specifications

	PMIN-C24-20A	PMIN-C24-30A-SS	PMIN-C24-30A-AL	Unit	Tolerance
Active Axes	X	X	X		
Motion and positioning					
Travel range	20	30(非对称)	30(非对称)	mm	
Sensor	Linear encoder	Linear encoder	Linear encoder		
Open loop resolution	1	1	1	nm	
Sensor resolution	40	40	40	nm	
Sensor signal	AqB	AqB	AqB		
Min. displacement	-	-	-	nm	Typical value
Unidirectional repeatability	500	500	500	nm	Typical value
Bidirectional repeatability	800	1000	1000	nm	Typical value
Pitch	50	50	50	arcsec	Typical value
Yaw	50	50	50	arcsec	Typical value
Closed loop velocity*	10	10	10	mm/s	Max. value
Mechanical Properties					
Max. vertical load capacity	30	30	30	N	Max. value
Guide type	cross roller guide				
Drive force	>1.5	>1.5	>1.2	N	Typical value
Holding force	>2.0	>2.0	>2.0	N	Min. value
Drive Properties					
Operating voltage	0~70	0~70	0~70	V	
Miscellaneous					
Operating temperature range	0~50	0~50	0~50	°C	
Material	stainless steel	stainless steel	Aluminum alloy, stainless steel		
Cable length	2	2	2	m	±0.02 m
Motor interface	Sub-D15 male connector				
Dimensions					
A	24	24	24	mm	
B	11.5	11.5	11.5	mm	
L	45	45	45	mm	

* Actual motion velocity depend on the power of the drive control circuit

Technical Specifications

	PMIN-C24-50A-SS	PMIN-C24-50A-AL	PMIN-C24-110A	Unit	Tolerance
Active Axes	X	X	X		
Motion and positioning					
Travel range	50	50	110	mm	
Sensor	Linear encoder	Linear encoder	Linear encoder		
Open loop resolution	1	1	1	nm	
Sensor resolution	40	40	40	nm	
Sensor signal	AqB	AqB	AqB		
Min. displacement	-	-	-	nm	Typical value
Unidirectional repeatability	500	500	500	nm	Typical value
Bidirectional repeatability	800	800	800	nm	Typical value
Pitch	50	50	50	arcsec	Typical value
Yaw	50	50	50	arcsec	Typical value
Closed loop velocity*	10	10	10	mm/s	Max. value
Mechanical Properties					
Max. vertical load capacity	30	30	30	N	Max. value
Guide type	cross roller guide				
Drive force	>1.5	>1.2	>1.0	N	Typical value
Holding force	>2.0	>2.0	>1.5	N	Min. value
Drive Properties					
Operating voltage	0~70	0~70	0~70	V	
Miscellaneous					
Operating temperature range	0~50	0~50	0~50	°C	
Material	stainless steel	Aluminum alloy, stainless steel	stainless steel		
Cable length	2	2	2	m	±0.02 m
Motor interface	Sub-D15 male connector				
Dimensions					
A	24	24	24	mm	
B	11.5	11.5	11.5	mm	
L	75	75	180	mm	

* Actual motion velocity depend on the power of the drive control circuit