Moving-Magnet Linear Motor Module

Features

- Zero cogging force
- High thrust density
- Compact design, with low cross-sectional height
- Zero cable force
- High dynamic response, non-contact, ironless, direct drive linear motor
- High-precision optical linear encoder
- Excellent positioning accuracy and dynamic performance
- Modularized design, customized requirements accepted

Description

This module adopts low-profile design with ironless moving magnet direct-drive linear motor. The motor features high motion velocity and low heat generation with high-precision linear guide, achieving high-precision dynamic performance and positioning accuracy.

Applications

- Healthcare
- Automotive
- Semiconductor equipment

Technical Specifications

	MIL12-50	MIL25-40
Travel range	±25 mm	±40 mm
Accuracy	±2 μm	±2 μm
Unidirectional repeatability	±1 μm	±1 μm
Straightness	±3 μm	±3 μm
Flatness	±3 μm	±3 μm
Continuous force	7.5 N	24 N
Max. velocity	500 mm/s	500 mm/s
Mechanical properties		
Dimensions	134 mm×101 mm×12 mm	215 mm×150 mm×25 mm
Height	12 mm	25 mm
Max. load	2.5 Kg	7 Kg

Technical Specifications(Continued from previous page)

	MIL12-50	MIL25-40
Total mass	0.78 Kg	2.23 Kg
Material	Stainless steel SUS304	Stainless steel SUS304
Electrical properties		
Drive type	Moving-magnet linear motor	Moving-magnet linear motor
Force constant	4.7 N/A	9.23 N/A
Peak force	19.2 N	61.5 N
Peak current	4.08 A	6.66 A
Continuous current	1.6 A	2.6 A
Electrical resistance	3.16 ohms	1.25 ohms
Electrical inductance	1.15 mH	1 mH
Feedback	Incremental optical linear encoder	Incremental optical linear encoder
Resolution	0.1 µm	0.1 µm
Electrical limit	NA	NA