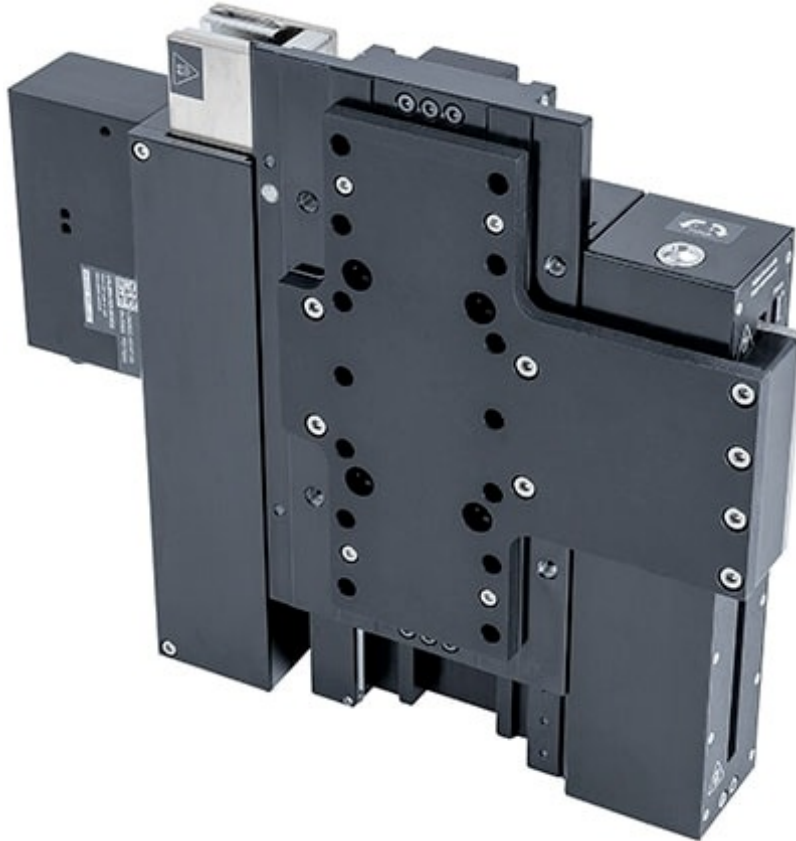


LDM-AEZ Series Datasheet



- 40 mm or 60 mm travel
- Passive, user adjustable magnetic counterbalance for payloads up to 55 N
- High repeatability (80 nm) and accuracy (1 μm), with 8 nm minimum incremental move
- Direct position measurement from 1 nm resolution linear encoder
- Up to 0.8 m/s speed and up to 1.6 g acceleration
- Non-contact ironless linear motor for high precision, high dynamic performance & reliability
- Designed for use with an X-MCC Series controller for coordinated multi-axis motion
- With AutoDetect, the X-MCC controller configures its settings automatically

- for the connected peripheral
- Learn more: [Magnetic Counterbalances for High Performance Vertical Stages](#)

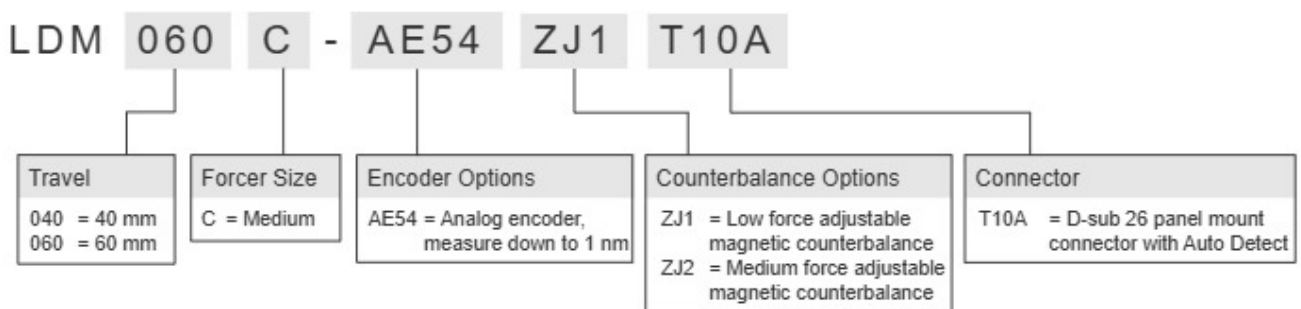
LDM-AEZ Series Overview

Zaber's LDM-AEZ Series devices are motorized stages delivering the high precision, reliability, and speed of LDM-AE linear motor stages in a package for vertical applications. A passive magnetic counterbalance compensates for payloads up to 55 N, preventing unwanted motion during power loss. The counterbalance's force can be finely adjusted in seconds with a single screw.

These stages are designed to connect directly to our X-MCC controller using a single cable. Set-up is easy with AutoDetect. Once connected, the X-MCC controller will automatically detect and configure the LDM-AE.

For more information visit: <https://www.zaber.com/products/vertical-stages/LDM-AEZ>

LDM-AEZ Series Part Numbering & Options



LDM-AEZ Series Drawings

- [dimensions_LDM-AEZ \(Drawing for the LDM-AEZ\)](#)

LDM-AEZ Series Specifications

Built-in Controller	
Recommended Controller	X-MCC (48 V) Recommended
AutoDetect	Yes
Accuracy (unidirectional)	1 μm (0.000039")
Repeatability	< 0.08 μm (< 0.000003")
Minimum Incremental Move	8 nm
Minimum Speed	0.61 nm/s
Speed Resolution	0.61 nm/s
Encoder Type	Linear analog encoder
Encoder Count Size	1 nm
Peak Thrust	90 N (20.2 lb)
Maximum Continuous Thrust	25 N (5.6 lb)
Maximum Moment (Pitch)	1200 N-cm (1699.3 oz-in)
Maximum Moment (Roll)	1200 N-cm (1699.3 oz-in)
Maximum Moment (Yaw)	1200 N-cm (1699.3 oz-in)
Horizontal Runout	< 4 μm (< 0.000157")
Pitch	0.003° (0.052 mrad)
Roll	0.002° (0.035 mrad)
Yaw	0.002° (0.035 mrad)
Counterbalance Type	Adjustable Magnetic
Motor Type	Moving Magnet Track Linear Motor
Motor Rated Current	2400 mA/phase
Force Constant	15.8 N/A (3.5 lbs/A)
Motor Winding Resistance	6.4 ohms/phase
Inductance	1.24 mH/phase
Motor Connection	D-sub 26
Guide Type	Crossed-Roller Bearing
Limit or Home Sensing	Optical Index Mark
Axes of Motion	1
Mounting Interface	M6 threaded holes
Moving Mass	2.32 kg (5.104 lbs)

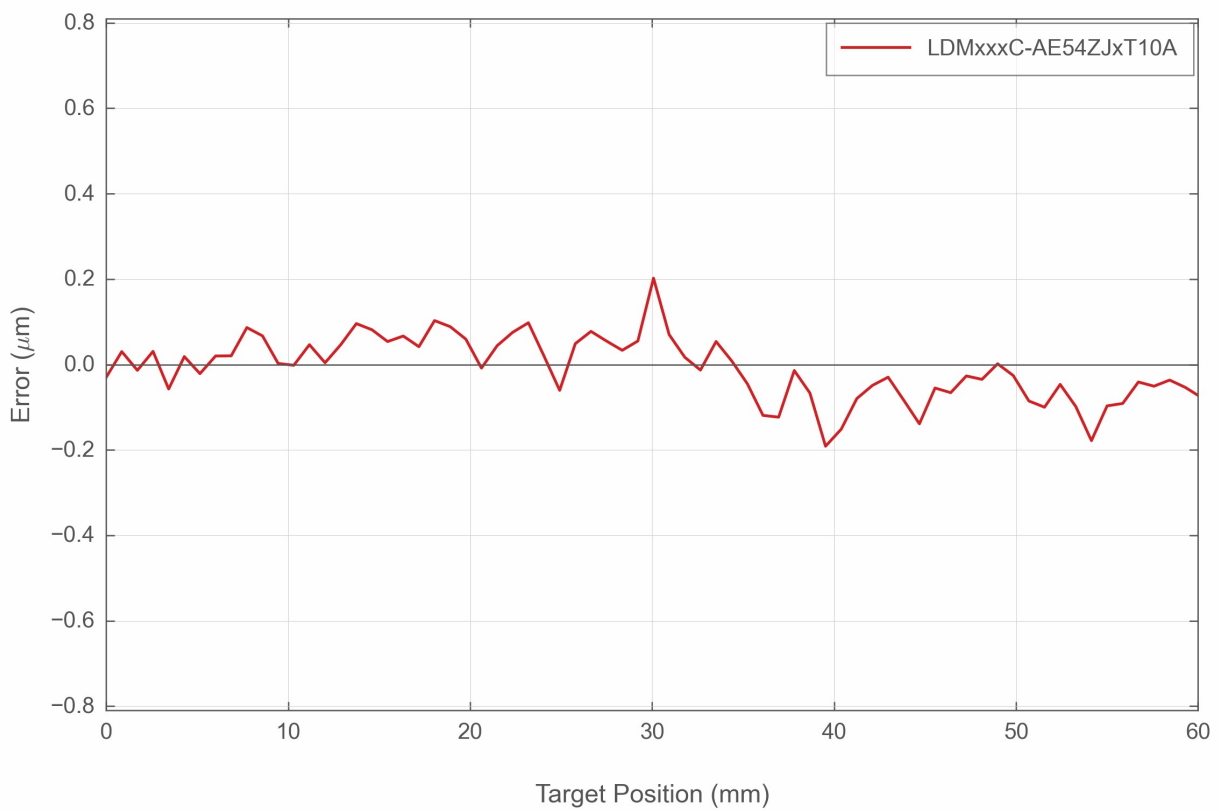
Built-in Controller

Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	5.14 kg (11.332 lb)

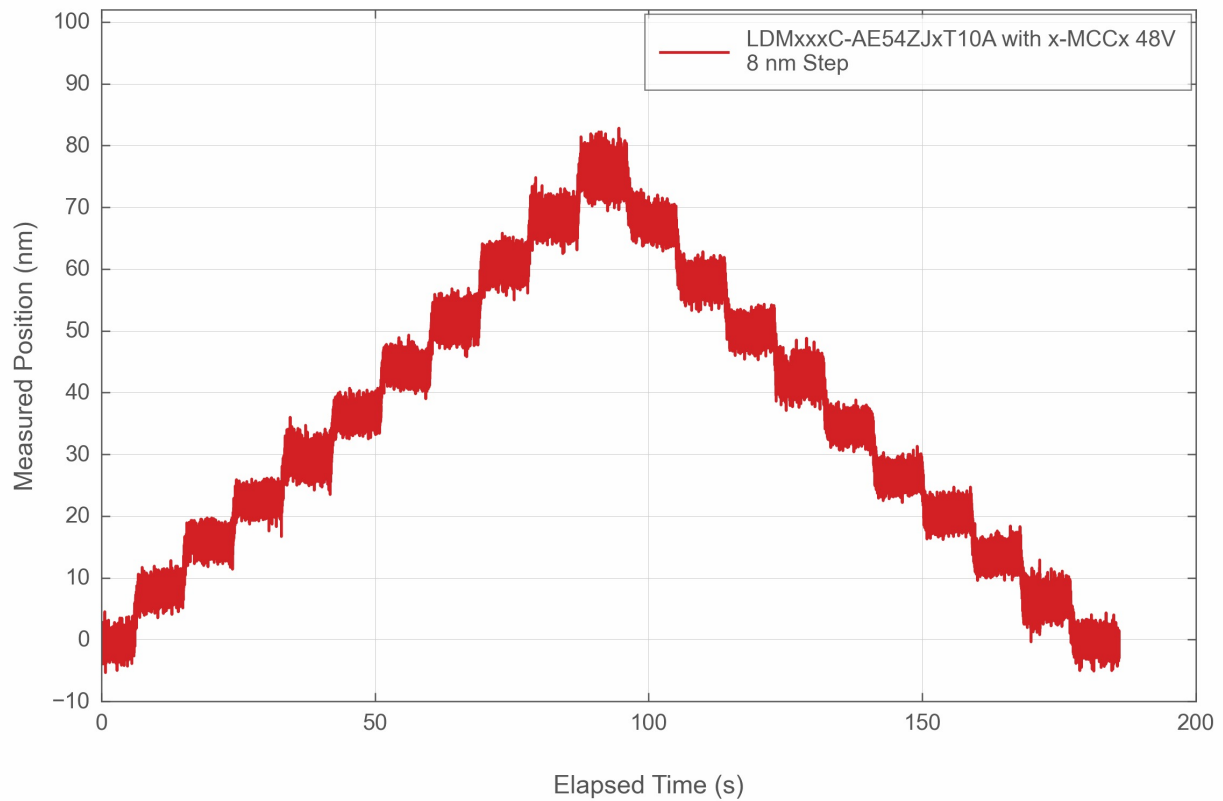
Part Number	Travel Range	Maximum Acceleration	Maximum Speed	Counterbalance Payload Range
LDM040C-AE54ZJ2T10A	40 mm (1.575")	9 m/s ² (0.92 g)	600 mm/s (23.622"/s)	38-55 N (8.5-12.3 lb)
LDM060C-AE54ZJ1T10A	60 mm (2.362")	16 m/s ² (1.63 g)	800 mm/s (31.496"/s)	10-33 N (2.2-7.4 lb)

LDM-AEZ Series Charts

Typical Accuracy



Typical Minimum Incremental Move



Contact

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