LDA020A-AE53ZJ2T10A Datasheet

- 20 mm or 25 mm travel
- Passive, user adjustable magnetic counterbalance for payloads up to 16 N
- High repeatability (200 nm) and accuracy (1.5 µm), with 12 nm minimum incremental move
- Direct position measurement from 1 nm resolution linear encoder
- Up to 0.7 m/s speed and up to 2.5 g acceleration
- Non-contact ironless linear motor for high precision, high dynamic performance & reliability
- Designed for use with MCC controllers for coordinated multi-axis motion
- With AutoDetect, Zaber controllers automatically configure settings for the connected peripheral
- Learn more: Magnetic Counterbalances for High Performance Vertical Stages

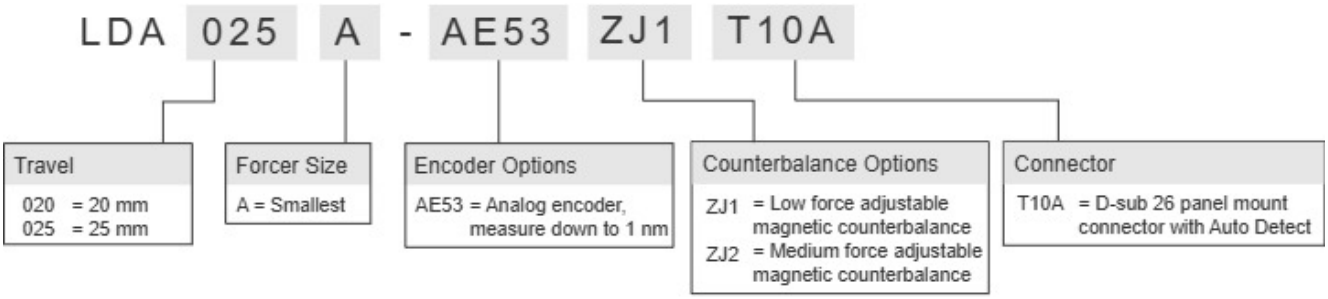
LDA-AEZ Series Overview

Zaber's LDA-AEZ Series devices are motorized stages delivering the high speed, precision, and reliability of LDA-AE linear motor stages in a package for vertical applications. A passive magnetic counterbalance compensates for payloads up to 16N, 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 MCC controllers using a single cable. Set-up is easy with AutoDetect. Once connected, the MCC controller will automatically detect and configure the LDA-AE.

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

LDA-AEZ Series Part Numbering & Options



LDA020A-AE53ZJ2T10A Drawings

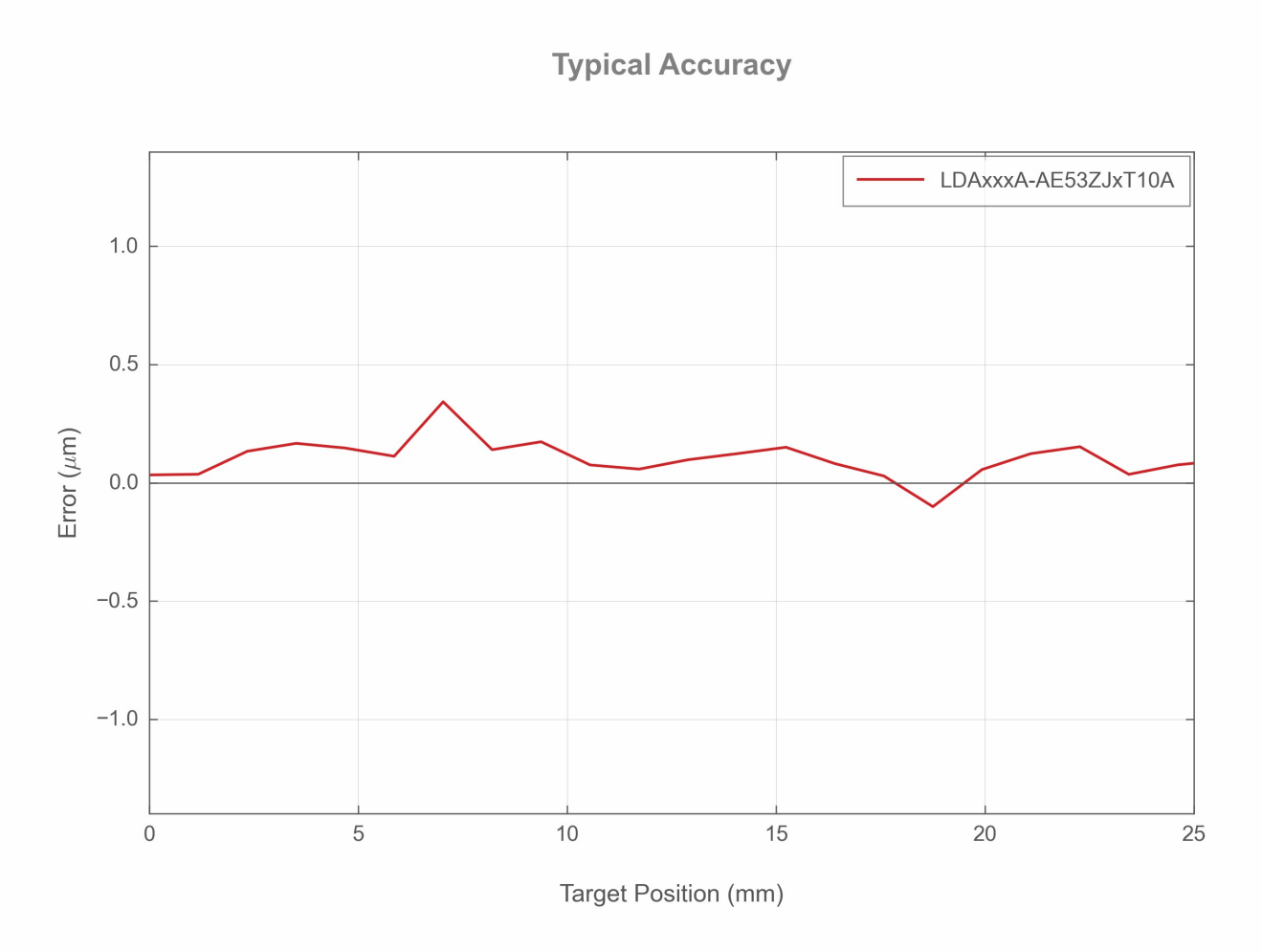
- dimensions_LDA-AEZ (Drawing for the LDA-AEZ)

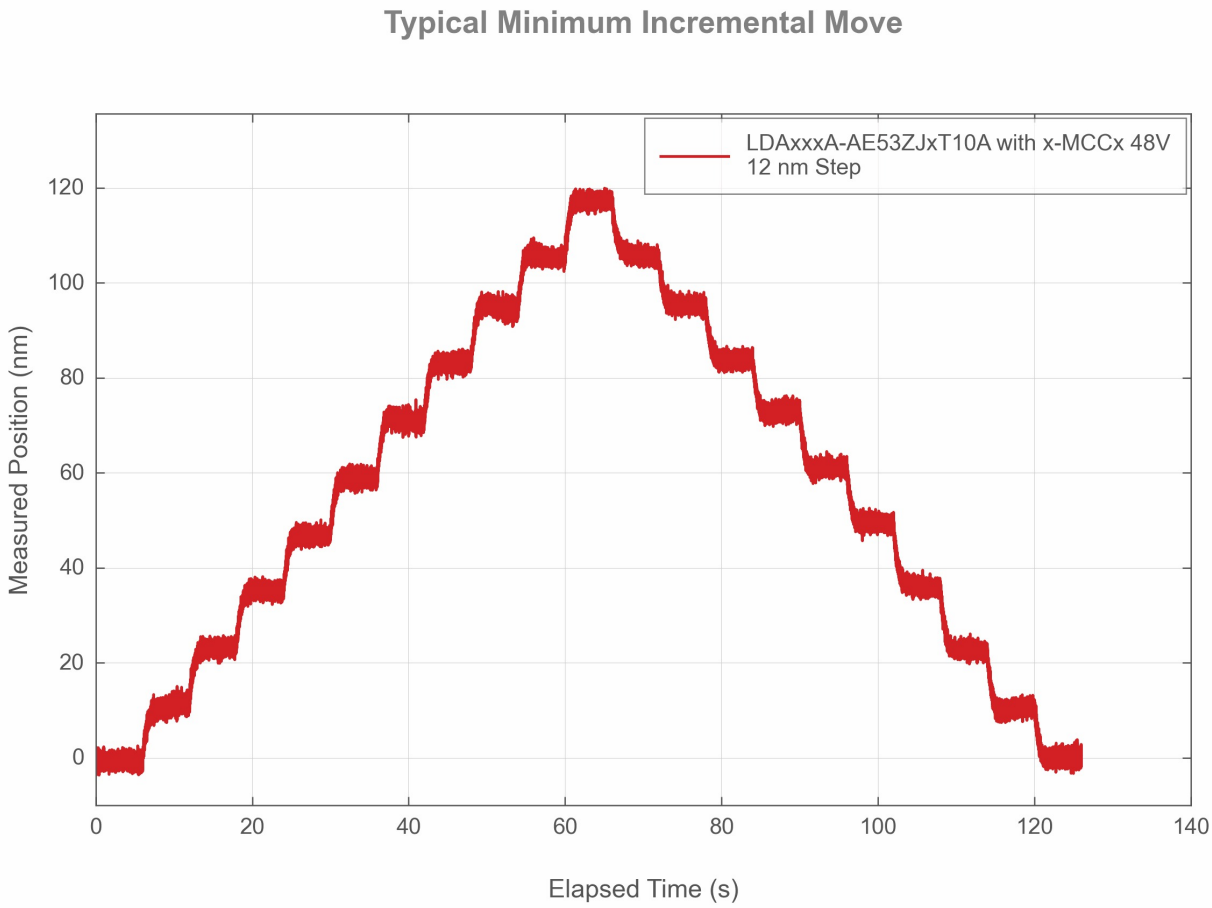
LDA020A-AE53ZJ2T10A Specifications

Built-in Controller	
Recommended Controller	MCC (48 V) Recommended
AutoDetect	Yes
Travel Range	20 mm (0.787")
Accuracy (unidirectional)	1.5 µm (0.000059")
Repeatability	< 0.2 µm (< 0.000008")
Minimum Incremental Move	12 nm
Maximum Acceleration	10 m/s2 (1.02 g)
Maximum Speed	400 mm/s (15.748"/s)
Minimum Speed	0.61 nm/s
Speed Resolution	0.61 nm/s
Encoder Type	Linear analog encoder
Encoder Count Size	1 nm
Peak Thrust	16 N (3.6 lb)
Maximum Continuous Thrust	6 N (1.3 lb)
Maximum Moment (Pitch)	500 N-cm (708.1 oz-in)
Maximum Moment (Roll)	500 N-cm (708.1 oz-in)
Maximum Moment (Yaw)	500 N-cm (708.1 oz-in)
Horizontal Runout	< 4 µm (< 0.000157")
Pitch	0.006° (0.105 mrad)
Roll	0.005° (0.087 mrad)
Yaw	0.005° (0.087 mrad)
Stiffness in Pitch	500 N-m/° (35 µrad/N-m)
Stiffness in Roll	500 N-m/° (35 µrad/N-m)
Stiffness in Yaw	400 N-m/° (44 µrad/N-m)
Counterbalance Type	Adjustable Magnetic
Counterbalance Payload Range	8-16 N (1.8-3.6 lb)
Motor Type	Moving Magnet Track Linear Motor
Motor Rated Current	1800 mA/phase
Force Constant	3.7 N/A (0.8 lbs/A)
Motor Winding Resistance	2.3 ohms/phase

Built-in Controller	
Inductance	0.09 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
Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	1.26 kg (2.778 lb)

LDA-AEZ Series Charts





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