DMA10A-AE55ZJ2T10A Datasheet

- 10 mm travel
- Passive, user adjustable magnetic counterbalance for payloads up to 1 kg
- High repeatability (50 nm), with 10 nm minimum incremental move
- Direct position measurement from 1 nm resolution linear encoder
- Non-contact direct-drive 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

DMA-AEZ Series Overview

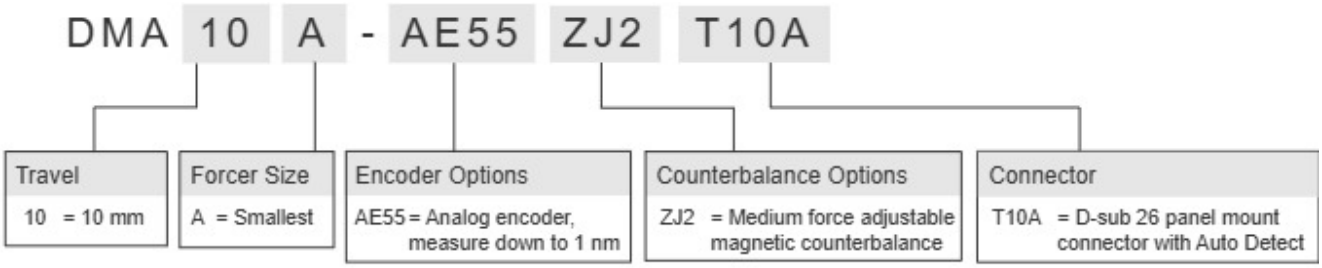
Zaber's X-DMA-AEZ Series devices are direct-drive linear stages delivering high speed, precision, and reliability of the DMA-AE stages with an integrated magnetic counterbalance specifically designed for vertical applications. A high resolution linear encoder results in repeatability less than 50 nm and consistent movement steps down to 10 nm. Low-friction high-rigidity crossed roller bearings allow for fast step and settle times and anti-creep bearing cages eliminate cage creep during vertical or high acceleration operation. Both the drive and encoder are non-contact, and have no moving cables, resulting in an extremely robust system.

A passive frictionless magnetic counterbalance integrated directly into the stage compensates for payloads up to 1 kg, preventing unwanted motion during power loss. The counterbalance's force can be finely adjusted in seconds with a single screw.

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

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

DMA-AEZ Series Part Numbering & Options



DMA10A-AE55ZJ2T10A Drawings

- DMA-AEZ.pdf (Drawing for the DMA-AEZ)

DMA10A-AE55ZJ2T10A Specifications

Built-in Controller	
Recommended Controller	X-MCC (48 V) Recommended
AutoDetect	Yes
Travel Range	10 mm (0.394")
Accuracy (unidirectional)	8 µm (0.000315")
Repeatability	< 0.05 µm (< 0.000002")
Minimum Incremental Move	10 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	15 N (3.4 lb)
Maximum Continuous Thrust	5 N (1.1 lb)
Counterbalance Type	Adjustable Magnetic
Counterbalance Payload Range	2.5-10 N (0.6-2.2 lb)
Motor Type	Moving Magnet Voice Coil
Force Constant	2.23 N/A (0.5 lbs/A)
Motor Connection	D-sub 26
Guide Type	Anti-Creep Crossed-Roller Bearing
Limit or Home Sensing	Optical Index Mark
Axes of Motion	1
Mounting Interface	M3 and M6 threaded holes
Moving Mass	0.18 kg (0.396 lbs)
Operating Temperature Range	0-50 °C
Vacuum Compatible	No
Typical Move and Settle Time (100 nm move, < 15 nm, 250 g load)	< 15 ms
Typical Move and Settle Time (250 nm move, < 15 nm, 250 g load)	< 15 ms
Weight	0.5 kg (1.102 lb)

Contact

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