

X-LDM-AE Series Datasheet



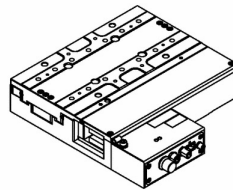
- 60, 110, 210 mm travel options
- Up to 1.2 m/s speed and up to 3.5 g acceleration
- High repeatability (80 nm) and accuracy (1 μ m), with 25 nm minimum incremental move
- Direct position measurement from 1 nm resolution linear encoder
- One digital input and two digital outputs
- Non-contact ironless linear motor for ultra precision, high dynamic performance and zero backlash
- Built-in controller; daisy-chains with other Zaber products
- Technical Article - Linear Motors: Overview and Selection Process
- Mounts directly in XY

X-LDM-AE Series Overview

Zaber's X-LDM-AE Series devices are computer-controlled, motorized linear stages suited for applications demanding outstanding precision, throughput, and reliability. A centrally mounted linear encoder results in 1 µm position accuracy and consistent movement steps down to 25 nm. X-LDM-AE devices feature high efficiency ironless linear motors, providing high speed and acceleration, while minimizing heat generation to improve repeatability. Both the drive and encoder are non-contact and have no moving cables, resulting in an high lifetime system.

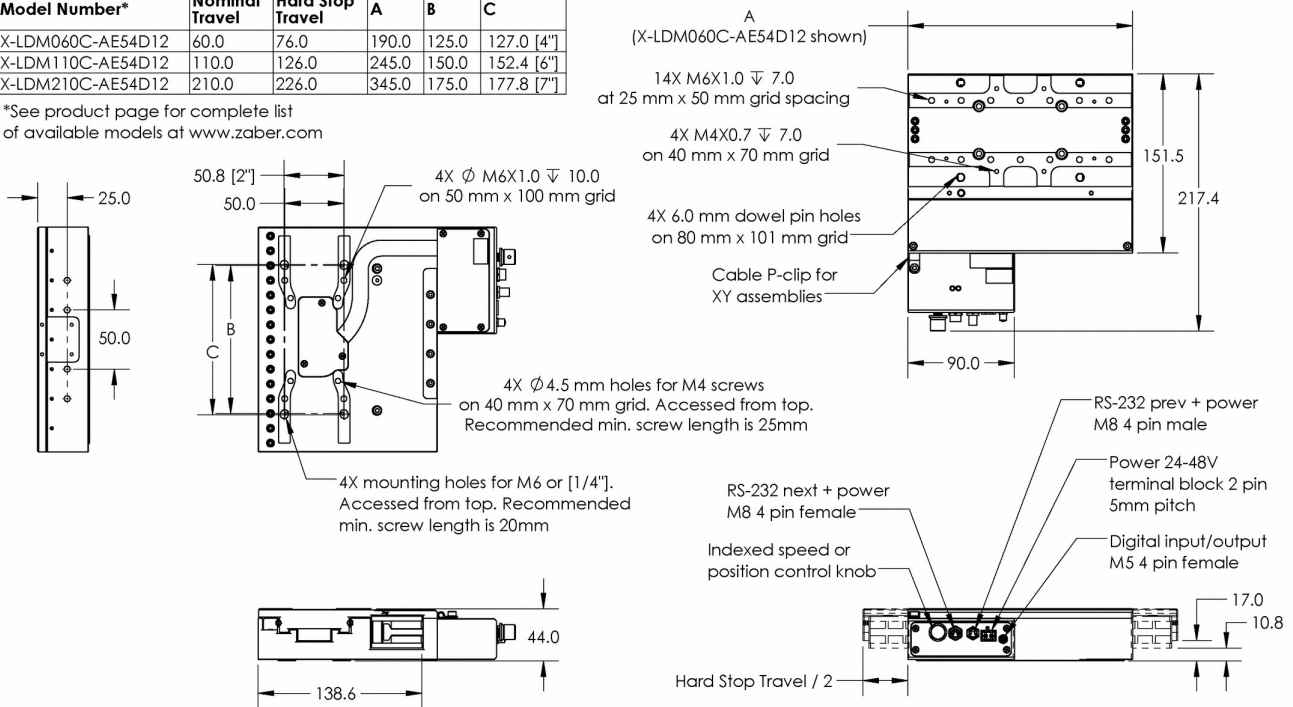
These stages are stand-alone units requiring only a standard 48 V power supply. They connect to the RS-232 port or USB port of any computer, and they can be daisy-chained with any other Zaber products. The daisy-chain also shares power, making it possible for multiple X-Series products to share a single power supply. Like all of Zaber's products, the X-LDM-AE Series is designed to be 'plug and play' and very easy to set up and operate. X-LDM-AE devices also include a digital input and two digital outputs for interfacing with external systems. An event-driven trigger system allows devices to be programmed for stand-alone operation based on I/O, time, or movement stimuli.

X-LDM-AE Series Drawings



Model Number*	Nominal Travel	Hard Stop Travel	A	B	C
X-LDM060C-AE54D12	60.0	76.0	190.0	125.0	127.0 [4"]
X-LDM110C-AE54D12	110.0	126.0	245.0	150.0	152.4 [6"]
X-LDM210C-AE54D12	210.0	226.0	345.0	175.0	177.8 [7"]

*See product page for complete list of available models at www.zaber.com



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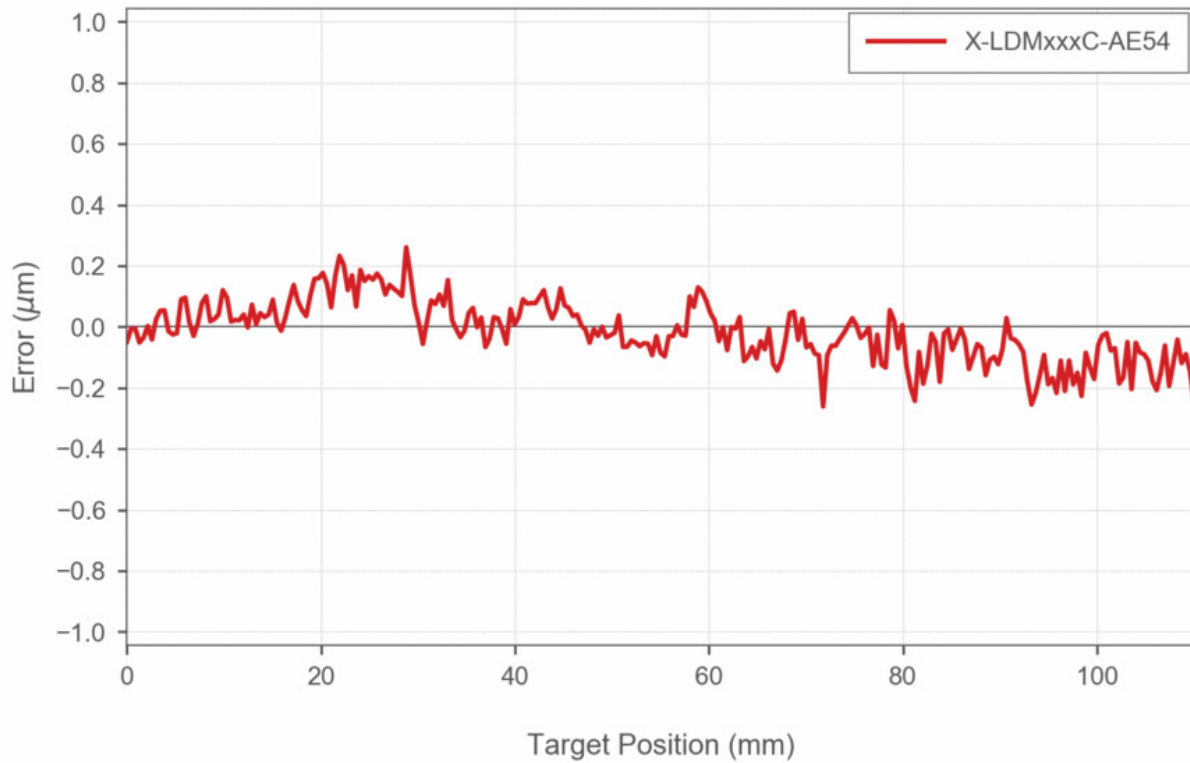
X-LDM-AE Series Specifications

Specification	Value	Alternate Unit
Built-in Controller	Yes	
Travel Range	210 mm	8.268"
Accuracy (unidirectional)	1 μm	0.000039"
Repeatability	< 0.08 μm	< 0.000003"
Minimum Incremental Move	25 nm	
Maximum Acceleration	14.7 m/s ²	1.50 g
Maximum Speed	1200 mm/s	47.244"/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	60 N	13.5 lb
Maximum Continuous Thrust	35 N	7.8 lb
Communication Interface	RS-232	
Communication Protocol	Zaber ASCII (Default)	
Maximum Centered Load	120 N	26.9 lb
Maximum Cantilever Load	1200 N-cm	1699.3 oz-in
Guide Type	Crossed-Roller Bearing	
Vertical Runout	< 8 μm	< 0.000315"
Horizontal Runout	< 5 μm	< 0.000197"
Pitch	0.01°	0.174 mrad
Roll	0.005°	0.087 mrad
Yaw	0.005°	0.087 mrad
Maximum Current Draw	3000 mA	
Power Supply	48 VDC	
Power Plug	2-pin screw terminal	
Motor Type	Moving Magnet Track Linear Motor	
Motor Rated Current	2400 mA/phase	
Inductance	1.24 mH/phase	
Data Cable Connection	Locking 4-pin M8	

Specification	Value	Alternate Unit
Limit or Home Sensing	Optical Index Mark	
Manual Control	Indexed knob with push switch	
Axes of Motion	1	
LED Indicators	Yes	
Mounting Interface	M6 threaded holes	
Operating Temperature Range	10 to 40 °C	
Vacuum Compatible	No	
RoHS Compliant	Yes	
CE Compliant	Yes	
Moving Mass	3.17 kg	6.974 lbs
Digital Input	1	
Digital Output	2	
Weight	6.60 kg	14.550 lb

X-LDM-AE Series Charts

Typical Accuracy



Contact

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