

X-LHM-E Series Datasheet



- * 25, 50, 100, 150, 200 mm travel
- * 3 kg load capacity
- * Up to 65 mm/s speed and up to 25 N thrust
- * Our most affordable linear stage with built-in controller and motor encoder
- * Daisy-chains with other Zaber products

Zaber's X-LHM-E Series devices are computer-controlled, motorized linear stages with a compact size and affordable price tag. They are stand-alone units requiring only a standard 24 or 48 V power supply. The built-in motor encoder allows closed-loop operation and slip/stall recovery features. An optional indexed knob provides convenient manual control for versatile operation even without a computer.

These stages 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. Convenient locking 4-pin M8 connectors on the unit allow for secure connection between units.

At only 23 mm high, these miniature plain bearing stages are excellent for applications where a small profile is required. Carriage pre-load can be easily adjusted to compensate for wear over the lifetime of the stage. Like all of Zaber's products, the X-LHM-E Series is designed to be 'plug and play' and very easy to

set up and operate.

For applications requiring more precise motion or high stiffness in multi-axis assemblies, please contact us or see our Product Overview page for the variety of stages we offer.

Drawings

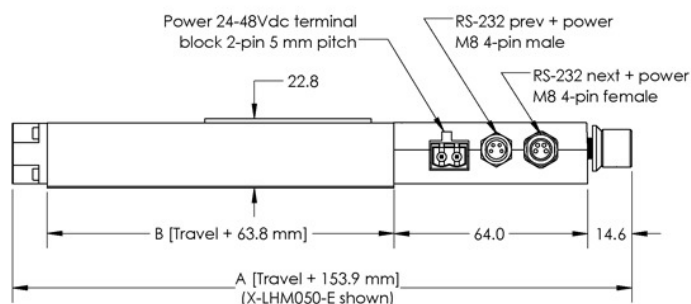
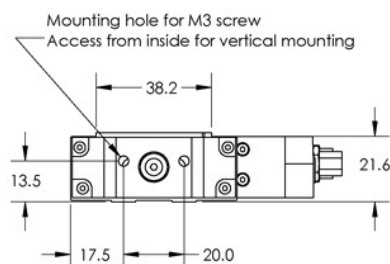
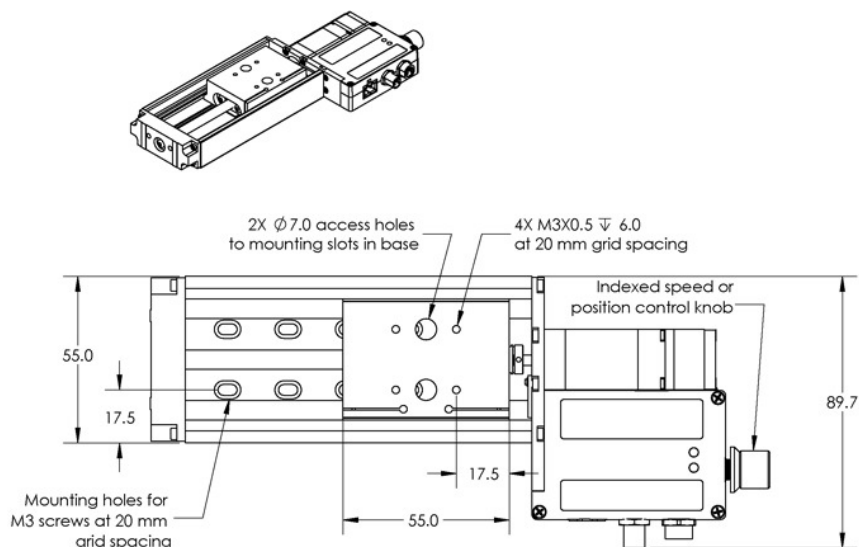
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X-LHM-E Motorized Linear Stage
dimensions in mm

Model Number*	Travel	A**	B
X-LHM025-E	25.4	179.3	89.2
X-LHM050-E	50.8	204.7	114.6
X-LHM100-E	101.6	255.5	165.4
X-LHM150-E	152.4	306.3	216.2
X-LHM200-E	203.2	357.1	267.0

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

**Subtract 13.1 mm knob length from 'A' for -S versions without manual control



Dwg 1046 R12

Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.124023437 μ m	
Built-in Controller	Yes	
Repeatability	< 4 μ m	< 0.000157 "
Backlash	< 30 μ m	< 0.001181 "
Maximum Speed	65 mm/s	2.559 "/s
Minimum Speed	0.0012 mm/s	0.000047 "/s

Specification	Value	Alternate Unit
Speed Resolution	0.0012 mm/s	0.000047 "/s
Encoder Resolution	200 CPR	800 states/rev
Encoder Type	Rotary quadrature encoder	
Peak Thrust	25 N	5.6 lb
Maximum Continuous Thrust	25 N	5.6 lb
Communication Interface	RS-232	
Communication Protocol	Zaber ASCII (Default), Zaber Binary	
Maximum Centered Load	30 N	6.7 lb
Maximum Cantilever Load	50 N-cm	70.8 oz-in
Guide Type	Plain bearing	
Maximum Current Draw	350 mA	
Power Supply	24-48 VDC	
Power Plug	2-pin Screw Terminal	
Linear Motion Per Motor Rev	1.5875 mm	0.062 "
Motor Steps Per Rev	200	
Motor Type	Stepper (2 phase)	
Motor Rated Current	600 mA/phase	
Inductance	3.5 mH/phase	
Default Resolution	1/64 of a step	
Data Cable Connection	Locking 4-pin M8	
Mechanical Drive System	Lead screw	
Limit or Home Sensing	Magnetic hall sensor	
Axes of Motion	1	
LED Indicators	Yes	
Mounting Interface	M3 threaded holes	
Vacuum Compatible	No	
Operating Temperature Range	0 to 50 °C	
RoHS Compliant	Yes	
CE Compliant	Yes	

Part Number	Travel Range	Accuracy (unidirectional)	Manual Control	Weight
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Part Number	Travel Range	Accuracy (unidirectional)	Manual Control	Weight
X-LHM025A-E03	25.4 mm (1.000 ")	50 µm (0.001968 ")	Yes	0.36 kg (0.794 lb)
X-LHM025A-SE03	25.4 mm (1.000 ")	50 µm (0.001968 ")	No	0.36 kg (0.794 lb)
X-LHM050A-E03	50.8 mm (2.000 ")	75 µm (0.002953 ")	Yes	0.42 kg (0.926 lb)
X-LHM050A-SE03	50.8 mm (2.000 ")	75 µm (0.002953 ")	No	0.42 kg (0.926 lb)
X-LHM100A-E03	101.6 mm (4.000 ")	125 µm (0.004921 ")	Yes	0.48 kg (1.058 lb)
X-LHM100A-SE03	101.6 mm (4.000 ")	125 µm (0.004921 ")	No	0.48 kg (1.058 lb)
X-LHM150A-E03	152.4 mm (6.000 ")	175 µm (0.006890 ")	Yes	0.52 kg (1.146 lb)
X-LHM150A-SE03	152.4 mm (6.000 ")	175 µm (0.006890 ")	No	0.52 kg (1.146 lb)
X-LHM200A-E03	203.2 mm (8.000 ")	225 µm (0.008858 ")	Yes	0.58 kg (1.279 lb)
X-LHM200A-SE03	203.2 mm (8.000 ")	225 µm (0.008858 ")	No	0.58 kg (1.279 lb)

Charts

Thrust Speed Performance

