

X-LDQ-AE Series Datasheet



- * Minimum incremental move of 50 nm
- * Integrated linear encoder provides high accuracy closed loop servo positioning
- * Up to 1.5 m/s speed and up to 2 g acceleration
- * 75, 150, 300, 450, 600 and 1000 mm travel
- * Up to 2.5 μm accuracy over 1000 mm travel
- * Built-in controller; daisy-chains with other Zaber products
- * Zero backlash

Zaber's X-LDQ-AE Series devices are computer-controlled, motorized linear motor stages with high precision and speed capabilities. They are stand-alone units requiring only a standard 48 V power supply. The built-in controller and linear encoder allows pre-tuned closed-loop servo positioning with adjustable tuning parameters. 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.

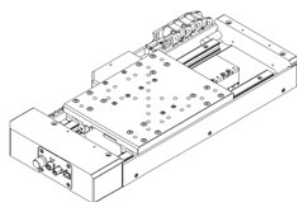
The daisy-chain also shares power, making it possible for multiple X-Series products to share a single power supply. Convenient locking, 4-pin, M8 connectors on the unit allow for secure connection between units. The X-LDQ-AE's innovative design allows speeds up to 1.5 m/s and minimum incremental move of 50 nm. Like all of Zaber's products, the X-LDQ-AE Series is designed to be 'plug and play' and very easy to

set up and operate.

Drawings

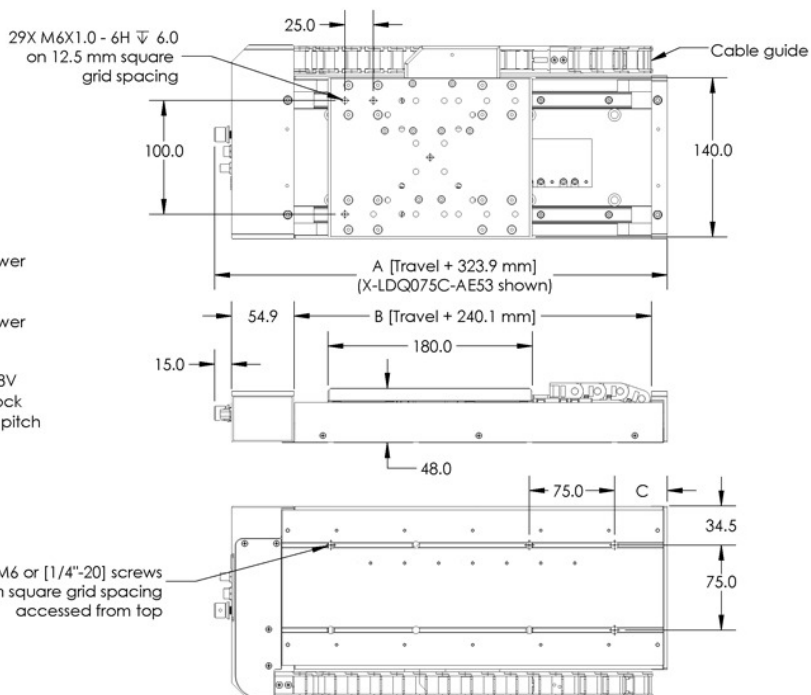
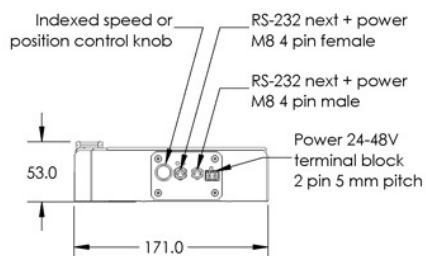
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X-LDQ-AE Direct Drive Linear Stage
dimensions in mm



Model Number*	Travel	A	B	C
X-LDQ0075C-AE53	75.0	398.9	315.1	46.5
X-LDQ0150C-AE53	150.0	473.9	390.1	46.5
X-LDQ0300C-AE53	300.0	623.9	540.1	59.0
X-LDQ0450C-AE53	450.0	773.9	690.1	59.0
X-LDQ0600C-AE53	600.0	923.9	840.1	59.0
X-LDQ1000C-AE53	1000.0	1323.9	1240.1	71.5

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



DWG 2030 001

Specifications

Specification	Value	Alternate Unit
Built-in Controller	Yes	
Accuracy (unidirectional)	2.5 μm	0.000098 "
Repeatability	< 0.3 μm	< 0.000012 "
Minimum Incremental Move	50 nm	
Maximum Speed	1500 mm/s	59.055 "/s
Maximum Acceleration	19.62 m/s ²	2.00 g
Encoder Type	Linear analog encoder	
Peak Thrust	40 N	9.0 lb

Specification	Value	Alternate Unit
Maximum Continuous Thrust	35 N	7.8 lb
Communication Interface	RS-232	
Communication Protocol	Zaber ASCII (Default)	
Maximum Centered Load	200 N	44.9 lb
Maximum Cantilever Load	3000 N-cm	4248.4 oz-in
Guide Type	Recirculating Ball Linear Guide	
Stiffness in Pitch	8000 N-m/°	2 μrad/N-m
Stiffness in Roll	3800 N-m/°	5 μrad/N-m
Stiffness in Yaw	4000 N-m/°	4 μrad/N-m
Maximum Current Draw	3000 mA	
Power Supply	24-48 VDC	
Power Plug	2-pin screw terminal	
Motor Type	Moving Coil Linear Motor	
Motor Rated Current	2400 mA/phase	
Inductance	1.24 mH/phase	
Data Cable Connection	Locking 4-pin M8	
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	
Vacuum Compatible	No	
Operating Temperature Range	0 to 50 °C	
RoHS Compliant	Yes	
CE Compliant	Yes	

Part Number	Travel Range	Weight
X-LDQ0075C-AE53	75 mm (2.953 ")	6.4 kg (14.110 lb)
X-LDQ0150C-AE53	150 mm (5.905 ")	7.3 kg (16.094 lb)
X-LDQ0300C-AE53	300 mm (11.811 ")	9.4 kg (20.723 lb)
X-LDQ0450C-AE53	450 mm (17.716 ")	10.9 kg (24.030 lb)

Part Number	Travel Range	Weight
X-LDQ0600C-AE53	600 mm (23.622 ")	13.2 kg (29.101 lb)
X-LDQ1000C-AE53	1000 mm (39.370 ")	18.6 kg (41.006 lb)

Charts

Typical Accuracy

