

X-RSB-E Series Datasheet



- Continuous 360° rotation stage
- Speeds up to 300 rpm
- 50.8 mm aperture
- Built-in controller; daisy-chains with other Zaber products
- Multiple motor configurations
- Encoder position feedback with slip/stall detection and automatic recovery

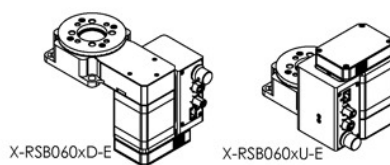
Zaber's X-RSB-E Series rotation stages have a 120 mm table diameter and a 50.8 mm (2 inch) aperture. They feature a compact footprint, low profile, and a load capability of up to 50 kg. With a maximum speed of 300 rpm, these rotation stages are ideal for the rapid positioning of light loads to within a fraction of a degree.

They are stand-alone units requiring either a standard 24 V or 48 V power supply. A built-in motor encoder allows for closed-loop operation and slip/stall recovery features. There are two motor configurations available: up and down. Motor up configurations allow flush mounting of the device to a flat surface, and motor down configurations allow for a full 360° movement of loads that extend past the edge of the stage top. An 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. Like all of Zaber's products, the X-RSB-E Series is designed to be 'plug and play' and very easy to set up and operate.

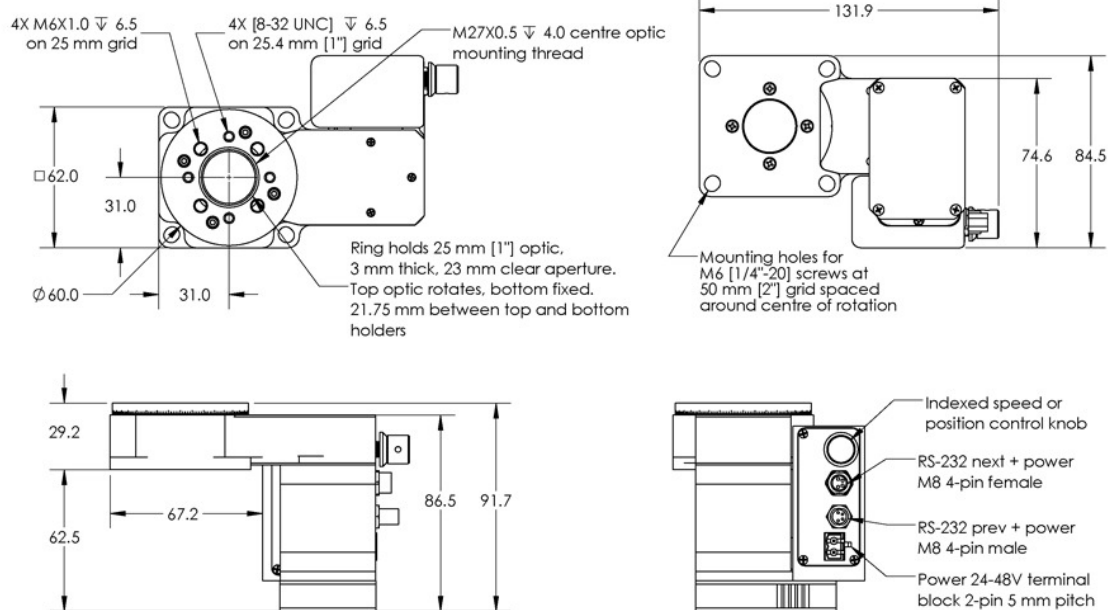
Drawings

ZABER
X-RSB060-E Rotation Stage
dimensions in mm



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

X-RSB060xD-E shown below



0460-2064 R01

Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.005625 °	98.173 µrad
Built-in Controller	Yes	
Range	360 °	
Minimum Speed	0.026 °/s	453.778 µrad/s
Speed Resolution	0.026 °/s	
Encoder Resolution	500 CPR	2000 states/rev
Encoder Type	Rotary quadrature encoder	
Communication Interface	RS-232	
Communication Protocol	Zaber ASCII (Default), Zaber Binary	
Maximum Current Draw	1200 mA	
Power Supply	24 - 48 VDC	
Power Plug	2-pin Screw Terminal	
Angular Motion Per Motor Rev	72 °	
Motor Steps Per Rev	200	
Motor Type	Stepper (2-phase)	
Default Resolution	1/64 of a step	
Data Cable Connection	Locking 4-pin M8	
Mechanical Drive System	Synchronous belt	
Limit or Home Sensing	Magnetic home sensor	
Manual Control	Yes	
Axes of Motion	1	
LED Indicators	Yes	
Vacuum Compatible	No	
Operating Temperature Range	0 - 50 °C	
RoHS Compliant	Yes	
CE Compliant	Yes	

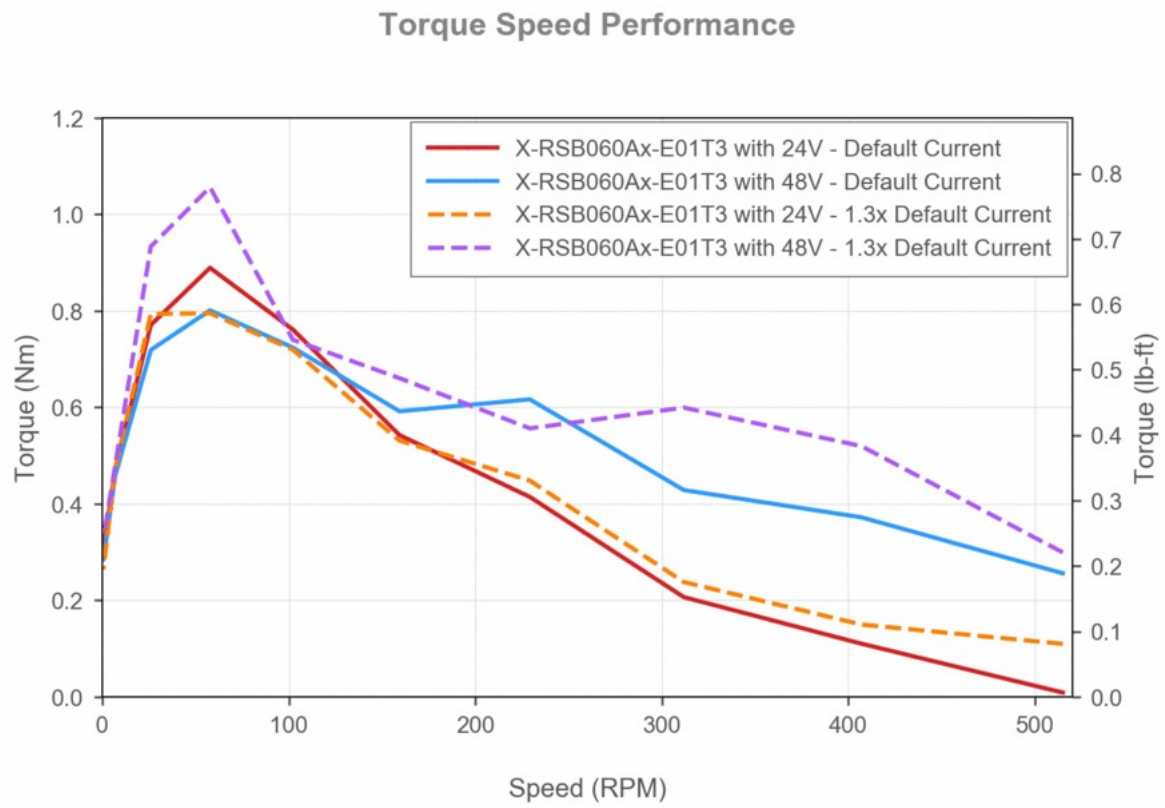
Part Number	Accuracy (unidirectional)	Repeatability	Backlash	Maximum Speed
X-RSB060AD-E01	0.2 °	< 0.01 °	< 0.1 °	3000 °/s

Part Number	Accuracy (unidirectional)	Repeatability	Backlash	Maximum Speed
	(3.490000 mrad)	(< 0.174 mrad)	(< 1.745 mrad)	(500.0 rpm)
X-RSB060AU-E01	0.19 ° (3.315500 mrad)	< 0.01 ° (< 0.174 mrad)	< 0.1 ° (< 1.745 mrad)	3000 °/s (500.0 rpm)
X-RSB120AU-E01	0.19 ° (3.315500 mrad)	< 0.02 ° (< 0.349 mrad)	< 0.19 ° (< 3.316 mrad)	1800 °/s (300.0 rpm)
X-RSB120AD-E01	0.19 ° (3.315500 mrad)	< 0.02 ° (< 0.349 mrad)	< 0.19 ° (< 3.316 mrad)	1800 °/s (300.0 rpm)

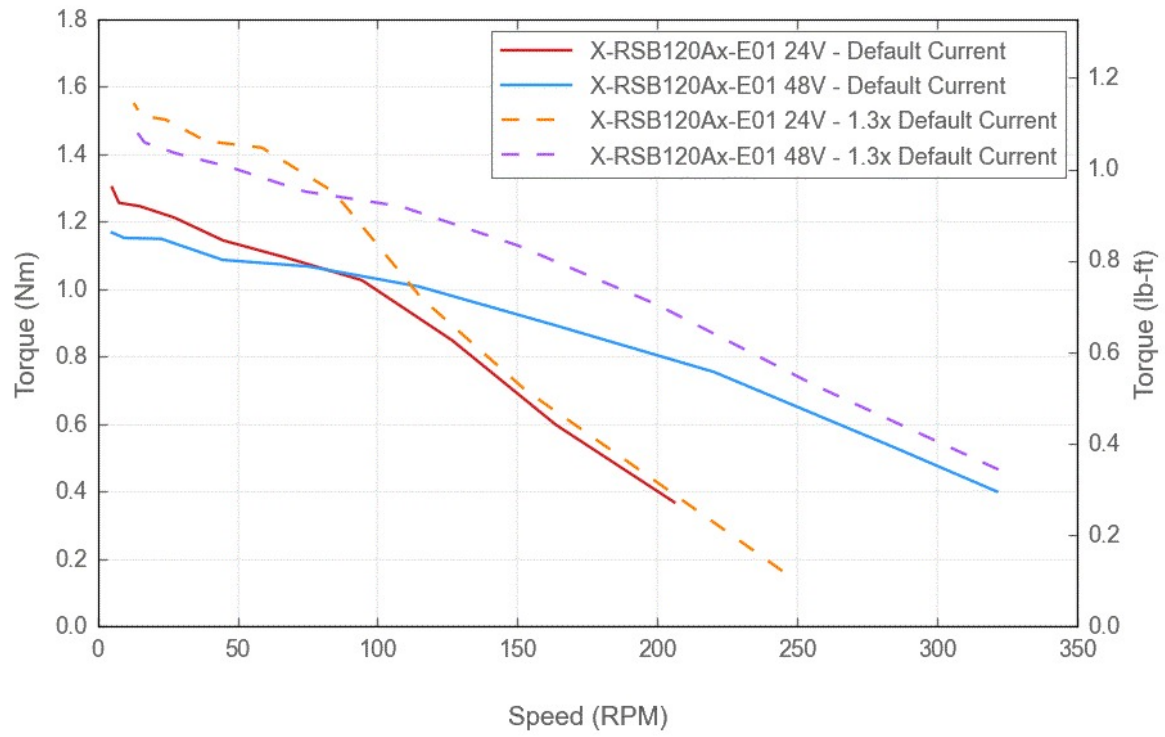
Part Number	Maximum Continuous Torque	Maximum Centered Load	Maximum Cantilever Load	Stage Top Dimension
X-RSB060AD-E01	80 N-cm (113.3 oz-in)	200 N (44.9 lb)	410 N-cm (580.6 oz-in)	60 mm (2.362 ")
X-RSB060AU-E01	80 N-cm (113.3 oz-in)	200 N (44.9 lb)	410 N-cm (580.6 oz-in)	60 mm (2.362 ")
X-RSB120AU-E01	120 N-cm (169.9 oz-in)	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724 ")
X-RSB120AD-E01	120 N-cm (169.9 oz-in)	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724 ")

Part Number	Motor Rated Current	Inductance	Mounting Interface	Weight
X-RSB060AD-E01	2300 mA/phase	2.8 mH/phase	M6 and #8-32 threaded holes	0.88 kg (1.940 lb)
X-RSB060AU-E01	2300 mA/phase	2.8 mH/phase	M6 and #8-32 threaded holes	0.88 kg (1.940 lb)
X-RSB120AU-E01	2100 mA/phase	7.2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.14 kg (4.718 lb)
X-RSB120AD-E01	2100 mA/phase	7.2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.14 kg (4.718 lb)

Charts



Torque Speed Performance



Angular Acceleration

