

RSB120AB-E08T3A Datasheet



- Speeds up to 1,200 rpm
- Continuous 360° rotation stage
- Multiple motor configurations
- Encoder position feedback with slip/stall detection and automatic recovery
- Optional integrated power-off brake
- Designed for use with MCC Family controllers or any 2-phase stepper motor controller
- With AutoDetect, Zaber controllers automatically configure settings for the connected peripheral

RSB-E Series Overview

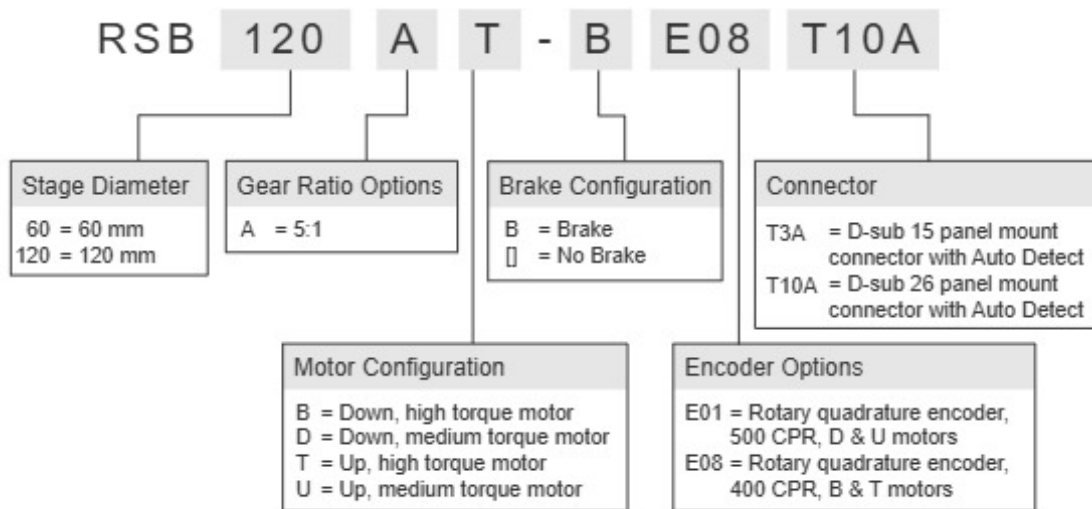
Zaber's RSB-E Series motorized rotation stages feature a compact footprint, low profile, and a load capability of up to 50 kg. With a maximum rotational speed of 1,200 rpm, these rotation stages are ideal for the rapid positioning of light loads. A built-in motor encoder allows for closed-loop operation 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 full 360° movement of loads that extend past the edge of the stage top. An optional power-off brake is available to protect the payload from unintended motion in the event of power loss.

The stages are designed to connect directly to our MCC Family universal motor controllers, or they can be used with any 2-phase stepper motor controller through the panel mount DB15 connector or DB26 connector for brake variants. Set up is easy with AutoDetect. Once connected, the controller will automatically detect and configure the RSB-E.

For more information visit: <https://www.zaber.com/products/rotary-stages/RSB-E>

RSB-E Series Part Numbering & Options



RSB120AB-E08T3A Drawings

- [RSB120-E_B&T_configs.png \(Drawing for the RSB120-E B&T configs\)](#)

RSB120AB-E08T3A Specifications

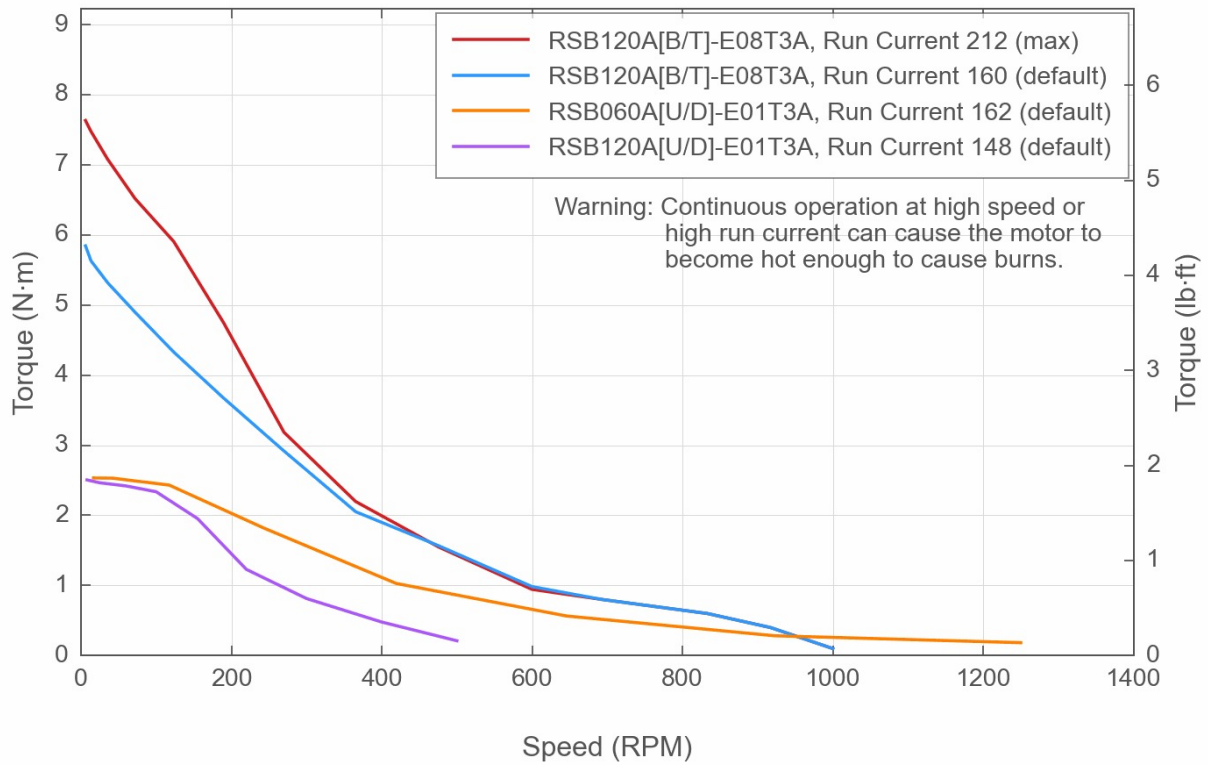
Microstep Size (Default Resolution)	0.005625° (98.173 μrad)
Built-in Controller	No
Recommended Controller	MCC (48 V) Recommended
AutoDetect	Yes
Range	360°
Accuracy (unidirectional)	0.28° (4.886000 mrad)
Repeatability	< 0.001° (< 0.017 mrad)
Backlash	< 0.25° (< 4.362 mrad)
Maximum Speed	5400°/s (900 rpm)
Minimum Speed	0.003434°/s (59.934 μrad/s)
Speed Resolution	0.003434°/s (59.934 μrad/s)
Encoder Resolution	400 CPR (1600 states/rev)
Encoder Type	Rotary quadrature encoder
Maximum Continuous Torque	750 N-cm (1062.1 oz-in)
Maximum Centered Load	500 N (112.1 lb)
Maximum Moment (Transverse)	2000 N-cm (2832.2 oz-in)
Stage Top Dimension	120 mm (4.724")
Radial Error Motion	+/- 3 μm (+/- 0.000118")
Axial Error Motion	< 3 μm (< 0.000118")
Tilt Error Motion	+/- 0.0014° (+/- 24.43 μrad)
Bearing Plane Offset	20 mm (0.787")
Angular Motion Per Motor Rev	72°
Motor Type	Stepper (2 phase)
Motor Rated Current	3000 mA/phase
Motor Winding Resistance	0.53 ohms/phase
Inductance	2 mH/phase
Motor Connection	D-sub 15
Default Resolution	1/64 of a step

Microstep Size (Default Resolution)	0.005625° (98.173 μrad)
Mechanical Drive System	Synchronous belt
Limit or Home Sensing	Magnetic home sensor
Mounting Interface	Kinematic with M2.5 and M6 threaded holes
CE Compliant	Yes
Vacuum Compatible	No
Weight	2.1 kg (4.630 lb)

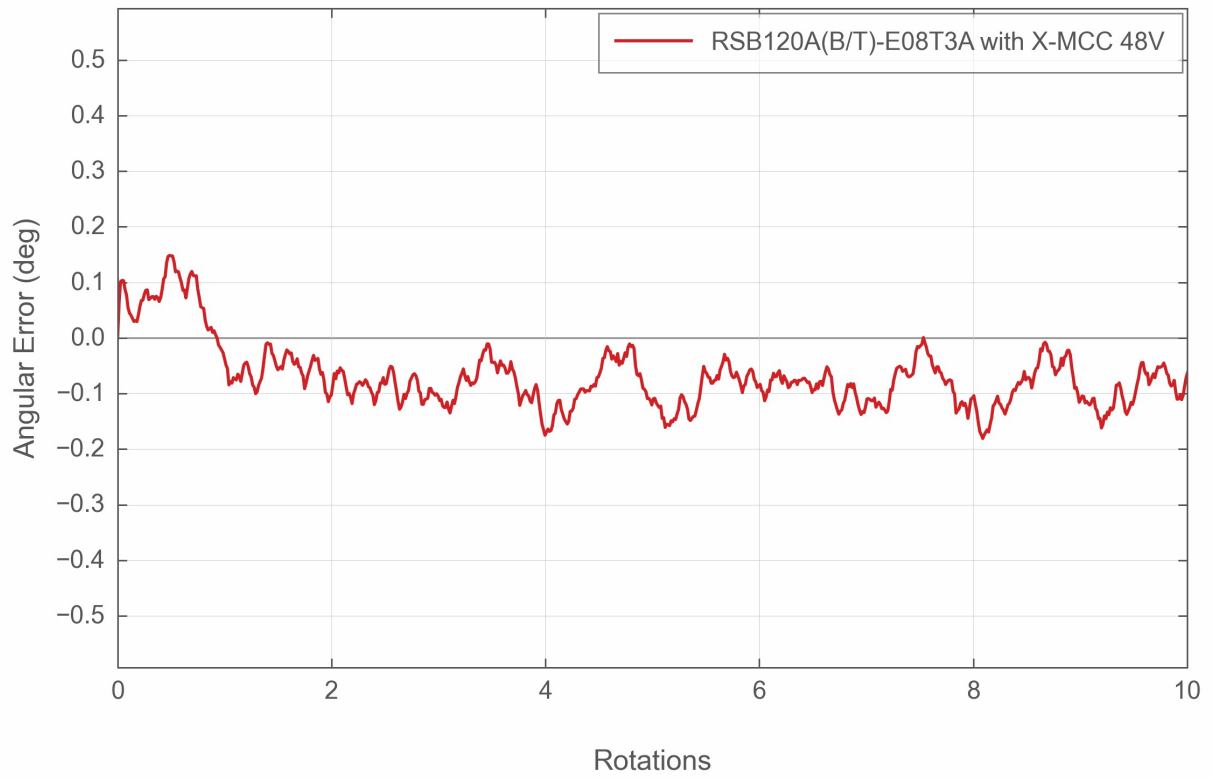
RSB-E Series Charts

Torque Speed Performance

with X-MCCx 48V

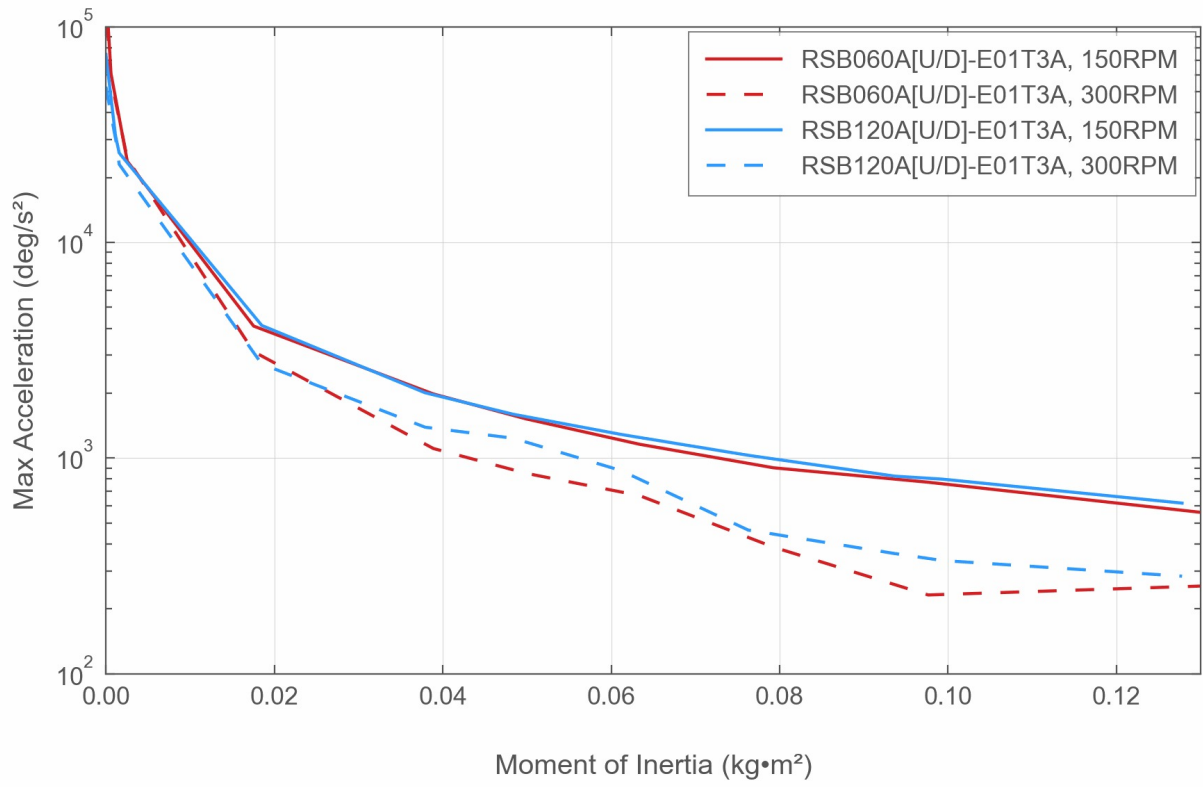


Typical Accuracy



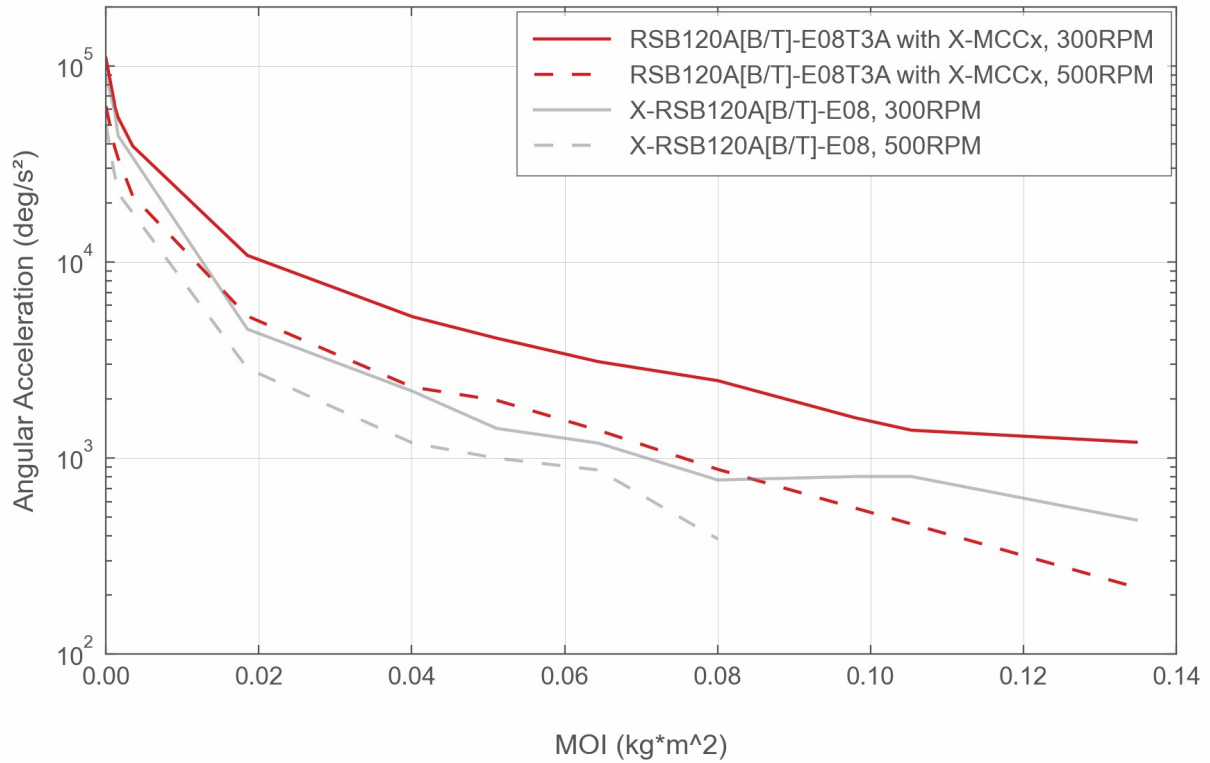
Angular Acceleration

with X-MCCx - 48V, Default Run Current



Angular Acceleration

48V, Run Current 212 (max)



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