RSB120AD-E01T3A 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

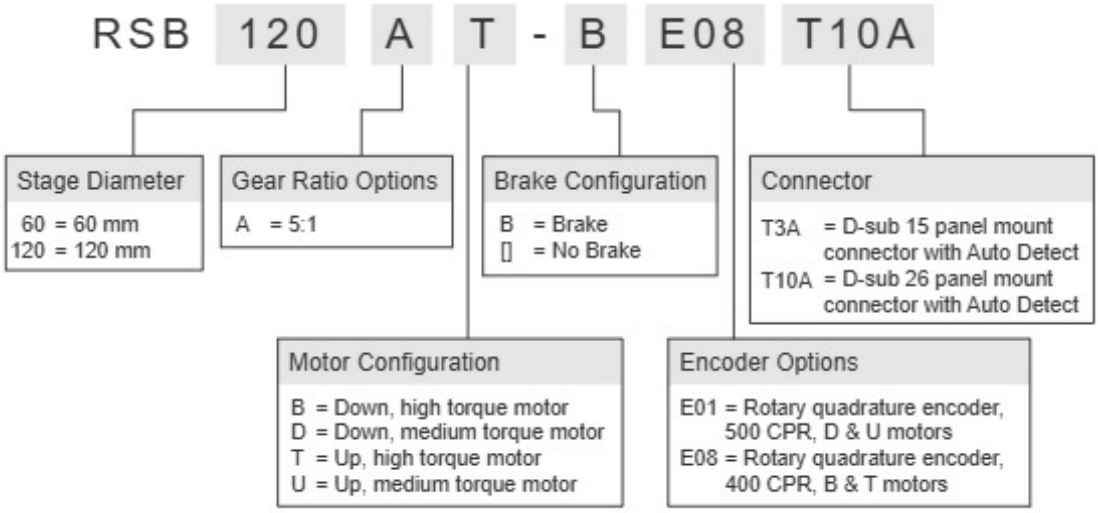
Zaber's RSB-E Series motorized rotation stages feature a compact footprint, low profile, and a load capability of up to 50 kg. With a maximum rotational speed of 1,200 rpm, these rotation stages are ideal for the rapid positioning of light loads. A built-in motor encoder allows for closed-loop operation 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



RSB120AD-E01T3A Drawings

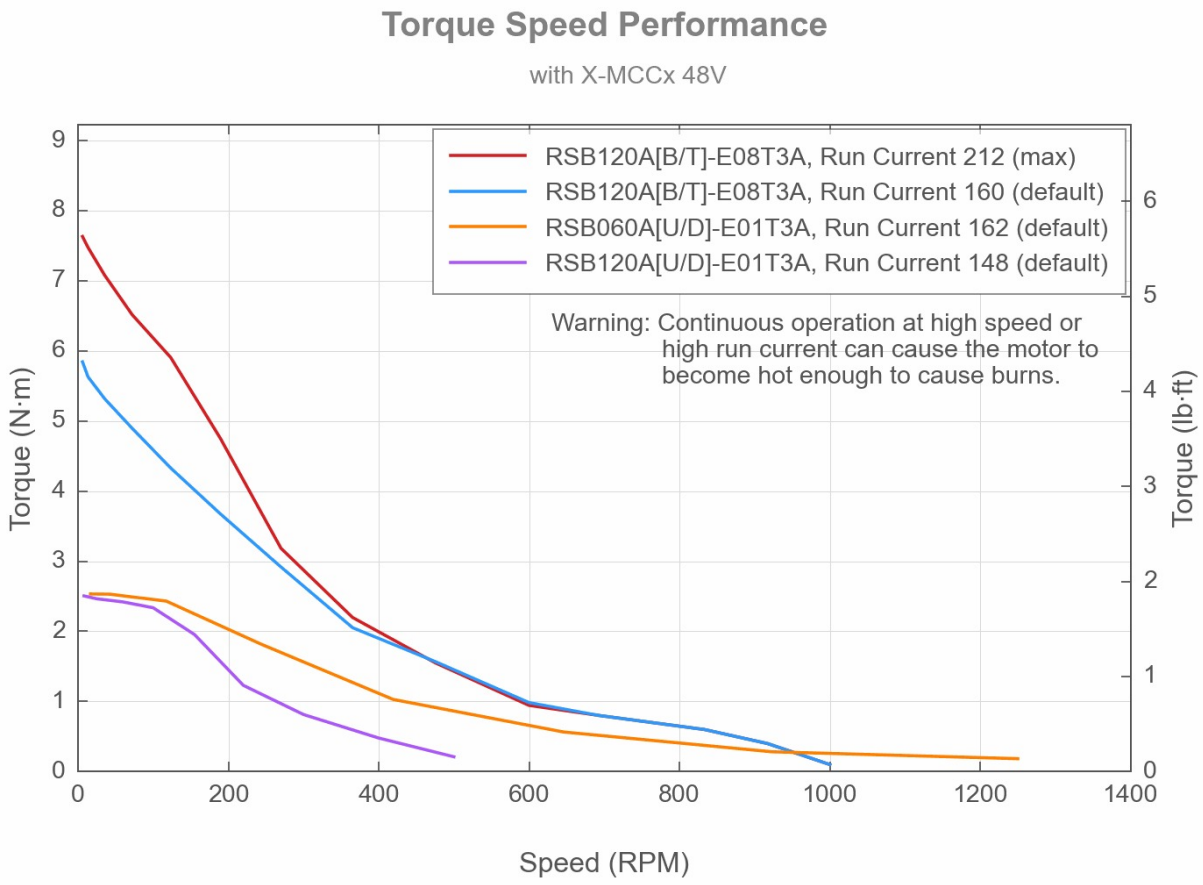
• RSB120-E_D&U_configs.png (Drawing for the RSB120-E D&U configs)

RSB120AD-E01T3A Specifications

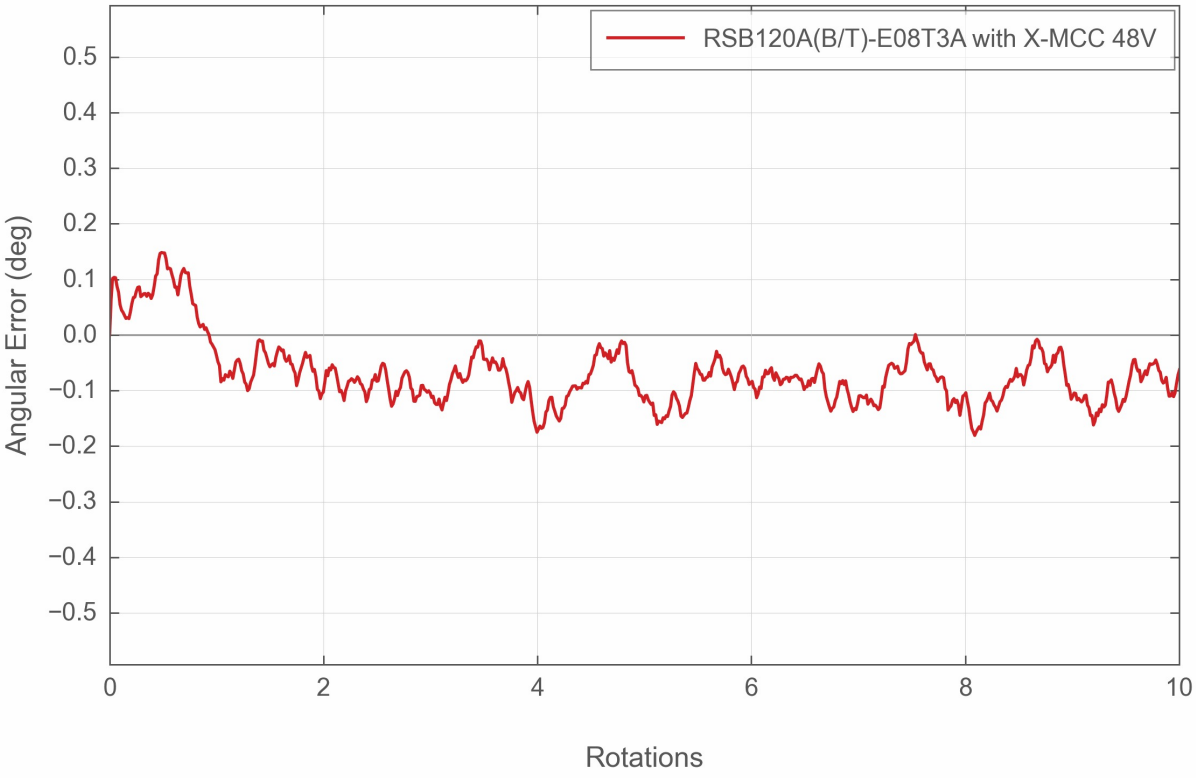
Microstep Size (Default Resolution)	**0.005625° (98.173 µrad)**
Built-in Controller	No
Recommended Controller	MCC (48 V) Recommended
AutoDetect	Yes
Range	360°
Accuracy (unidirectional)	0.28° (4.886000 mrad)
Repeatability	< 0.001° (< 0.017 mrad)
Backlash	< 0.25° (< 4.362 mrad)
Maximum Speed	3000°/s (500 rpm)
Minimum Speed	0.003434°/s (59.934 µrad/s)
Speed Resolution	0.003434°/s (59.934 µrad/s)
Encoder Resolution	500 CPR (2000 states/rev)
Encoder Type	Rotary quadrature encoder
Maximum Continuous Torque	250 N-cm (354.0 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	2100 mA/phase
Motor Winding Resistance	2.9 ohms/phase
Inductance	7.2 mH/phase
Motor Connection	D-sub 15
Default Resolution	1/64 of a step

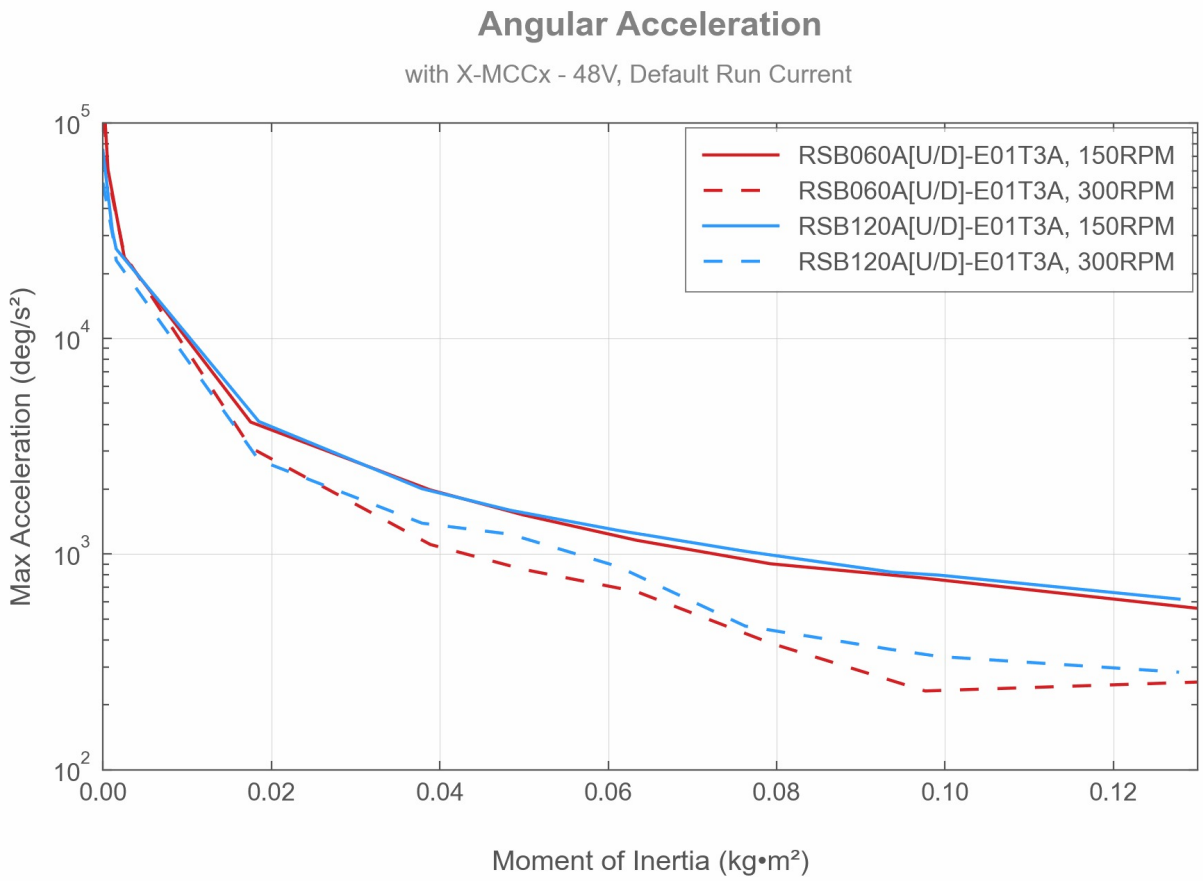
Microstep Size (Default Resolution)	**0.005625° (98.173 µrad)**
Mechanical Drive System	Synchronous belt
Limit or Home Sensing	Magnetic home sensor
Mounting Interface	Kinematic with M2.5 and M6 threaded holes
CE Compliant	Yes
Vacuum Compatible	No
Weight	2.10 kg (4.630 lb)

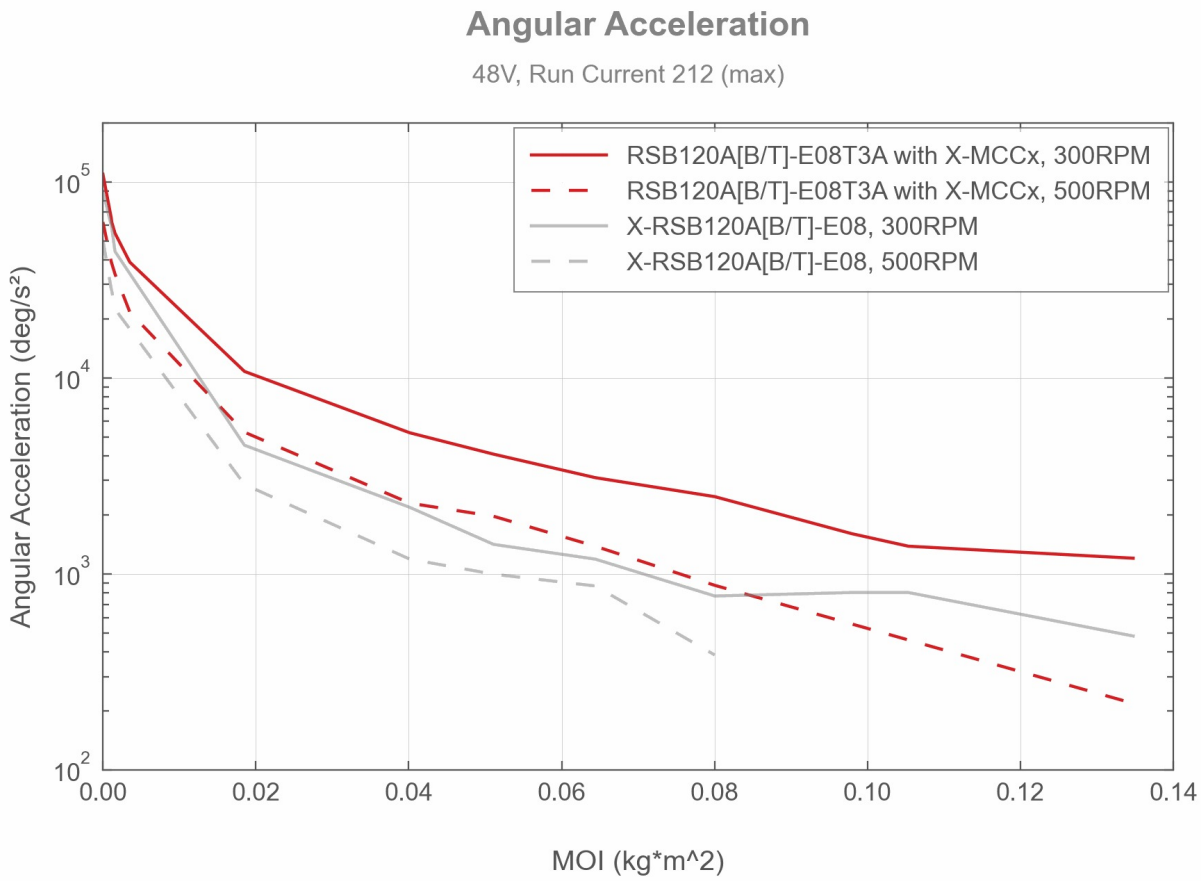
RSB-E Series Charts



Typical Accuracy




Angular Acceleration
with X-MCCx - 48V, Default Run Current
RSB060A[U/D]-E01T3A, 150RPM
RSB060A[U/D]-E01T3A, 300RPM
RSB120A[U/D]-E01T3A, 150RPM
RSB120A[U/D]-E01T3A, 300RPM
Max Acceleration (deg/s²)
Moment of Inertia (kg•m²)
10^5
10^4
10^3
10^2
0.00
0.02
0.04
0.06
0.08
0.10
0.12



Contact

Email: contact@zaber.com
Phone (toll free Canada/USA): 1-888-276-8033
Phone (direct): 1-604-569-3780
Fax: 1-604-648-8033

Zaber Technologies Inc.
#2 - 605 West Kent Ave. N.
Vancouver, British Columbia
Canada, V6P 6T7
https://www.zaber.com