

RST120AK-E03T3A Datasheet



- Speed up to 60 °/s and torque up to 70 N-m
- Continuous 360° rotation stage
- Up to 300 kg centered load capacity
- 50.8 mm (2") or 101.6 mm (4") aperture
- Encoder position feedback with slip/stall detection and automatic recovery
- Designed for use with MCC Family controllers or any 2-phase stepper motor controller
- Custom versions available

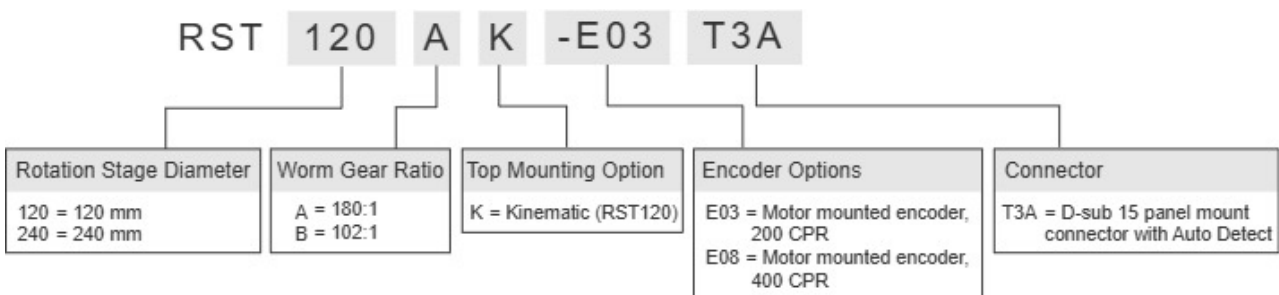
RST-E Series Overview

Zaber's RST-E Series products are motorized rotation stages with built-in motor encoders. Rated for up to 300 kg centered load capacity and up to 70 N-m of torque, they are ideal for high load, angular positioning applications. They have large diameter apertures for a variety of thru-bore applications. RST-E stages are designed for plug-and-play use with any of Zaber's controllers.

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. Set up is easy with AutoDetect. Once connected, the controller will automatically detect and configure the RST-E.

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

RST-E Series Part Numbering & Options



RST120AK-E03T3A Drawings

- [RST120-E.png \(Drawing for the RST120-E\)](#)

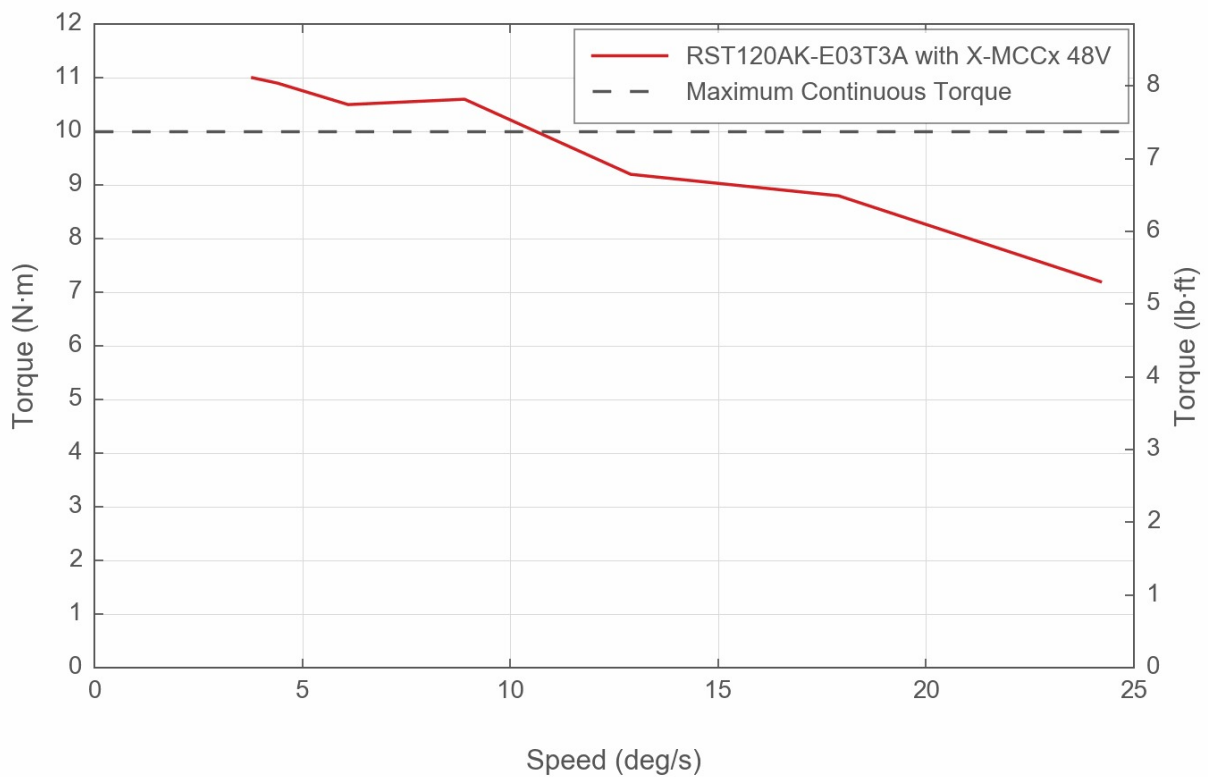
RST120AK-E03T3A Specifications

Microstep Size (Default Resolution)	0.00015625° (2.727 µrad)
Built-in Controller	No
Recommended Controller	MCC (48 V) Recommended
AutoDetect	Yes
Range	360°
Accuracy (unidirectional)	0.16° (2.792000 mrad)
Repeatability	< 0.005° (< 0.087 mrad)
Backlash	< 0.05° (< 0.873 mrad)
Maximum Speed	24°/s (4 rpm)
Minimum Speed	0.000095°/s (1.658 µrad/s)
Speed Resolution	0.000095°/s (1.658 µrad/s)
Encoder Resolution	200 CPR (800 states/rev)
Encoder Type	Rotary quadrature encoder
Maximum Torque	1000 N-cm (1416.1 oz-in)
Maximum Continuous Torque	1000 N-cm (1416.1 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	27.1 mm (1.067")
Angular Motion Per Motor Rev	2°
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	1500 mA/phase
Motor Winding Resistance	2.4 ohms/phase
Inductance	6.6 mH/phase
Motor Connection	D-sub 15
Default Resolution	1/64 of a step
Maximum Angular Momentum	0.4 kg-m ² /s

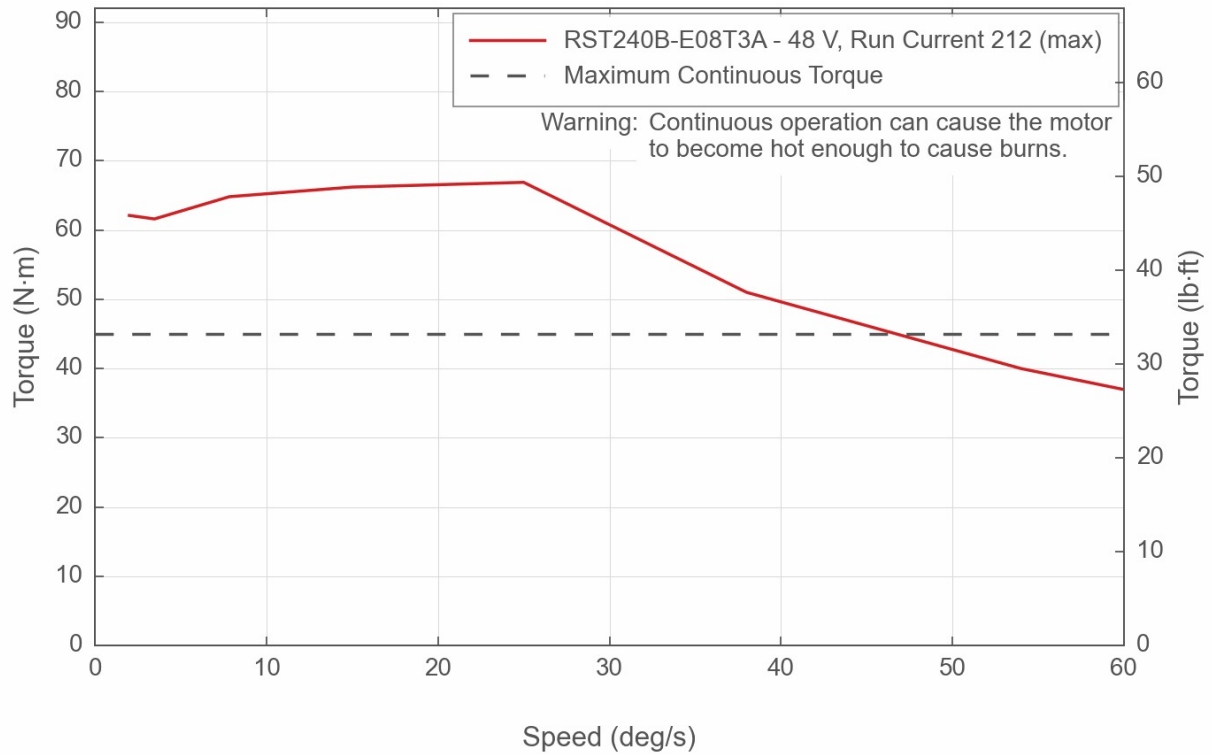
Microstep Size (Default Resolution)	0.00015625° (2.727 μrad)
Motor Frame Size	17
Guide Type	Preloaded Ball Bearing
Mechanical Drive System	Precision Worm Gear
Limit or Home Sensing	Magnetic home sensor
Gear Ratio	180:1
Mounting Interface	Kinematic with M2.5 and M6 threaded holes
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	2.41 kg (5.313 lb)

RST-E Series Charts

Torque Speed Performance



Torque Speed Performance



Contact

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