

X-RST120AK-E03 Datasheet



- Speed up to 60°/s and torque up to 70 N-m
- 300 kg centered load capacity
- 50.8 mm (2") or 101.6 mm (4") aperture
- Multiple X-Series products in a daisy-chain can share a single power supply
- Encoder position feedback with slip/stall detection and automatic recovery
- Built-in controller; daisy-chains with other Zaber products
- Custom versions available

X-RST-E Series Overview

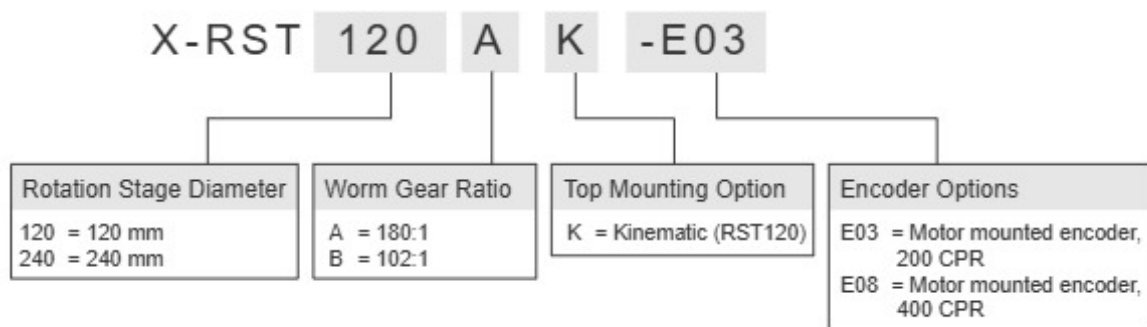
Zaber's X-RST-E Series products are motorized rotation stages with built-in controllers and motor encoders. Rated for up to 300 kg centered load capacity and 70 N-m of torque, they are ideal for high load, angular positioning applications. They have large diameter apertures for a variety of thru-bore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

They are stand-alone units requiring only a standard 24-48 V power supply. An indexed knob provides smooth manual control at variable speeds in both directions for versatile operation even without a computer. Press and hold to switch between velocity mode and position mode, turn to move the stage, and press to stop.

The stages connect to the USB 2.0 or RS-232 port of any computer and can be chained with several units per chain. They can be chained with any other Zaber products. Convenient locking, 4-pin, M8 connectors on the unit allow for an easy and secure connection. The chain also shares power, so multiple X-Series products can use a single power supply.

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

X-RST-E Series Part Numbering & Options



X-RST120AK-E03 Drawings

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

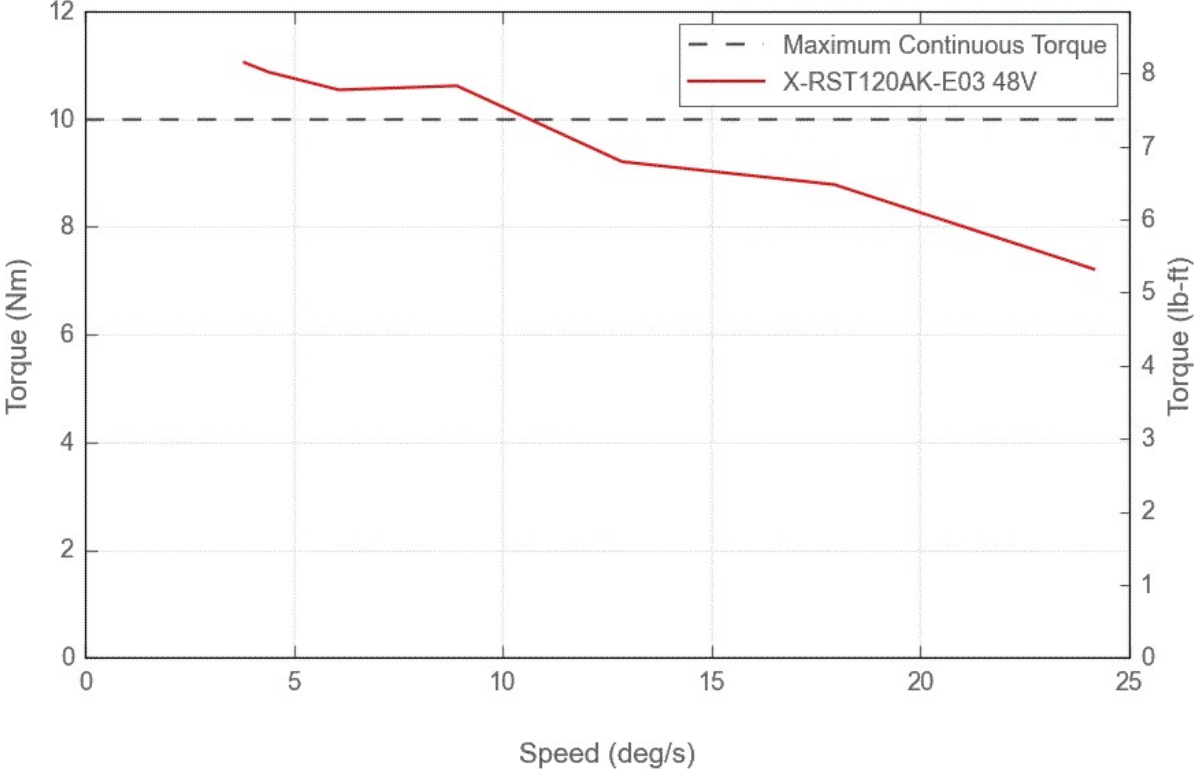
X-RST120AK-E03 Specifications

Microstep Size (Default Resolution)	0.00015625° (2.727 µrad)
Built-in Controller	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
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
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")
Power Supply	24-48 VDC
Power Plug	2-pin Screw Terminal
Maximum Current Draw	1100 mA
Angular Motion Per Motor Rev	2°
Motor Steps Per Rev	200

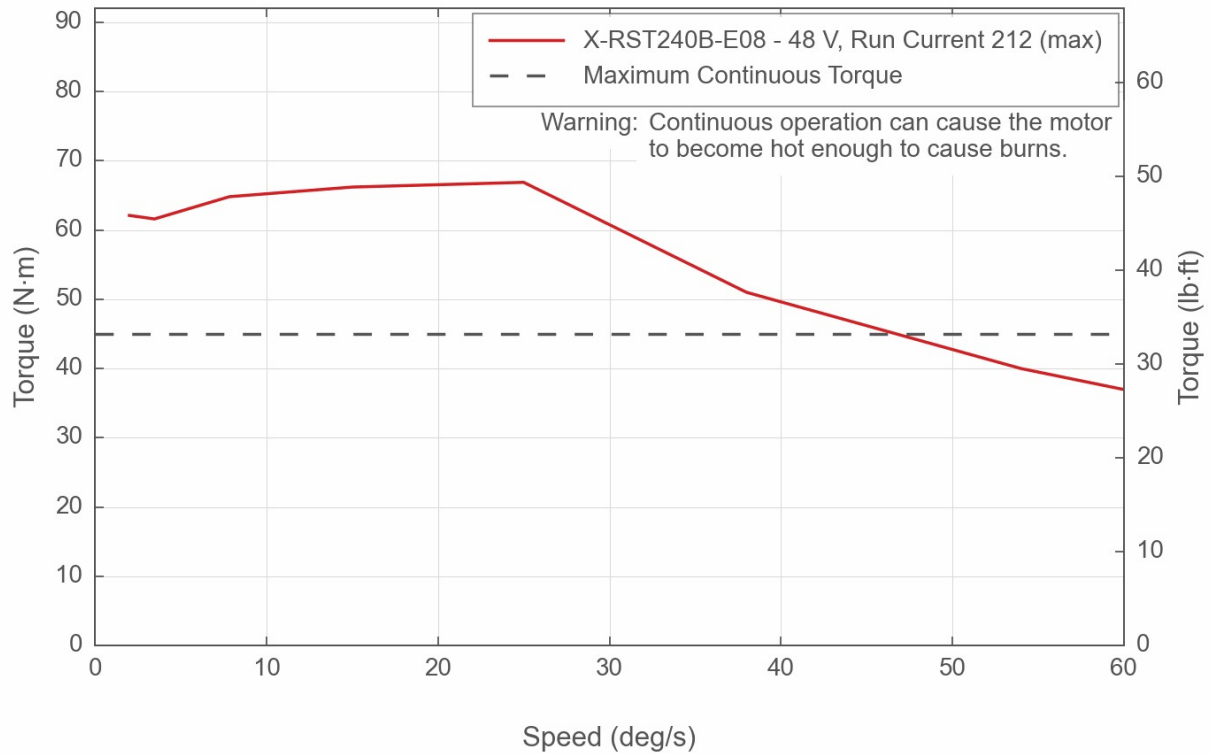
Microstep Size (Default Resolution)	0.00015625° (2.727 μrad)
Motor Type	Stepper (2 phase)
Motor Rated Current	1500 mA/phase
Motor Winding Resistance	2.4 ohms/phase
Inductance	6.6 mH/phase
Default Resolution	1/64 of a step
Maximum Angular Momentum	0.4 kg-m ² /s
Motor Frame Size	17
Guide Type	Preloaded Ball Bearing
Mechanical Drive System	Precision Worm Gear
Limit or Home Sensing	Magnetic home sensor
Gear Ratio	180:1
Manual Control	Yes
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)

X-RST-E Series Charts

Torque Speed Performance



Torque Speed Performance



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>