

X-RST-E Series 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
- Optional Ingress Protection versions available
- Custom versions available

X-RST-E Series Overview

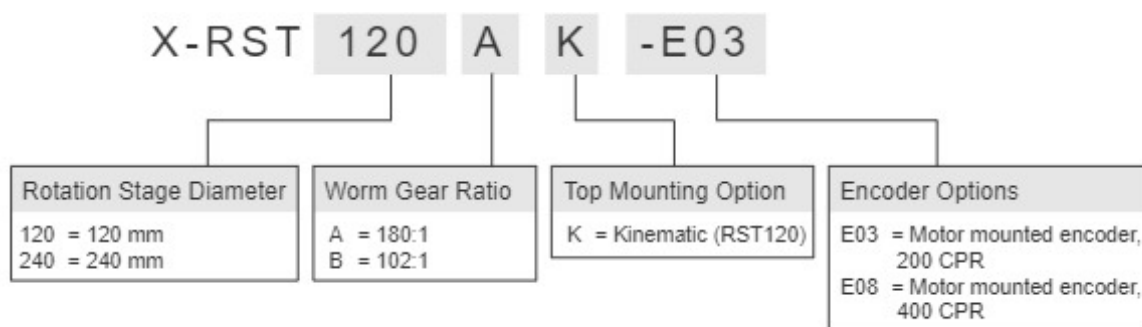
Zaber's X-RST-E Series products are motorized rotation stages with built-in controllers and motor encoders. Rated for up to 300 kg centered load capacity and 70 N-m of torque, they are ideal for high load, angular positioning applications. They have large diameter apertures for a variety of thru-bore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

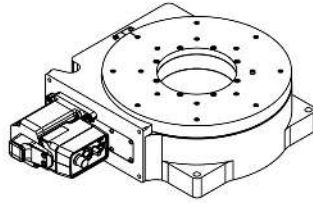
X-RST-E Series Part Numbering



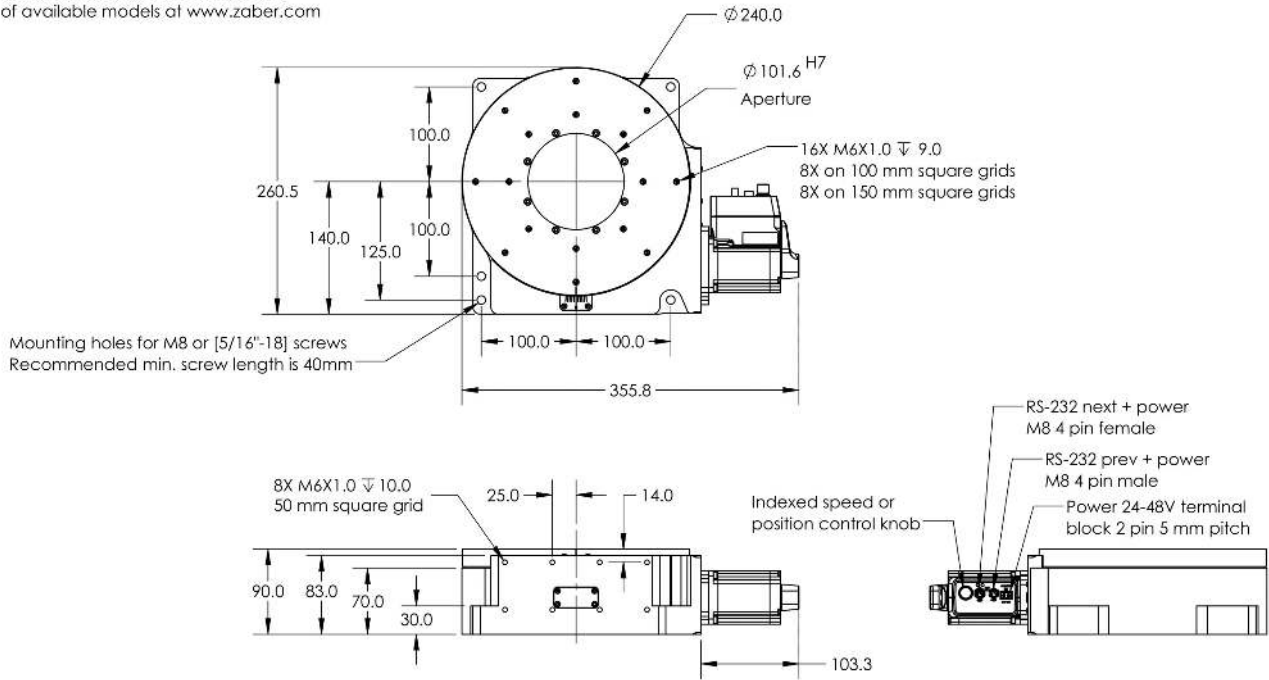
X-RST-E Series Drawings

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X-RST240-E Motorized Rotary Stage
 dimensions in mm



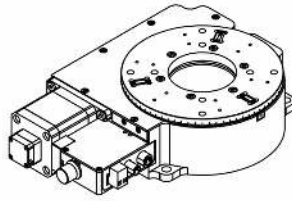
*See product page for complete list of available models at www.zaber.com



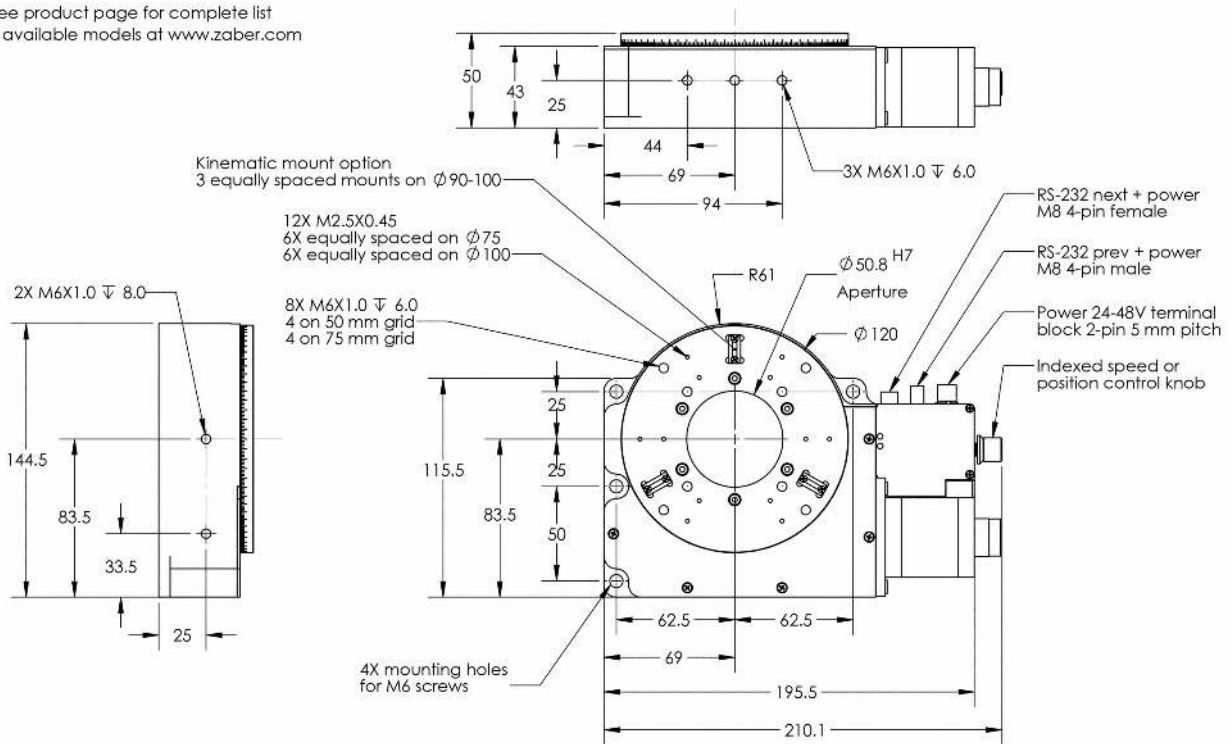
DWG: X181801

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X-RST-E Motorized Rotary Stage
 dimensions in mm



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



DWG: 104 001

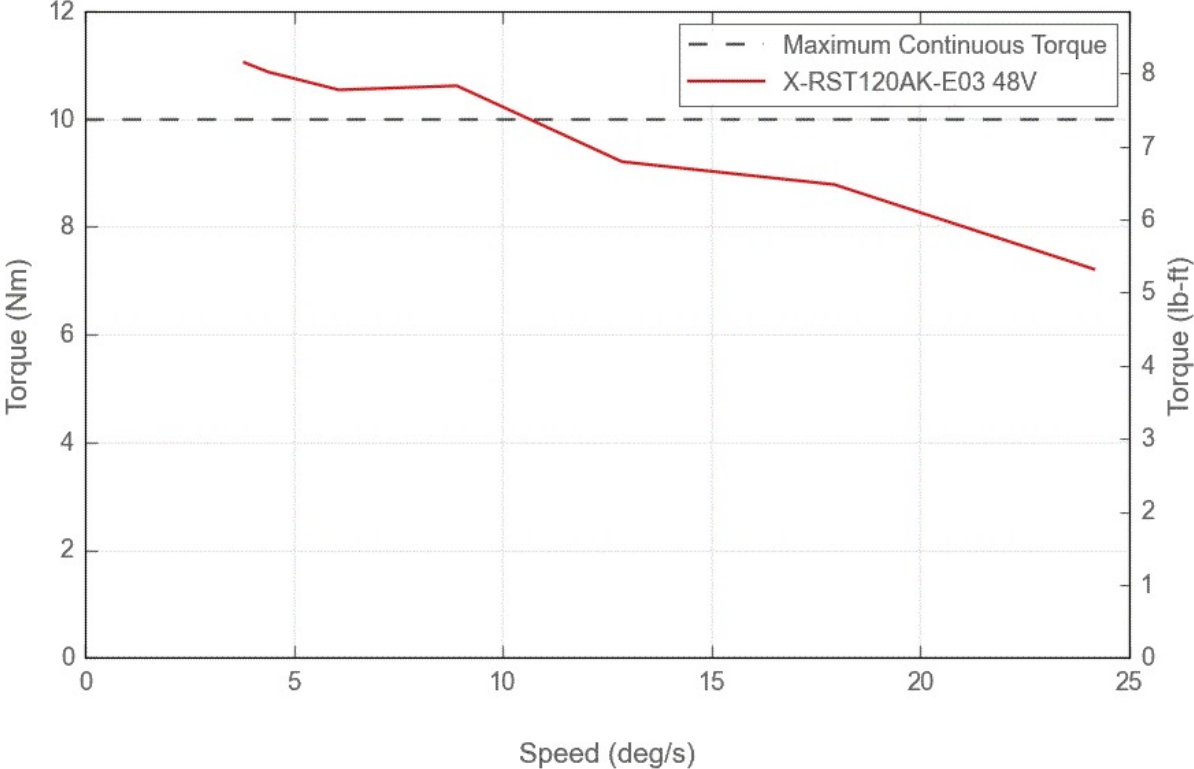
X-RST-E Series Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.00027574°	4.812 μrad
Built-in Controller	Yes	
Range	360°	
Accuracy (unidirectional)	0.075°	1.308750 mrad
Repeatability	< 0.0015°	< 0.026 mrad
Backlash	< 0.05°	< 0.873 mrad
Maximum Speed	60°/s	10 rpm
Minimum Speed	0.000168°/s	2.932 μrad/s
Speed Resolution	0.000168°/s	2.932 μrad/s
Encoder Resolution	400 CPR	1600 states/rev
Encoder Type	Rotary quadrature encoder	
Communication Interface	RS-232	
Communication Protocol	Zaber ASCII (Default), Zaber Binary	
Maximum Torque	7000 N-cm	9912.8 oz-in
Maximum Continuous Torque	4500 N-cm	6372.5 oz-in
Maximum Centered Load	3000 N	672.8 lb
Maximum Cantilever Load	20000 N-cm	28322.4 oz-in
Guide Type	Crossed-Roller Bearing	
Stage Top Dimension	240 mm	9.449"
Radial Error Motion	+/- 2.5 μm	+/- 0.000098"
Axial Error Motion	< 4 μm	< 0.000157"
Tilt Error Motion	+/- 0.003°	+/- 52.36 μrad
Bearing Plane Offset	30.75 mm	1.211"
Maximum Current Draw	3600 mA	
Power Supply	24-48 VDC	
Power Plug	2-pin Screw Terminal	
Angular Motion Per Motor Rev	3.5294°	
Motor Steps Per Rev	200	
Motor Type	Stepper (2 phase)	
Motor Rated Current	4200 mA/phase	

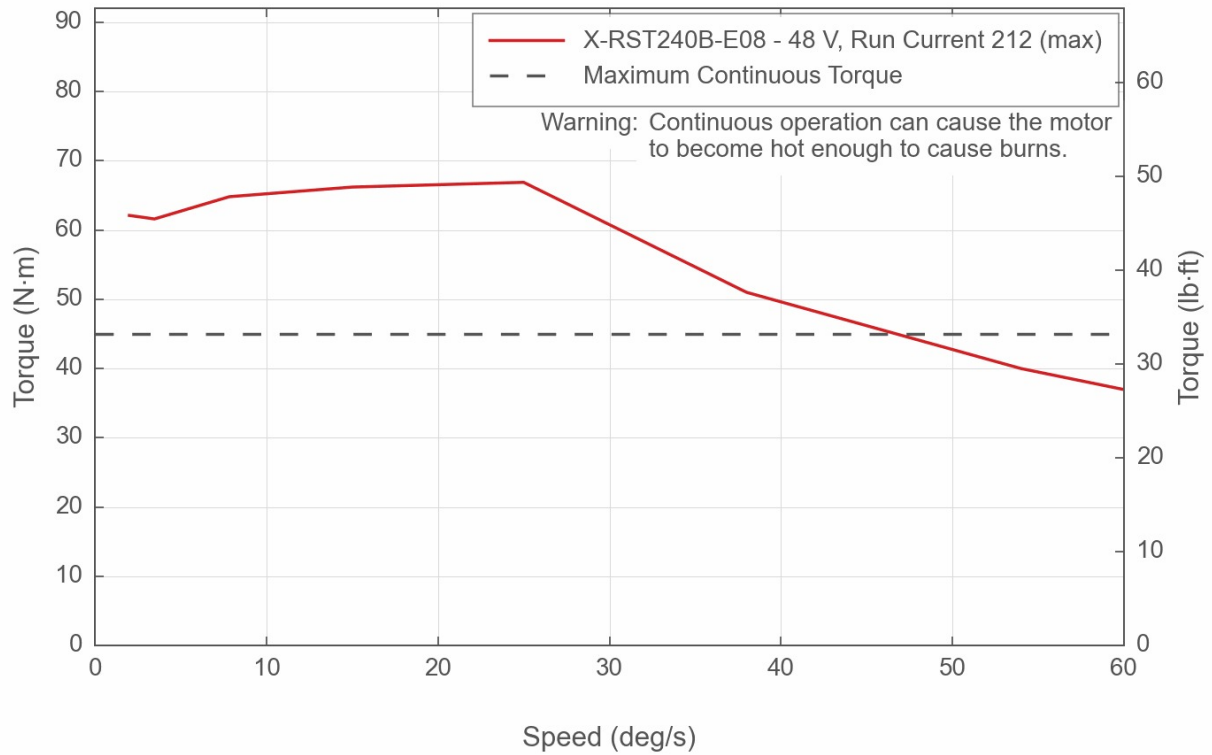
Specification	Value	Alternate Unit
Motor Winding Resistance	0.53 ohms/phase	
Inductance	2 mH/phase	
Default Resolution	1/64 of a step	
Maximum Angular Momentum	1.6 kg-m ² /s	
Data Cable Connection	Locking 4-pin M8	
Motor Frame Size	23	
Mechanical Drive System	Precision Worm Gear	
Limit or Home Sensing	Magnetic home sensor	
Gear Ratio	102:1	
Manual Control	Yes	
Mounting Interface	M6 threaded holes and M8 mounting holes	
Operating Temperature Range	0-50 °C	
Vacuum Compatible	No	
RoHS Compliant	Yes	
CE Compliant	Yes	
Weight	14.5 kg	31.967 lb

X-RST-E Series Charts

Torque Speed Performance



Torque Speed Performance



Contact

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