

X-RSM40B-E03 Datasheet



- 50 N load capacity
- 0.02° repeatability
- 21 mm total height
- 4 mm aperture
- Worm gear driven for continuous rotation
- Encoder position feedback with slip/stall detection and automatic recovery
- Built-in controller; daisy-chains with other Zaber products

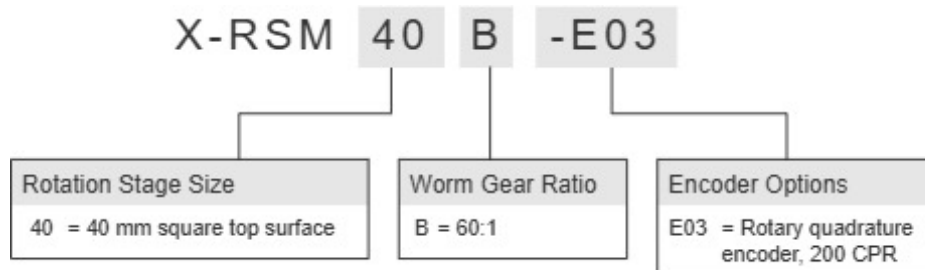
X-RSM-E Series Overview

Zaber's X-RSM-E Series rotation stages are our most compact stepper and worm gear driven devices. These are stand-alone units requiring only a power supply. An indexed knob provides convenient manual control for versatile operation even without a computer. These stages connect to the RS-232 port or USB port of any computer, and they can be daisy-chained with any other Zaber products. The daisy-chain also shares power, making it possible for multiple X-Series products to share a single power supply.

Self-aligning feet and mounting points make it easy to set up multi-axis tilt or gimbal systems using the GSM tilt devices or AP146 and AB147 brackets.

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

X-RSM-E Series Part Numbering & Options



X-RSM40B-E03 Drawings

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

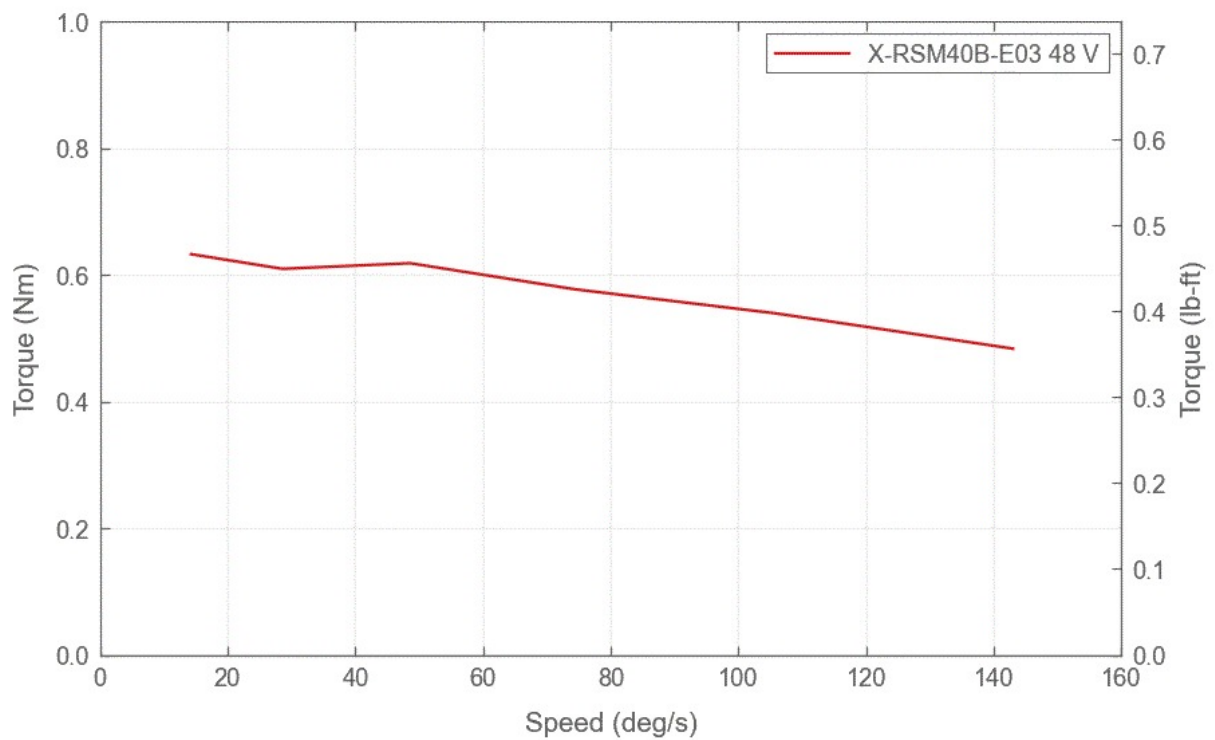
X-RSM40B-E03 Specifications

Microstep Size (Default Resolution)	0.00046875° (8.181 μrad)
Built-in Controller	Yes
Range	360°
Accuracy (unidirectional)	0.14° (2.443000 mrad)
Repeatability	< 0.02° (< 0.349 mrad)
Backlash	< 0.04° (< 0.698 mrad)
Maximum Speed	120°/s (20 rpm)
Minimum Speed	0.000286°/s (4.992 μrad/s)
Speed Resolution	0.000286°/s (4.992 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 Continuous Torque	60 N-cm (85.0 oz-in)
Maximum Centered Load	50 N (11.2 lb)
Maximum Moment (Transverse)	100 N-cm (141.6 oz-in)
Stage Top Dimension	40 mm (1.575")
Radial Error Motion	+/- 10 μm (+/- 0.000394")
Axial Error Motion	< 4 μm (< 0.000157")
Tilt Error Motion	+/- 0.011° (+/- 191.99 μrad)
Bearing Plane Offset	11 mm (0.433")
Power Supply	24-48 VDC
Power Plug	2-pin Screw Terminal
Maximum Current Draw	350 mA
Angular Motion Per Motor Rev	6°
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Inductance	3.5 mH/phase
Default Resolution	1/64 of a step
Motor Frame Size	NEMA 08

Microstep Size (Default Resolution)	0.00046875° (8.181 μrad)
Mechanical Drive System	Precision Worm Gear
Limit or Home Sensing	Magnetic home sensor
Manual Control	Yes
Mounting Interface	M2 and M3 mounting holes
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	0.289 kg (0.637 lb)

X-RSM-E Series Charts

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>