

## 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

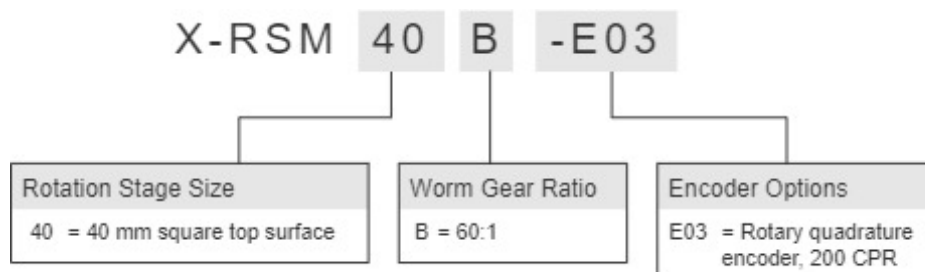
### X-RSM-E Series Overview

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

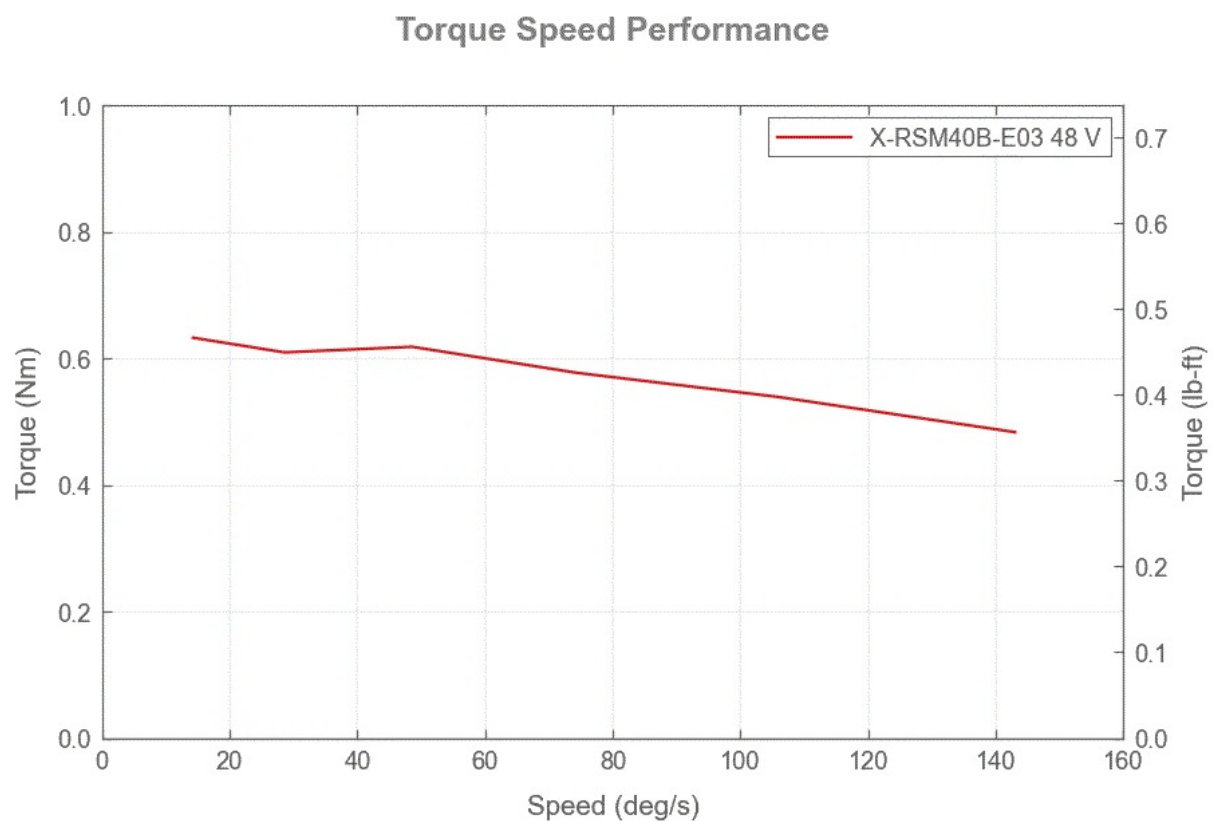
- [X-RSM-E.png \(Drawing for the X-RSM-E\)](#)

## X-RSM40B-E03 Specifications

|                                            |                                     |
|--------------------------------------------|-------------------------------------|
| <b>Microstep Size (Default Resolution)</b> | <b>0.00046875° (8.181 μrad)</b>     |
| 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                             | 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                  |
| RoHS Compliant                      | Yes                      |
| CE Compliant                        | Yes                      |
| Vacuum Compatible                   | No                       |
| Weight                              | 0.289 kg (0.637 lb)      |

## X-RSM-E Series Charts



## Contact

Email: [contact@zaber.com](mailto: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>