

X-RSW-E Series Datasheet



- Speed up to 75 rpm and torque up to 2.25 N-m
- Two lens holders allow for use as a polarizer mount
- Worm gear driven for continuous rotation
- Built-in controller; daisy-chains with other Zaber products
- Encoder position feedback with slip/stall detection and automatic recovery
- Multiple X-Series products in a daisy-chain can share a single power supply
- Custom versions available

X-RSW-E Series Overview

Zaber's X-RSW-E Series products are computer controlled motorized rotary stages with integrated controllers and motor encoders. They are stand-alone units requiring only a standard 24-48 V power supply.

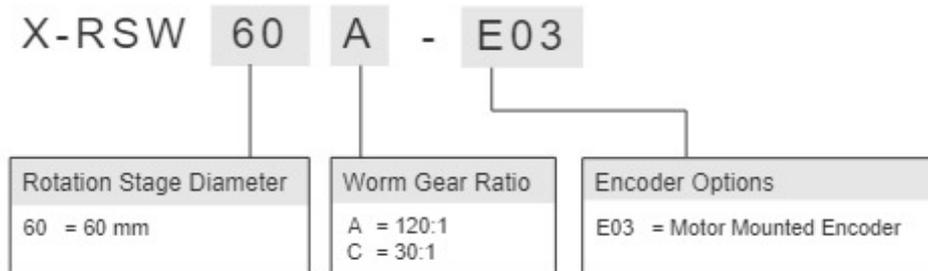
Built-in motor encoders allow for closed-loop operation and slip/stall recovery features. An indexed knob provides smooth manual control at variable speeds in both directions for versatile operation even without a computer. Press and hold to switch between velocity mode and distance mode, turn to move 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 also be chained with any other Zaber products. Convenient locking, 4-pin, M8 connectors on the unit allow for easy and secure connection between products. 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-RSW-E>

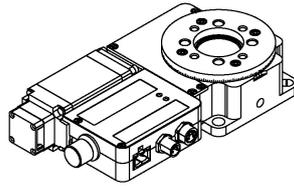
X-RSW-E Series Part Numbering & Options



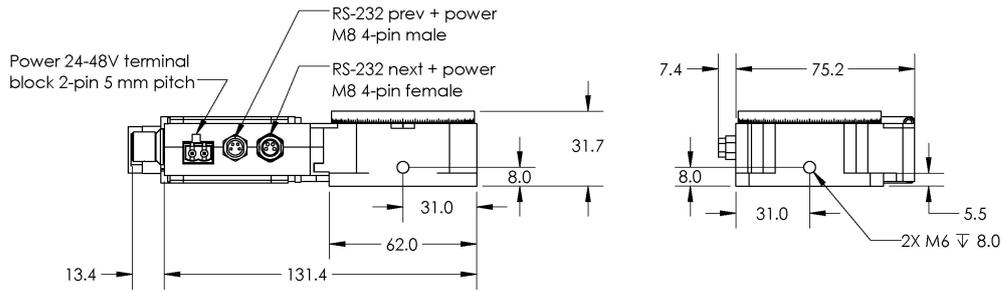
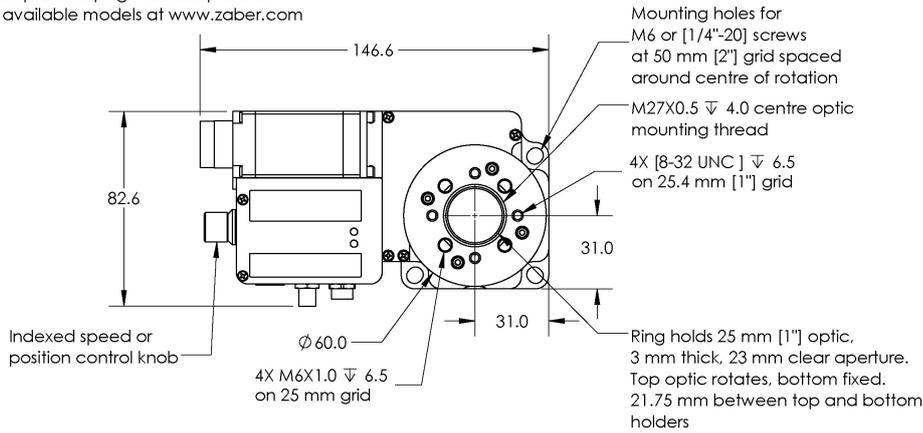
X-RSW-E Series Drawings

ZABER

X-RSW-E Motorized Rotary Stage
 dimensions in mm



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



DWG 1102 R02

X-RSW-E Series Specifications

Built-in Controller	
Range	360°
Accuracy (unidirectional)	0.08° (1.396000 mrad)
Repeatability	< 0.02° (< 0.349 mrad)
Backlash	< 0.04° (< 0.698 mrad)
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 Centered Load	200 N (44.9 lb)
Maximum Cantilever Load	410 N-cm (580.6 oz-in)
Stage Top Dimension	60 mm (2.362")
Radial Error Motion	+/- 4 µm (+/- 0.000157")
Axial Error Motion	< 4 µm (< 0.000157")
Tilt Error Motion	+/- 0.0033° (+/- 57.60 µrad)
Bearing Plane Offset	16.4 mm (0.646")
Power Supply	24-48 VDC
Power Plug	2-pin Screw Terminal
Maximum Current Draw	950 mA
Motor Type	Stepper (2 phase)
Motor Rated Current	1500 mA/phase
Inductance	1 mH/phase
Default Resolution	1/64 of a step
Mechanical Drive System	Precision Worm Gear
Limit or Home Sensing	Magnetic home sensor
Manual Control	Yes
Operating Temperature Range	0-50 °C
RoHS Compliant	Yes
CE Compliant	Yes
Vacuum Compatible	No

Built-in Controller

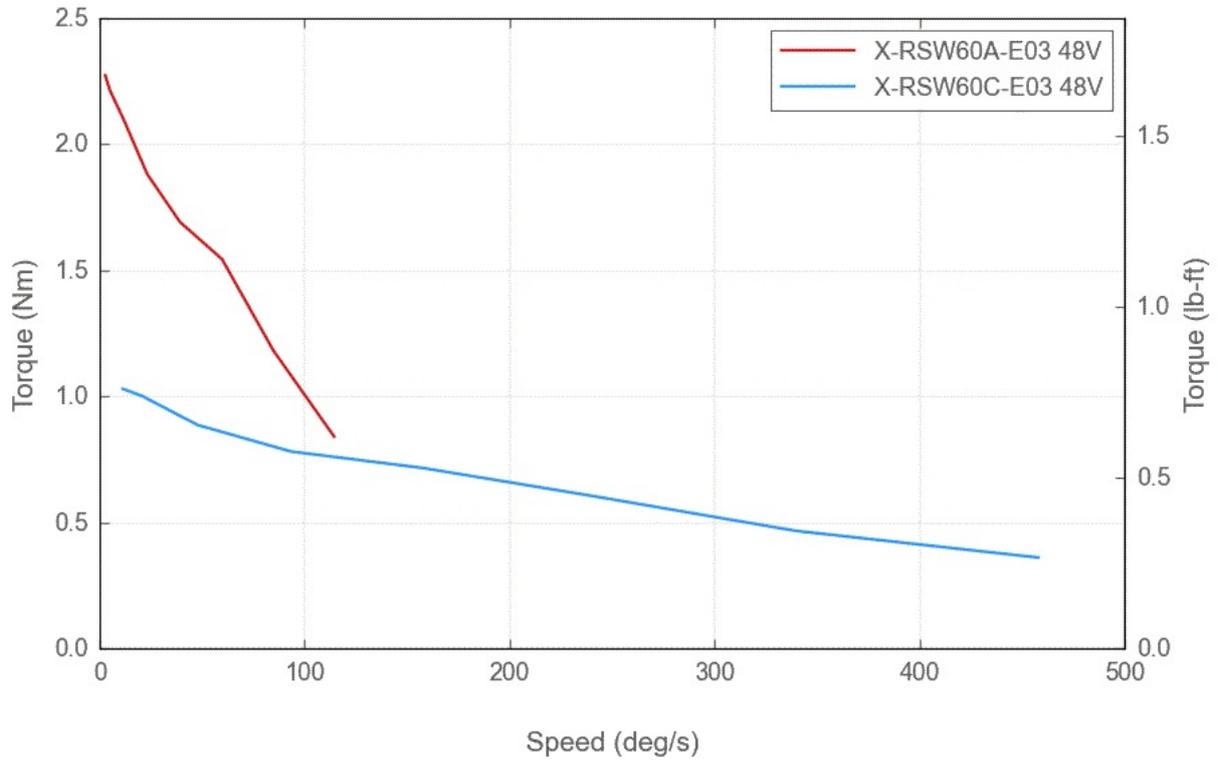
Weight 0.67 kg (1.477 lb)

Part Number	Microstep Size (Default Resolution)	Maximum Speed	Minimum Speed	Speed Resolution
X-RSW60A-E03	0.000234375° (4.091 μrad)	115°/s (19 rpm)	0.000143°/s (2.496 μrad/s)	0.000143°/s (2.496 μrad/s)
X-RSW60C-E03	0.0009375° (16.362 μrad)	450°/s (75 rpm)	0.000572°/s (9.983 μrad/s)	0.000572°/s (9.983 μrad/s)

Part Number	Maximum Continuous Torque	Angular Motion Per Motor Rev
X-RSW60A-E03	225 N-cm (318.6 oz-in)	3°
X-RSW60C-E03	105 N-cm (148.7 oz-in)	12°

X-RSW-E Series Charts

Torque Speed Performance



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