

## X-RST240B-AE56 Datasheet



- Speed up to 60°/s and torque up to 70 N-m
- 300 kg centered load capacity
- 101.6 mm (4") aperture
- Direct reading encoder for position correction; stage accuracy to 0.008°
- 200 Nm tilting moment capacity
- Ultra-smooth crossed roller bearings provide long life and excellent tilt, axial and radial error motion specifications
- Custom versions available

## X-RST-AE Series Overview

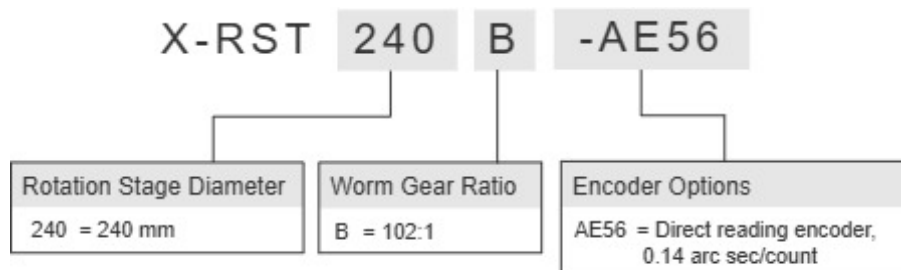
Zaber's X-RST-AE Series products are motorized rotation stage devices with built-in controllers and direct reading encoders for high accuracy motion. Rated for a 300 kg centered load capacity and 70 N-m of torque, they are ideal for high load, high precision, angular positioning applications. They have a large diameter 101.6 mm (4") aperture 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-AE>

## X-RST-AE Series Part Numbering & Options



## X-RST240B-AE56 Drawings

- [X-RST240-AE.png \(Drawing for the X-RST240-AE\)](#)

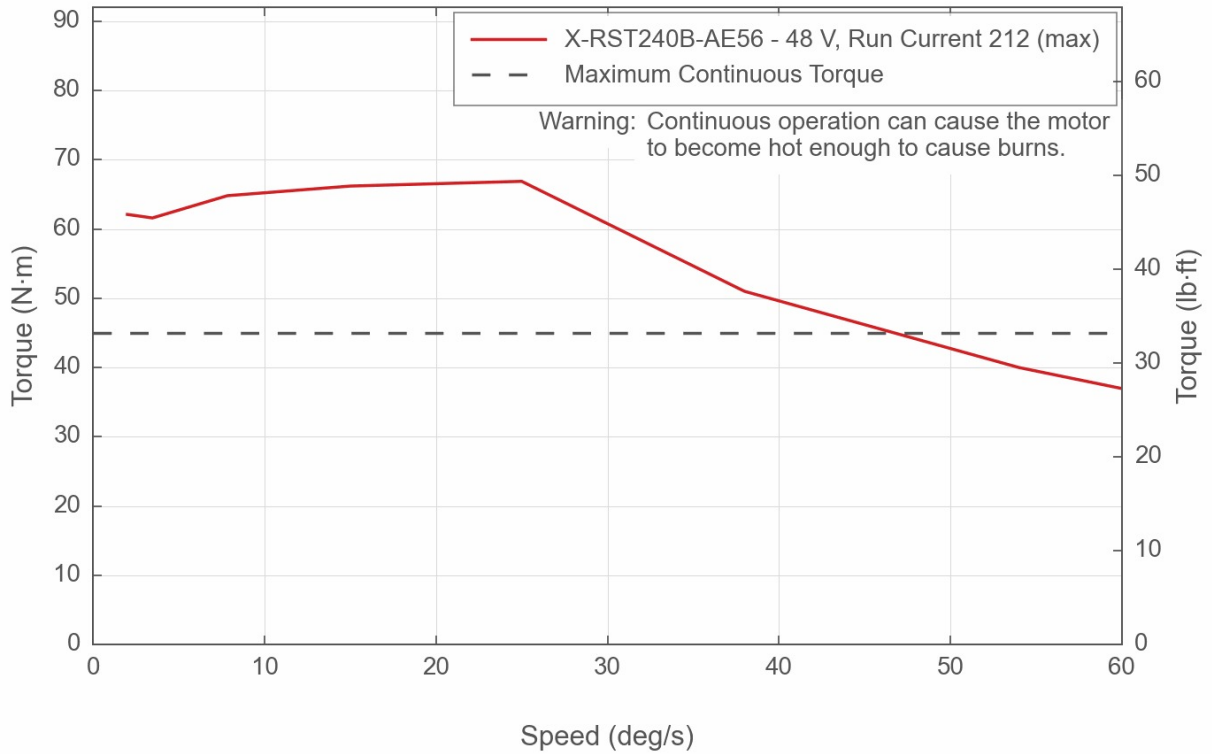
## X-RST240B-AE56 Specifications

<b>Microstep Size (Default Resolution)</b>	<b>0.00027574° (4.812 µrad)</b>
Built-in Controller	Yes
Range	360°
Accuracy (unidirectional)	0.008° (0.139600 mrad)
Repeatability	< 0.0015° (< 0.026 mrad)
Backlash	< 0.005° (< 0.087 mrad)
Maximum Speed	60°/s (10 rpm)
Encoder Count Size	0.00003814°/count (0.137304 arcseconds/count)
Minimum Speed	0.000168°/s (2.932 µrad/s)
Speed Resolution	0.000168°/s (2.932 µrad/s)
Encoder Resolution	23600 CPR (94400 states/rev)
Encoder Type	Direct reading optical encoder
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
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 Moment (Transverse)	200 N-m (147.6 ft-lb)
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")
Power Supply	24-48 VDC
Power Plug	2-pin Screw Terminal
Maximum Current Draw	3600 mA
Angular Motion Per Motor Rev	3.5294°

<b>Microstep Size (Default Resolution)</b>	<b>0.00027574° (4.812 μrad)</b>
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	3000 mA/phase
Inductance	2 mH/phase
Default Resolution	1/64 of a step
Maximum Angular Momentum	1.6 kg-m <sup>2</sup> /s
Guide Type	Crossed-Roller Bearing
Mechanical Drive System	Precision Worm Gear
Limit or Home Sensing	Optical Index Mark
Gear Ratio	102:1
Manual Control	Yes
LED Indicators	Yes
Mounting Interface	M6 threaded holes and M8 mounting holes
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	15.6 kg (34.392 lb)

# X-RST-AE Series Charts

## Torque Speed Performance



## 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>