

X-ASR100B120B-SE03D12 Datasheet



- 50 mm up to 305 mm travel per axis
- Up to 12 μm accuracy; 2 μm repeatability; 85 mm/s speed
- Easily adjustable non-contact hall sensor limit switches
- Supported by μ Manager and MetaMorph® Microscopy Automation & Image Analysis Software
- Built-in controller allows connection with a single power/data cable and daisy chaining with other Zaber products
- One digital input and two digital outputs
- Custom versions available

X-ASR-E Series Overview

Zaber's X-ASR-E Series microscope stages are designed as replacements for manual stages on upright and inverted microscopes or for stand-alone operation as scanning stages. Compact, built-in controllers save bench space and allow the stages to be powered and controlled through a single, flex rated cable.

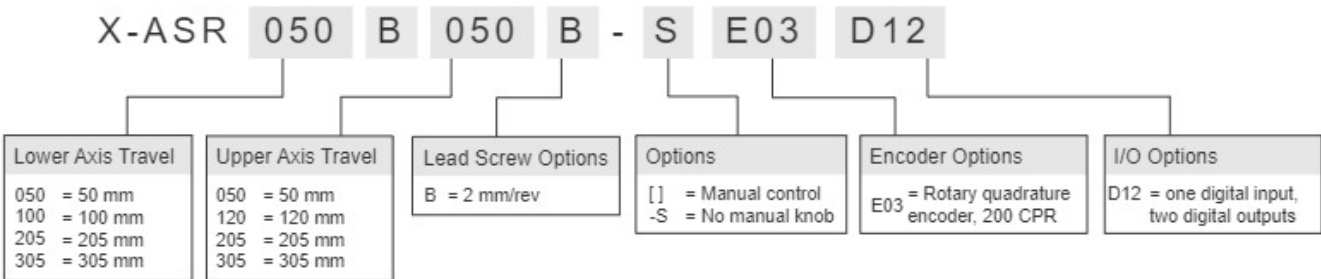
X-ASR-E devices also include a digital input and two digital outputs for interfacing with external systems. An event-driven trigger system allows devices to be programmed for stand-alone operation based on I/O, time, or movement stimuli.

Mounting adaptors are available for breadboards and most common microscopes. Custom adaptors

and plates are available upon request.

For more information visit: <https://www.zaber.com/products/scanning-microscope-stages/X-ASR-E>

X-ASR-E Series Part Numbering



X-ASR100B120B-SE03D12 Bundle Options

This device may be purchased stand-alone or bundled with one of the following accessory kits:

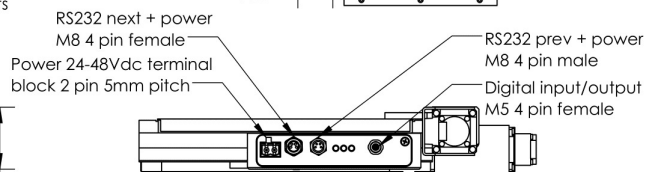
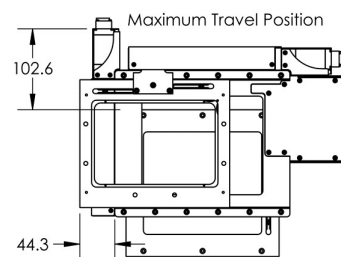
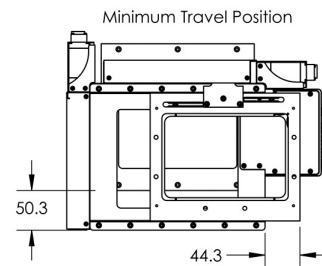
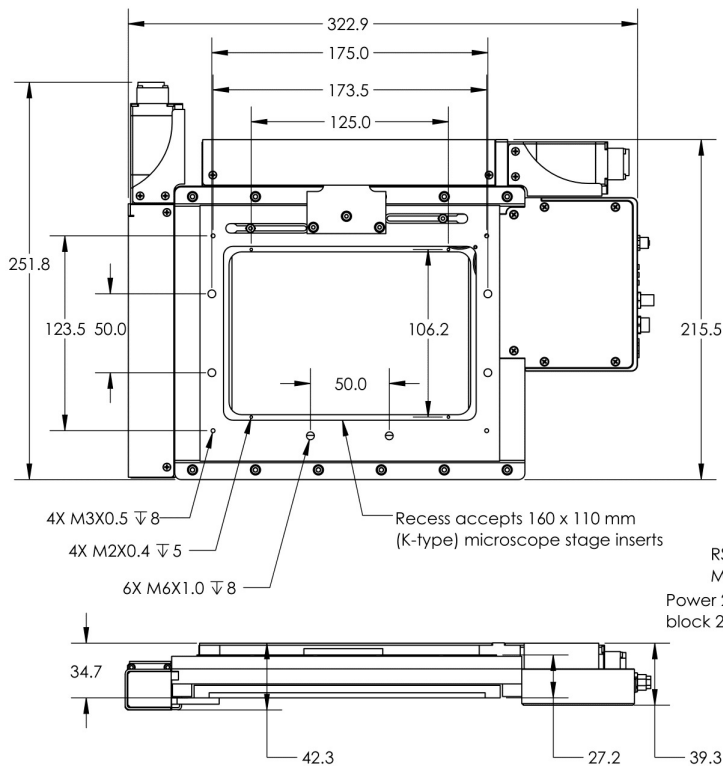
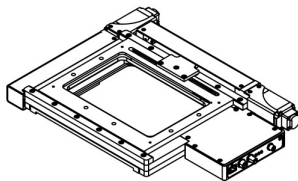
Products	Description
X-ASR100B120B-SE03D12	Motorized XY microscope stage, integrated controller and motor encoder, 100 mm x 120 mm travel
with KX14P accessory kit Power supply: North America, 48 V. Powers multiple X-Series devices	<ul style="list-style-type: none">• 1 x PS14S-48V37: Power Supply, 48 V 3.75 A, Compatible with X-Series Products• 1 x X-DC06: Data Cable, 6 ft (2 m), for Use with all X-Series Products• 1 x X-PIB: Device for Adding 24 - 48 V Power into an X-Series Daisy Chain• 1 x X-USBDC: USB to Serial Converter Cable with M8 Female Plug for X-Series Products

X-ASR100B120B-SE03D12 Drawings

ZABER

X-ASR100B120B-SE03D12 Motorized XY Microscope Stage
dimensions in mm

Adaptor plates required for mounting in most applications.
See accessories page for details at www.zaber.com.



DWG 3524 R01A

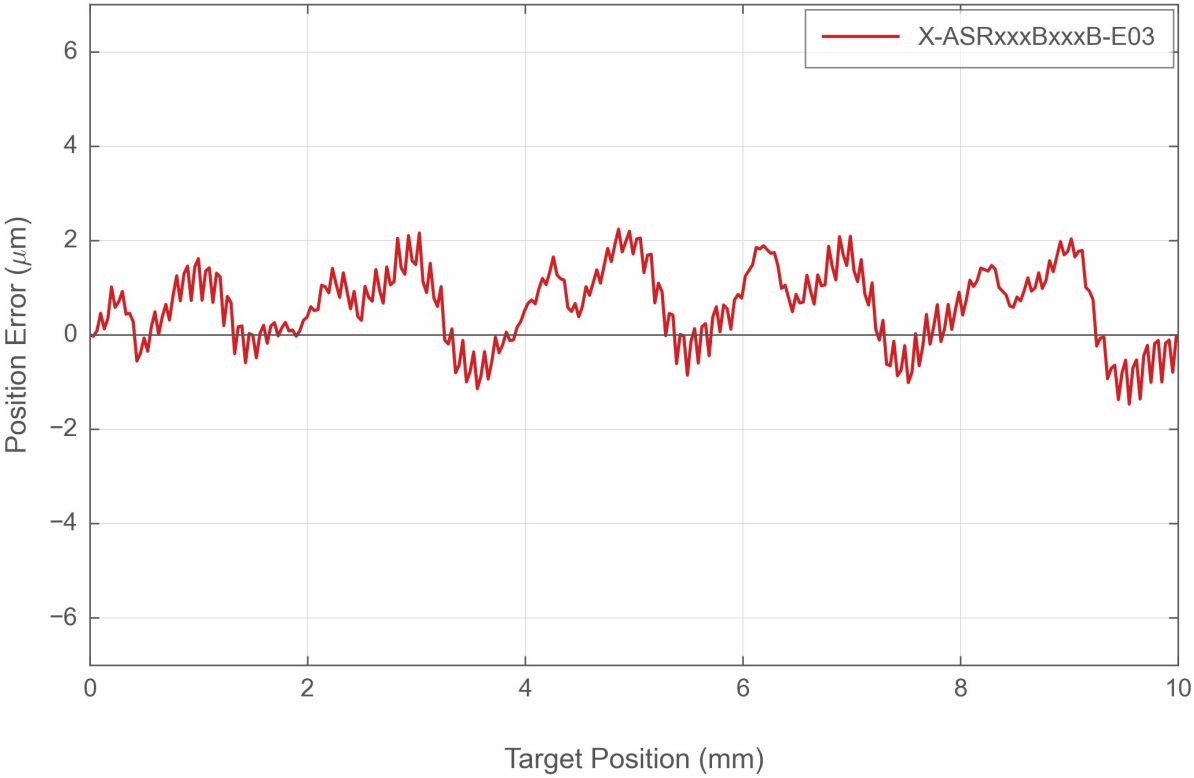
X-ASR100B120B-SE03D12 Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.15625 μm	
Built-in Controller	Yes	
Lower Travel Range	100 mm	3.937"
Upper Travel Range	120 mm	4.724"
Accuracy (unidirectional)	40 μm	0.001575"
Repeatability	< 2 μm	< 0.000079"
Flatness	15 μm	0.0006"
Backlash	< 4 μm	< 0.000157"
Maximum Speed	85 mm/s	3.346"/s
Minimum Speed	0.000095 mm/s	0.000004"/s
Speed Resolution	0.000095 mm/s	0.000004"/s
Encoder Resolution	200 CPR	800 states/rev
Encoder Type	Rotary quadrature encoder	
Peak Thrust	95 N	21.3 lb
Maximum Continuous Thrust	95 N	21.3 lb
Communication Interface	RS-232, USB 2.0	
Communication Protocol	Zaber ASCII (Default), RS-232	
Maximum Centered Load	100 N	22.4 lb
Guide Type	Crossed roller bearing	
Pitch	0.02°	0.349 mrad
Roll	0.02°	0.349 mrad
Yaw	0.005°	0.087 mrad
Maximum Current Draw	2600 mA	
Power Supply	24-48 VDC	
Linear Motion Per Motor Rev	2.00 mm	0.079"
Motor Steps Per Rev	200	
Motor Type	Stepper (2 phase)	
Motor Rated Current	1500 mA/phase	
Motor Winding Resistance	2.05 ohms/phase	
Inductance	1 mH/phase	

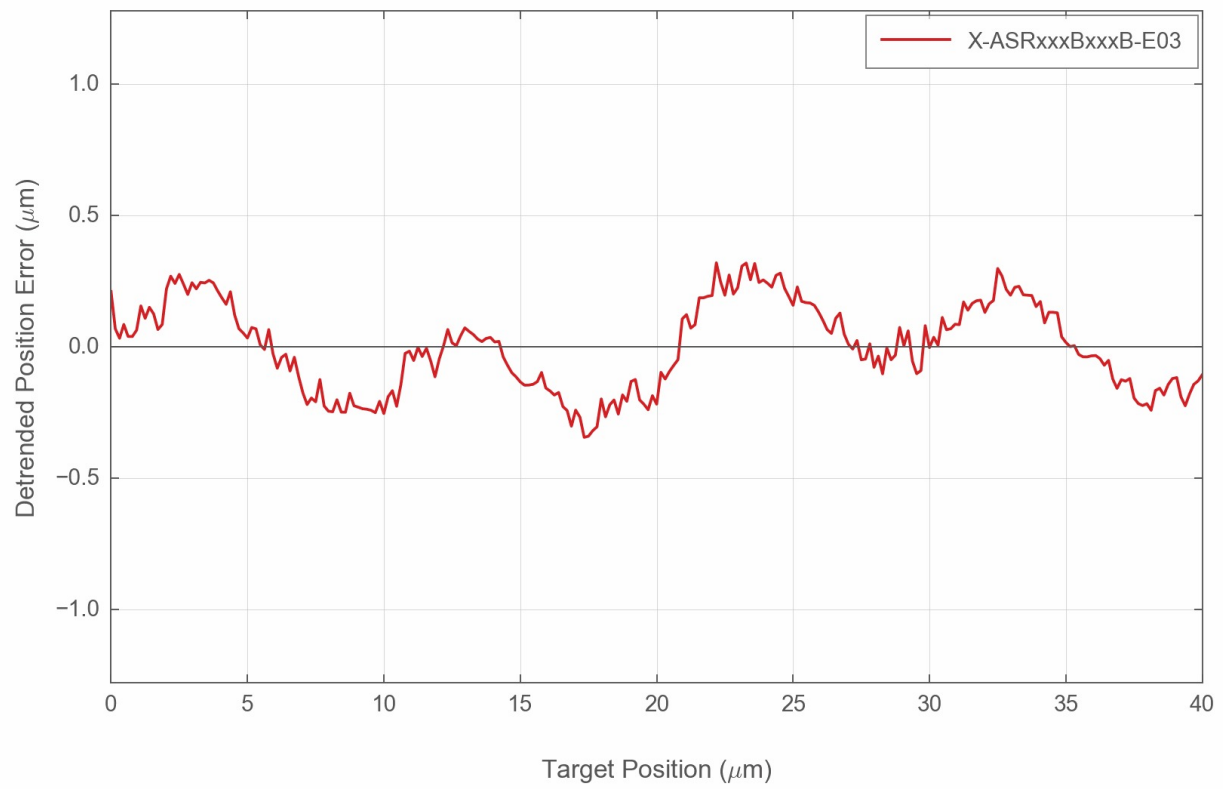
Specification	Value	Alternate Unit
Default Resolution	1/64 of a step	
Data Cable Connection	Locking 4-pin M8	
Mechanical Drive System	Precision lead screw	
Limit or Home Sensing	Magnetic, adjustable home and away sensors	
Manual Control	No	
Axes of Motion	2	
LED Indicators	Yes	
Mounting Interface	Separate mounting adaptors available	
Operating Temperature Range	0 to 50 °C	
Vacuum Compatible	No	
RoHS Compliant	Yes	
CE Compliant	Yes	
Digital Input	1	
Digital Output	2	
Weight	3.30 kg	7.275 lb

X-ASR-E Series Charts

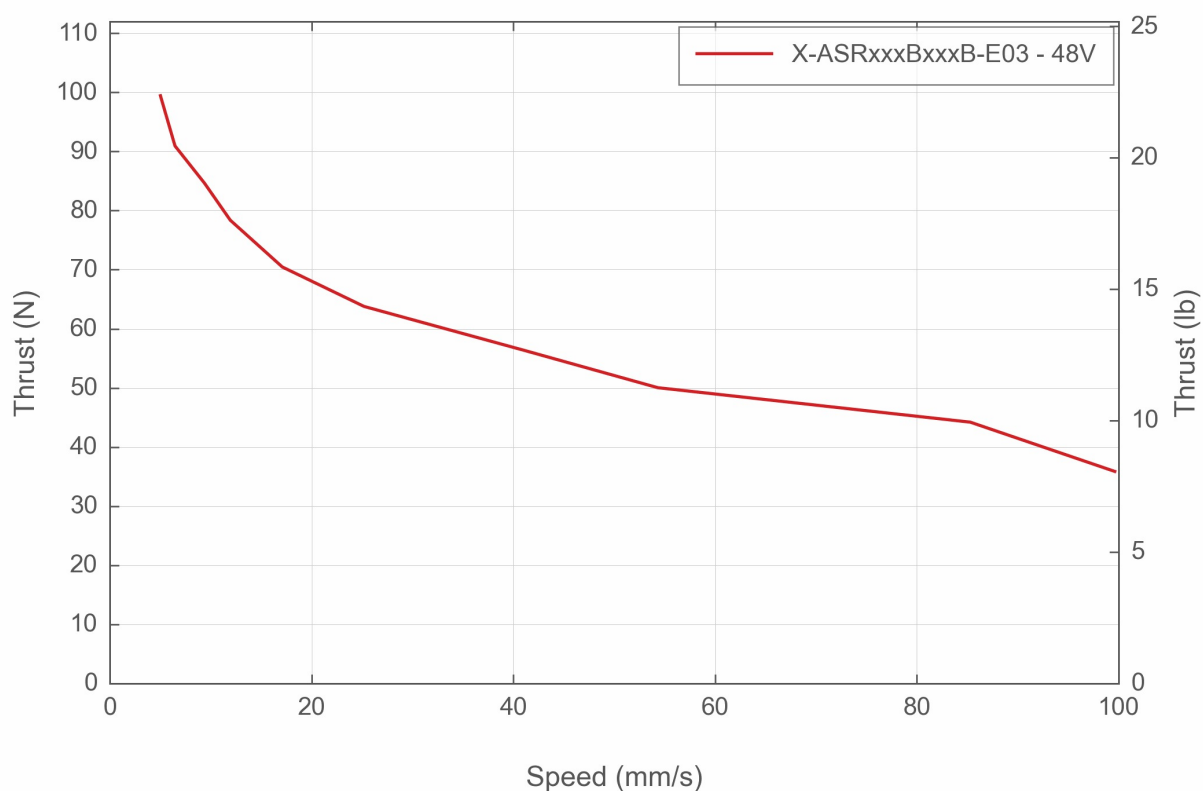
Typical Accuracy



Typical Microstepping Accuracy



Thrust Speed Performance



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