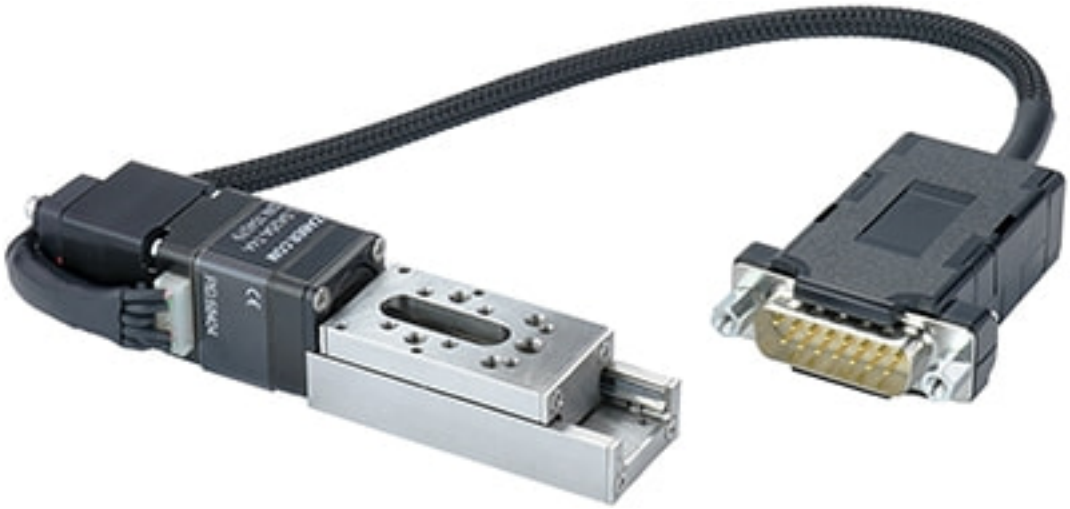
Zaber Technologies Inc.
#2 - 605 West Kent Ave.
Vancouver, BC

1-604-569-3780 *Direct*
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LSA Series Datasheet



- 10 or 25 mm travel
- Up to 14 mm/s speed and up to 35 N thrust
- < 25 nm microstep size
- Fits into the most restrictive spaces
- Designed for use with MCC Family controllers or any 2-phase stepper motor controller
- With AutoDetect, Zaber controllers automatically configure settings for the connected peripheral
- Mounts directly in XY (requires AB106 angle bracket for Z axis/vertical mounting)

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LSA Series Overview

Zaber's LSA series stages are designed to fit into the smallest spaces, without sacrificing performance or features. Small but powerful, these stages have up to 14 mm/s speed and up to 35 N thrust. With a microstep size of less than 25 nm and < 1 um repeatability, they allow for reliable ultra-fine positioning.

The LSA stages are designed to interface with our MCC Family universal motor controllers, offering high resolution daisy-chainable operation. Set up is easy with AutoDetect. Once connected, the controller will automatically detect and configure the LSA. Our handy kits include free software, and all of the accessories that you will need to get the stage running right out of the box.

For more information visit: https://www.zaber.com/products/linear-stages/LSA

LSA Series Part Numbering & Options

LSA 10 A - T4A

Travel	Leadscrew Pitch	Connector
10 — 10 mm **25** — 25 mm	**A** — Fine pitch lead screw	**T4A** — D-sub 15 inline connector with Auto Detect

LSA Series Drawings

- LSA.png (Drawing for the LSA)
- View all drawings and documents at zaber.com

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LSA Series Specifications

Overview

Specification	Value
Built-in Controller	No
Recommended Controller	MCC (48 V) Recommended
AutoDetect	Yes
Axes of Motion	1

Positioning Performance

Specification	Value
Repeatability	<1 µm (<0.000039 ")
Backlash	<5 µm (<0.000197 ")
Flatness of Travel	<50 µm (<0.001968 ")
Straightness of Travel	<13 µm (<0.000512 ")
Microstep Size (Default Resolution)	0.0238125 µm
Default Resolution	1/64 of a step

Load Performance

Specification	Value
Peak Thrust	35 N (7.8 lb)
Maximum Continuous Thrust	25 N (5.6 lb)

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Speed

Specification	Value
Maximum Speed	14 mm/s (0.551 "/s)
Minimum Speed	0.000015 mm/s (0.000001 "/s)
Speed Resolution	0.000015 mm/s (0.000001 "/s)

Encoder & Sensing

Specification	Value
Encoder Type	None
Limit or Home Sensing	Magnetic hall sensor

Motor

Specification	Value
Linear Motion Per Motor Rev	0.3048 mm (0.012 ")
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	240 mA/phase
Motor Winding Resistance	20.4 ohms/phase
Motor Winding Inductance	5 mH/phase
Motor Rated Power	2.35 watts
Motor Connection	D-sub 15
Motor Frame Size	NEMA 08

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Mechanical

Specification	Value
Guide Type	Ball bearing
Mechanical Drive System	Precision lead screw
Mounting Interface	M2 and M3 threaded holes and M4 threaded centre hole

Environmental & Compliance

Specification	Value
Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	No

Part Number	Travel Range	Weight	Accuracy (unidirectional)	Pitch Error
LSA10A-T4A	10 mm (0.394 ")	0.115 kg (0.254 lb)	18 µm (0.000709 ")	0.09 ° (1.57 mrad)
LSA25A-T4A	25 mm (0.984 ")	0.132 kg (0.291 lb)	24 µm (0.000945 ")	0.14 ° (2.443 mrad)

Part Number	Roll Error	Yaw Error	Maximum Centered Load	Maximum Moment (Pitch)
LSA10A-T4A	0.03 ° (0.523 mrad)	0.04 ° (0.698 mrad)	25 N (5.6 lb)	0.3 N·m (0.2 lb·ft)
LSA25A-T4A	0.05 ° (0.873 mrad)	0.12 ° (2.094 mrad)	30 N (6.7 lb)	0.5 N·m (0.4 lb·ft)

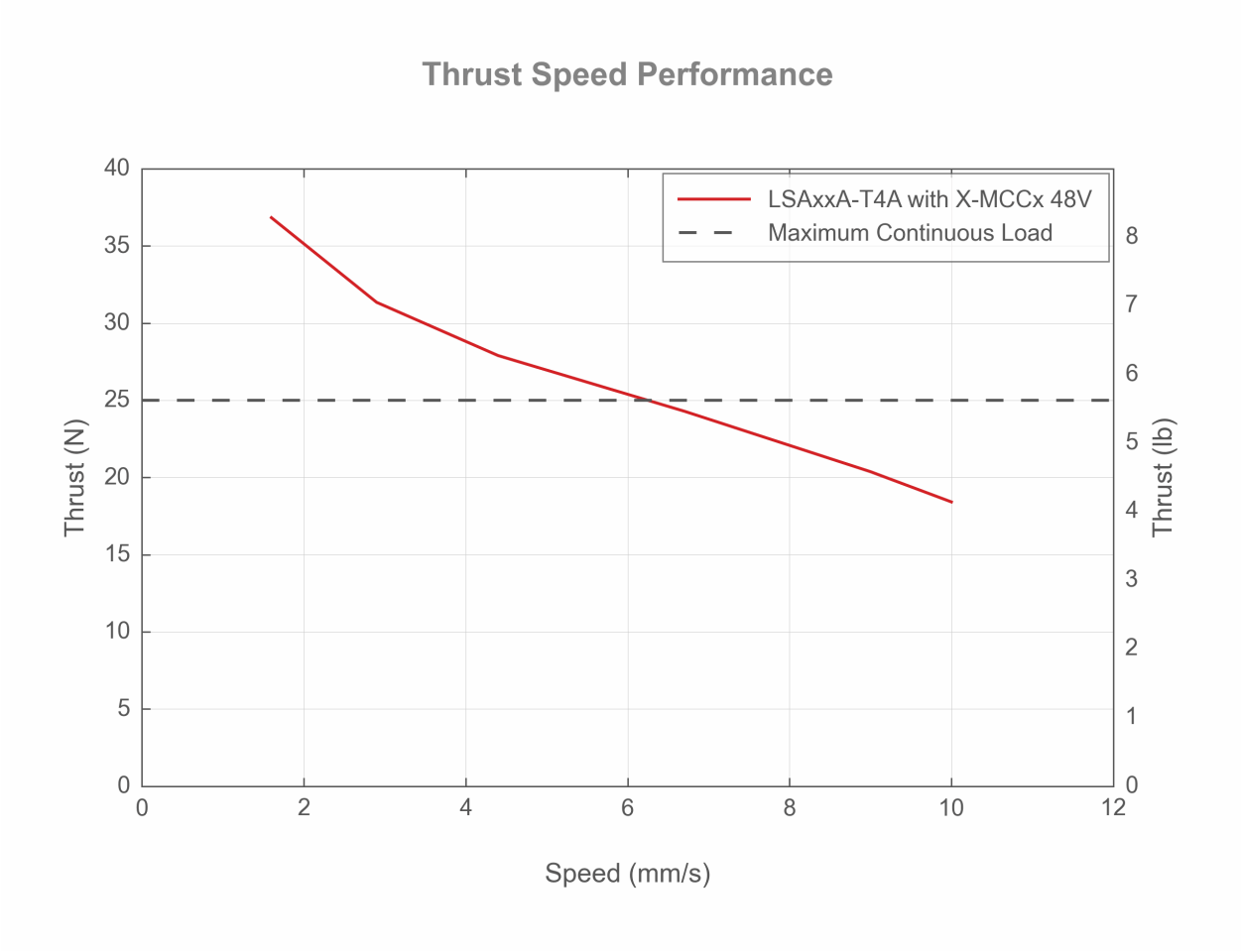
Part Number	Maximum Moment (Roll)	Maximum Moment (Yaw)
LSA10A-T4A	1 N·m (0.738 lb·ft)	0.3 N·m (0.221 lb·ft)
LSA25A-T4A	1.25 N·m (0.922 lb·ft)	0.5 N·m (0.369 lb·ft)

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LSA Series Charts

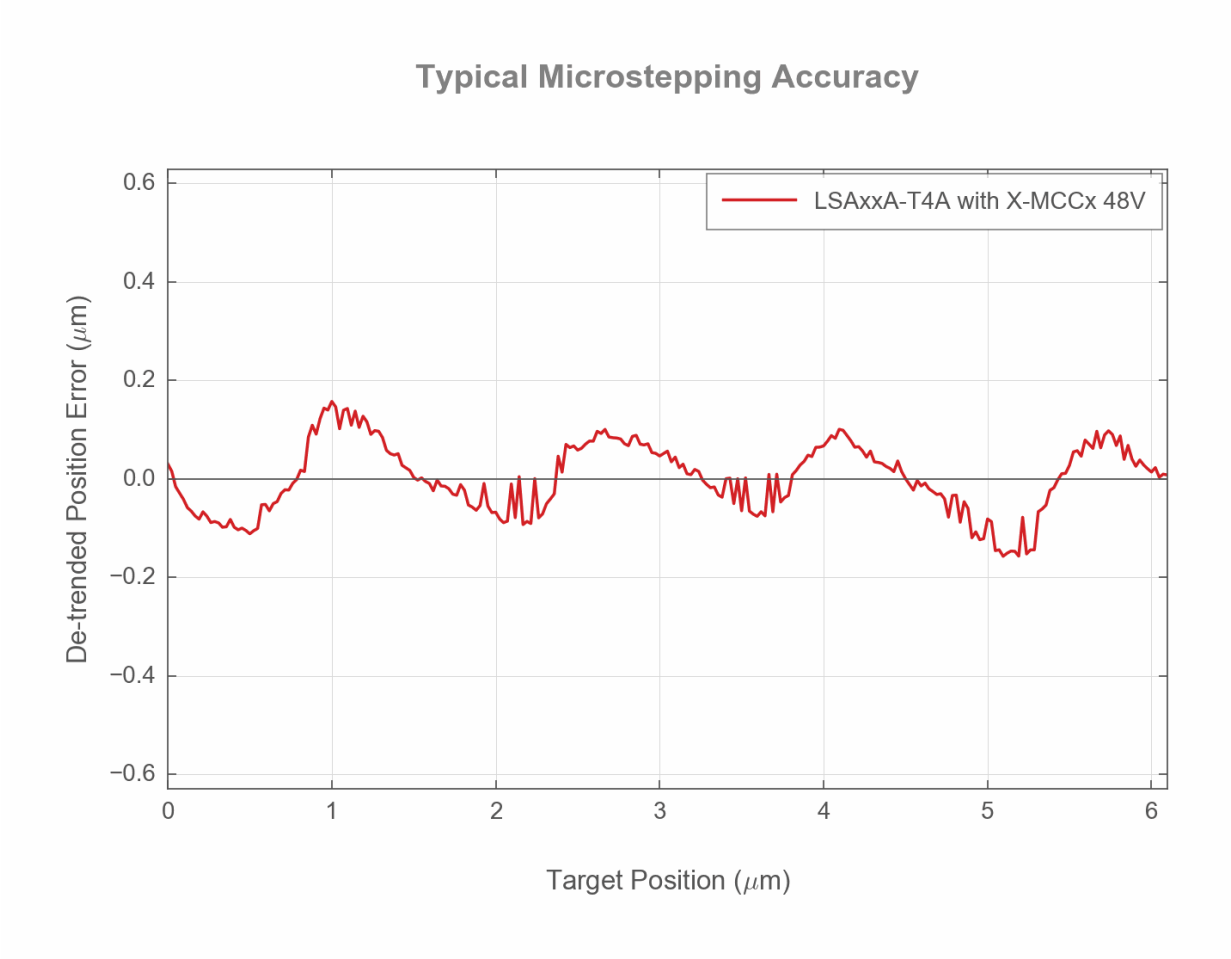
LSAxxA T4A Thrust Speed Performance



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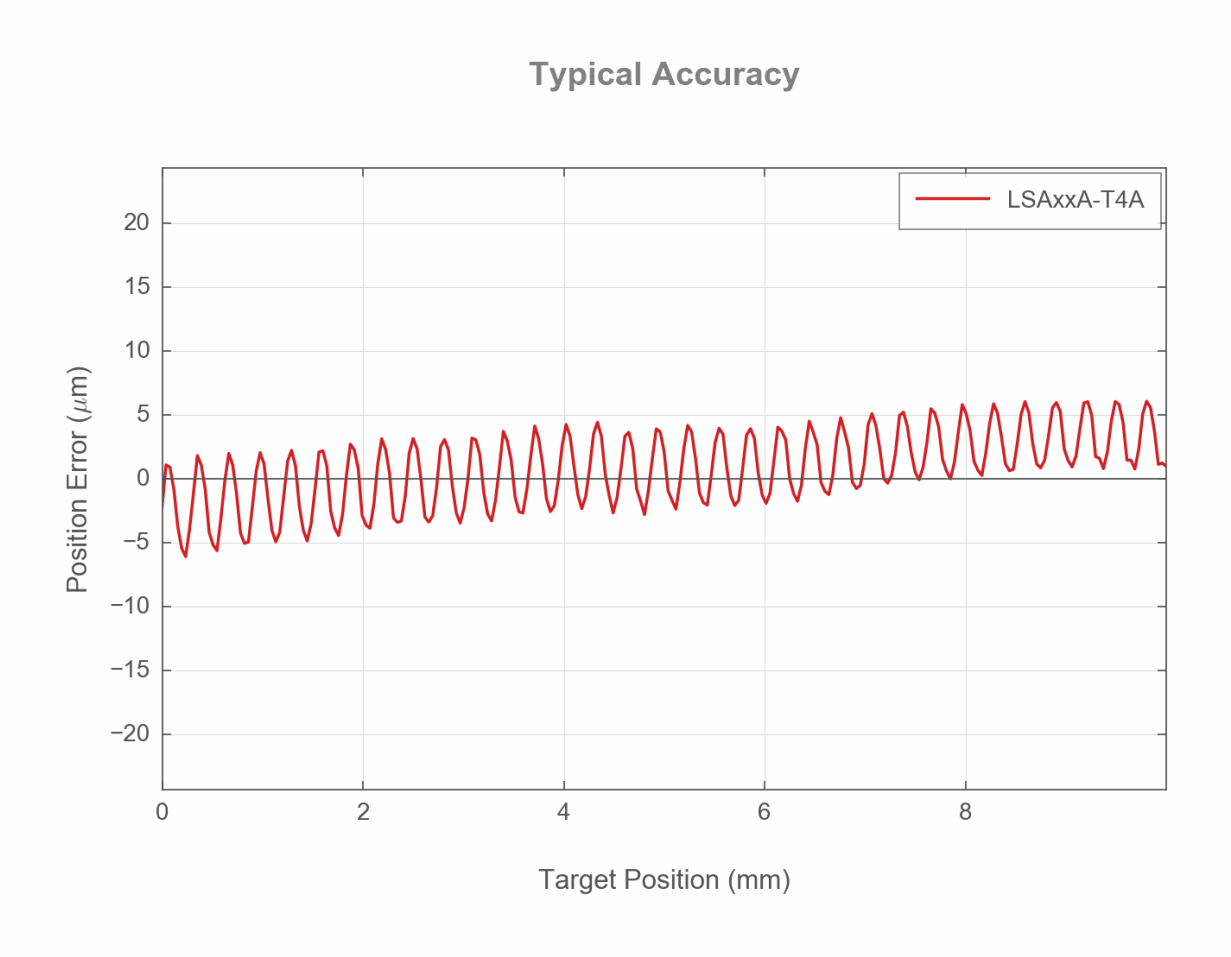
LSAxxA T4A MICROSTEP ACCURACY



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LSAxxA T4A LONG ACCURACY



Contact

Email: contact@zaber.com

Zaber Technologies Inc.
#2 - 605 West Kent Avenue N.
Vancouver, BC V6P 6T7
Canada
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Fax: +1-604-648-8033

https://www.zaber.com