

LSA10A-T4A 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)

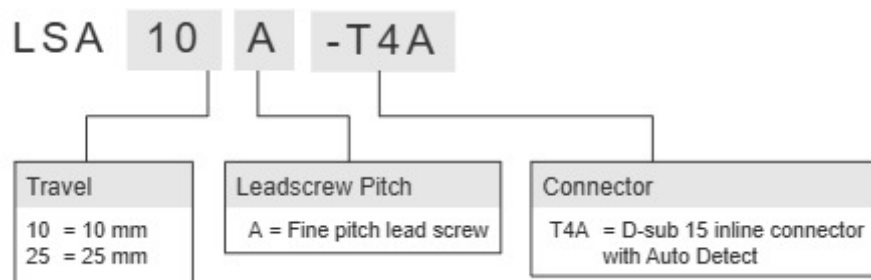
LSA Series Overview

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



LSA10A-T4A Drawings

- [LSA.png \(Drawing for the LSA\)](#)

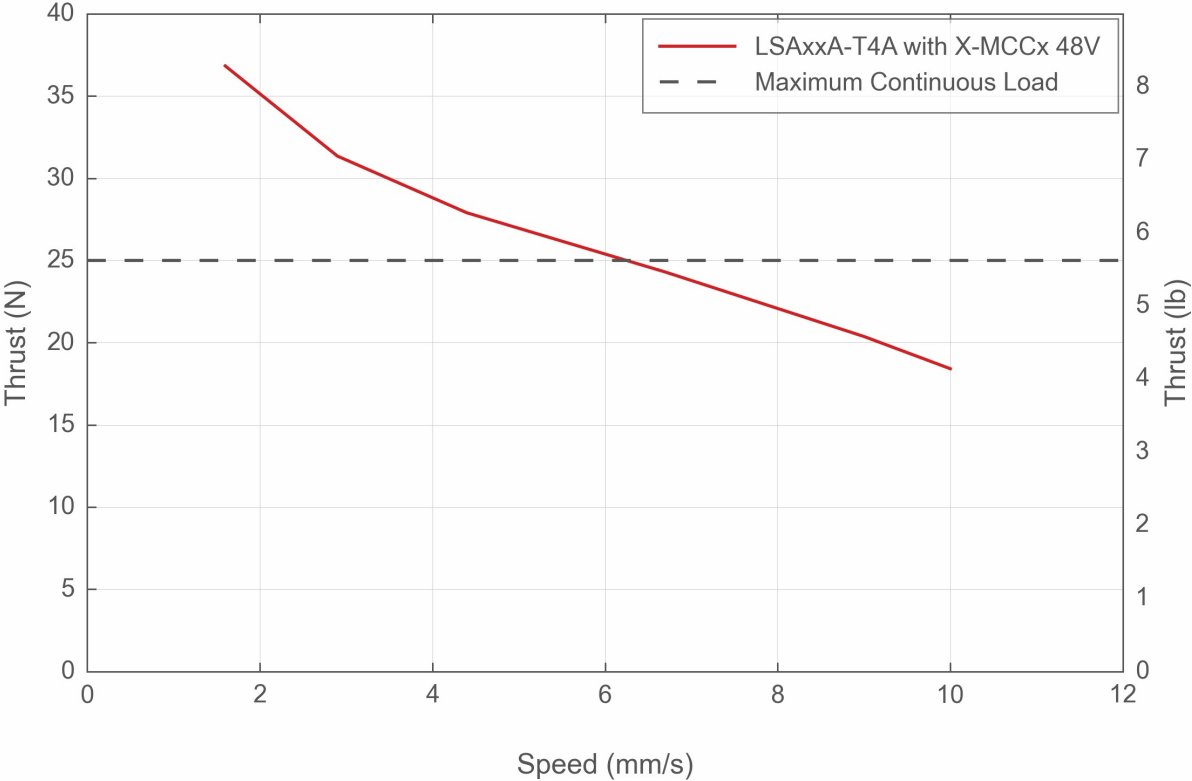
LSA10A-T4A Specifications

| | |
|--|---|
| Microstep Size (Default Resolution) | 0.0238125 μm |
| Built-in Controller | No |
| Recommended Controller | MCC (48 V) Recommended |
| AutoDetect | Yes |
| Travel Range | 10 mm (0.394") |
| Accuracy (unidirectional) | 18 μm (0.000709") |
| Repeatability | < 1 μm (< 0.000039") |
| Backlash | < 5 μm (< 0.000197") |
| 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 Type | No |
| Peak Thrust | 35 N (7.8 lb) |
| Maximum Continuous Thrust | 25 N (5.6 lb) |
| Maximum Centered Load | 25 N (5.6 lb) |
| Maximum Moment (Pitch) | 30 N-cm (42.5 oz-in) |
| Maximum Moment (Roll) | 100 N-cm (141.6 oz-in) |
| Maximum Moment (Yaw) | 30 N-cm (42.5 oz-in) |
| Vertical Runout | < 50 μm (< 0.001968") |
| Horizontal Runout | < 13 μm (< 0.000512") |
| Pitch | 0.09° (1.570 mrad) |
| Roll | 0.03° (0.523 mrad) |
| Yaw | 0.04° (0.698 mrad) |
| 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 |
| Inductance | 5 mH/phase |
| Motor Rated Power | 2.35 Watts |
| Motor Connection | D-sub 15 |

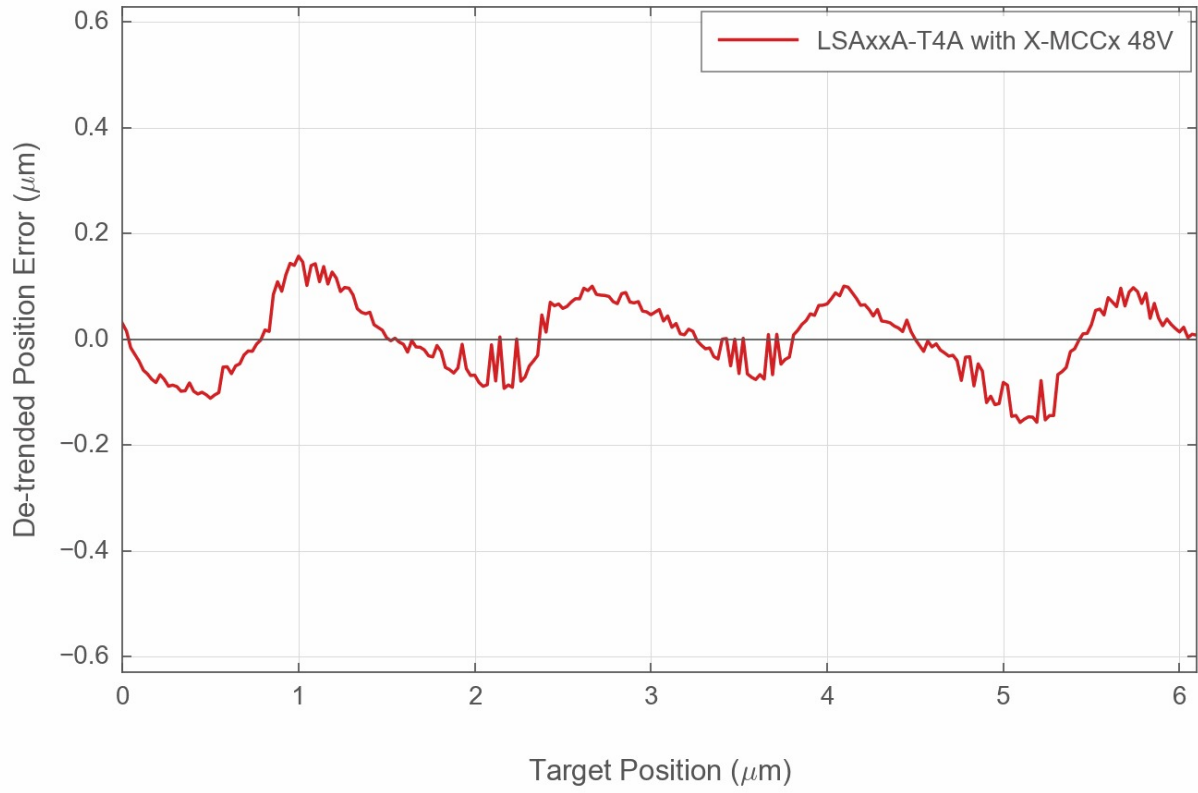
| | |
|--|--|
| Microstep Size (Default Resolution) | 0.0238125 µm |
| Default Resolution | 1/64 of a step |
| Motor Frame Size | NEMA 08 |
| Guide Type | Ball bearing |
| Mechanical Drive System | Precision lead screw |
| Limit or Home Sensing | Magnetic hall sensor |
| Axes of Motion | 1 |
| Mounting Interface | M2 and M3 threaded holes and M4 threaded centre hole |
| Operating Temperature Range | 0 to 50 °C |
| CE Compliant | Yes |
| Vacuum Compatible | No |
| Weight | 0.115 kg (0.254 lb) |

LSA Series Charts

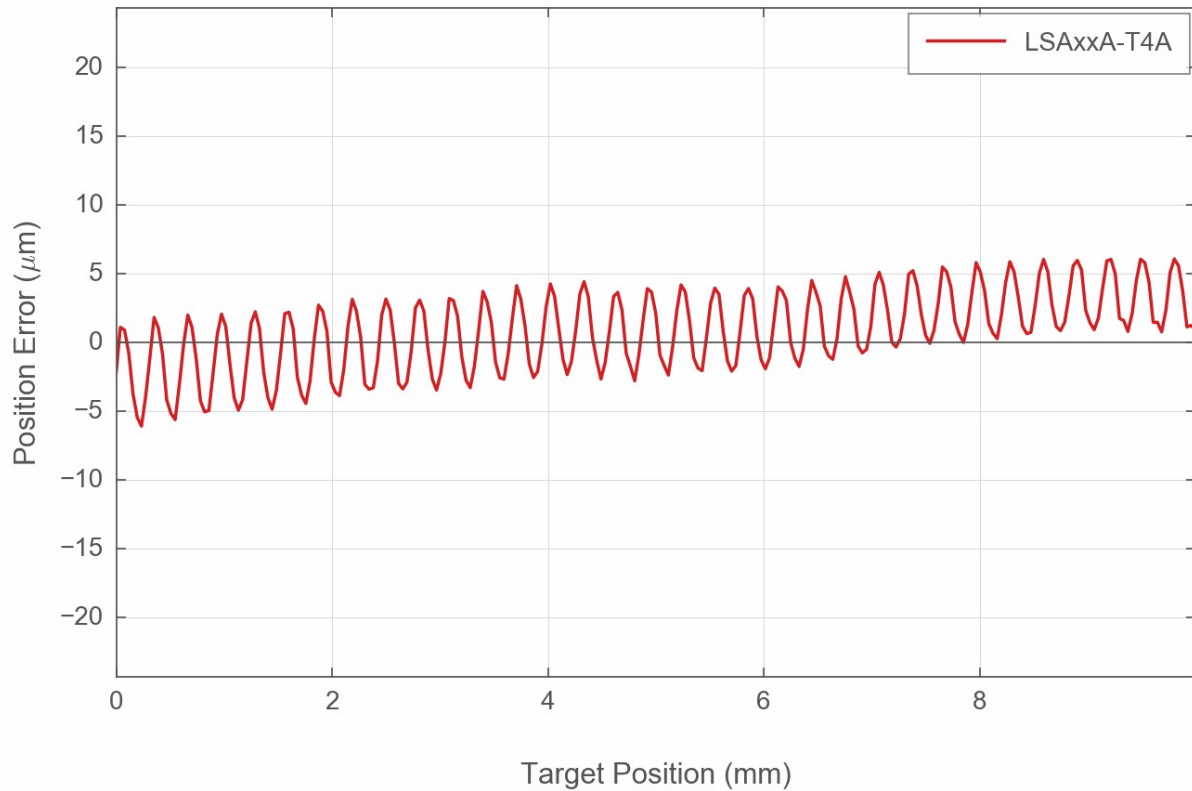
Thrust Speed Performance



Typical Microstepping Accuracy



Typical Accuracy



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