

LRU1000H25-BE01T12A Datasheet



- 250, 500, 1000, 1500, 2000 mm travel
- 500 kg load capacity and up to 360 Nm moment load capacity
- Achieves thrust up to 2850 N and speeds up to 400 mm/s
- Large mounting platform with high moment stiffness
- Built-in, 500 CPR motor encoder provides slip/stall detection and recovery
- Designed for use with Zaber's X-MCC Series stepper motor controller or any 2-phase stepper motor controller
- With AutoDetect, the X-MCC controller configures its settings automatically for the connected peripheral
- Optional integrated power-off brake for vertical applications

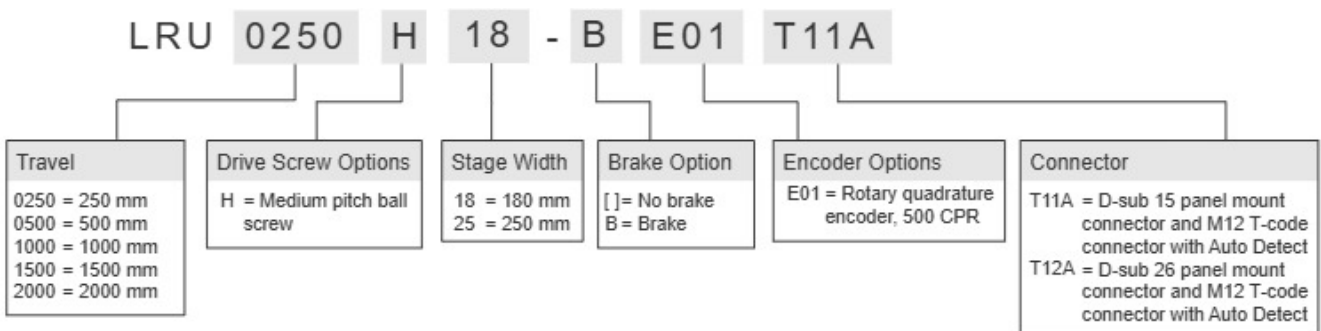
LRU-E Series Overview

Zaber's LRU-E Series are motorized linear stages with built-in motor encoders . They support up to 500 kg loads and output up to 2850 N of thrust while having long lifetime capabilities. An optional power-off brake is available to protect against backdriving and other unwanted motion in a power-off state. They provide a large stage top and footprint. These stages integrate well with the T-slot ecosystem. They also share mounting patterns with other Zaber devices for easily building XY systems, gantries, or gimbals. These mounting patterns also support popular third party cobot arms. Some multi-axis configurations may require additional accessories; please contact Zaber Technical Support to ensure the correct ones are selected.

The built-in motor encoder allows for closed-loop operation and slip/stall recovery features. The stages are designed to connect directly to Zaber's X-MCC Series universal motor controllers, or they can be used with any high power 2-phase stepper motor controller. Set up is easy with AutoDetect. Once connected, the X-MCC controller will automatically detect and configure the LRU-E.

For more information visit: <https://www.zaber.com/products/linear-stages/LRU-E>

LRU-E Series Part Numbering & Options



LRU1000H25-BE01T12A Drawings

- [Drawing for the LRUXH18-E.pdf \(Drawing for the LRUXH18-E\)](#)
- [Drawing for the LRUXH18-BE.pdf \(Drawing for the LRUXH18-BE\)](#)
- [Drawing for the LRUXH25-E.pdf \(Drawing for the LRUXH25-E\)](#)
- [Drawing for the LRUXH25-BE.pdf \(Drawing for the LRUXH25-BE\)](#)

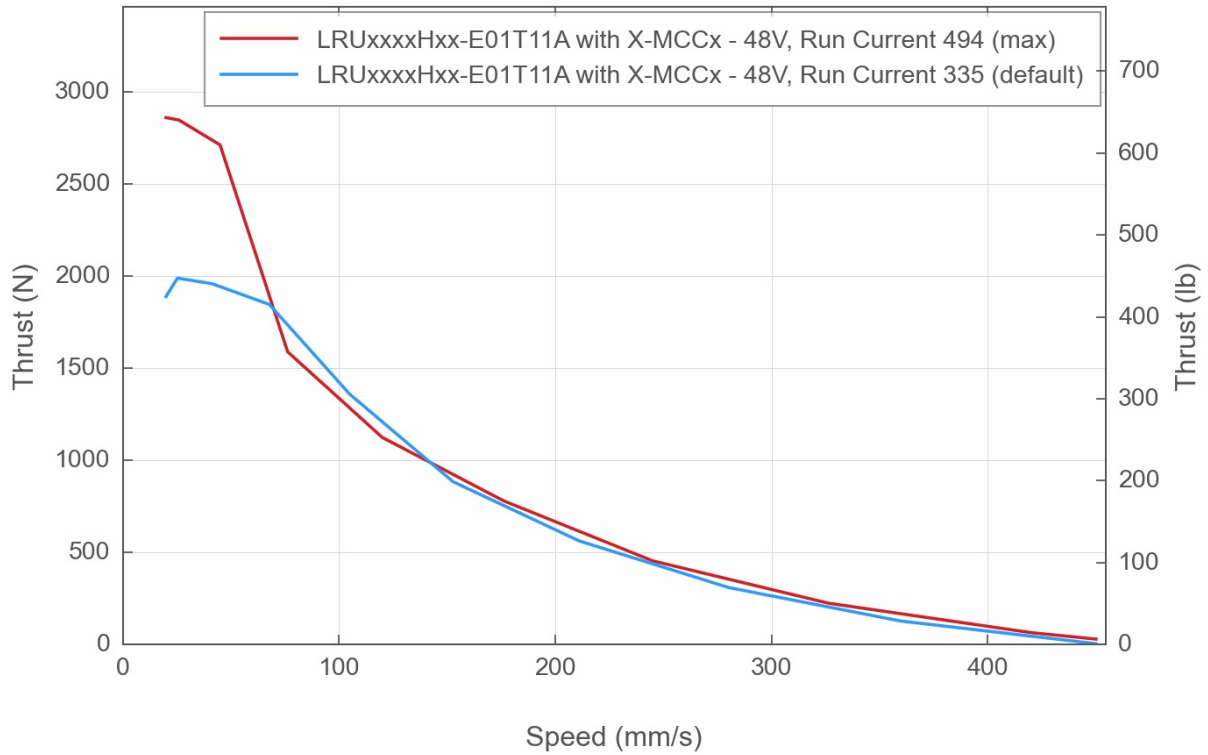
LRU1000H25-BE01T12A Specifications

| | |
|--|---|
| Microstep Size (Default Resolution) | 0.78125 μm |
| Built-in Controller | No |
| Recommended Controller | MCC (48 V) Recommended |
| AutoDetect | Yes |
| Travel Range | 1000 mm (39.370") |
| Accuracy (unidirectional) | 250 μm (0.009842") |
| Repeatability | < 3 μm (< 0.000118") |
| Backlash | < 40 μm (< 0.001575") |
| Maximum Speed | 350 mm/s (13.780"/s) |
| Minimum Speed | 0.000476 mm/s (0.000019"/s) |
| Speed Resolution | 0.000476 mm/s (0.000019"/s) |
| Encoder Resolution | 500 CPR (2000 states/rev) |
| Encoder Type | Rotary quadrature encoder |
| Peak Thrust | 2850 N (639.1 lb) |
| Back-driving Force* | (\pm 30%) 250 N (56.1 lb) |
| Maximum Continuous Thrust | 2850 N (639.1 lb) |
| Maximum Centered Load | 5000 N (1121.3 lb) |
| Maximum Moment (Pitch) | 360 N-m (265.7 ft-lb) |
| Maximum Moment (Roll) | 360 N-m (265.7 ft-lb) |
| Maximum Moment (Yaw) | 360 N-m (265.7 ft-lb) |
| Vertical Runout | < 140 μm (< 0.005512") |
| Horizontal Runout | < 140 μm (< 0.005512") |
| Pitch | 0.09° (1.570 mrad) |
| Roll | 0.09° (1.570 mrad) |
| Yaw | 0.09° (1.570 mrad) |

| | |
|--|---|
| Microstep Size (Default Resolution) | 0.78125 μm |
| Stiffness in Pitch | 3700 N-m/ $^\circ$ (5 $\mu\text{rad/N-m}$) |
| Stiffness in Roll | 2600 N-m/ $^\circ$ (7 $\mu\text{rad/N-m}$) |
| Stiffness in Yaw | 3300 N-m/ $^\circ$ (5 $\mu\text{rad/N-m}$) |
| Linear Motion Per Motor Rev | 10 mm (0.394") |
| Motor Steps Per Rev | 200 |
| Motor Type | Stepper (2 phase) |
| Motor Rated Current | 9470 mA/phase |
| Motor Winding Resistance | 0.23 ohms/phase |
| Inductance | 2.1 mH/phase |
| Motor Connection | M12 T-code (motor) and D-sub 26 (sensors) |
| Default Resolution | 1/64 of a step |
| Guide Type | Recirculating ball linear guide |
| Mechanical Drive System | Precision ball screw |
| Limit or Home Sensing | Magnetic home sensor |
| Axes of Motion | 1 |
| Maximum Axial Brake Force | 2850 N (640.7 lb) |
| Operating Temperature Range | 0 to 50 $^\circ\text{C}$ |
| CE Compliant | Yes |
| Vacuum Compatible | No |
| Weight | 30 kg (66.139 lb) |

LRU-E Series Charts

Thrust Speed Performance



Contact

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