LRT1500DL-E08CT3A Datasheet

- 100, 250, 500, 750, 1000, 1500 mm travel
- Up to 700 mm/s speed and up to 1200 N thrust
- 300 kg load capacity
- Ball screw and lead screw configurations
- Includes stainless steel dust covers
- High moment stiffness
- Built-in, 400 CPR, motor encoder provides slip/stall detection and recovery
- Optional integrated power-off brake for vertical applications
- Designed for use with an 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

LRT-EC Series Overview

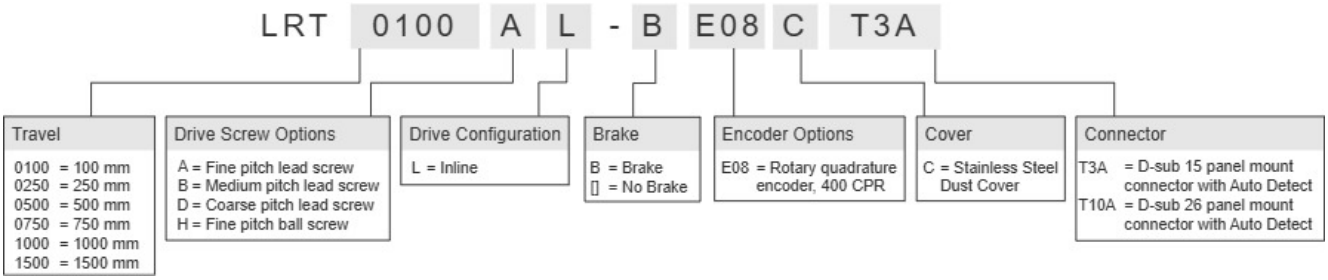
Zaber's LRT-EC Series products are computer-controlled, motorized linear stages with high stiffness, load, and lifetime capabilities in a compact size. A flexible stainless steel dust cover prevents the ingress of small objects. These stages can bolt together to make XY and XYZ systems. For Z-axis systems, an optional power-off brake is available to protect against backdriving. 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 our X-MCC Series universal motor controllers, or they can be used with any 2-phase stepper motor controller through the panel mount DB15 connector. Set up is easy

with AutoDetect. Once connected, the X-MCC controller will automatically detect and configure the LRT-EC.

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

LRT-EC Series Part Numbering & Options



LRT1500DL-E08CT3A Drawings

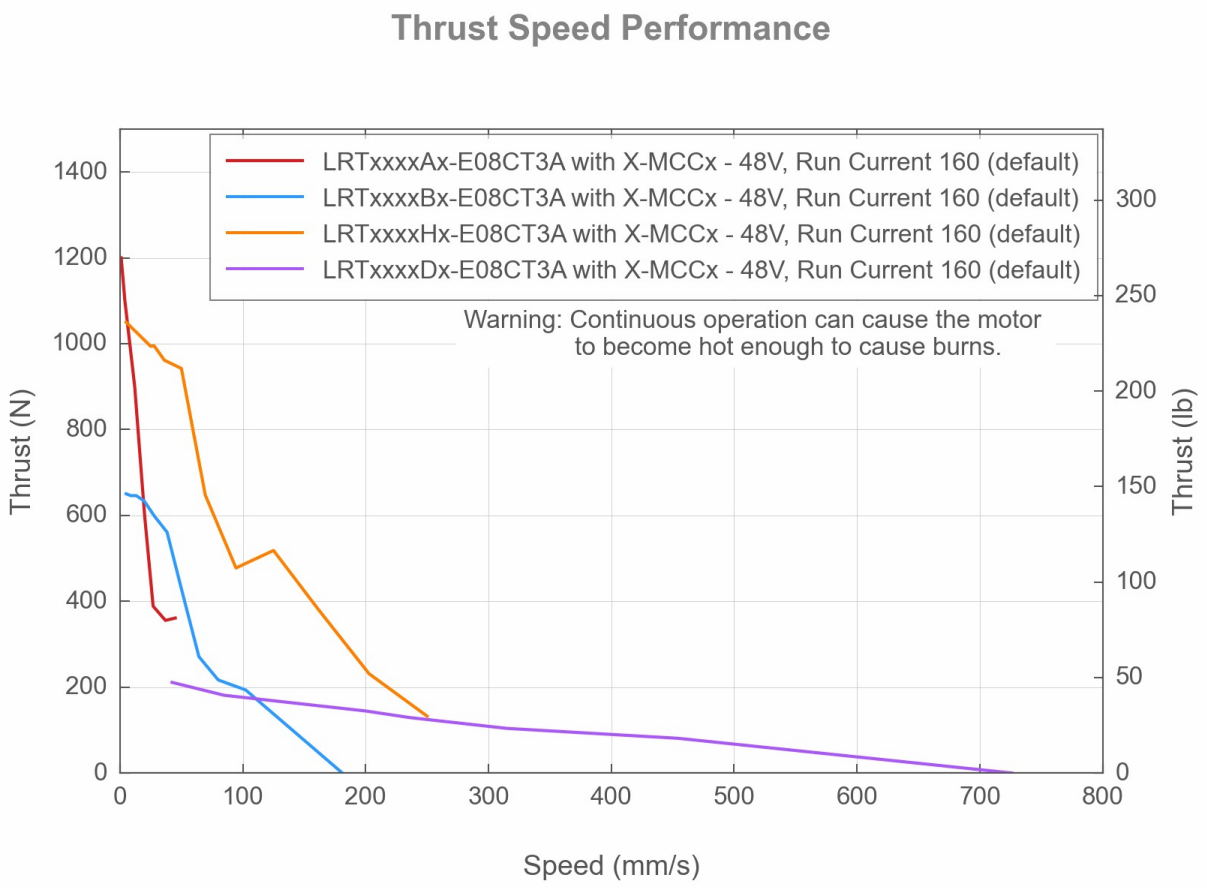
- LRT-ECT3A.png (Drawing for the LRT-ECT3A)

LRT1500DL-E08CT3A Specifications

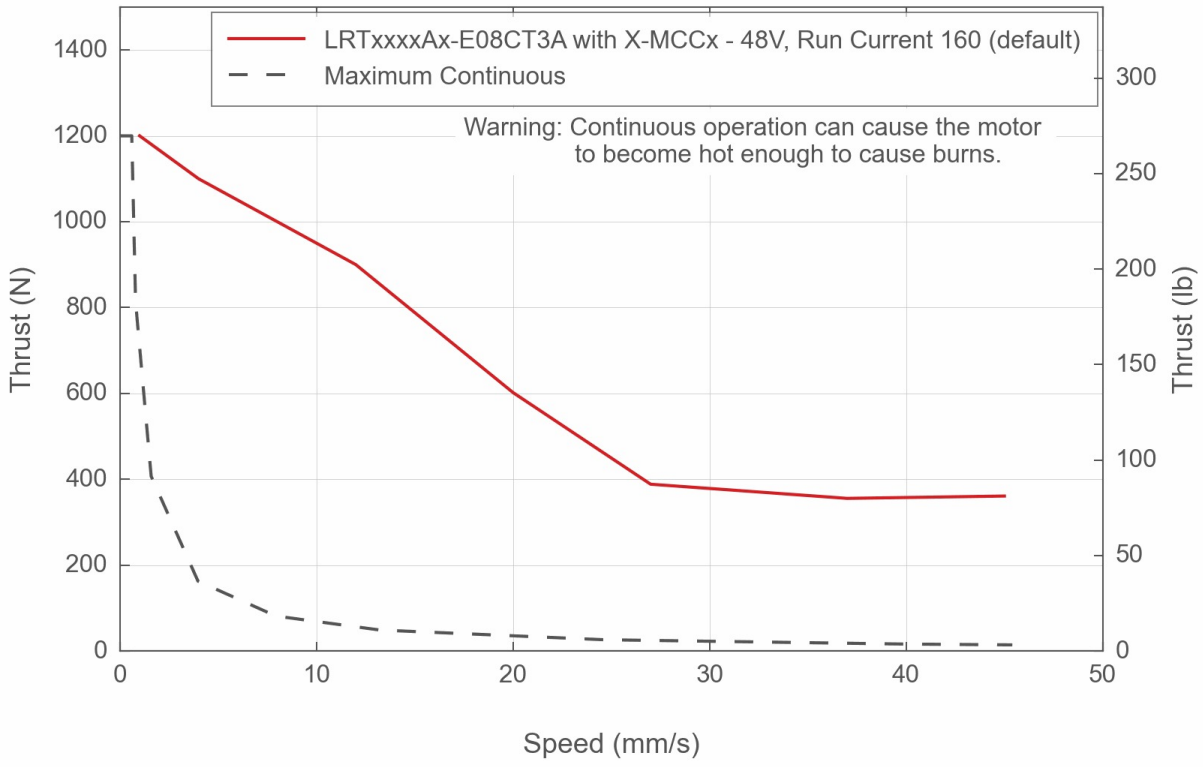
Microstep Size (Default Resolution)	**1.984375 µm**
Built-in Controller	No
Recommended Controller	X-MCC (48 V) Recommended
AutoDetect	Yes
Travel Range	1500 mm (59.055")
Accuracy (unidirectional)	375 µm (0.014764")
Repeatability	< 8 µm (< 0.000315")
Backlash	< 75 µm (< 0.002953")
Maximum Speed	225 mm/s (8.858"/s)
Minimum Speed	0.001212 mm/s (0.000048"/s)
Speed Resolution	0.001212 mm/s (0.000048"/s)
Encoder Resolution	400 CPR (1600 states/rev)
Encoder Type	Rotary quadrature encoder
Peak Thrust	200 N (44.9 lb)
Back-driving Force*	(± 30%) 40 N (9.0 lb)
Maximum Continuous Thrust	180 N (40.4 lb)
Maximum Centered Load	2940 N (659.3 lb)
Maximum Moment (Pitch)	70 N-m (51.7 ft-lb)
Maximum Moment (Roll)	120 N-m (88.6 ft-lb)
Maximum Moment (Yaw)	70 N-m (51.7 ft-lb)
Vertical Runout	< 10 µm (< 0.000394")
Horizontal Runout	< 50 µm (< 0.001968")
Pitch	0.015° (0.262 mrad)
Roll	0.02° (0.349 mrad)
Yaw	0.03° (0.523 mrad)
Stiffness in Pitch	1400 N-m/° (12 µrad/N-m)
Stiffness in Roll	700 N-m/° (25 µrad/N-m)
Stiffness in Yaw	1200 N-m/° (15 µrad/N-m)
Linear Motion Per Motor Rev	25.4 mm (1.000")
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)

Microstep Size (Default Resolution)	**1.984375 µm**
Motor Rated Current	3000 mA/phase
Motor Winding Resistance	0.53 ohms/phase
Inductance	2 mH/phase
Motor Connection	D-sub 15
Default Resolution	1/64 of a step
Guide Type	Recirculating Ball Linear Guide
Mechanical Drive System	Precision lead screw
Limit or Home Sensing	Magnetic home sensor
Axes of Motion	1
Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	11.028 kg (24.313 lb)

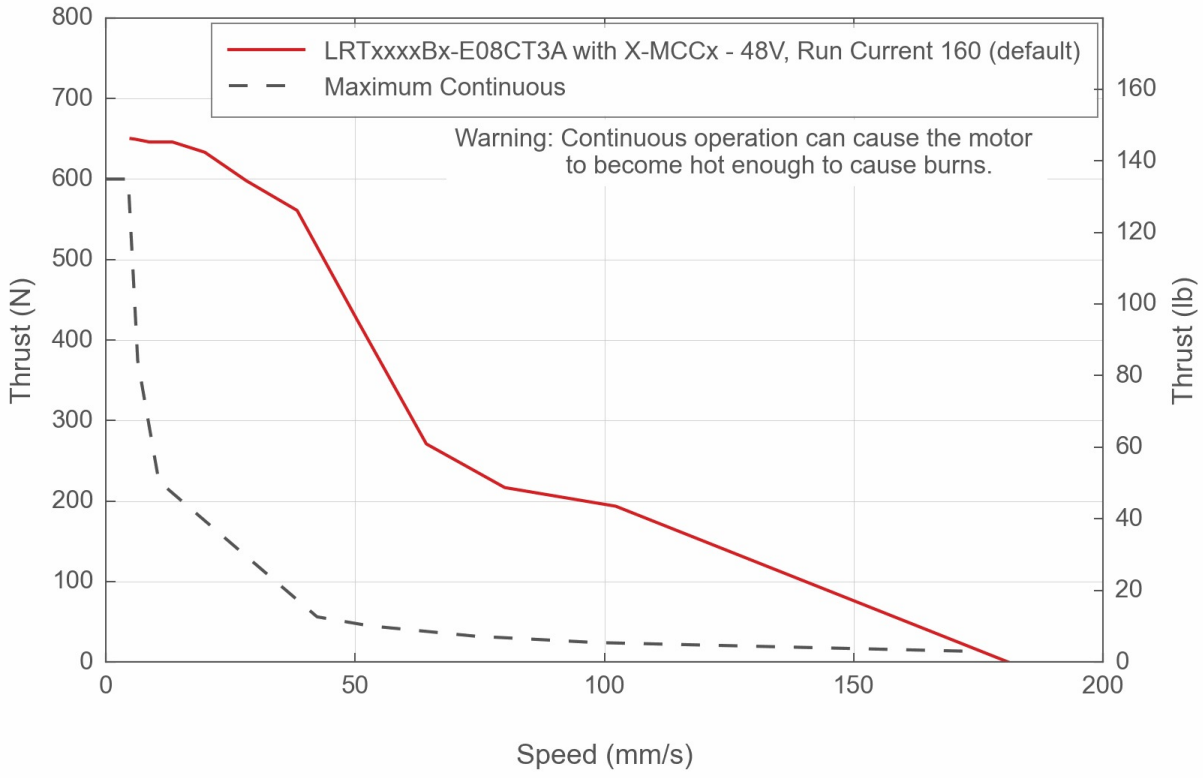
LRT-EC Series Charts



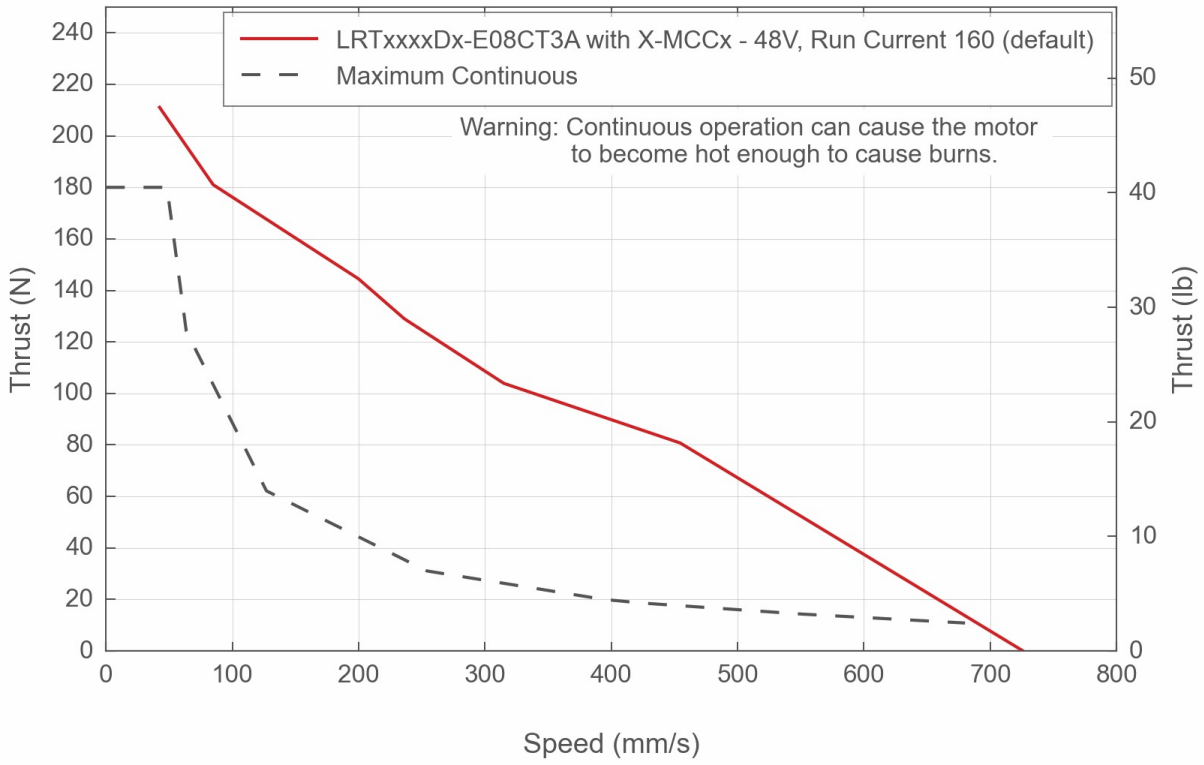
Thrust Speed Performance



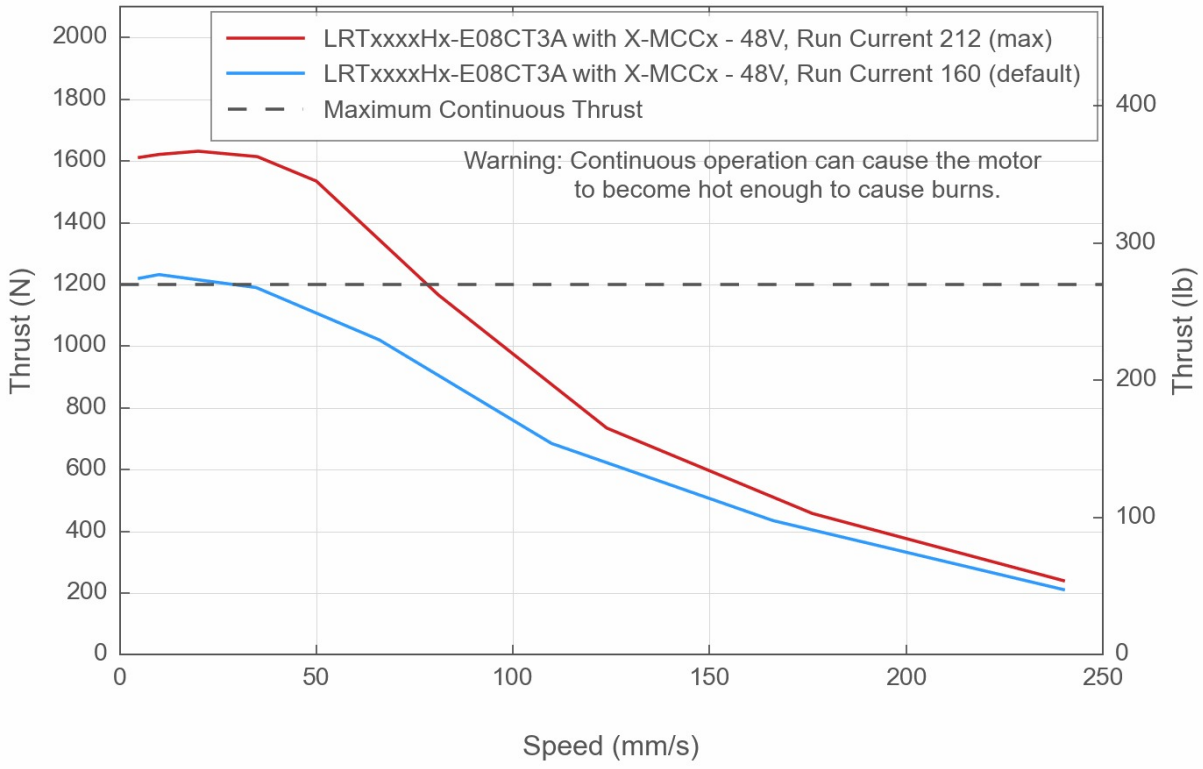
Thrust Speed Performance



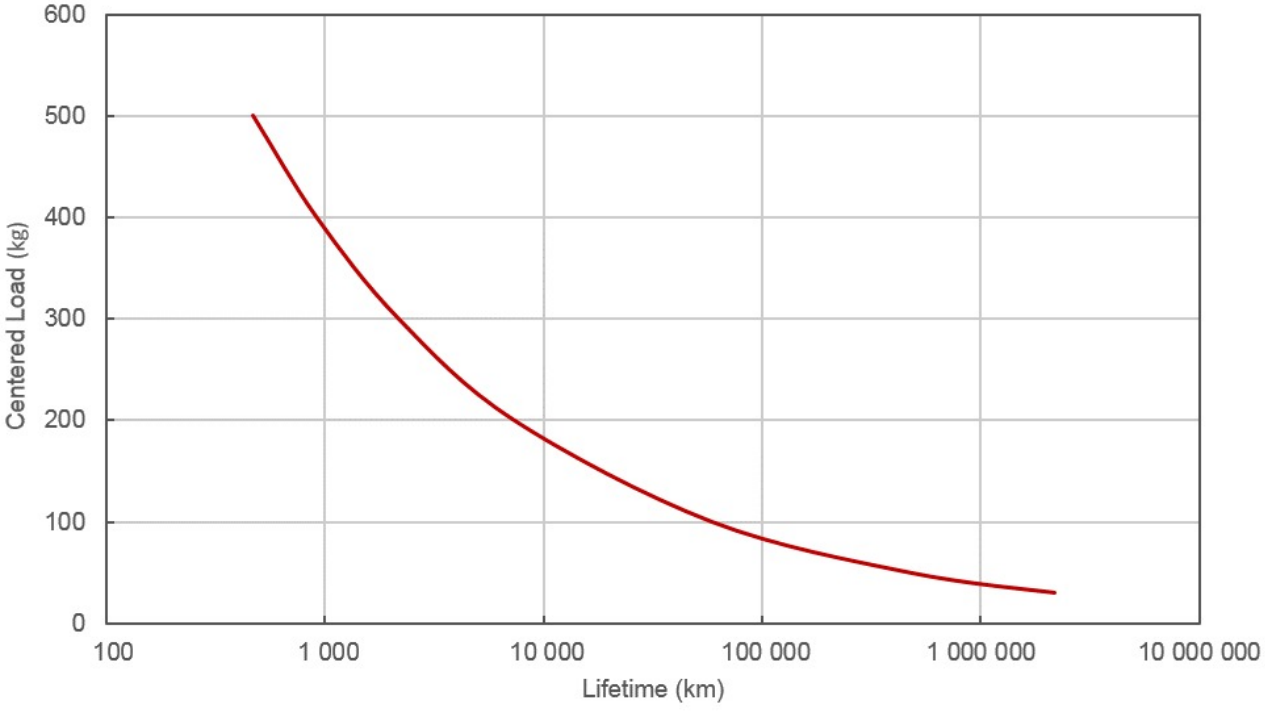
Thrust Speed Performance



Thrust Speed Performance



Typical LRT Bearing Lifetime



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