X-BLQ0595-E01C Datasheet

- 70 to 595 mm travel
- Up to 2.0 m/s speed, 55 N thrust, and 20 kg load capacity
- Encoder position feedback with slip/stall detection and automatic recovery
- Includes rigid cover
- Integrated recirculating ball bearing guide provides exceptional lifetime
- Built-in controller; daisy-chains with any other Zaber products

X-BLQ-EC Series Overview

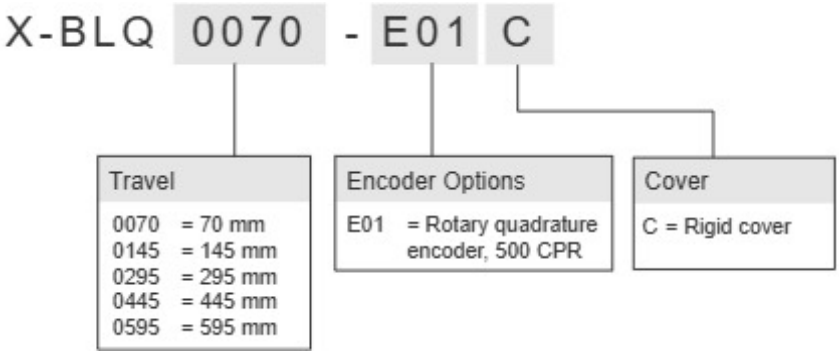
Zaber's X-BLQ-EC Series products are computer controlled, belt-driven linear stages with integrated stepper motors and controllers. A built-in motor encoder allows closed-loop operation with slip/stall recovery features. A rigid non-contact cover prevents the ingress of small objects. They are stand-alone devices requiring only a standard 48 V power supply for operation.

An indexed knob provides convenient manual control for versatile operation even without a computer. These stages connect to the RS-232 port or USB port of any computer, and they can be daisy-chained with any other Zaber products. The daisy-chain also shares power, making it possible for multiple X-Series products to share a single power supply. Convenient locking, 4-pin, M8 connectors on the unit allow for secure connection between devices.

With travel lengths up to 595 mm, 20 µm repeatability, and a maximum speed of 2.0 m/s, X-BLQ-EC stages are perfect for rapid positioning over large distances. Like all of Zaber's products, the X-BLQ-EC Series is designed to be 'plug and play' and very easy to set up and operate.

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

X-BLQ-EC Series Part Numbering & Options



X-BLQ0595-E01C Drawings

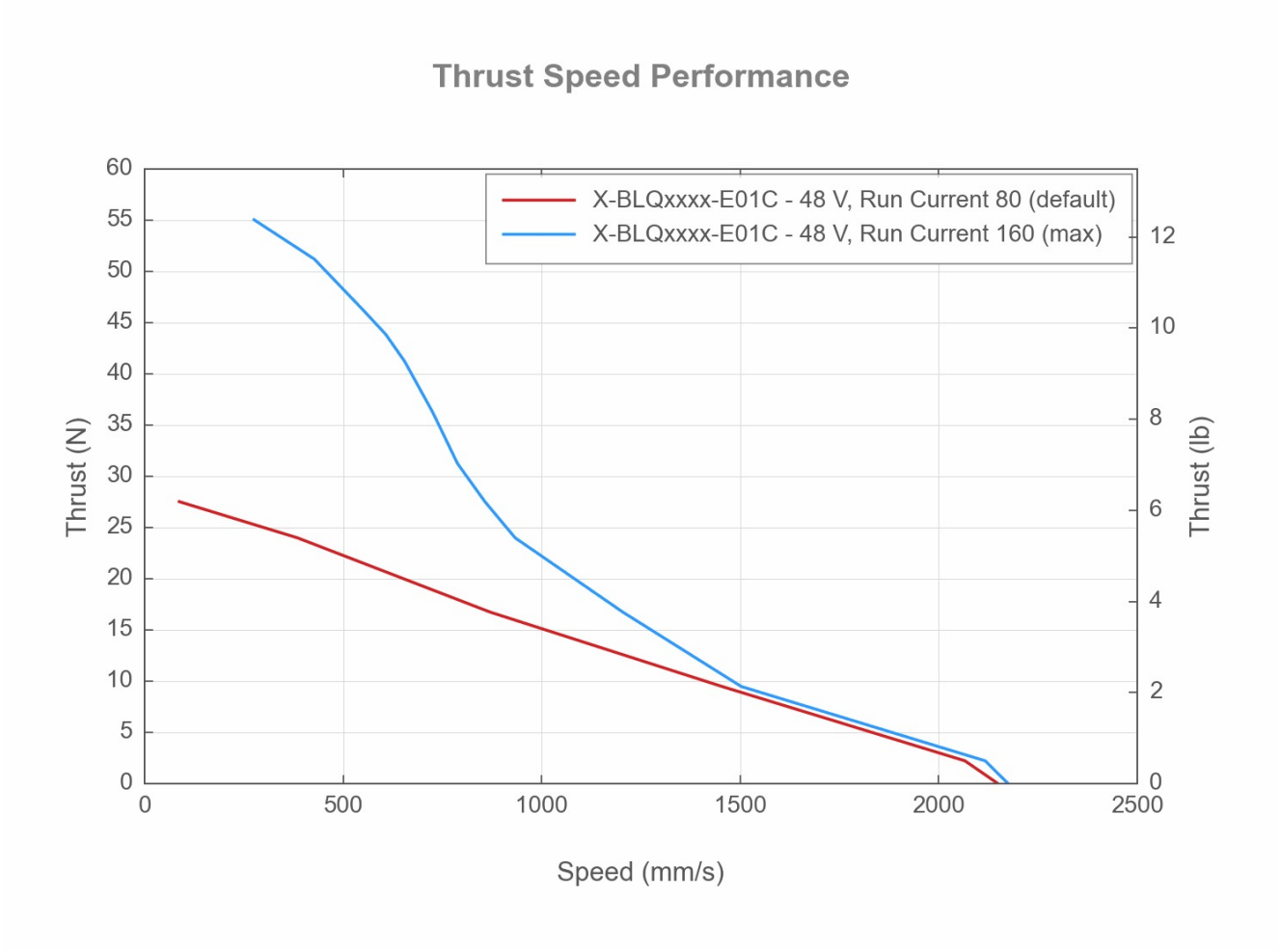
- X-BLQ-EC.png (Drawing for the X-BLQ-EC)

X-BLQ0595-E01C Specifications

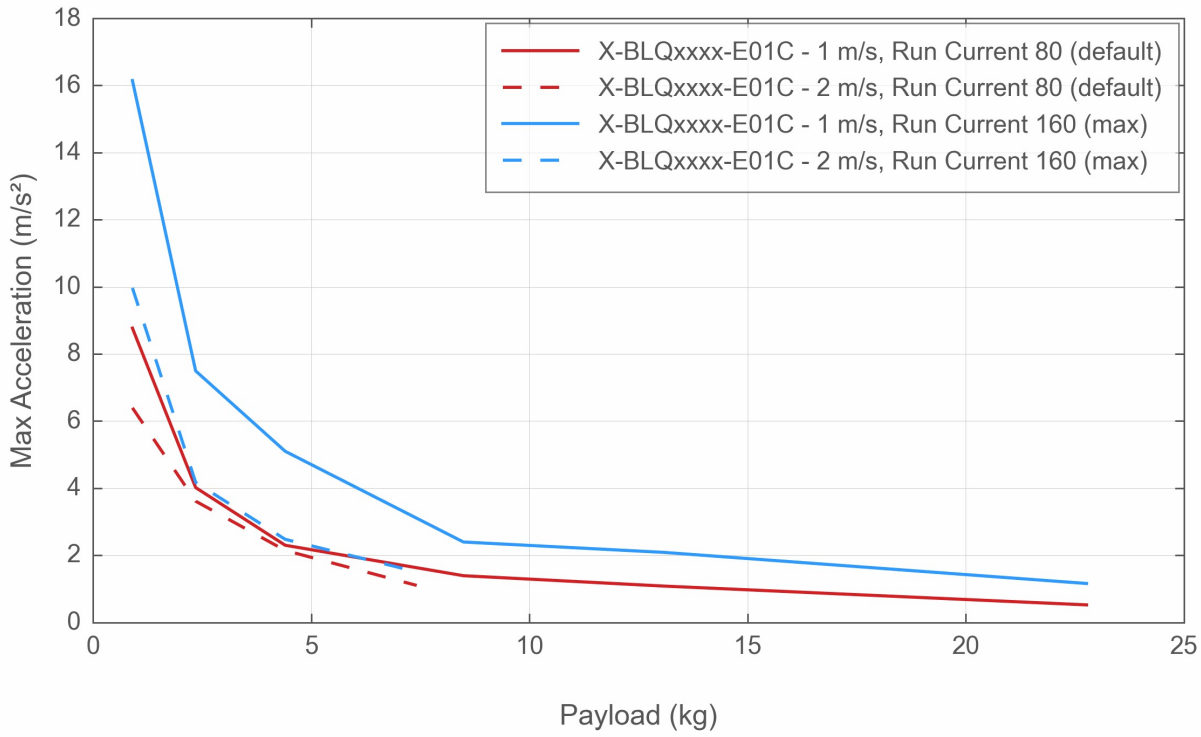
Microstep Size (Default Resolution)	**4.21875 µm**
Built-in Controller	Yes
Travel Range	595 mm (23.425")
Accuracy (unidirectional)	500 µm (0.019685")
Repeatability	< 20 µm (< 0.000787")
Backlash	< 75 µm (< 0.002953")
Maximum Speed	2000 mm/s (78.740"/s)
Minimum Speed	0.002576 mm/s (0.000101"/s)
Speed Resolution	0.002576 mm/s (0.000101"/s)
Encoder Resolution	500 CPR (2000 states/rev)
Encoder Type	Rotary quadrature encoder
Peak Thrust	55 N (12.3 lb)
Maximum Continuous Thrust	20 N (4.5 lb)
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
Maximum Centered Load	200 N (44.9 lb)
Maximum Moment (Pitch)	5 N-m (3.7 ft-lb)
Maximum Moment (Roll)	15 N-m (11.1 ft-lb)
Maximum Moment (Yaw)	5 N-m (3.7 ft-lb)
Vertical Runout	< 30 µm (< 0.001181")
Horizontal Runout	< 60 µm (< 0.002362")
Pitch	0.06° (1.047 mrad)
Roll	0.03° (0.523 mrad)
Yaw	0.03° (0.523 mrad)
Stiffness in Pitch	115 N-m/° (152 µrad/N-m)
Stiffness in Roll	145 N-m/° (120 µrad/N-m)
Stiffness in Yaw	110 N-m/° (159 µrad/N-m)
Power Supply	24-48 VDC
Maximum Current Draw	1800 mA
Linear Motion Per Motor Rev	54 mm (2.126")

Microstep Size (Default Resolution)	**4.21875 µm**
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	2300 mA/phase
Inductance	2.2 mH/phase
Default Resolution	1/64 of a step
Guide Type	Recirculating Ball Linear Guide
Mechanical Drive System	Synchronous belt
Limit or Home Sensing	Magnetic home sensor
Manual Control	Indexed knob with push switch
Axes of Motion	1
Mounting Interface	M6 threaded holes
Stage Parallelism	< 100 µm (< 0.003937")
Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	3.12 kg (6.878 lb)

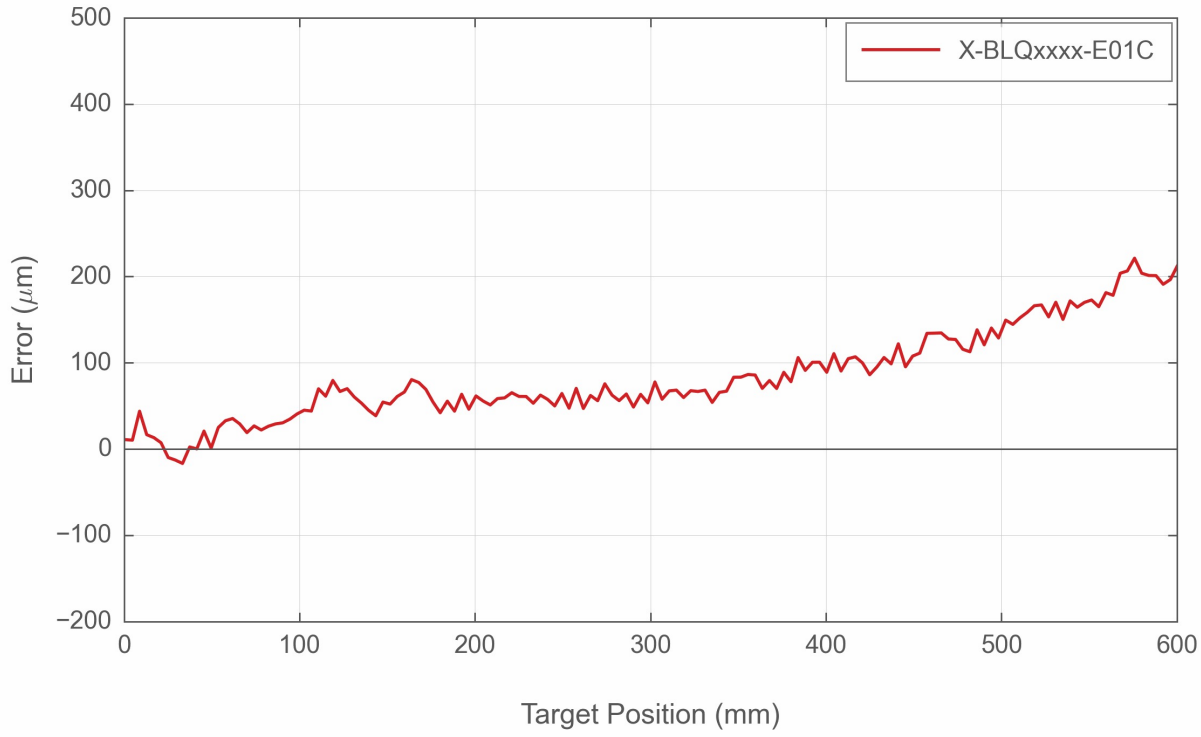
X-BLQ-EC Series Charts



Horizontal Acceleration



Typical Accuracy



Contact

Email: contact@zaber.com
Phone (toll free Canada/USA): 1-888-276-8033
Phone (direct): 1-604-569-3780
Fax: 1-604-648-8033

Zaber Technologies Inc.
#2 - 605 West Kent Ave. N.
Vancouver, British Columbia
Canada, V6P 6T7
https://www.zaber.com