

ETL SERIES LINEAR STAGE



The ETL Long Travel series line is offered in travel lengths from 400mm to 600mm. The ETL comes standard with a high torque size 23 or optionally, a MDrive intelligent stepper motor. Both motor options are also available with rotary encoders. End of travel limit switches come standard on the ETL stages.

The drive system utilizes a stainless steel rolled lead screw to move the carriage. The carriage uses four recirculating ball bushings which rides on two ground case hardened shafts supported at the ends of the stage.

All ETL products are machined from 6061 aluminum alloy and black anodized.

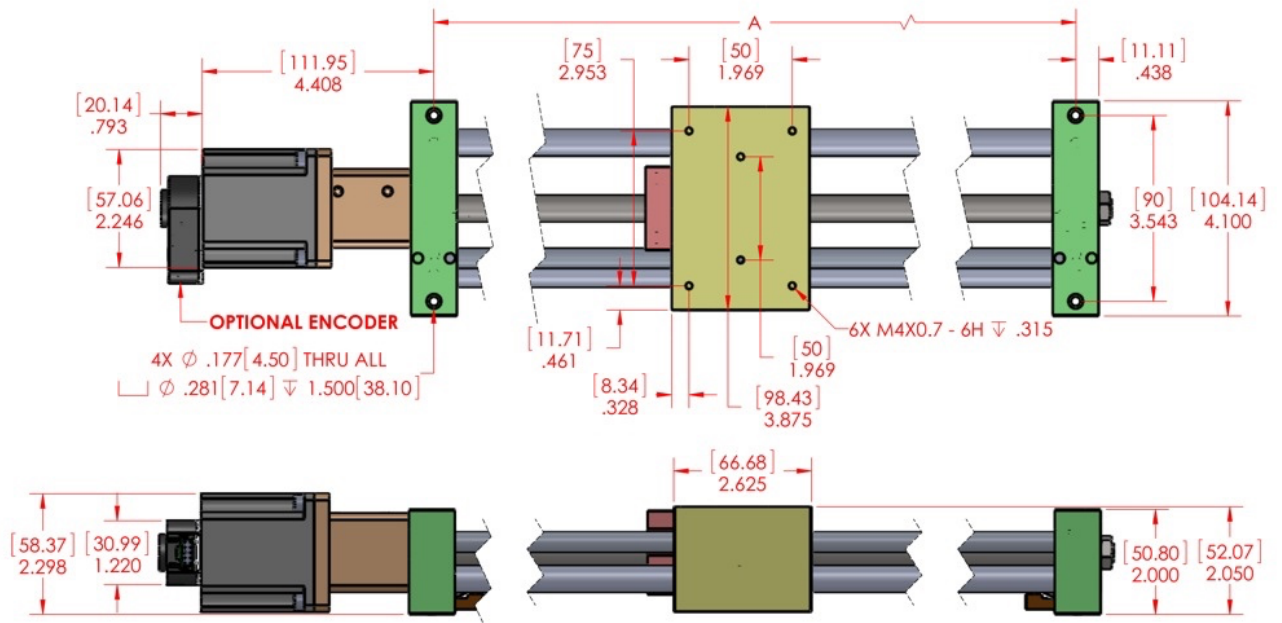
An IP65 version of the ETL Series is available for wet environments.

- **IP65 Size 23 Stepper Motor**
- **Sealed Bearings**
- **Frelon Lined Linear Guide Bearings**
- **Stainless Steel Guide Shafts**

Specifications

Travel Range	400 mm, 500 mm, 600 mm
Resolution	0.4 μ m
Encoder	Optical rotary encoder mounted to read of motor, 4000 CPR with index (Optional)
Accuracy	0.0006 mm/mm of travel
Max. Speed	100 mm/sec
Maximum Load	4.5 kg (10 lbs)
Limit Switches	Inductive end of travel limit switches
Lead Screw Pitch	10 mm
Stage Weight	ETL-400: 2.5 kg (5.4 lbs) / ETL-500: 3 kg (6.7 lbs) EB-600: 4.5 kg (10 lbs)
Material	Aluminum Alloy Construction
Finish	Black Anodize

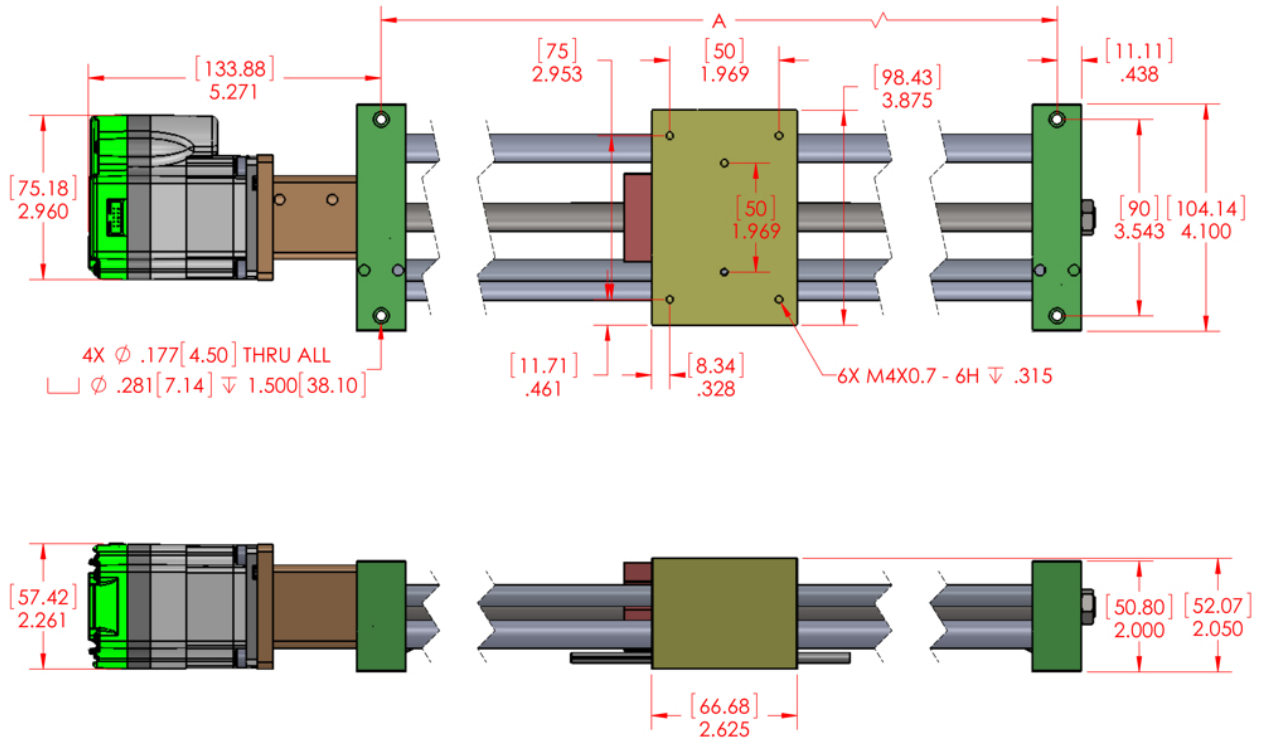
Dimensions Stepper Motor



[mm] inch	TRAVEL	DIMENSION "A"
	400	[550] 21.653
	500	[650] 25.590
	600	[750] 29.527

Dimensions

MDrive Motor



[mm] inch	TRAVEL	DIMENSION "A"
	400	[546.50] 21.503
	500	[646.17] 25.440
	600	[746.17] 29.377

Pin Assignment

Standard Stepper Motor Version

Motor

DB-9 Male	Description
1.	Phase A
2.	Phase A'
3.	Phase B
4.	Phase B'

Motor Specifications

Step Size: 1.8°/step

Amps/Phase: 2.8

Resistance: 0.9 Ohm/Phase

Inductance: 2.5 mH/Phase

Signals

DB-9 Female	Description
1.	+ Limit Switch
2.	- Limit Switch (motor side)
3.	Ground
4.	N.C.
5.	+5V

Limit switch wired normally closed

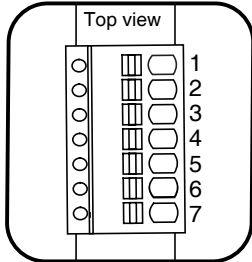
Signals (Encoder Option)

HD-15 Female	Description
1.	+ Limit Switch
2.	- Limit Switch
3.	Limit Switch Ground
4.	Encoder Ground
5.	+5V Encoder Power
6.	Ch. A
7.	Ch. A-
8.	Ch. B
9.	Ch. B-
10.	Index +
11.	Index -

Limit switch wired normally closed

Pin Assignment

MDrive Stepper Motor Version



7-Pin Pluggable Terminal

Power and I/O

7-Pin Terminal	Description
1	I/O 1
2	I/O 2
3	I/O 3
4	I/O 4
5	Analog Input
6	Power GND
7	+24V Motor Power

The forward limit switch is connected to I/O 1.
The reverse limit switch is connected to I/O 2.
Limit switches are wired normally closed.

RS-422 Communications

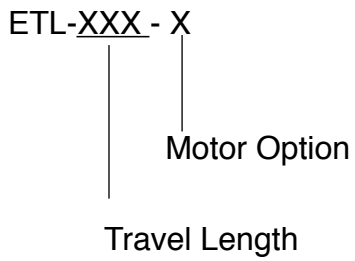
10-Pin IDC	Description
1	TX+
2	TX-
3	RX+
4	RX-
5	Aux-Logic
6	RX+
7	RX-
8	TX-
9	TX+
10	COMM GND

Connected to 7-Pin Terminal

DC Jack, 2.1 mm	Description
Center	+24 VDC
Outside	Power Ground

Ordering Information

Part Number Configuration



Travel Length

400 mm
500 mm
600 mm

Motor Options

- 1 Stepper Motor
- 2 Stepper Motor with Encoder
- 4 MDrive Motor with Encoder

Motion Controllers

The following Newmark Systems, Inc. controllers are compatible with the ETL Series Stage.

[NCS-A1 Series](#) | [NSC-G Series](#)

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