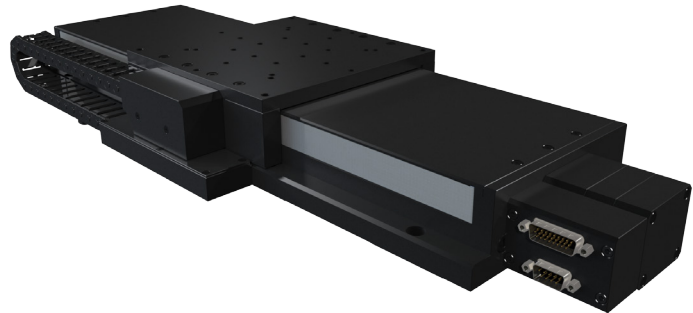


Precision Linear Motion Platform

FEATURES

- High speed
- 250mm Travel
- Precision ground ball screw drive
- Optical limit switches with home
- High resolution linear encoder
- Recirculating ball linear ways
- Side seals



The LM3 Series stages are designed for a variety of applications. This compact low profile linear stage is built for high duty cycles and long life and attains high velocities for factory automation and semiconductor processing equipment. This stage has exceptional levels of accuracy, repeatability, flatness and straightness. Recirculating ball linear ways and the precision ground ball screw offer extremely smooth operation and velocity control. Side seals and a hard cover make it an excellent choice for dirty environments. The LM3 Series stages can be stacked to create XY motion.



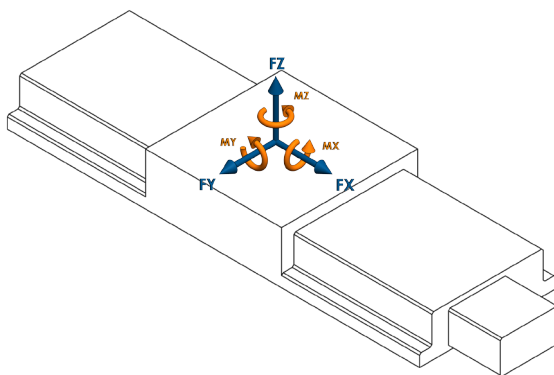
1040 CLASSIC ROAD | APEX, NC 27539
P: 866.906.2709 | F: 919.882.1430
www.griffinmotion.com

LM3-250-BS-A-M-S-F-00

Motion Specifications

Product Specifications

Encoder Output	A quad B, index
Force X (N)	200
Force Y (N)	200
Force Z (N)	440
Flatness (μm)	5
Height (mm)	62
Length (mm)	541
Limit Switches	Yes
Linear Accuracy (μm)	12
Linear Encoder Resolution (μm)	.1
Linear Repeatability (μm)	1
Linear Velocity (mm/s)	150
Moment X (N-m)	50
Moment Y (N-m)	50
Moment Z (N-m)	25
Moving Mass X (kg)	1.88
Pitch +/- (arc-sec)	10
Screw Lead (mm)	2
Stage Mass (kg)	7.67
Straightness (μm)	5
Width (mm)	200
Yaw +/- (arc-sec)	8



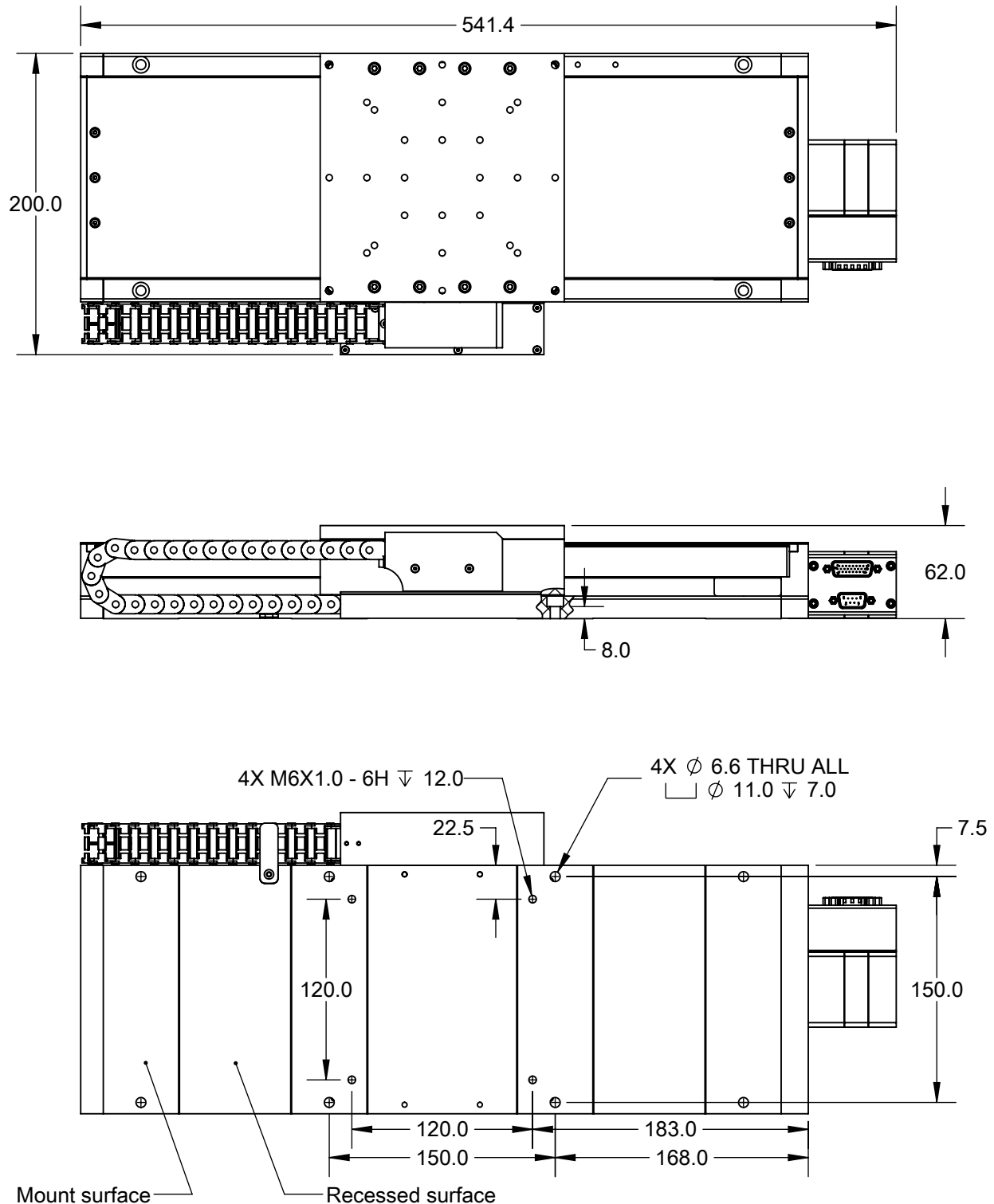
LOAD DIRECTIONS

Part Number Description

LM3	LM3 Series
250	250mm Travel
BS	Ball Screw Drive
A	Brushless Servo Motor
M	0.1 μm Linear SS Scale
S	Standard Precision
F	Side Seals
00	Standard Product (Call for custom)

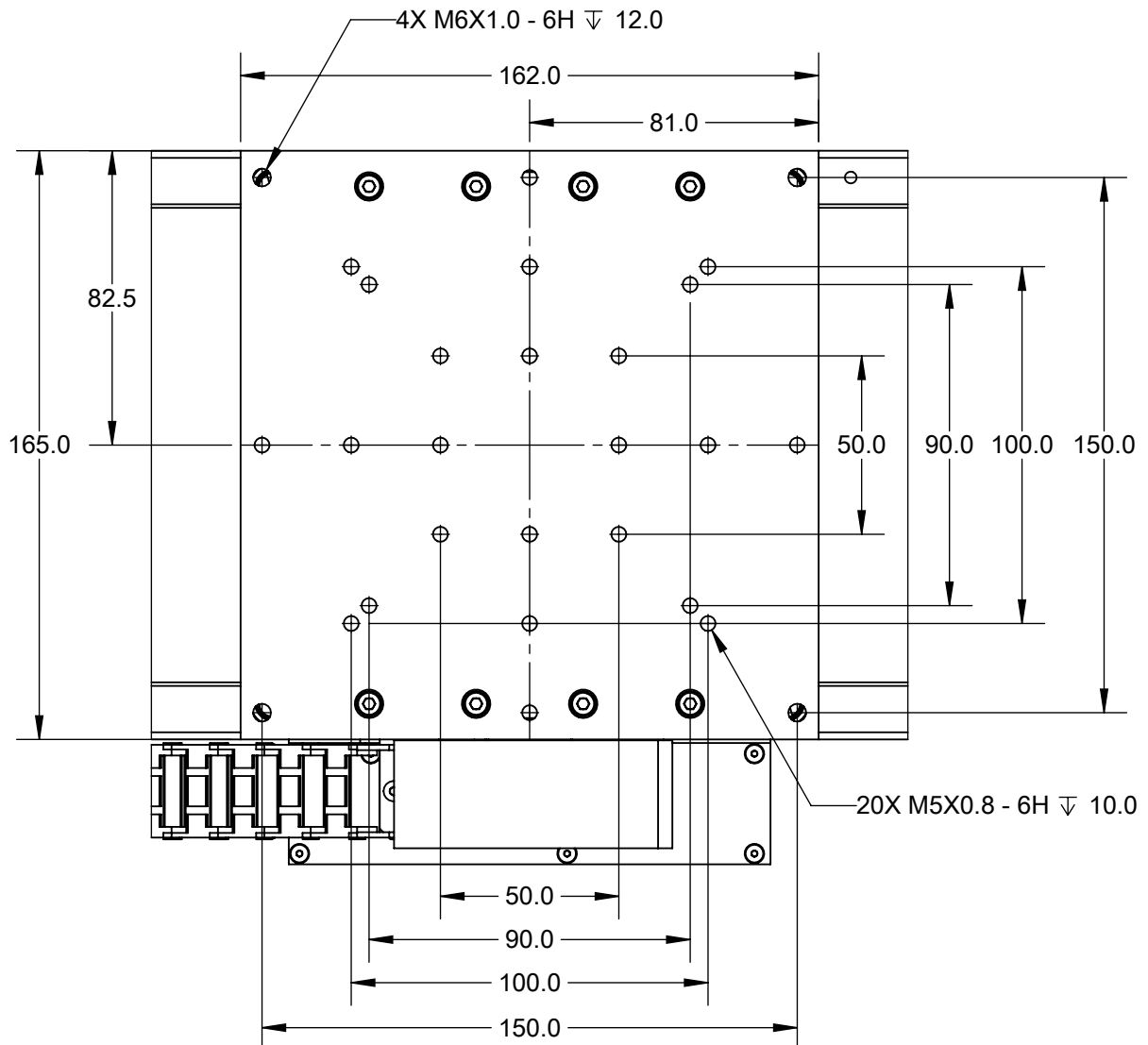
LM3-250-BS-A-M-S-F-00

Mechanical Specifications



LM3-250-BS-A-M-S-F-00

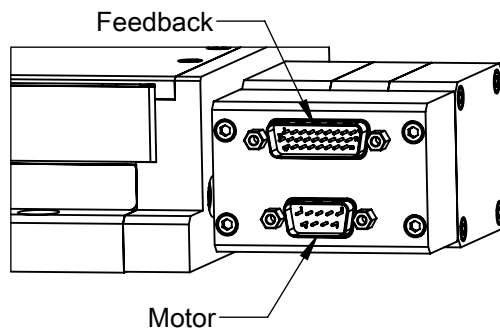
Rev 9



LM3-250-BS-A-M-S-F-00

Electrical Pinout

Feedback Connector (DSUB26HD MALE)	
PIN	NAME
1	+5V
2	A+
3	B+
4	RI+
5	LIM+
6	*
7	*
8	*
9	*
10	*
11	A-
12	B-
13	RI-
14	LIM-
15	*
16	*
17	*
18	*
19	GND
20	HALL A
21	HALL B
22	HALL C
23	*
24	*
25	*
26	*
* Reserved	



Motor Connector (DSUB9 MALE)	
PIN	NAME
1	*
2	*
3	*
4	*
5	*
6	PHASE A
7	PHASE B
8	PHASE C
9	*
* Reserved	



LM3-250-BS-A-M-S-F-00

Electrical Specifications

Motor Specifications	
Motor Type	3 Φ Brushless DC
BEMF Constant (V/KRPM)	1.88
Electrical Time Constant (ms)	0.38
Max Bus Voltage (VDC)	40
Max Continuous Current (A)	3.0
Motor Force Constant (N/A)	50.8
Peak Current (A)	10.0
Pin to Pin Inductance (mH)	0.55
Pin to Pin Resistance (ohm)	1.51
Poles per Revolution	6

Feedback Specifications	
Supply Voltage (V)	5.0 $\pm$ 10%
Supply Current (mA)	200
Encoder Feedback	Yes
Encoder Type	Incremental
Encoder Output	Square Wave Quadrature, RS-422 compatible, A,B,Z, Differential Pairs
Encoder Resolution	10000 cts/mm
Hall Switch Output	CMOS
Hall Switch max current (mA)	$\pm$ 20
Limit Switches	Yes
Limit Switch Output Type	CMOS
Limit Switch Output current (mA)	$\pm$ 20.0
Limit Switch Output Low (V)	0.8

The encoder will output one index pulse near center travel. This pulse is highly repeatable and can be used upon power-up to find an absolute position to use for further measurements.

Two limit switches are provided at the ends of travel. The limit switches will be pulled low throughout the travel range of the stage. The output will swing to high-impedance at the end of travel and remain high-impedance until the mechanical limit of the stage is reached.