

**Linear Brushless Ironless Three Phase Motor  
LBIM-021-01 Series**

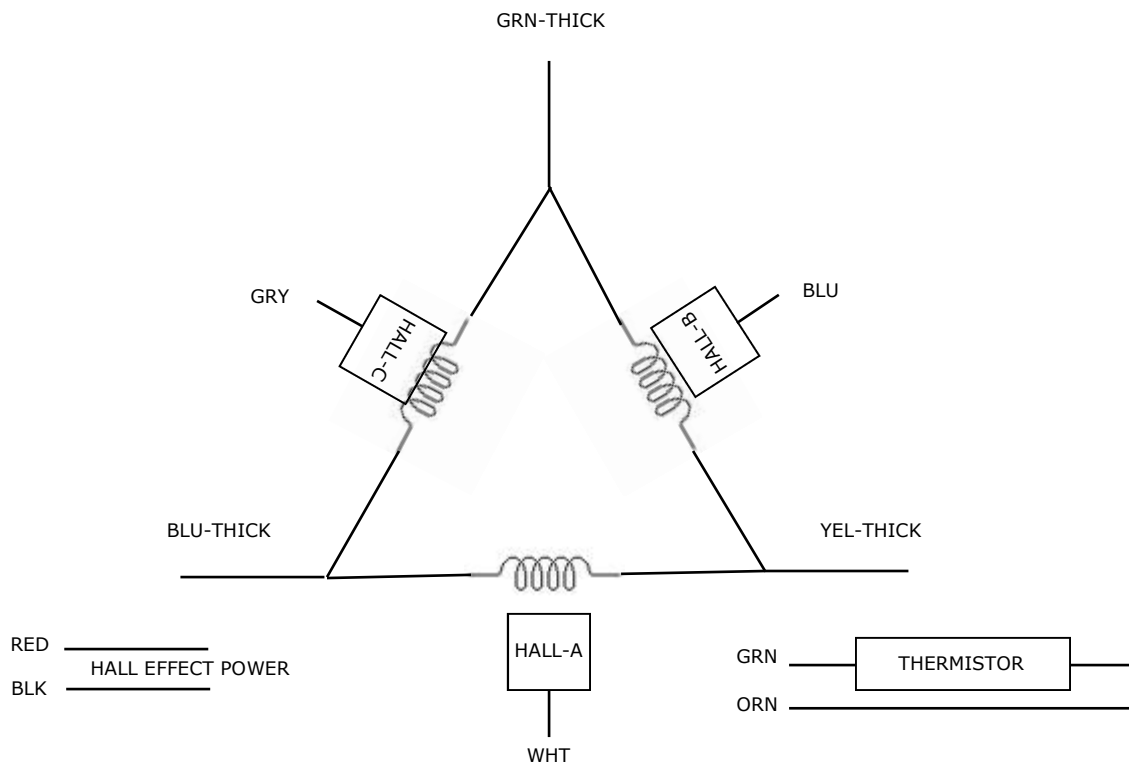
**motiCont**

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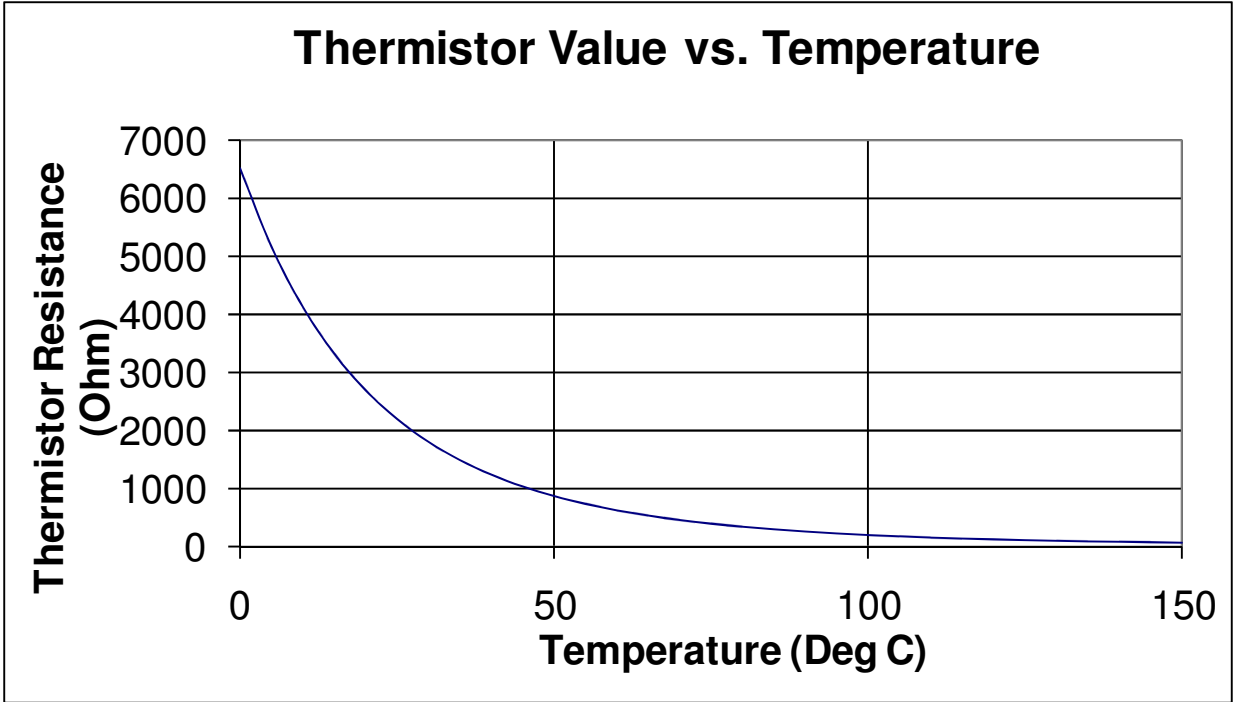
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<b>Forcer</b>		
<b>LBF-021-029-081-01</b>		
<b>PERFORMANCE</b>		
Intermittent Force @ 10% Duty Cycle	8.7	lb
	38.7	N
Continuous Force @ 25 °C	2.8	lb
	12.2	N
Continuous Force @ Tmax	2.1	lb
	9.3	N
Maximum Continuous Power	20	W
Motor Constant	0.6	lb/ W <sup>0.5</sup>
	2.7	N/ W <sup>0.5</sup>
<b>ELECTRICAL SPECIFICATIONS</b>	<b>Delta</b>	
Peak Current @ 10% Duty Cycle	4.6	A
Continuous Current @ Tmax	1.4	A
Force Constant	1.4	lb/A
	6.4	N/A
Back EMF	0.16	V/in/s
	6.4	V/m/s
Phase-to-Phase Resistance @ 25 °C	5.5	Ohm
Phase-to-Phase Inductance @ 1 KHz	2.1	mH
<b>MECHANICAL SPECIFICATIONS</b>		
Coil Assembly Mass	0.37	lb
	0.17	Kg
Magnetic Cogging Force	0	lb
Maximum Allowable Coil Temperature	110	°C
Electrical Cycle Length	1.6	in
	40.6	mm
<b>THERMAL SPECIFICATIONS</b>		
Thermal Time Constant	2	min
Thermal Resistance	4.25	°C/W

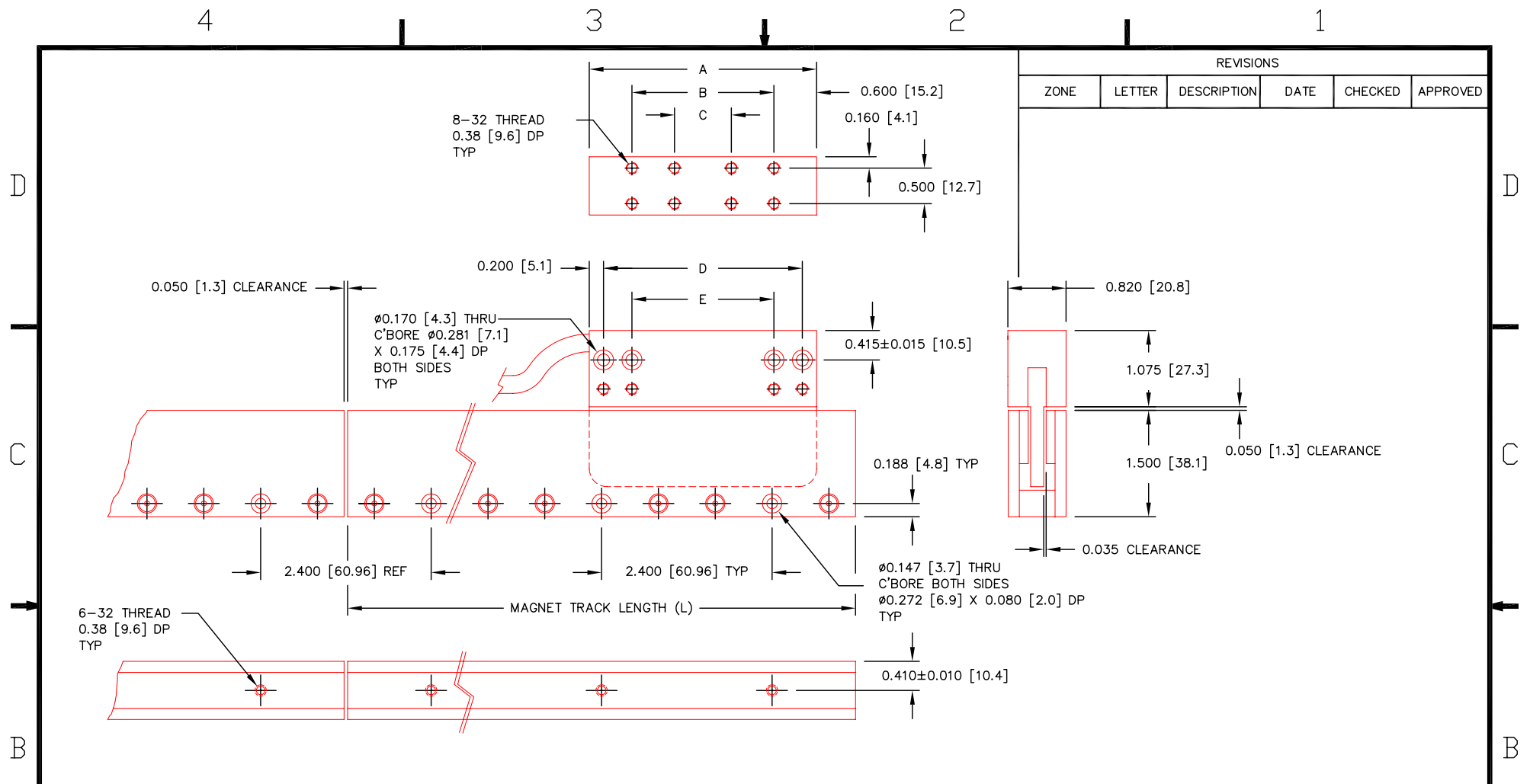
<b>Magnetic Track</b>		
<b>LBM-021-038-XXX-01</b>		
<b>DIMENSIONS</b>		
Width	0.82	in
	20.8	mm
Height	1.50	in
	38.1	mm
Length		
LBM-021-038-121-01	4.75	in
	121.7	mm
LBM-021-038-243-01	9.55	in
	242.6	mm
LBM-021-038-365-01	14.35	in
	364.5	mm
LBM-021-038-608-01	23.95	in
	608	mm
Mass		
All Models	0.23	lb/in
	4.13	Kg/m



Wire	Description
BLU-THICK	Motor Phase A
YEL-THICK	Motor Phase B
GRN-THICK	Motor Phase C
GRN	Thermistor
ORN	Thermistor
WHT	Commutation Sensor Output - A
BLU	Commutation Sensor Output - B
GRY	Commutation Sensor Output - C
RED	+5 VDC Logic Supply for Commutation Sensors (Hall Effects)
BLK	Ground for Commutation Sensor (Hall Effects)



Specifications are subject to change without notice.



REVISIONS					
ZONE	LETTER	DESCRIPTION	DATE	CHECKED	APPROVED

FORCER MODEL	A	B	C	D	E
LBF-021-029-081-01	3.200 [81.3]	2.000 [50.8]	N/A	2.800 [71.1]	N/A
LBF-021-029-161-01	6.350 [161.3]	5.150 [130.8]	2.000 [50.8]	5.950 [151.1]	3.000 [76.2]
LBF-021-029-241-01	9.500 [241.3]	8.300 [210.8]	2.000 [50.8]	9.100 [231.1]	3.000 [76.2]
LBF-021-029-321-01	12.650 [321.3]	11.450 [290.8]	2.000 [50.8]	12.250 [311.2]	3.000 [76.2]

MAGNET TRACK	L (LENGTH)
LBM-021-038-121-01	4.75 [120.7]
LBM-021-038-243-01	9.550 [242.6]
LBM-021-038-365-01	14.350 [364.5]
LBM-021-038-608-01	23.950 [608.3]

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DIMENSIONS ARE IN INCHES (mm) TOLERANCES ON: DECIMALS FRACTIONS ANGLES .XXX .XX ± 1/125 ± 1/2' ± .005 ± .01 UNLESS OTHERWISE SPECIFIED	
USED ON	NEXT ASSY
APPLICATION	

MATERIAL	CONTRACT	
FINISH	DRN	
	CHKD	
	APPVD	
	APPVD	

<b>MOTICONT</b>			
IRONLESS LINEAR MOTOR			
SIZE	CODE	DWG. NO.	REV.
A		LBIM-021-XX	1
SCALE: 1 / 2		SHEET 1 OF 1	

NOTES:  
UNLESS OTHERWISE SPECIFIED

A

A

D

D

C

C

B

B

4

3

2

1

4

3

2

1