



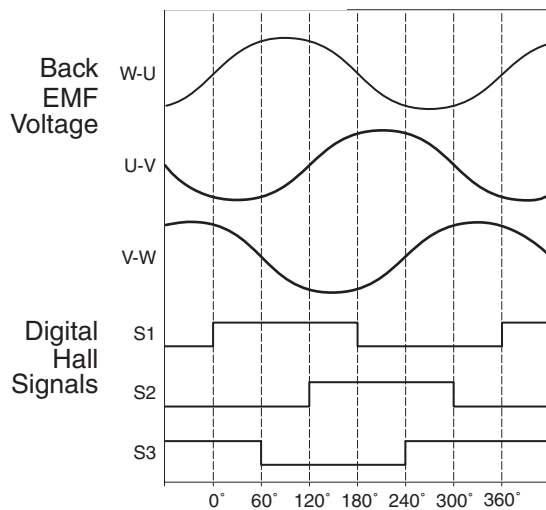
## Specifications LZ-100-HT-XXX

Performance Parameters	Symbol	Units	LZ-100-HT-120				LZ-100-HT-240				LZ-100-HT-360				LZ-100-HT-480			
Continuous Force <sup>1,5,6,7</sup>	$F_{cTmax}$	$\frac{N}{(lb_f)}$	216 (49)				432 (97)				649 (146)				865 (194)			
Peak Force <sup>2</sup>	$F_p$	$\frac{N}{(lb_f)}$	1081 (243)				2162 (486)				3243 (729)				4324 (972)			
Motor Constant <sup>1</sup>	$K_M$	$\frac{N/\sqrt{-W}}{(lb_f/\sqrt{-W})}$	22.0 (4.9)				31.1 (7.0)				38.0 (8.6)				43.9 (9.9)			
Thermal Resistance	$R_{th}$	$^{\circ}C/W$	1.13				0.57				0.38				0.28			
Max Power Dissipation	$P_{cTmax}$	$W$	97				194				291				388			
Maximum Applied Bus Voltage <sup>8</sup>	$V_{DC}$	$Volts$	325				325				325				325			
Electrical Cycle Length	$E_c$	$mm$	60				60				60				60			
Electrical Time Constant	$\tau_e$	$msec$	1.9				1.9				1.9				1.9			
Maximum Coil Temperature	$T_{max}$	$^{\circ}C$	130				130				130				130			
Winding Type			<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
Force Constant <sup>1</sup>	$K_F$	$\frac{N/A_{pk}}{(lb_f/A_{pk})}$	88.4 (19.9)	N/A	51.0 (11.5)	N/A	88.4 (19.9)	176.8 (39.7)	51.0 (11.5)	102.1 (22.9)	88.4 (19.9)	265.2 (59.6)	51.0 (11.5)	153.1 (34.4)	88.4 (19.9)	176.8 (39.7)	N/A	102.1 (22.9)
Back EMF Constant p-p <sup>3,4</sup>	$K_e$	$\frac{V_p/m/s}{(V_p/in/s)}$	104.4 (2.7)	N/A	60.3 (1.5)	N/A	104.4 (2.7)	208.7 (5.3)	60.3 (1.5)	120.5 (3.1)	104.4 (2.7)	313.1 (8.0)	60.3 (1.5)	180.8 (4.6)	104.4 (2.7)	208.7 (5.3)	N/A	120.5 (3.1)
Peak Current <sup>2,4</sup>	$I_p$	$\frac{A_{pk}}{(A_{rms})}$	12.2 (8.6)	N/A	21.2 (15.0)	N/A	24.5 (17.3)	12.2 (8.6)	42.4 (30.0)	21.2 (15.0)	36.7 (25.9)	12.2 (8.6)	63.5 (44.9)	21.2 (15.0)	48.9 (34.6)	24.5 (17.3)	N/A	42.4 (30.0)
Continuous Current <sup>1,4,5,6</sup>	$I_{cTmax}$	$\frac{A_{pk}}{(A_{rms})}$	2.4 (1.7)	N/A	4.2 (3.0)	N/A	4.9 (3.5)	2.4 (1.7)	8.5 (6.0)	4.2 (3.0)	7.3 (5.2)	2.4 (1.7)	12.7 (9.0)	4.2 (3.0)	9.8 (6.9)	4.9 (3.5)	N/A	8.5 (6.0)
Resistance p-p <sup>3</sup> @20°C	$R_{20}$	$ohm$	15.08	N/A	5.03	N/A	7.54	30.17	2.51	10.06	5.03	45.25	1.68	15.08	3.77	15.08	N/A	5.03
Inductance p-p <sup>3</sup>	$L$	$mH$	28.28	N/A	9.43	N/A	14.14	56.57	4.71	18.86	9.43	84.85	3.14	28.28	7.07	28.28	N/A	9.43
Mechanical Parameters																		
Magnetic Attraction	$F_a$	$\frac{N}{(lb_f)}$	0 (0)				0 (0)				0 (0)				0 (0)			
Coil Mass	$M_c$	$\frac{kg}{(lb_m)}$	1.35 (2.97)				2.58 (5.69)				3.81 (8.41)				5.04 (11.12)			
Magnetic Channel Mass	$M_n$	$\frac{kg/m}{(lb/in)}$	37.05 (2.07)				37.05 (2.07)				37.05 (2.07)				37.05 (2.07)			

**Notes:** Motor performance specifications are with sinusoidal commutation.

- Continuous forces, motor constant and currents listed are with coils at maximum temperature 130°C, mounted to a heat sink that is equivalent to an aluminum slide 25.4mm (1.0") thick with the following areas: 120 coil 774cm<sup>2</sup> (120in<sup>2</sup>), 240 coil 1160cm<sup>2</sup> (180in<sup>2</sup>), 360 coil 1680cm<sup>2</sup> (260 in<sup>2</sup>), 480 coil 2060cm<sup>2</sup> (320 in<sup>2</sup>).
- Calculated at 4% duty cycle with a maximum on time of 1 second.
- All winding parameters listed are measured line-to-line (phase-to-phase).
- All currents and voltages are measured 0-peak of the sine wave unless noted rms.
- Continuous force and current based on coil moving with all phases sharing the same load in sinusoidal commutation.
- For stand still conditions multiply continuous force and continuous current by 0.9.
- Coil mountings on either of the two narrow sides reduces continuous force by 10%.
- Maximum cable length 10 meters. Please consult factory concerning applications requiring longer cables  
All specifications are ±10%. Phase-to-phase inductance is ±30%.

### Motor Phasing Diagram



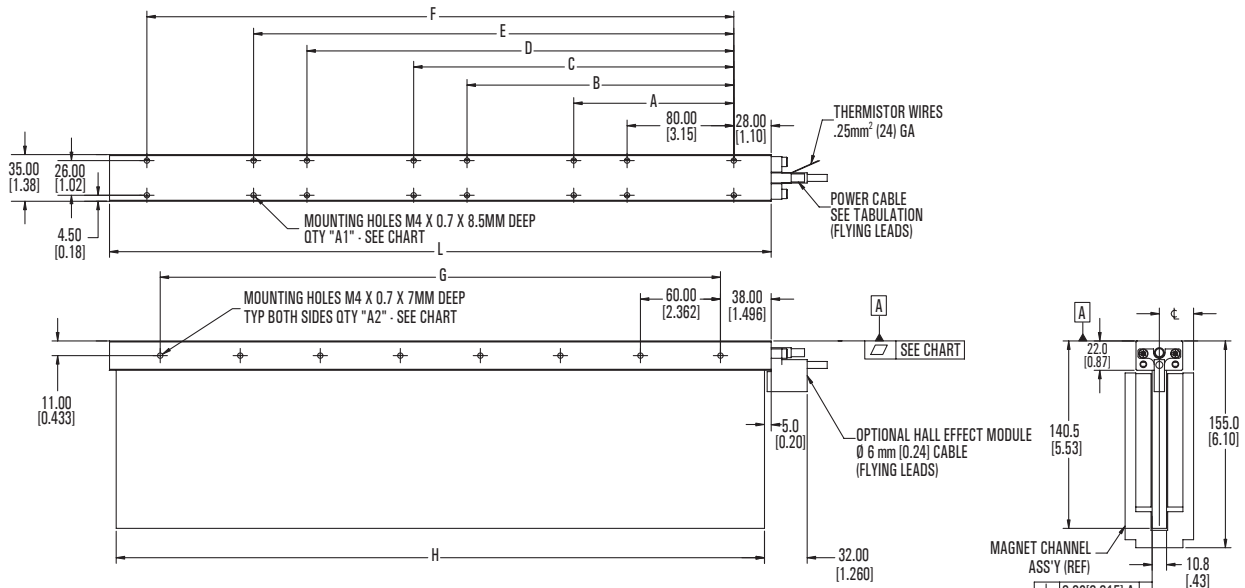
Note: Phasing direction is coil moving towards motor power cable

### Dimensions mm [in]

Size	Winding Code	Power Cable Dia.	Gauge
<b>100-120</b>	D F	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
<b>100-240</b>	D E F G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
<b>100-360</b>	D E F G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
<b>100-480</b>	D E G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)

# Coil Assembly LZ-100-HT-XXX

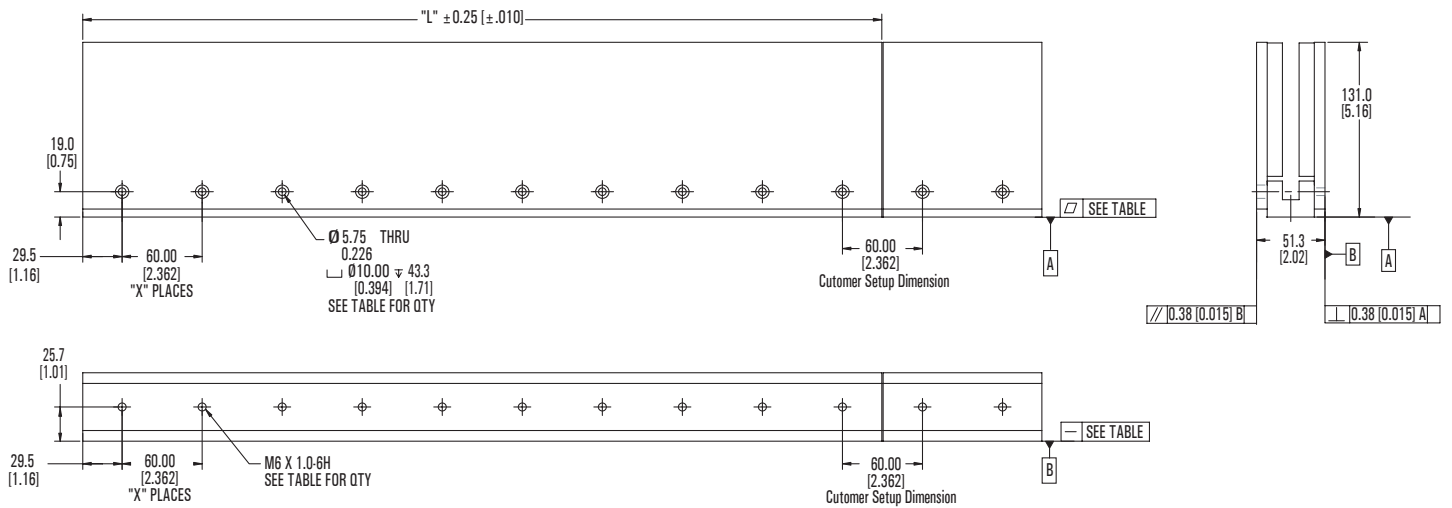
Dimensions mm [in]



Coil												
Size	L	A	B	C	D	E	F	G	H	A1 QTY	A2 QTY	Flatness -A-
100-120	136.00 (5.35)	---	---	---	---	---	---	60.00 (2.362)	126.0 (4.96)	4	3	0.25 (.010)
100-240	256.00 (10.08)	120.00 (4.724)	200.00 (7.874)	---	---	---	---	180.00 (7.087)	246.0 (9.69)	8	5	0.25 (.010)
100-360	376.00 (14.80)	120.00 (4.724)	200.00 (7.874)	240.00 (9.449)	320.00 (12.598)	---	---	300.00 (11.811)	366.0 (14.41)	12	7	0.38 (.015)
100-480	496.00 (19.53)	120.00 (4.724)	200.00 (7.874)	240.00 (9.449)	320.00 (12.598)	360.00 (14.173)	440.00 (17.323)	420.00 (16.535)	486.0 (19.13)	16	9	0.64 (.025)

Magnet Channel					
Size	L	X	Hole Qty	—	▨
-120	119.0 (4.69)	1	2	0.13 (.005)	0.13 (.005)
-180	179.0 (7.05)	2	3	0.13 (.005)	0.13 (.005)
-240	239.0 (9.41)	3	4	0.13 (.005)	0.13 (.005)
-480	479.0 (18.86)	7	8	0.26 (.010)	0.26 (.010)
-600	599.0 (23.58)	9	10	0.26 (.010)	0.26 (.010)

# Magnet Channel LZM-100-HT-XXX



Tolerances

Metric	English
.x ± .25	[.xx] ± .01
.xx ± .13	[.xxx] ± .005