



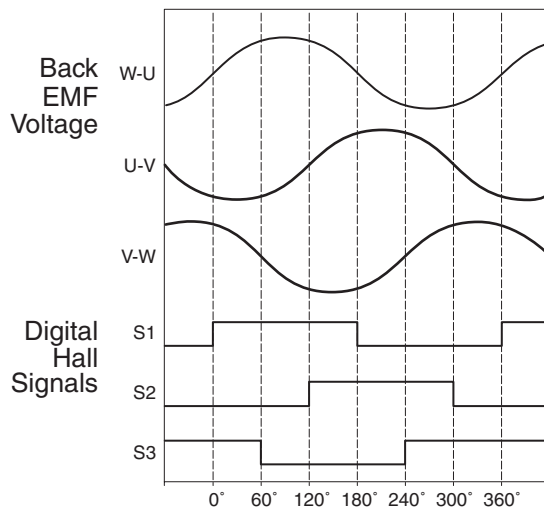
Specifications LZ-100-0-XXX

Performance Parameters	Symbol	Units	LZ-100-0-120				LZ-100-0-240				LZ-100-0-360				LZ-100-0-480			
Continuous Force ^{1,5,6,7}	F_{cTmax}	N (lbf)	171 (39)				343 (77)				514 (116)				685 (154)			
Peak Force ²	F_p	N (lbf)	856 (193)				1713 (385)				2569 (578)				3425 (770)			
Motor Constant ¹	K_M	$\frac{N}{\sqrt{W}}$ ($\frac{lbf}{\sqrt{W}}$)	20.0 (4.5)				28.3 (6.4)				34.7 (7.8)				40.1 (9.0)			
Thermal Resistance	R_{th}	°C/W	1.51				0.75				0.50				0.38			
Max Power Dissipation	P_{cTmax}	W	73				146				219				292			
Maximum Applied Bus Voltage ⁸	V_{DC}	Volts	325				325				325				325			
Electrical Cycle Length	E_c	mm	60				60				60				60			
Electrical Time Constant	τ_e	msec	1.6				1.6				1.6				1.6			
Maximum Coil Temperature	T_{max}	°C	130				130				130				130			
Winding Type			D	E	F	G	D	E	F	G	D	E	F	G	D	E	F	G
Force Constant ¹	K_F	$\frac{N/A_{pk}}{(lbf/A_{pk})}$	70.0 (15.7)	N/A	40.4 (9.1)	N/A	70.0 (15.7)	140.0 (31.5)	40.4 (9.1)	80.8 (18.2)	70.0 (15.7)	210.0 (47.2)	40.4 (9.1)	121.3 (27.3)	70.0 (15.7)	140.0 (31.5)	N/A	80.8 (18.2)
Back EMF Constant p-p ^{3,4}	K_e	$\frac{V_p/m/s}{(V_p/in/s)}$	82.7 (2.1)	N/A	47.7 (1.2)	N/A	82.7 (2.1)	165.4 (4.2)	47.7 (1.2)	95.5 (2.4)	82.7 (2.1)	248.0 (6.3)	47.7 (1.2)	143.2 (3.6)	82.7 (2.1)	165.4 (4.2)	N/A	95.5 (2.4)
Peak Current ^{2,4}	I_p	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 ^{1,4,5,6}	I_{cTmax}	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 ³ @20°C	R_{20}	ohm	11.37	N/A	3.79	N/A	5.68	22.73	1.89	7.58	3.79	34.10	1.26	11.37	2.84	11.37	N/A	3.79
Inductance p-p ³	L	mH	17.71	N/A	5.90	N/A	8.86	35.42	2.95	11.81	5.90	53.14	1.97	17.71	4.43	17.71	N/A	5.90
Mechanical Parameters																		
Magnetic Attraction	F_a	N (lbf)	0 (0)				0 (0)				0 (0)				0 (0)			
Coil Mass	M_c	kg (lbf _m)	1.08 (2.38)				2.05 (4.51)				3.01 (6.64)				3.98 (8.77)			
Magnetic Channel Mass	M_n	kg/m (lbf/in)	30.02 (1.68)				30.02 (1.68)				30.02 (1.68)				30.02 (1.68)			

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 774cm² (120in²), 240 coil 1160cm² (180in²), 360 coil 1680cm² (260 in²), 480 coil 2060cm² (320 in²).
 - 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



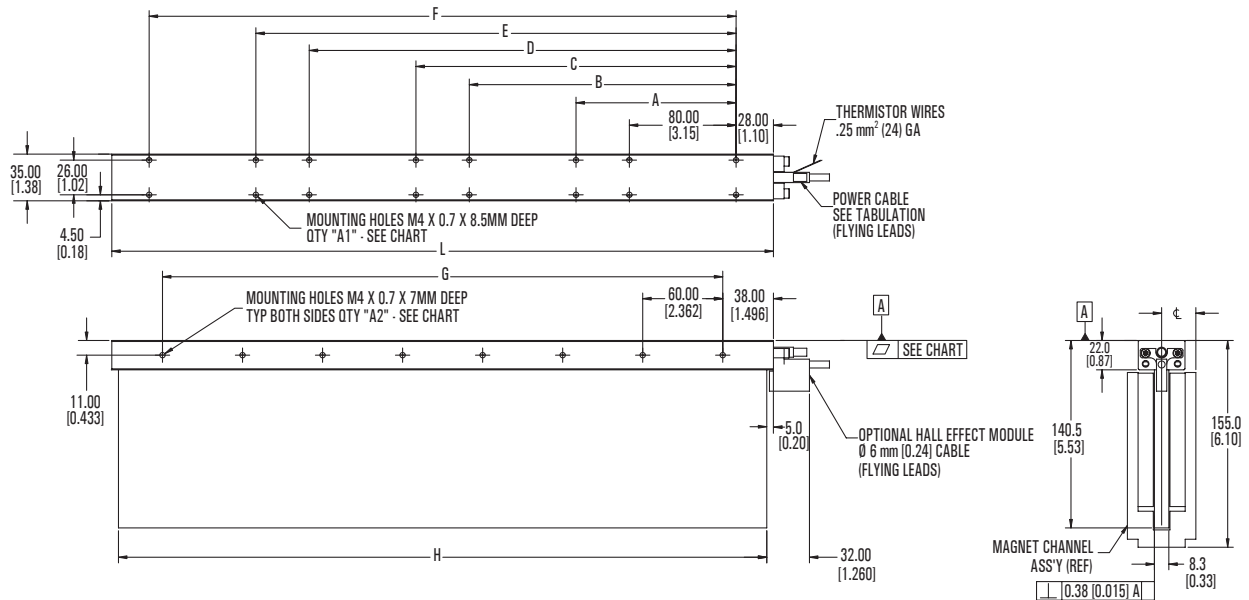
Note: Phasing direction is coil moving towards motor power cable

Dimensions mm [in]

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

Coil Assembly LZ-100-0-XXX

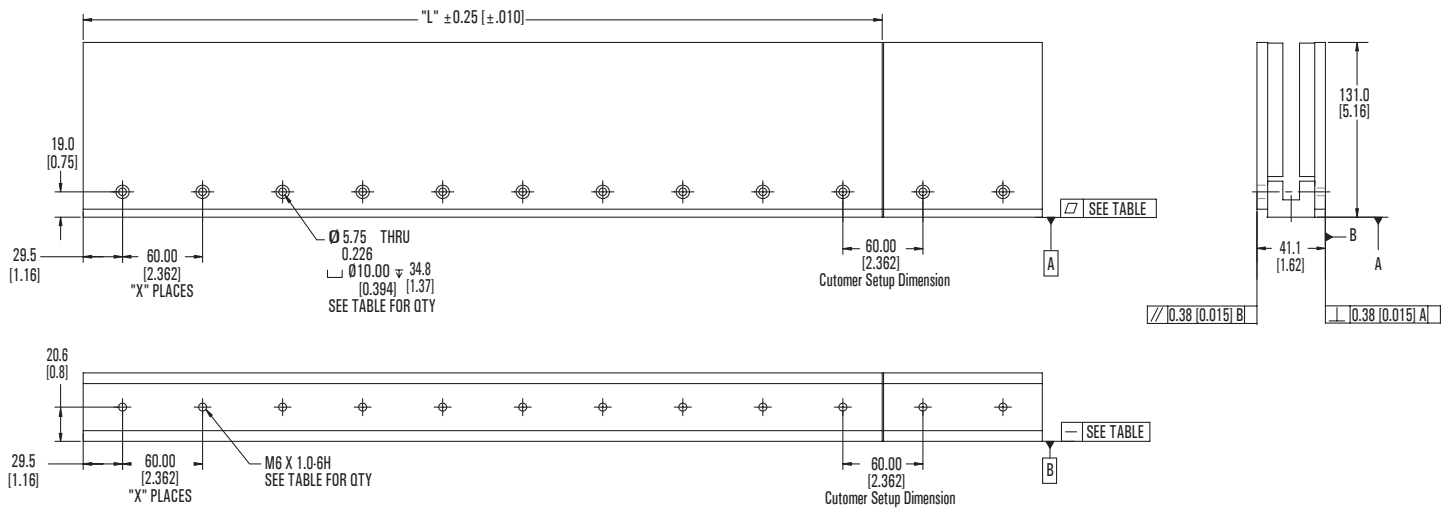
Dimensions mm [in]



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-100-0-XXX



Tolerances

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