



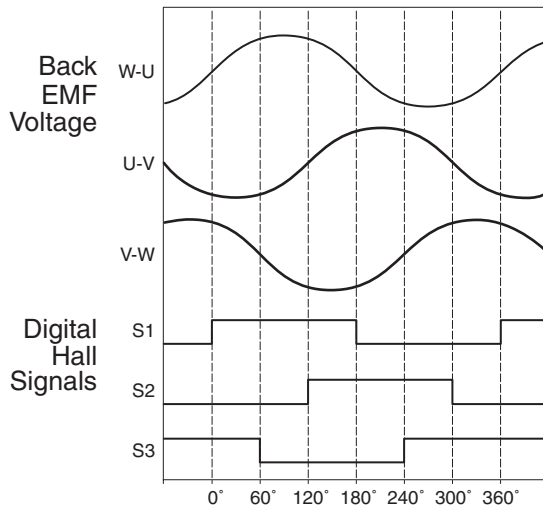
## Specifications LZ-100-0-XXX

Performance Parameters	Symbol	Units	LZ-100-0-120				LZ-100-0-240				LZ-100-0-360				LZ-100-0-480			
Continuous Force <sup>1,5,6,7</sup>	$F_{cTmax}$	N (lbf)	171 (39)				343 (77)				514 (116)				685 (154)			
Peak Force <sup>2</sup>	$F_p$	N (lbf)	856 (193)				1713 (385)				2569 (578)				3425 (770)			
Motor Constant <sup>1</sup>	$K_M$	$\frac{N}{\sqrt{W}}$ ( $\frac{lbf}{\sqrt{W}}$ )	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 <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	1.6				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 <sup>1</sup>	$K_F$	$\frac{N}{A_{pk}}$ ( $\frac{lbf}{A_{pk}}$ )	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 <sup>3,4</sup>	$K_e$	$\frac{V_p}{m/s}$ ( $\frac{V_p}{in/s}$ )	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 <sup>2,4</sup>	$I_p$	$A_{pk}$ ( $A_{rms}$ )	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 <sup>1,4,5,6</sup>	$I_{cTmax}$	$A_{pk}$ ( $A_{rms}$ )	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 <sup>3</sup> @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 <sup>3</sup>	$L$	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
<b>Mechanical Parameters</b>																		
Magnetic Attraction	$F_a$	N (lbf)	0 (0)				0 (0)				0 (0)				0 (0)			
Coil Mass	$M_c$	kg (lb <sub>m</sub> )	1.08 (2.38)				2.05 (4.51)				3.01 (6.64)				3.98 (8.77)			
Magnetic Channel Mass	$M_n$	kg/m (lb/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 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
100-120	D F	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
100-240	D E F G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
100-360	D E F G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
100-480	D E G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)