

## Specifications LZ-075-0-XXX

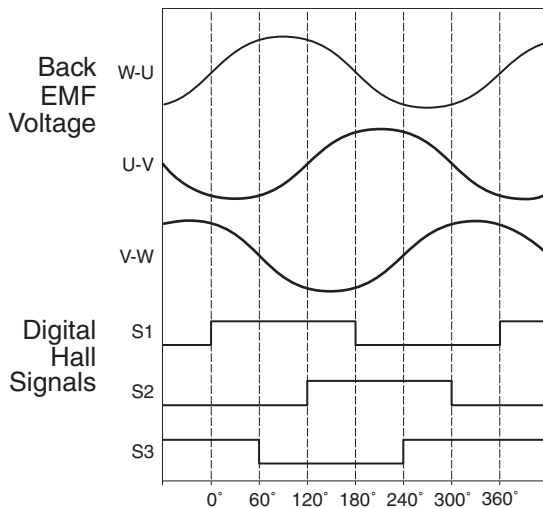


Performance Parameters	Symbol	Units	LZ-075-0-120				LZ-075-0-240				LZ-075-0-360				LZ-075-0-480			
Continuous Force <sup>1,5,6,7</sup>	$F_{cTmax}$	N (lbf)	144 (32)				287 (65)				431 (97)				574 (129)			
Peak Force <sup>2</sup>	$F_p$	N (lbf)	718 (161)				1436 (323)				2153 (484)				2871 (645)			
Motor Constant <sup>1</sup>	$K_M$	$\frac{N}{\sqrt{W}}$ ( $\frac{lbf}{\sqrt{W}}$ )	16.7 (3.7)				23.6 (5.3)				28.9 (6.5)				33.3 (7.5)			
Thermal Resistance	$R_{th}$	°C/W	1.48				0.74				0.49				0.37			
Max Power Dissipation	$P_{cTmax}$	W	74				148				222				297			
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>	$K_F$	$\frac{N}{A_{pk}}$ ( $\frac{lbf}{A_{pk}}$ )	52.5 (11.8)	N/A	30.3 (6.8)	N/A	52.5 (11.8)	105.0 (23.6)	30.3 (6.8)	60.6 (13.6)	52.5 (11.8)	157.5 (35.4)	30.3 (6.8)	91.0 (20.4)	52.5 (11.8)	105.0 (23.6)	N/A	60.6 (13.6)
Back EMF Constant p-p <sup>3,4</sup>	$K_e$	$\frac{V_p}{m/s}$ ( $\frac{V_p}{in/s}$ )	62.0 (1.6)	N/A	35.8 (0.9)	N/A	62.0 (1.6)	124.0 (3.2)	35.8 (0.9)	71.6 (1.8)	62.0 (1.6)	186.0 (4.7)	35.8 (0.9)	107.4 (2.7)	62.0 (1.6)	124.0 (3.2)	N/A	71.6 (1.8)
Peak Current <sup>2,4</sup>	$I_p$	$A_{pk}$ ( $A_{rms}$ )	13.7 (9.7)	N/A	23.7 (16.7)	N/A	27.3 (19.3)	13.7 (9.7)	47.3 (33.5)	23.7 (16.7)	41.0 (29.0)	13.7 (9.7)	71.0 (50.2)	23.7 (16.7)	54.7 (38.7)	27.3 (19.3)	N/A	47.3 (33.5)
Continuous Current <sup>1,4,5,6</sup>	$I_{cTmax}$	$A_{pk}$ ( $A_{rms}$ )	2.7 (1.9)	N/A	4.7 (3.3)	N/A	5.5 (3.9)	2.7 (1.9)	9.5 (6.7)	4.7 (3.3)	8.2 (5.8)	2.7 (1.9)	14.2 (10.0)	4.7 (3.3)	10.9 (7.7)	5.5 (3.9)	N/A	9.5 (6.7)
Resistance p-p <sup>3</sup> @20°C	$R_{20}$	ohm	9.24	N/A	3.08	N/A	4.62	18.48	1.54	6.16	3.08	27.72	1.03	9.24	2.31	9.24	N/A	3.08
Inductance p-p <sup>3</sup>	$L$	mH	14.40	N/A	4.80	N/A	7.20	28.79	2.40	9.60	4.80	43.19	1.60	14.40	3.60	14.40	N/A	4.80
<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> )	0.92 (2.02)				1.72 (3.79)				2.52 (5.55)				3.32 (7.32)			
Magnetic Channel Mass	$M_n$	kg/m (lb/in)	24.25 (1.36)				24.25 (1.36)				24.25 (1.36)				24.25 (1.36)			

**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



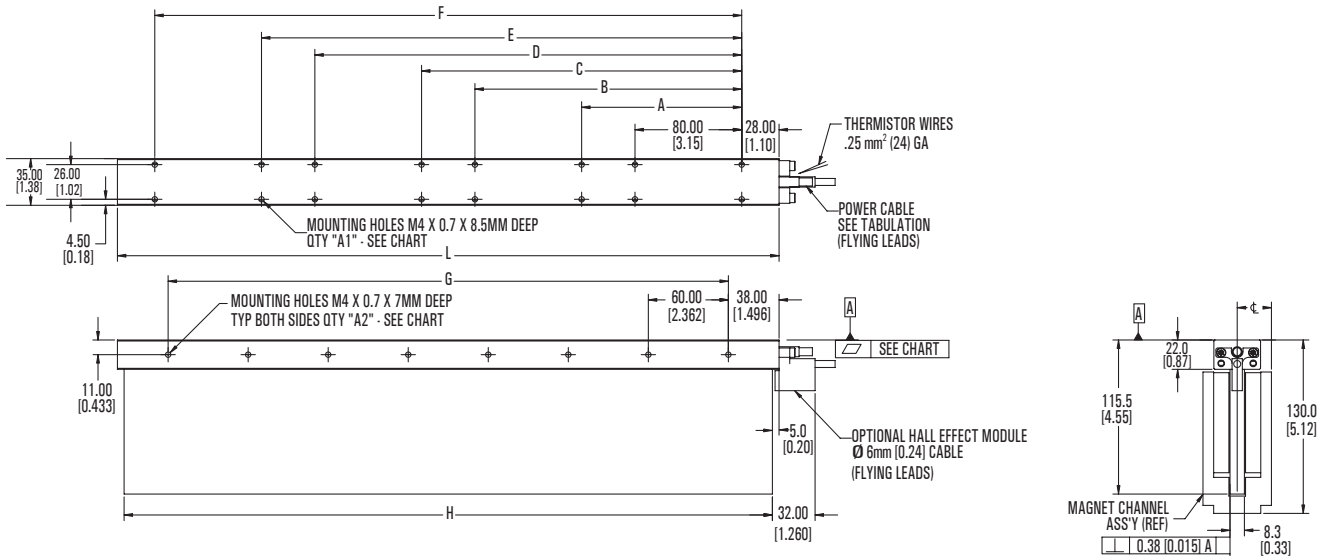
Note: Phasing direction is coil moving towards motor power cable

## Dimensions mm [in]

Size	Winding Code	Power Cable Dia.	Gauge
075-120	D F	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
075-240	D E F G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
075-360	D E F G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)
075-480	D E G	φ6.1 (.24)	0.75mm <sup>2</sup> (18)

# Coil Assembly LZ-075-0-XXX

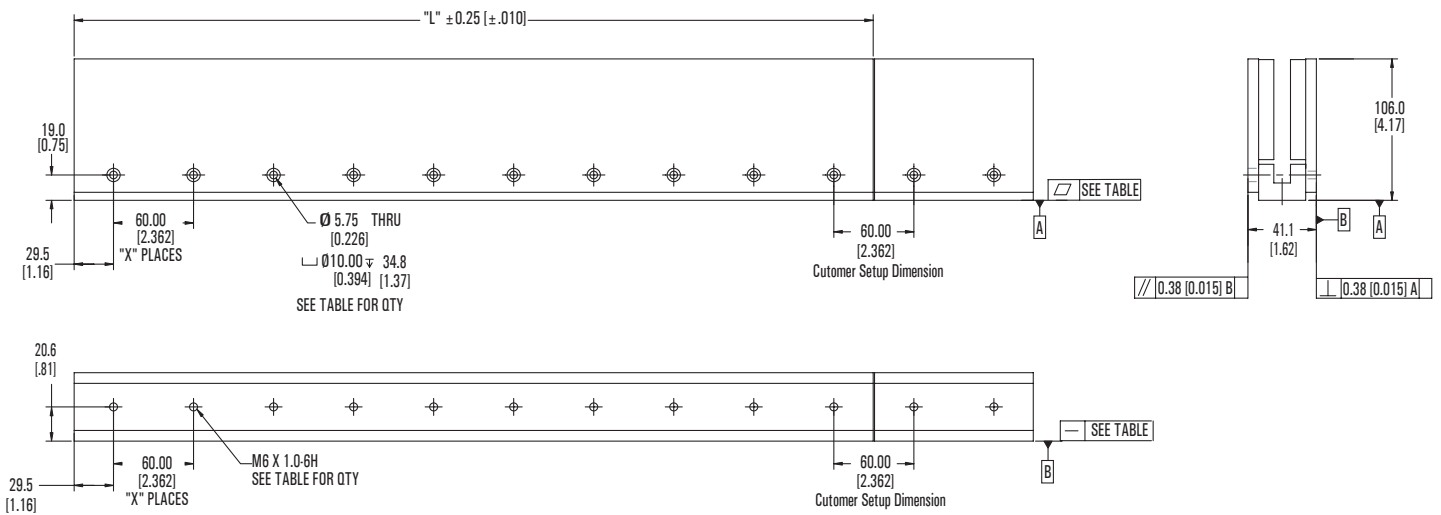
Dimensions mm [in]



Coil												
Size	L	A	B	C	D	E	F	G	H	A1 QTY	A2 QTY	Flatness A
075-120	136.00 (5.35)	---	---	---	---	---	---	60.00 (2.362)	126.0 (4.96)	4	3	0.25 (.010)
075-240	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)
075-360	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)
075-480	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-075-0-XXX



Tolerances

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