



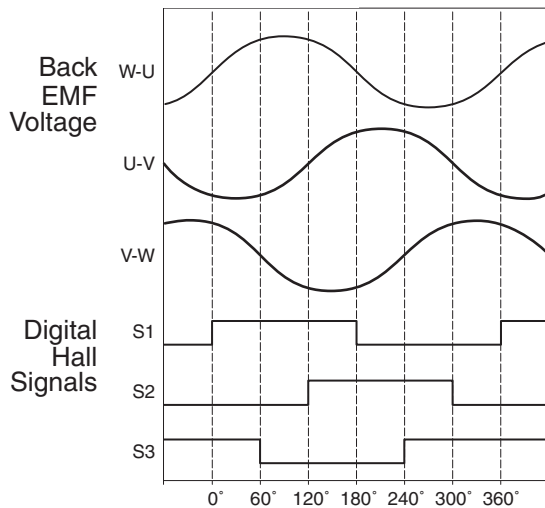
Specifications LZ-030-HT-XXX

Performance Parameters	Symbol	Units	LZ-030-HT-120				LZ-030-HT-240				LZ-030-HT-360				LZ-030-HT-480			
Continuous Force ^{1,5,6,7}	F_{cTmax}	N (lbf)	88 (20)				175 (39)				263 (59)				351 (79)			
Peak Force ²	F_p	N (lbf)	439 (99)				877 (197)				1247 (280)				1755 (395)			
Motor Constant ¹	K_M	$\frac{N}{\sqrt{W}}$ ($\frac{lbf}{\sqrt{W}}$)	9.6 (2.2)				13.5 (3.0)				16.6 (3.7)				19.1 (4.3)			
Thermal Resistance	R_{th}	°C/W	1.31				0.65				0.44				0.33			
Max Power Dissipation	P_{cTmax}	W	84				168				252				336			
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	1.9				1.9				1.9				1.9			
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	$\frac{N}{A_{pk}}$ ($\frac{lbf}{A_{pk}}$)	26.5 (6.0)	N/A	15.3 (3.4)	N/A	26.5 (6.0)	53.0 (11.9)	15.3 (3.4)	30.6 (6.9)	26.5 (6.0)	79.5 (17.9)	N/A	45.9 (10.3)	26.5 (6.0)	53.0 (11.9)	N/A	30.6 (6.9)
Back EMF Constant p-p ^{3,4}	K_e	$\frac{V_p}{m/s}$ ($\frac{V_p}{in/s}$)	31.3 (0.8)	N/A	18.1 (0.5)	N/A	31.3 (0.8)	62.6 (1.6)	18.1 (0.5)	36.2 (0.9)	31.3 (0.8)	93.9 (2.4)	N/A	54.2 (1.4)	31.3 (0.8)	62.6 (1.6)	N/A	36.2 (0.9)
Peak Current ^{2,4}	I_p	A_{pk} (A_{rms})	16.5 (11.7)	N/A	28.7 (20.3)	N/A	33.1 (23.4)	16.5 (11.7)	57.3 (40.5)	28.7 (20.3)	47.0 (33.2)	15.7 (11.1)	N/A	27.1 (19.2)	66.2 (46.8)	33.1 (23.4)	N/A	57.3 (40.5)
Continuous Current ^{1,4,5,6}	I_{cTmax}	A_{pk} (A_{rms})	3.3 (2.3)	N/A	5.7 (4.1)	N/A	6.6 (4.7)	3.3 (2.3)	11.5 (8.1)	5.7 (4.1)	9.9 (7.0)	3.3 (2.3)	N/A	5.7 (4.1)	13.2 (9.4)	6.6 (4.7)	N/A	11.5 (8.1)
Resistance p-p ³ @20°C	R_{20}	ohm	7.15	N/A	2.38	N/A	3.57	14.29	1.19	4.76	2.38	21.44	N/A	7.15	1.79	7.15	N/A	2.38
Inductance p-p ³	L	mH	13.40	N/A	4.47	N/A	6.70	26.80	2.23	8.93	4.47	40.20	N/A	13.40	3.35	13.40	N/A	4.47
Mechanical Parameters																		
Magnetic Attraction	F_a	N (lbf)	0 (0)				0 (0)				0 (0)				0 (0)			
Coil Mass	M_c	kg (lbf _m)	0.74 (1.64)				1.37 (3.02)				2.00 (4.41)				2.63 (5.79)			
Magnetic Channel Mass	M_n	kg/m (lbf/in)	15.85 (0.89)				15.85 (0.89)				15.85 (0.89)				15.85 (0.89)			

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



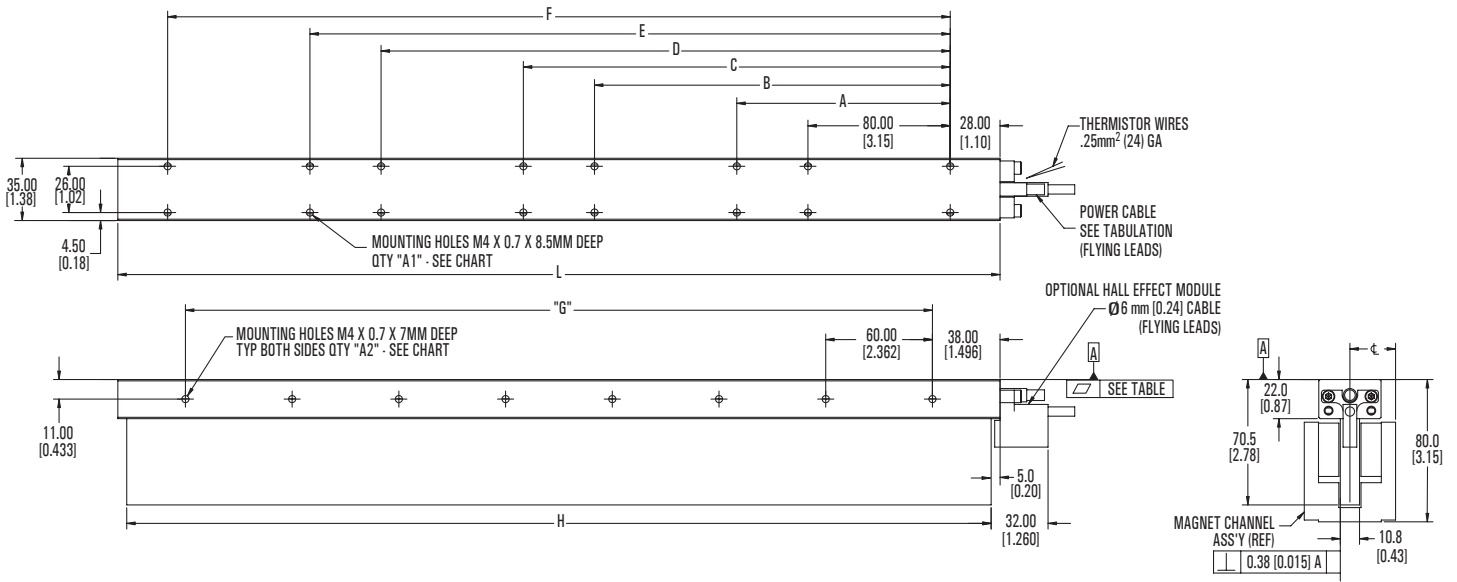
Note: Phasing direction is coil moving towards motor power cable

Dimensions mm [in]

Size	Winding Code	Power Cable Dia.	Gauge
030-120	D F	φ6.1 (.24)	0.75mm ² (18)
030-240	D E F G	φ6.1 (.24)	0.75mm ² (18)
030-360	D E G	φ6.1 (.24)	0.75mm ² (18)
030-480	D E G	φ6.1 (.24)	0.75mm ² (18)

Coil Assembly LZ-030-HT-XXX

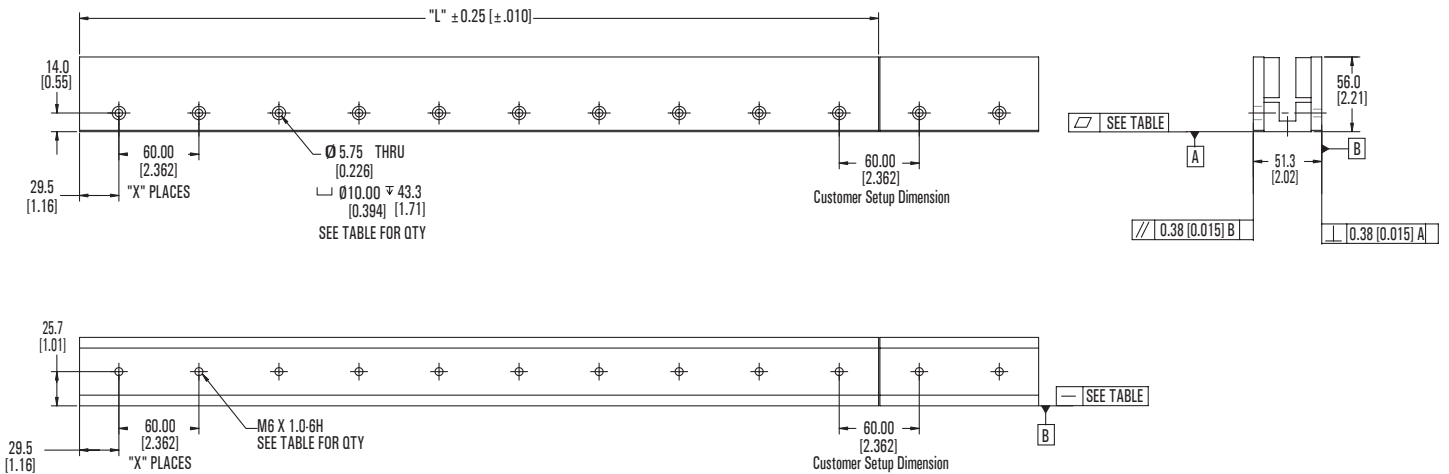
Dimensions mm [in]



Coil												
Size	L	A	B	C	D	E	F	G	H	A1 QTY	A2 QTY	Flatness A
030-120	136.00 (5.35)	---	---	---	---	---	---	60.00 (2.362)	126.0 (4.96)	4	3	0.25 (.010)
030-240	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)
030-360	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)
030-480	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-030-HT-XXX



Tolerances

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