Ultimag® Size 4EM

Part Number: 197124-0XX

All catalog products manufactured after April 1, 2006 are RoHS Compliant

Specifications

Dielectric Strength 1000 VRMS (23 awg); 1200 VRMS (24-

33 awg)

Recommended Maximum watts dissipated by the Minimum Heat Sink Ultimag are based on an unrestricted

flow of air at 20°C, with the Ultimag mounted on the equivalent of an aluminum plate measuring 6-1/4" square by 1/8" thick (15.9 cm sq. x 0.32

cm)

Thermal Resistance 7.6°C/watt with heatsink;

15.0°C/watt without heatsink

Rotor Inertia 8.43 x 10⁻⁷ (kgm²) Peak Torque Rating (Tp) 45 oz.in. (0.32 Nm)

Power Input 145 watts (stalled at Tp; 25°C; Pp)

Number of Phases

Static Friction (Tf) 1 oz.in. max. (7mNm)

-3dB Closed Loop 78 Hz Maximum Winding 180°C Number of Poles 6

Weight: 7.6 oz. (215 gms)

Dimensions: Ø1.625" x 1.04" L (Ø41.66 mm x 26.3

mm L) See page B10.



Performance

Maximum Duty Cycle	100%	50%	25%	10%
K _м (oz-in/√watt)	5.8	5.1	4.6	4.3
Maximum ON Time (sec)	∞	40	15	4
when pulsed continuously ¹				
Maximum ON Time (sec)	∞	108	34	9
for single pulse ²				
Typical Energize Time (msec) ³	6	5	4.5	3.5
Watts (@ 20°C)	14.5	29	58	145
Ampere Turns (@ 20°C)	510	721	1020	1613

	Coil Data					
awg (0XX) ⁴	Resistance (@20°C)	# Turns⁵	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	0.71	104	3.2	4.5	6.4	10.1
24	1.54	174	4.7	6.7	9.4	14.9
25	2.15	195	5.6	7.9	11.2	17.6
26	3.01	219	6.6	9.3	13.2	20.9
27	5.78	328	9.2	12.9	18.3	28.9
28	8.09	368	10.8	15.3	21.7	34.3
29	14.40	515	14.5	20.4	28.9	45.7
30	20.11	575	18.9	24.2	37.7	59.6
31	34.40	774	22.3	31.6	44.6	71.0
32	56.60	1008	28.7	40.5	57.0	91.0
33	91.40	1288	36.0	51.5	73.0	115.0

How to Order

Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle rated at 18.5 VDC, specify 197124-027).

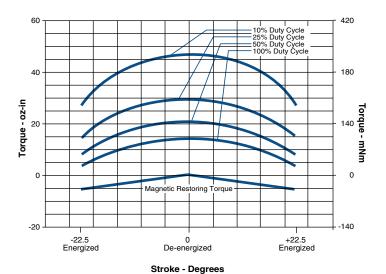
Please see www.ledex.com (click on Stock Products tab) for our list of stock products available through our North American distributors.

- Continuously pulsed at stated watts and duty cycle
- ² Single pulse at stated watts (with coil at ambient room temperature 20°C)
- Typical energize time based on no load condition. Times shown are for half of full rotary stroke starting at center-off position.
- 4 Other coil awg sizes available please consult factory
- ⁵ Reference number of turns

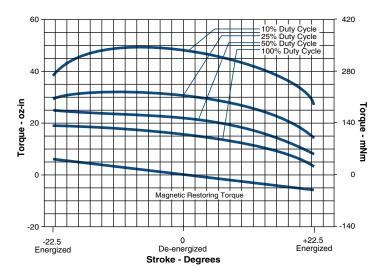
WARNING: Exposed Magnet may affect pacemakers. In the event a product unit's magnet is exposed due to product disassembly, Pacemaker Wearers should distance themselves 10 feet from exposed magnet.

All specifications subject to change without notice.

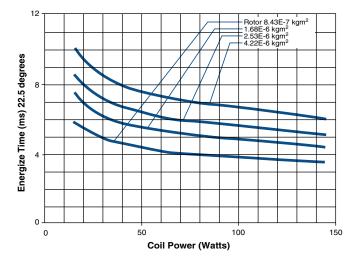
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Graph 1 shows three position operation. In any mode, the armature seeks center of stroke at zero power. Applying a positive or negative voltage causes the shaft to rotate clockwise or counter clockwise. When power is removed, the restoring torque is applied to the load, or alternatively, the shaft can be driven to center under power.



Graph 2 shows operation end-to-end. Note the high starting torque for high starting acceleration or for stopping the load by means of reverse voltage at the end of the stroke. If the device is used in a full stroke application, the load can be externally latched, detented, or biased to either end of stroke.



Graph 3 shows how speed varies with load. Each curve represents a different inertial load, which is a multiple of the armature inertia.

Calculate the inertia of your system, then use this chart to determine Ultimag speed in your application. Inertia determination of simple shapes is shown in most engineering handbooks; complex shapes are calculated in solid modeling software or are measured empirically. This graph represents half of the full rotary stroke starting at the center-off position.

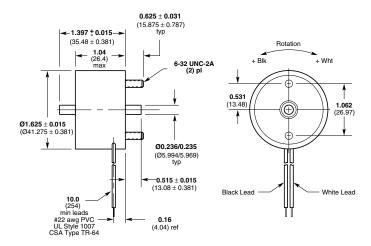
Torque values for reference only.

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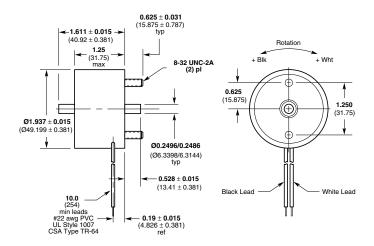
Ultimag[®] Dimensions

inches (mm)

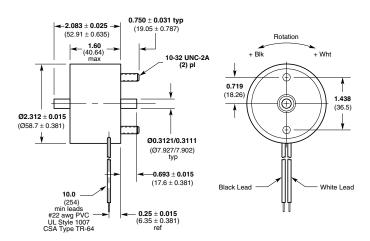
4EM



5EM



6EM



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