Ultimag[®] Size 4EM

Part Number: 199172-0XX

Specifications

Dielectric Strength

Recommended Minimum Heat Sink

Thermal Resistance

Rotor Inertia Peak Torque Rating (Tp) Power Input Number of Phases Static Friction (Tf) -3dB Closed Loop Maximum Winding Number of Poles Weight: Dimensions: 33 awg) Maximum watts dissipated by the Ultimag are based on an unrestricted flow of air at 20°C, with the Ultimag mounted on the equivalent of an aluminium plate measuring 15.9 cm square x 0.32 cm thick 7.6°C/watt with heatsink; 15.0°C/watt without heatsink 8.43 x 10⁻⁷ (kgm²) 0.32 Nm 145 watts (stalled at Tp; 25°C; Pp) 1 7 mNm 78 Hz 180°C 6 215 gms Ø41.66 mm x 26.3 mm L

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

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



Performance

Maximum Duty Cycle			100%	50%	25%	10%
K _м (mNm/√watt)			40.6	35.7	32.2	30.1
Maximum ON Time (sec)			∞	40	15	4
when pulsed continuously ¹						
Maximum ON Time (sec)			∞	108	34	9
for single	e pulse²					
Typical Energise 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	Resistance	#	VDC	VDC	VDC	VDC
(0XX) ⁴	(@20°C)	Turns⁵	(Nom)	(Nom)	(Nom)	(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

(See page B10)

How to Order

Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle rated at 18.3 VDC, specify 199172-027).

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

- ¹ Continuously pulsed at stated watts and duty cycle
- ² Single pulse at stated watts (with coil at ambient room temperature 20°C)
- ³ Typical energise time based on no load condition. Times shown are for half of full rotary stroke starting at centre-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 3 metres from exposed magnet.

All specifications subject to change without notice.

29

30

31

32

33

14.40

20.11

34.40

56.60

91.40

515

575

774

1008

1288

14.5

18.9

22.3

28.7

36.0

20.4

24.2

31.6

40.5

51.5

28.9

37.7

44.6

57.0

73.0

45.7

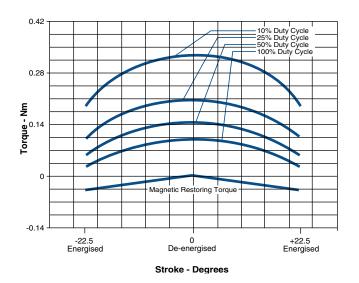
59.6

71.0

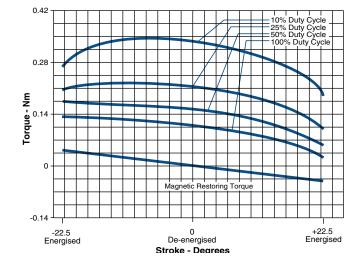
91.0

115.0

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Graph 1 shows three position operation. In any mode, the armature seeks centre 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 centre under power.



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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.

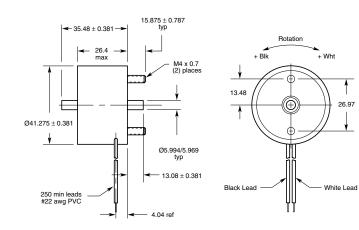
Calculate the inertia of your system, then use this chart to determine Ultimag speed in your application. Inertia determination of simple shapes is shown in most engineering handbooks: complex shapes are calculated in solid modeling software or are measured empirically. This graph represents half of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

Torque values for reference only.

All specifications subject to change without notice.

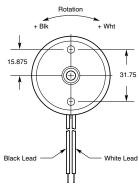
Ultimag® Dimensions



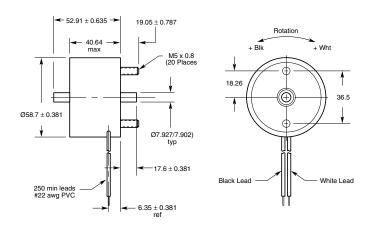


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049.199 ± 0.381 250 min leads #22 awg PVC 049.191 06.3399/6.3144 typ 06.3399/6.3144 typ 06.3399/6.3144 typ 06.3399/6.3144 typ 06.3399/6.3144 typ 06.3391/5 06.5391/5 06.539



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All specifications subject to change without notice.

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