

**DC PERMANENT MAGNET MOTORS  
MILITARY QUALITY**

**MODEL DML  
BULLETIN 150A105**

2796 Culver Ave., Dayton, Ohio 45429  
513/294-1041

**ELECTRICAL SPECIFICATIONS**

**Rating:** 0.040 hp continuous duty.

**Voltage:** 3 to 115 VDC are the charted standards but other voltages are available.

**Speed:** 4,820 to 11,740 rpm are standard with almost any variation easily made.

**Connection Method:** Double conductor shielded leads.

**Rotation:** Direction is CCW when plus (red) lead is positive and viewing shaft end.

**Reversibility:** Motor rotation reverses when applied voltage is reversed.

The Motor Technology, Inc. Model DML motor is designed to meet typical military application demands. The unit has a high power-to-weight ratio, reliability and excellent efficiency. It is designed to meet the applicable portions of MIL-M-8609 and MIL-E-5272, including the rugged environmental and explosion proof requirements.

Special flanges, pinions, filters and brakes are among the more common examples of design options available. If you have a particular requirement, tell us. Our engineers are responsive and we want to help you make your application a success. For information on mating planetary gearmotors, see Bulletin 151A117/133.



**MODEL DML**

**MECHANICAL SPECIFICATIONS**

**Frame:** Rigid, aluminum impact extrusion, fully machined.

**Armature:** Varnish impregnated, precision balanced with diamond turned commutator. Inertia is  $32 \times 10^{-5}$  oz. in. sec.<sup>2</sup> (max.).

**Magnet:** Cast Alnico 5, precision ground.

**Brush-holder:** Glass filled Diallyl Phthalate thermo-set, precision molded.

**Bearings:** Double shielded, life lubricated, R-3 precision ball bearings.

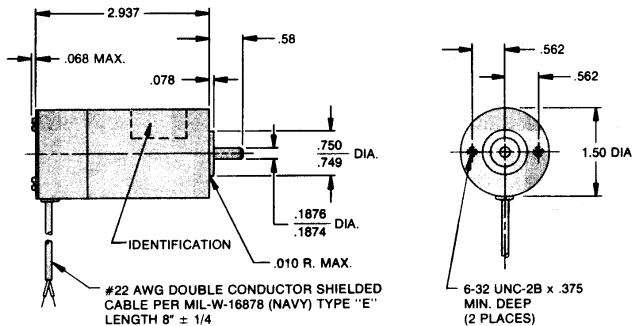
**Lubrication:** Grease per MIL-G-3278. Other lubricants available.

**Shaft:** Precision Ground 17-4PH stainless steel hardened R<sub>c</sub> 40-42.

**Mounting Method:** Two tapped holes for #6-32 screws or a non-magnetic clamp over motor O.D.

**Weight:** 11.2 oz. (max.)

**DIMENSIONS**



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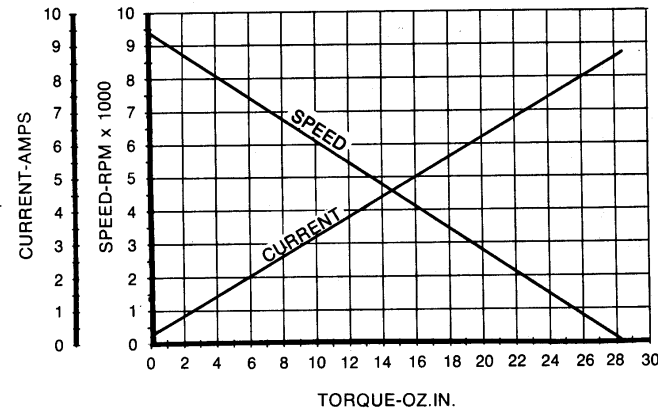
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**BASIC MOTOR DATA — STANDARD PART NUMBERS**

INPUT VOLTAGE DC	NO-LOAD SPEED* RPM	RATED TORQUE OZ. IN.	STALL TORQUE* OZ. IN.	NO-LOAD CURRENT* AMPS	RATED TORQUE CURRENT* AMPS	STALL CURRENT* AMPS	STANDARD DML PART NUMBERS
3	5,870	4.0	17.8	1.35	9.0	36	150A105-1
6	9,400	5.0	28.5	1.08	9.0	45	150A105-2
6	7,830	5.0	23.7	.90	7.0	30	150A105-3
6	6,280	4.0	19.0	.73	4.5	19	150A105-4
12	10,450	4.5	31.6	.60	4.1	25	150A105-5
12	8,190	5.0	24.8	.47	3.5	15.4	150A105-6
12	6,490	4.5	19.7	.37	2.5	9.7	150A105-7
27	11,740	4.0	35.6	.30	1.9	13.9	150A105-8
27	9,420	5.5	28.5	.24	1.9	8.8	150A105-9
27	7,420	4.5	22.5	.19	1.3	5.5	150A105-10
27	6,130	3.5	18.6	.16	.75	3.6	150A105-11
27	4,820	3.5	14.6	.12	.60	2.3	150A105-12
50	7,190	4.5	21.8	.099	.60	2.6	150A105-13
50	5,560	3.0	16.8	.077	.35	1.65	150A105-14
50	4,590	3.0	13.9	.063	.28	1.07	150A105-15
115	8,400	5.0	25.4	.051	.34	1.55	150A105-16
115	6,800	4.0	20.6	.041	.21	.99	150A105-17
115	5,150	3.0	15.6	.031	.13	.59	150A105-18

\*The standard production tolerance on no-load speed, stall torque and stall current is  $\pm 10\%$ .  
The tolerance on no-load current is  $+25\%$ .  
The tolerance on current at rated load is  $+15\%$ .

**NOMINAL PERFORMANCE CURVES  
150A105-9 at 27 VDC**



For complete engineering information on plotting speed/torque, current/torque curves for other armatures, see Bulletin E-1. For Servo information, see Bulletin E-2.

**ORDERING**

For standard motors, simply order by using the part number listed above corresponding to the performance required.

Special modifications to the DML motor are available and are ordered as follows:

1. Reference the closest standard P/N in your order.
2. Call out all the special requirements by stating exactly what is required.

We will then assign a special part number to identify your motor. For quick and accurate processing of future orders, just refer to this number.