

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

**DC PERMANENT MAGNET MOTORS  
INDUSTRIAL QUALITY**

**MODEL CIL  
BULLETIN 125A105**

**ELECTRICAL SPECIFICATIONS**

**Rating:** 0.015 hp continuous duty.

**Voltage:** 6, 12, 27, 50 and 75 VDC are standard. Other voltages are available as required.

**Speed:** 5800 rpm to 17,100 are catalog standard. Other speeds are readily made.

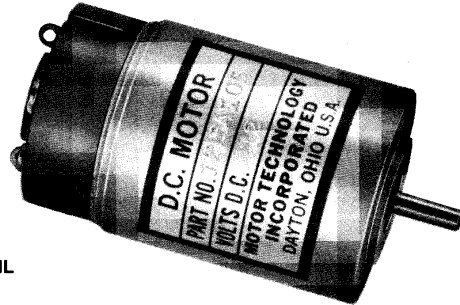
**Connection Method:** Solder terminals.

**Rotation:** Direction is CCW when positive terminal is plus and viewed from shaft end.

**Reversibility:** Motor reverses upon reversal of applied voltage.

The model CIL permanent magnet motor was designed by Motor Technology, Inc. to meet industry's most demanding requirements. A one-piece Alnico magnet, an impact extruded aluminum frame, and an impregnated and finely balanced armature make this motor the obvious choice for most applications.

Consult our application engineers when you need special modifications. We regularly provide special flanges, pinions, brakes, lubes, and electronic controls. For mating planetary gearhead information see Bulletin 126A130/150.



MODEL CIL

**MECHANICAL SPECIFICATIONS**

**Frame:** Impact extrusion, fully machined.

**Magnet:** Precision ground Alnico 5.

**Armature:** Varnish impregnated, precision balanced, diamond turned commutator. Inertia is  $9.8 \times 10^{-5}$  oz. in. sec<sup>2</sup>. (max.).

**Brush-holder:** Precision molded glass filled Diallyl Phthalate thermo-set plastic.

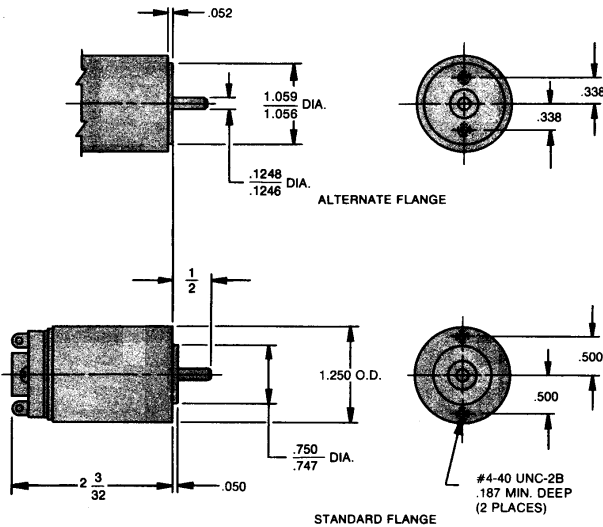
**Bearings:** Double shielded, life lubricated ball bearings.

**Shaft:** 17-4 PH stainless, hardened R<sub>c</sub> 40-45.

**Mounting Method:** Two #4-40 tapped holes in front end-bell for screws or a non-magnet clamp around frame.

**Weight:** 5.1 oz. (max.).

**DIMENSIONS**



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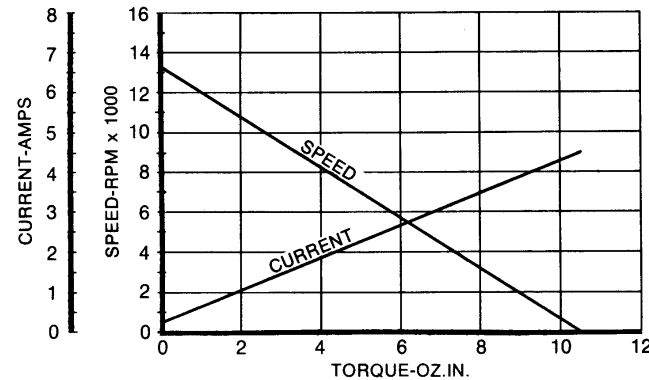
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**BASIC MOTOR DATA — STANDARD PART NUMBERS**

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 CIL PART NUMBERS
6	17,100	.75	13.8	1.43	3.5	34.0	125A105-1
6	14,300	1.0	11.4	1.19	3.5	24.0	125A105-2
6	11,200	1.5	9.0	.94	3.5	14.5	125A105-3
12	17,700	0.9	14.2	.74	2.0	18.4	125A105-4
12	14,300	1.2	11.4	.60	1.7	12.0	125A105-5
12	11,400	1.6	9.1	.47	1.6	7.6	125A105-6
12	9,000	1.8	7.2	.37	1.5	4.7	125A105-7
27	16,800	1.0	13.5	.31	.80	7.4	125A105-8
27	13,200	1.3	10.5	.24	.75	4.5	125A105-9
27	10,600	1.8	8.5	.20	.75	2.9	125A105-10
27	8,300	1.8	6.6	.15	.62	1.8	125A105-11
27	6,800	1.4	5.4	.12	.40	1.2	125A105-12
50	10,000	1.8	8.0	.10	.39	1.4	125A105-13
50	8,100	1.6	6.5	.081	.29	.92	125A105-14
75	9,100	1.8	7.3	.061	.24	.78	125A105-15
75	7,400	1.5	5.9	.049	.17	.51	125A105-16
75	5,800	1.0	4.6	.039	.10	.31	125A105-17

\*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  
125A105-9 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 CIL 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.