

ELECTRICAL SPECIFICATIONS

Voltage: 6, 12, 27, 50 and 75 VDC are standard. Other voltages available. Reverse side of sheet shows complete RCML gearmotor data.

Speed: Motor input speeds up to 15,560 RPM can be used to drive this precision planetary geartrain of ratios from 3.67 to 1132:1.

Connection Method: Double conductor shielded cables, #20 AWG per MIL-W-16878, type E.

Rotation: Counter clockwise when viewed from shaft end, when positive lead (red) is plus and negative lead (black) is minus.

Reversibility: Unit reverses rotation when voltage is reversed.

The Motor Technology Model RCML planetary gearmotor is designed and built for precision, durability and high torque-to-size performance. Common uses include military, aerospace and medical applications—where the needs for performance and dependability rank tops in priority. For pinions, RFI filters, brakes or any modifications you may need, consult with our application engineers. See Bulletin 127A105 for additional RCML motor information.



MODEL RCML GEARMOTOR

MECHANICAL SPECIFICATIONS

Rating: 0.03 hp with torques to 232 lb. in.

Gears: Precision cut and heat treated alloy steel.

Bearings: Output shaft supported by two ball bearings to support overhung loads. Needle bearings available for special side load conditions. All planet gears are mounted on anti-friction bearings.

Backlash: Less than 3°.

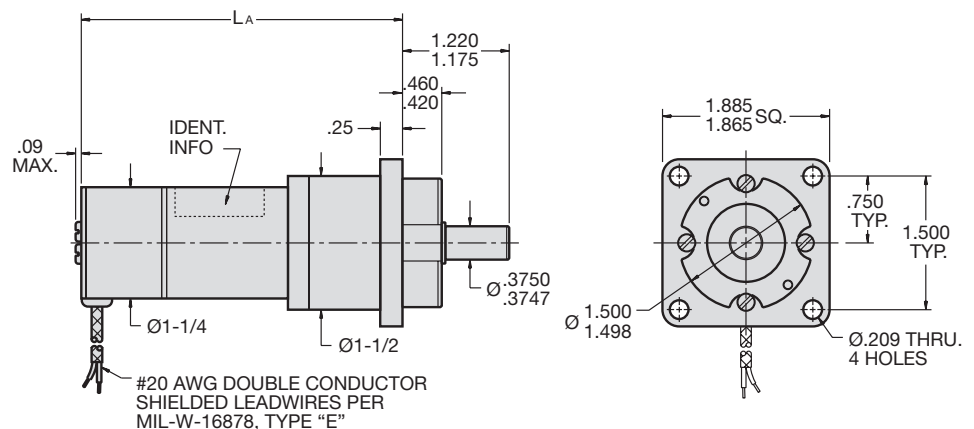
Shaft: Precision ground 8620 alloy steel per QQ-S-624, heat treated and case hardened.

Protection: Aluminum parts finished per MIL-C-5541 Ring gear cadmium plated per QQ-P-416, type II, class 2.

Lubrication: Motor bearings life lubricated per MIL-G-3278. Gearbox lubricated with grease per MIL-G-23827. Special lubes are available.

Weight: 19 to 28 ounces, depending on ratios.

DIMENSIONS



BASIC GEARMOTOR DATA — STANDARD PART NUMBERS

SPEED REDUCTION RATIO	MAXIMUM ¹ CONT. DUTY TORQUE LB.IN.	TORQUE ² MULTIPLIER	LENGTH L _A DIMENSION	STANDARD RCML GEARMOTOR PART NUMBERS (Add armature dash number to part number; see below.)
3.67	0.85	3.4	3.50	129A200-
5.80	1.4	5.4	3.50	129A201-
13.4	3.1	12.1	3.70	129A202-
21.3	4.8	19.2	3.70	129A203-
33.6	7.6	30.3	3.70	129A204-
49.3	11	42.3	4.20	129A205-
78.0	17	67.0	4.20	129A206-
123	27	105	4.20	129A207-
195	42	167	4.20	129A208-
286	59	233	4.40	129A209-
452	92	368	4.40	129A210-
715	146	583	4.40	129A211-
1132	232	928	4.40	129A212-

¹ This rating is for gearbox only. To determine output of any motor-gearbox combination, multiply motor torque by the torque multiplier for that ratio.

² Torque multiplier ratio is the gear ratio multiplied by its efficiency.

BASIC RCML ARMATURE DATA ³

INPUT VOLTAGE DC	NO-LOAD SPEED RPM	RATED TORQUE OZ.IN.	STALL TORQUE OZ.IN.	NO-LOAD CURRENT AMPS MAX.	RATED TORQUE CURRENT AMPS	STALL CURRENT AMPS	ARMATURE DASH NUMBER
6*	10,980	1.7	24.4	0.79	3.00	33.3	-1
6*	8,710	2.3	19.4	0.63	3.00	21.0	-2
12	13,800	1.7	30.7	0.50	1.93	26.3	-3
12	10,980	2.5	24.4	0.40	2.06	16.6	-4
12	8,710	3.0	19.4	0.31	1.89	10.5	-5
27	15,560	2.6	34.6	0.25	1.35	14.9	-6
27	12,350	3.2	27.4	0.20	1.26	9.3	-7
27	9,800	4.0	21.8	0.16	1.20	5.9	-8
27	7,780	3.5	17.3	0.13	0.85	3.7	-9
27	6,170	3.5	13.7	0.099	0.66	2.3	-10
50	9,075	2.5	20.2	0.078	0.40	2.7	-11
50	7,200	3.4	16.0	0.062	0.41	1.7	-12
50	5,715	4.0	12.7	0.049	0.38	1.1	-13
75	6,800	3.0	15.1	0.039	0.23	1.0	-14
75	5,400	3.0	12.0	0.031	0.18	0.64	-15
75	4,280	2.1	9.5	0.025	0.11	0.40	-16
75	3,400	1.8	7.5	0.020	0.075	0.25	-17

HOW TO SELECT A UNIT

The complete part number must include a standard RCML gearmotor part number (above) plus an applicable RCML armature dash number from the basic motor data chart (left). Use the following trial and error technique to start:

1. Assume motor speed of 8,000 RPM and divide it by the required output speed to get approximate ratio.
2. From ratios charted above, select closest one.
3. Check maximum torque rating of that ratio with your actual requirement. Adjust ratio and motor speed up or down as needed.
4. Calculate output torque by multiplying motor torque by the "torque multiplier" of the ratio selected.
5. Select armature from voltage, load and speed required.

HOW TO ORDER: Order by standard part number (example: 129A207-9), making sure to include the armature dash number. Note any modifications as exceptions to the standard.

³ For complete RCML motor data and tolerances see Bulletin 127A105.

*Intermittent duty at rated load. Consult factory for your application