

Brushless DC Motors

for Laser Printers, Copiers, Air Moving Devices

- ▄▄▄▄ 3-Phase, Outer Rotor Designs
- ▄▄▄▄ 1W to 50W Continuous Output Power
- ▄▄▄▄ Hall Effect Commutation
- ▄▄▄▄ Available with or without Motor Drive Circuits
- ▄▄▄▄ Rotational Accuracy to within $\pm 0.1\%$
- ▄▄▄▄ Tachometer Option (50 Square Wave Pulses per Revolution)
- ▄▄▄▄ PWM or PLL Speed Control Options
- ▄▄▄▄ Choice of Integral Hobbed Pinion or Straight Motor Shaft



Mechanical and Electrical Characteristics ⁽¹⁾

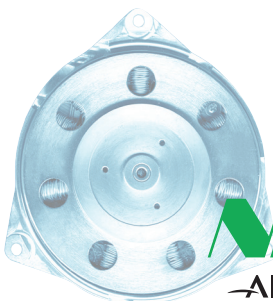
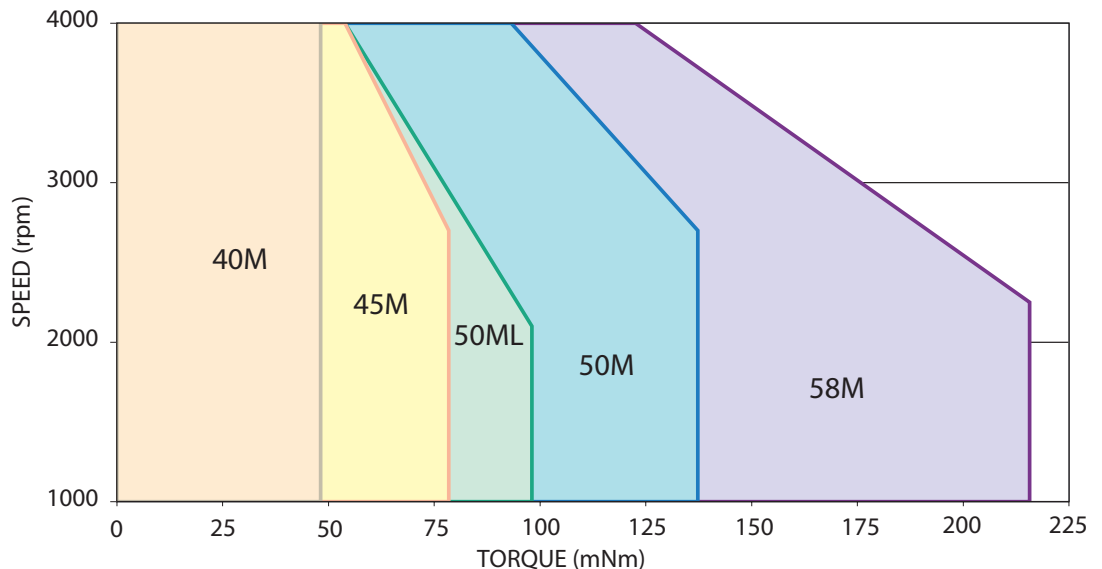
Model	Torque Constant (mNm/A)	Rotational Speed		Shaft Rotation	Max. Output (W)	Rotor Inertia (g-cm ²)	Operating Voltage		Max. Peak Current (A)	Sound Pressure ⁽²⁾ (dBA)	Bearing	Operating Temp.		Motor Life ⁽³⁾ (hours)
		Min. (rpm)	Max. (rpm)				Nom. (V)	Range (V)				Min. (°C)	Max. (°C)	
40M	40.0	1,000	4,000	CW or CCW	20.5	300	24	21.6-26.4	3.5	28	Ball	0	+50	5,000
45M	52.5	1,000	4,000	CW or CCW	22.6	450	24	21.6-26.4	3.5	28	Ball	0	+50	5,000
50ML	62.5	1,000	4,000	CW or CCW	22.6	850	24	21.6-26.4	3.5	30	Ball	0	+50	5,000
50M	67.0	1,000	4,000	CW or CCW	39.0	1,000	24	21.6-26.4	6.0	30	Ball	0	+50	5,000
58M	75.0	1,000	4,000	CW or CCW	51.3	1,500	24	21.6-26.4	8.0	33	Ball	0	+50	5,000

Note: (1) Values are representative of current designs. Design-to-specification windings, drive and control circuits are available for these motors.

(2) Sound pressure is recorded at 1500 rpm under no-load conditions, 50 cm (axially) from the end of the output shaft.

(3) Lifetime expectancy ratings are minimums based on complex axial/radial loads presented by printer and copier applications.

Speed/Torque Capabilities

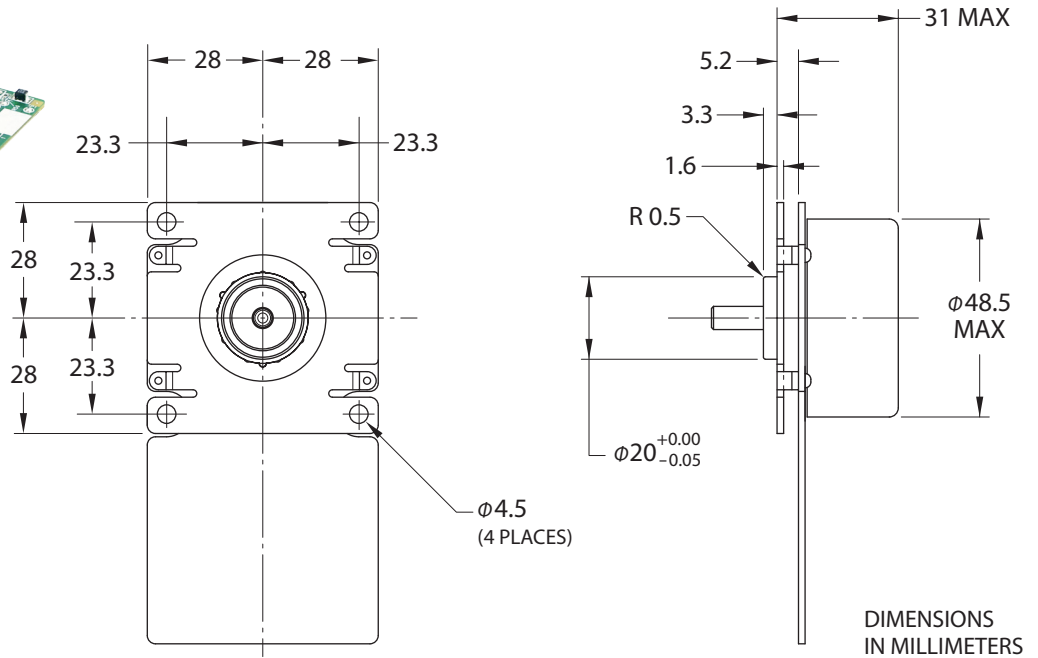
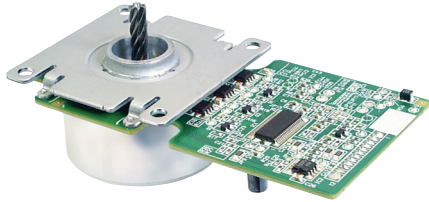


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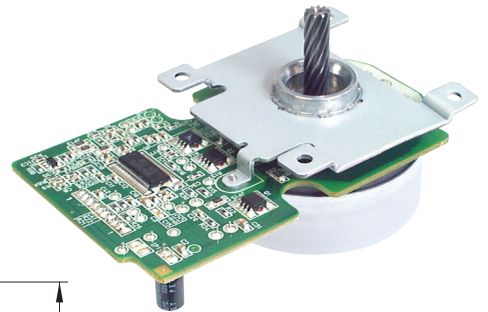
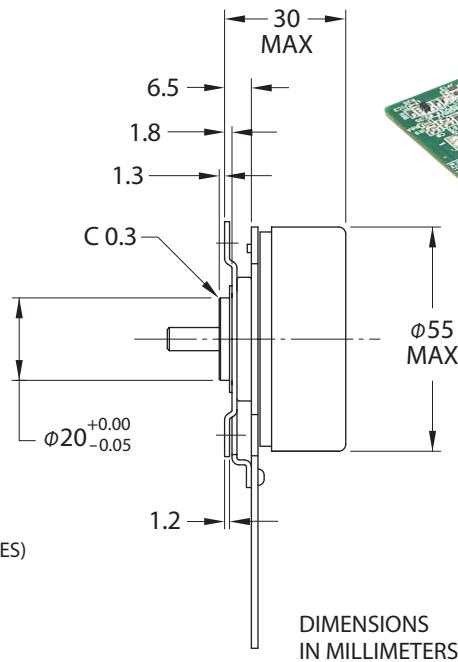
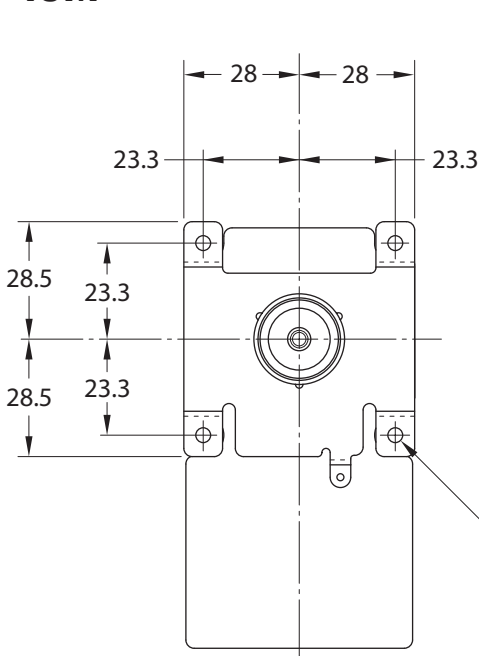
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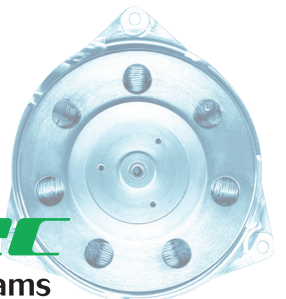
40M



45M



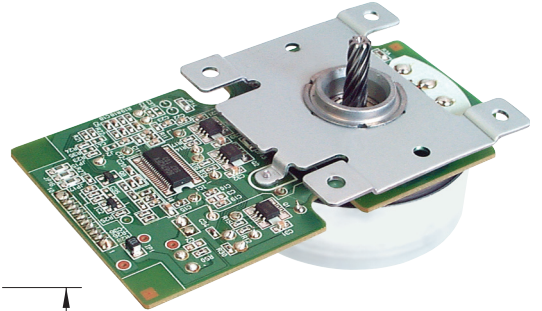
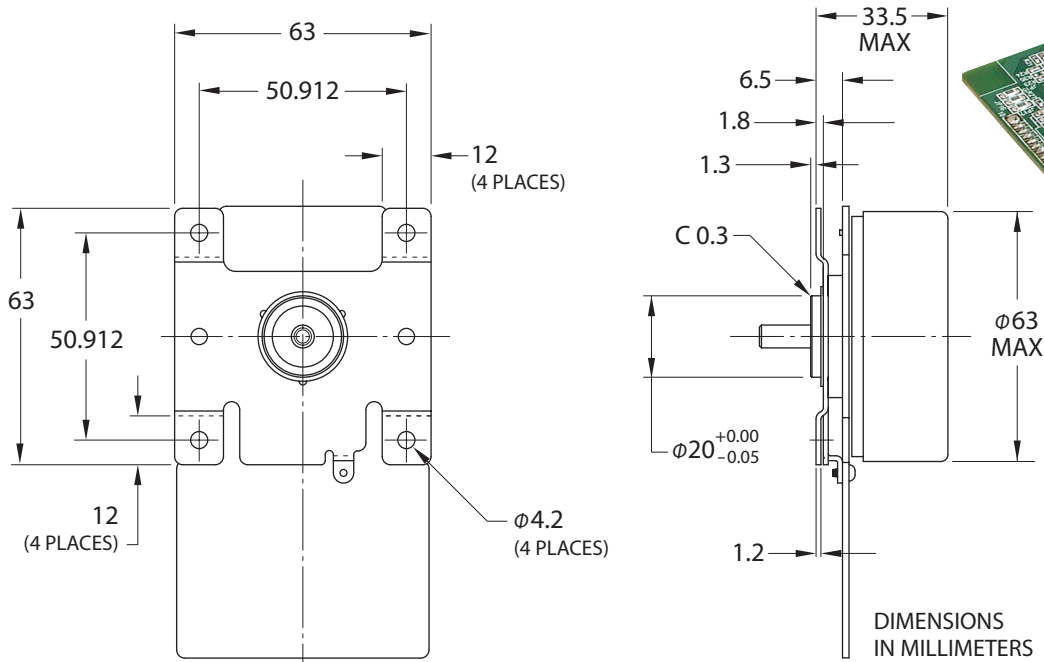
DIMENSIONS
IN MILLIMETERS



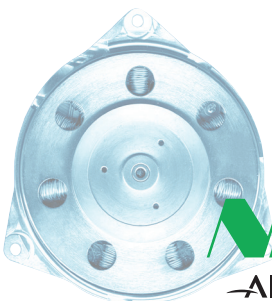
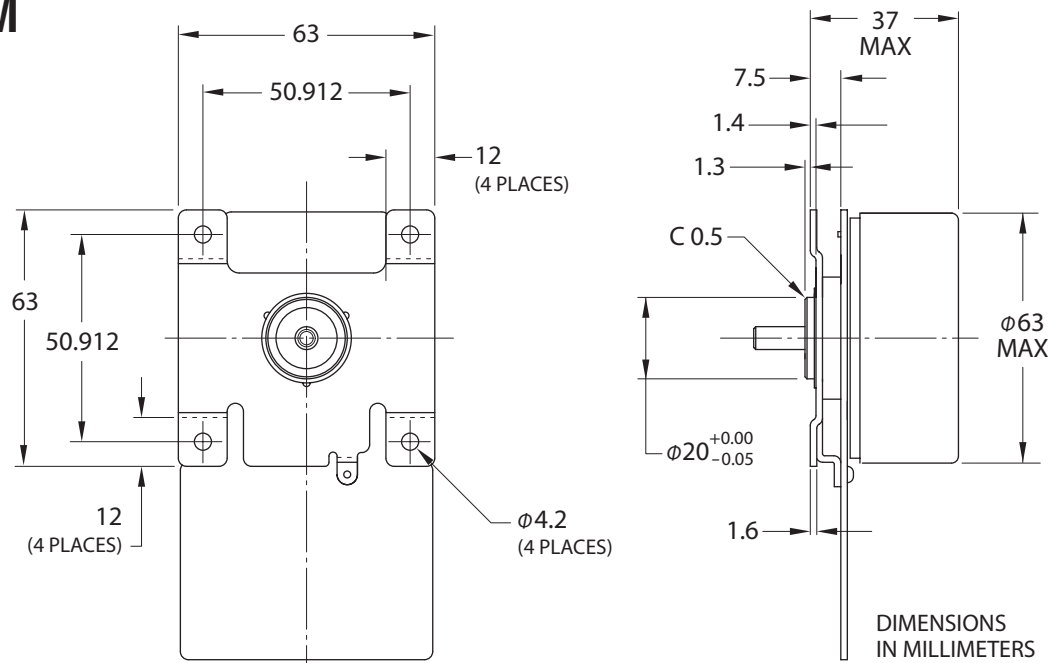
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50ML



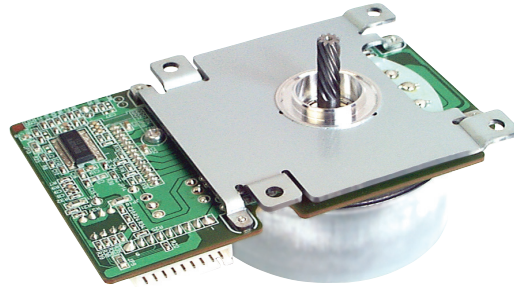
50M



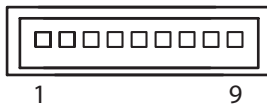
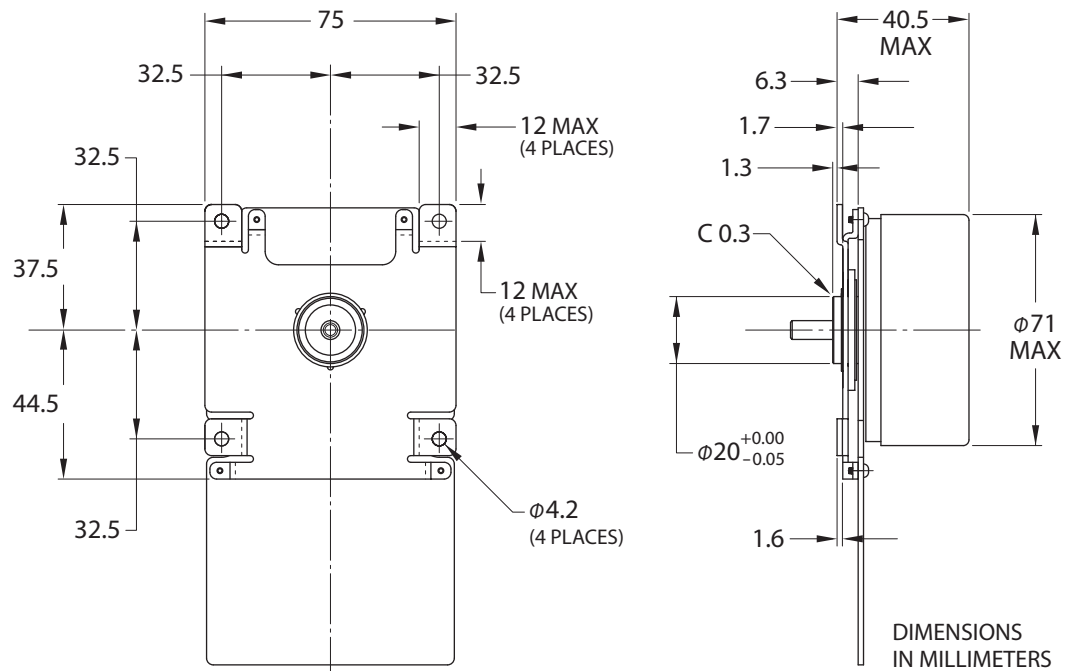
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58M



Typical Pinout - PLL Control

Pin	Function
1	Motor supply voltage, 24V, nominal
2	Power ground
3	Logic ground
4	Logic Supply, +5V
5	HIGH = start, LOW = stop

Pin	Function
6	HIGH = clockwise, LOW = counterclockwise
7	Clock in: $\text{rpm} = 60 f_{\text{CLK}}/50$
8	Speed lock detection (LOW)
9	Open-collector tachometer, 50 pulses per revolution, $I_C(\text{MAX}) = 3.0 \text{ mA}$

N/AHAJ

