

Brushless DC Motors



Compact, efficient brushless power for precision motion, propulsion, and mission-critical actuation.

Frontgrade's Brushless DC (BLDC) motor delivers efficient, reliable power in a compact and lightweight package. Engineered for demanding motion-control applications, our electronic commutation eliminates brush wear, reduces electrical noise, and enables precise control of speed, torque, and position.

The BLDC's high torque-to-weight ratio, broad operating-speed range, and low rotor inertia provide responsive performance for propulsion, actuation, stabilization, robotics, and automation. Frontgrade offers a variety of models that provide configuration flexibility like Hall sensors or an encoder may be integrated for closed-loop operation, while sensor-less control can simplify systems where precise low-speed positioning is not required.

FEATURES:

- High torque, power density, operating efficiency
- Precise speed, torque, and position control
- Fast acceleration and dynamic response with quiet operation and low vibration over wide operating-speeds

APPLICATIONS:

- Gimbal, turret, and sensor positioning
- EO/IR payload stabilization
- Radar and communications antenna positioning
- Flight-control actuation
- Missile seeker and guidance mechanisms
- Satellite reaction wheels and control-moment

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Part Number	Peak / Continuous Torque (in-lb)	Peak Power (W)	Motor Constant (Km)	Torque Sensitivity ($\frac{\text{in-lb}}{\text{oz}}$)	Winding Resistance @ 25°C	Mass (lbs)	Size (OD x ID x L, inches)
16087	50/20	25.5	10.25	11.5	1.26	0.778	1.95 X 0.250 X 1.684
16285	270/135	40.8	45.09	144.0	10.2	3.50	5.410 X 2.570 X 2.328
16349	48.4/16.4	10.1	15.19	9.49	0.39	1.000	2.25 X 0.3151 X 2.914
200-18-94	0.84/0.6	7.2	0.3123	2.00	41.0	0.65	1.95 X 0.500 X 1.420
200-18-120	2.5/1.8	4.57	1.17	2.75	5.53	0.1634	0.75 x 0.125 x 0.9750
200-18-57	5.0/2.5	8.25	1.74	3.0	2.97	0.39	1.0 X 0.125 X 1.254
200-18-110	7.5/3.75	15.98	1.88	3.1	2.73	0.45	1.3 x 0.125 x 1.095
200-20-26	51/15.9	20.81	11.2	15	1.8	1.13	2.25 X 0.450 X 1.707
200-18-91	18/9	29	3.35	4.5	1.8	0.60	1.750 X 0.428 X 1.707
200-18-97	22/11	27	4.250	5.5	1.675	0.60	1.750 X 0.428 X 1.707
16435	522/174	42	80.43	87.00	1.17	6.00	5.000 X 2.600 X 2.140
16436	564/188	40	89.02	94.00	1.12	7.10	5.000 X 2.600 X 2.440
16440	482/161	93.6	30.39	49.00	2.60	2.80	3.600 X 1.5800 X 1.900
16441	482/161	93.6	30.39	49.00	2.60	2.80	3.600 X 1.5800 X 1.900
16442	597/199	155	47.90	99.5	4.315	4.50	3.600 X 1.900 X 2.950

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