
DC Brushless Servo Motors

- BM Series Brushless Servomotors
- Standard NEMA Frame Sizes
- Rare-earth Neodymium Iron Boron Magnets provide maximize performance
- Skewed Stator with 8-pole design minimizes torque ripple and cogging for smooth velocity control over a greater speed range
- Optional IP65-level Construction allows use in harsh environments, including wash-down
- Choice of Encoder or Resolver Feedback
- Optional Brake, Front Shaft Seal, and Gear Reducers



High-Performance Motor Design

The BM Series Servomotors are I²T's high-performance DC brushless rotary motors. These motors feature neodymium iron boron magnets for maximum torque and acceleration in a small package. The BM series motors are capable of reaching speeds of 10,000 rpm and accelerations to 270,000 rad/sec² for improved machine cycle times. The BM series motors have standard NEMA frame sizes and have continuous torque ranges from 75 oz-in to 280 in-lb and peak torque ranges up to 840 in-lb.



BM Series Servo Motor Specifications

Model →	Units	BM75	BM130	BM200	BM250	BM500	BM800	BM1400	BM2000	BM3400	BM4500
Stall Torque, Continuous	lb-in (N-m)	4.69 (0,53)	8.75 (1,0)	12.5 (1,41)	17.19 (1,94)	31.88 (3,6)	48.75 (5,5)	85.31 (9,6)	130 (14,7)	210 (23,7)	280 (31,5)
Peak Torque	lb-in (Nm)	12.5 (1,41)	21.88 (2,5)	31.25 (3,5)	43.75 (5,0)	79.69 (9,0)	125.0 (14,0)	212.5 (24,0)	390 (43,9)	630 (70,8)	840 (94,4)
Maximum Speed	rpm	10,000	10,000	8,000	8,000	6,000	6,000	6,000	2,700	2,700	2,700
Rated Speed	rpm	4,000	4,000	4,000	4,000	4,000	3,000	3,000	2,400	2,400	2,400
Torque Constant (K_t)	lb-in/A RMS (N-m/A RMS)	0.78 (0,08)	1.94 (0,22)	1.79 (0,20)	2.46 (0,28)	2.45 (0,28)	6.56 (0,74)	6.56 (0,74)	7.7 (0,87)	7.5 (0,85)	10.1 (1,14)
Back EMF Constant (K_e)	Volts peak/krpm	7.5	18.7	17.2	23.8	23.6	62	62	99	99	99
Resistance (line-to-line)	ohms (25° C)	1.0	2.0	1.1	1.1	0.5	1.2	0.5	0.72	0.24	0.13
Inductance (line-to-line)	mH	0.8	1.8	1.1	1.3	2.8	3.8	1.7	5.4	2.2	1.4
Rotor Moment of Inertia	oz-in/sec ² Kg-m ²	0.0007 0,52 x 10 ⁻⁵	0.0013 0,92 x 10 ⁻⁵	0.0019 1,3 x 10 ⁻⁵	0.011 7,8 x 10 ⁻⁵	0.020 13,9 x 10 ⁻⁵	0.042 30,0 x 10 ⁻⁵	0.080 56,0 x 10 ⁻⁵	0.1536 108,7x10 ⁻⁵	0.3702 217,4x10 ⁻⁵	0.4608 326,1x10 ⁻⁵
Maximum Acceleration	rad/sec ²	270,000	270,000	270,000	60,000	65,000	46,000	42,000	40,625	32,675	29,094