

Electronically commutated motor

**22BHM 8B ☉☉ • 01**  
With Hall effect sensors

Color	Designation	Color	Designation
Gray	Phase 1	Yellow	GND
Violet	Phase 2	Orange	Sensor 1
Blue	Phase 3	Red	Sensor 2
Green	3.5 to 27 VDC	Brown	Sensor 3

**22BHM 3C ☉☉ • 01**  
Sensorless

Color	Designation
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3

dimensions in mm  
mass: 100 g

**Winding Type**

	☉☉	-H	-K	-P
<b>Coil Dependent Parameters</b>				
Phase/phase resistance	ohm	0.99	0.68	0.33
Phase/phase inductance	mH	0.10	0.07	0.04
Back-EMF constant	V/1000 rpm	0.87	0.71	0.50
Torque Constant	mNm/A (oz.-in/A)	8.3 (1.18)	6.7 (0.95)	4.7 (0.67)
<b>Dynamic Parameters</b>				
Rated Voltage	V	24	24	24
No-load Current	mA	130	160	270
No-load Speed	rpm	28'300	34'000	49'500
Max. continuous stall torque	mNm (oz-in)	19.5 (2.76)	19.2 (2.72)	19.3 (2.73)
Max. continuous stall current	A	2.4	2.8	4.1
Max. continuous torque at 10 krpm & 25 °C	mNm (oz-in)	17.9 (2.53)	17.9 (2.53)	18.4 (2.61)
Max. continuous current at 10 krpm & 25 °C	A	2.2	2.7	4
Max. continuous power at 10 krpm & 25 °C	W	18.8	18.7	19.3
<b>Intrinsic Parameters</b>				
Motor constant	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )	8.3 (1.18)	8.2 (1.16)	8.2 (1.16)
Rotor inertia	kgm <sup>2</sup> 10 <sup>-7</sup>	2.3	2.3	2.3
Mechanical time constant	ms	3.3	3.4	3.4
Electrical time constant	ms	0.10	0.10	0.12
Thermal resistance	°C/W	13	13	13

- Motor with preloaded ball bearings
- Typical preload = 5.5 N
- Maximum external load:
  - axial static 34 N (without shaft support)
  - axial dynamic 5 N
  - radial dynamic 10 N
- Operating temperature range -30°C to 100°C
- Max. rated coil temperature 125°C

