

Electronically commutated motor

Conductor size : AWG24
Insulation : PTFE - 5Y - +260°C

16BHS 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

16BHS 3C ☉☉ • 01
Sensorless

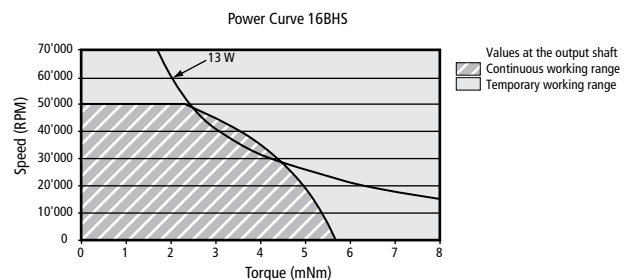
Color	Designation
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3

dimensions in mm
mass: 39 g

Winding Type

	☉☉	-E	-L	-P	-T
Coil Dependent Parameters					
Phase/phase resistance	ohm	19.4	6.6	5.1	1.4
Phase/phase inductance	mH	1.00	0.36	0.28	0.08
Back-EMF constant	V/1000 rpm	1.41	0.86	0.77	0.39
Torque Constant	mNm/A (oz.-in/A)	13.5 (1.91)	8.2 (1.16)	7.4 (1.05)	3.7 (0.52)
Dynamic Parameters					
Rated Voltage	V	12	12	12	12
No-load Current	mA	20	40	60	125
No-load Speed	rpm	8'150	13'800	15'300	30'400
Max. continuous stall torque	mNm (oz-in)	5.5 (0.78)	5.8 (0.82)	5.9 (0.84)	5.7 (0.81)
Max. continuous stall current	A	0.41	0.7	0.88	1.52
Max. continuous torque at 10 krpm & 25 °C	mNm (oz-in)	4.9 (0.69)	5.3 (0.75)	5.4 (0.76)	5.4 (0.76)
Max. continuous current at 10 krpm & 25 °C	A	0.4	0.7	0.77	1.5
Max. continuous power at 10 krpm & 25 °C	W	5.1	5.6	5.6	5.6
Intrinsic Parameters					
Motor constant	mNm/W ^{1/2} (oz-in/W ^{1/2})	3.1 (0.44)	3.2 (0.45)	3.3 (0.47)	3.2 (0.47)
Rotor inertia	kgm ² 10 ⁻⁷	0.50	0.50	0.50	0.50
Mechanical time constant	ms	5.5	5.1	4.9	5.2
Electrical time constant	ms	0.05	0.05	0.05	0.06
Thermal resistance	°C/W	22	22	22	22

- Motor with preloaded ball bearings
- Typical preload = 2 N
- Maximum external load:
 - axial static 25 N (without shaft support)
 - axial dynamic 2 N
 - radial dynamic 5 N
- Operating temperature range -30°C to 100°C
- Max. rated coil temperature 125°C



Also available in 2 wires version: drive it like a conventional brushed DC motor