



16BHS 8B - **

Electrical Data	**	E	L	P	T	
1 Nominal Voltage	U _N	12	12	12	12	Volt
2 Optimization direction	-	Symmetrical	Symmetrical	Symmetrical	Symmetrical	-
3 No-Load Speed	n ₀	8,150	13,800	15,300	30,400	rpm
4 Typical no-load current	I ₀	20.0	40.0	60.0	125.0	mA
5 Max continuous mechanical power (@ 25°C)	P _{max}	13.0	13.0	13.0	13.0	W
6 Max continuous current	I _{e max}	0.4	0.7	0.9	1.5	A
7 Max continuous torque	M _{e max}	5.5 (0.78)	5.8 (0.83)	5.9 (0.84)	5.7 (0.81)	mNm (oz-in)
8 Back EMF Constant	K _E	1.41	0.86	0.77	0.39	V/1000 rpm
9 Torque Constant	k _M	13.5	8.2	7.4	3.7	mNm/A
10 Motor regulation	R/k ²	106.4	98.2	93.1	102.3	10 ³ /Nms
11 Motor regulation	k/R ^{1/2}	2.1 (0.3)	2 (0.29)	2.2 (0.32)	2.2 (0.32)	mNm/W ^{1/2} (oz-in/W ^{1/2})
12 Internal resistance - phase to phase	R _f	19.40	6.60	5.10	1.40	ohms
13 Line to line resistance at connectors	R _L	19.40	6.60	5.10	1.40	ohms
14 Inductance phase to phase	L	1.00	0.36	0.28	0.08	mH
15 Mechanical Time Constant	t _m	5.5	5.1	4.9	5.2	ms
16 Electrical Time Constant	t _e	0.04	0.04	0.04	0.04	ms

General Data			
17 Maximum motor speed	n _{max}	98,000	rpm
18 Ambient working temperature range	-	-30 to + 100 (-22 to + 212)	°C (°F)
19 Ambient storage temperature range	-	-40 to + 100 (-40 to + 212)	°C (°F)
20 Ball bearings preload	-	2.0	N
21 Axial static force without shaft support (max)	-	25.0	N
22 Maximum winding temperature	-	125 (257)	°C (°F)
23 Thermal Resistance	R _{th}	22.0	°C/W
24 Thermal time constant	t _w	520	s
25 Weight	-	39 (1.38)	g (oz)
26 Rotor Inertia	J	0.500	g.cm ²
27 Hall sensor electrical phasing	-	120	Electrical °

16BHS - 8B - ** - 01
with hall effect sensors

Wire	Description
Grey	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	3.5 to 27V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3

