



Electrical Data	**	K	P	
1 Nominal Voltage	$U_N$	24	24	Volt
2 Optimization direction	-	Symetrical	Symetrical	-
3 No-Load Speed	$n_0$	24,300	34,100	rpm
4 Typical no-load current	$I_0$	150.0	210.0	mA
5 Max continuous mechanical power (@ 25°C)	$P_{max}$	70.0	70.0	W
6 Max continuous current	$I_{e max}$	2.9	4.1	A
7 Max continuous torque	$M_{e max}$	27.9 (3.96)	28.2 (4)	mNm (oz-in)
8 Back EMF Constant	$K_E$	1.00	0.73	V/1000 rpm
9 Torque Constant	$k_M$	9.6	6.9	mNm/A
10 Motor regulation	$R/k^2$	9.1	9.0	10 <sup>3</sup> /Nms
11 Motor regulation	$k/R^{1/2}$	10.4 (1.48)	10.6 (1.51)	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )
12 Internal resistance - phase to phase	$R_f$	0.84	0.43	ohms
13 Line to line resistance at connectors	$R_L$	0.84	0.43	ohms
14 Inductance phase to phase	L	0.09	0.05	mH
15 Mechanical Time Constant	$t_m$	2.8	2.8	ms
16 Electrical Time Constant	$t_e$	0.11	0.12	ms

General Data			
17 Maximum motor speed	$n_{max}$	73,000	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	-	5.5	N
21 Axial static force without shaft support (max)	-	34.0	N
22 Maximum winding temperature	-	125 (257)	°C (°F)
23 Thermal Resistance	$R_{th}$	10.0	°C/W
24 Thermal time constant	$t_w$	700	s
25 Weight	-	125 (4.41)	g (oz)
26 Rotor Inertia	J	3.100	g.cm <sup>2</sup>
27 Hall sensor electrical phasing	-	120	Electrical °

**22BHL - 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

