



Dimensions in mm.

Electrical Data	Symbol	22ECP60 8B-90.01	Unit
1 Nominal Voltage	$U_N$	24	Volt
2 Optimization Direction	-	Symetrical	-
3 No Load Speed	$n_0$	8,050	rpm
4 Typical No Load Current	$I_o$	40	mA
5 Max. Continuous Mechanical Power (@25°C)	$P_{max}$	120	W
6 Max. Continuous Current	$I_{e,max}$	1.8	A
7 Max. Continuous Torque	$M_{e,max}$	50.5 (7.16)	mNm (oz-in)
8 Back EMF Constant	$k_E$	2.96	V/1000 rpm
9 Torque Constant	$k_M$	28.3	mNm/A
10 Motor Regulation	$R/k^2$	3.0	10 <sup>3</sup> /Nms
11 Motor Regulation	$k/R^{1/2}$	18.3 (2.6)	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )
12 Internal Resistance - phase to phase	$R_1$	2.38	ohms
13 Line to Line Resistance at Connectors	$R_L$	2.47	ohms
14 Inductance Phase to Phase	$L$	0.48	mH
15 Mechanical Time Constant	$\tau_m$	1.0	ms
16 Electrical Time Constant	$\tau_e$	0.20	ms

General Data			
17 Maximum Motor Speed	$n_{max}$	38000	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	-	5.50	N
21 Axial Static Force w/o Shaft Support (max)	-	34	N
22 Maximum Winding Temperature	-	125 (257)	°C (°F)
23 Thermal Resistance	$R_{th}$	1/8.4	°C/W
24 Thermal Time Constant	$\tau_w$	1100	s
25 Weight	-	140 (4.94)	g (oz)
26 Rotor Inertia	$J$	3.5	g-cm <sup>2</sup>
27 Hall Sensor Electrical Phasing*	-	120	Electrical °

\*Available without hall sensor

Wire	Description
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	3.5 to 24V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3

with hall effect sensor

