



Dimensions in mm

Electrical Data	Symbol	60ECF38-8B-XXX.01		Unit
		14	28	
1 Nominal Voltage	U_N	24	48	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	4'300	4'020	rpm
4 Typical No Load Current	I_0	493	221	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	100	100	W
6 Max. Continuous Current	$I_{e,max}$	5.14	2.61	A
7 Max. Continuous Torque	$M_{e,max}$	269 (38.09)	298 (42.2)	mNm (oz-in)
8 Back EMF Constant	k_E	5.5	11.8	V/1000 rpm
9 Torque Constant	k_M	57.3 (8.11)	113 (16)	mNm/A
10 Motor Regulation	R/k^2	0.089	0.08	$10^3/Nms$
11 Motor Regulation	$k/R^{1/2}$	106 (15)	112 (15.8)	mNm/W ^{1/2} (oz-in/W ^{1/2})
12 Internal Resistance - phase to phase	R_I	0.293	1.023	ohms
13 Line to Line Resistance at Connectors	R_L	0.293	1.023	ohms
14 Inductance Phase to Phase	L	0.279	1.28	mH
15 Mechanical Time Constant	τ_m	8.86	7.32	ms
16 Electrical Time Constant	τ_e	0.952	1.25	ms

General Data			
17 Maximum Motor Speed	n_{max}	6'000	rpm
18 Ambient Working Temperature Range	-	-40 to 100 (-40 to 212)	°C (°F)
19 Ambient Storage Temperature Range	-	-40 to 100 (-40 to 212)	°C (°F)
20 Ball Bearings Preload	-	12 (2.7)	N
21 Axial Static Force w/o Shaft Support (max)	-	170 (38.2)	N (lbs)
22 Maximum Winding Temperature	-	125 (257)	°C (°F)
23 Thermal Resistance	R_{th}	6.3	°C/W
24 Thermal Time Constant	τ_w	90	s
25 Weight	-	355 (12.52)	g (oz)
26 Rotor Inertia	J	835 (11824)	$g\text{-cm}^2 \cdot 10^{-4}$ (oz-in-sec ² 10^{-6})
27 Hall Sensor Electrical Phasing*	-	120	Electrical °

*Also available without Hall sensors

Wire	Description
Gray	Phase 1 (AWG 14)
Violet	Phase 2 (AWG 14)
Blue	Phase 3 (AWG 14)
Red	4.5 to 24 V DC (AWG 24)
Black	GND (AWG 24)
Brown	Hall Sensor 1 (AWG 24)
Yellow	Hall Sensor 2 (AWG 24)
Orange	Hall Sensor 3 (AWG 24)

