



Dimensions in mm.

Electrical Data	Symbol	30ECT90 10B-xxx.01			Unit
		4	6	8	
1 Nominal Voltage	$U_N$	24	36	48	Volt
2 Optimization Direction	-	Symetrical	Symetrical	Symetrical	-
3 No Load Speed	$n_0$	21,370	21,690	22,100	rpm
4 Typical No Load Current	$I_0$	1050	640	575	mA
5 Max. Continuous Mechanical Power (@25°C)	$P_{max}$	244.0	244.0	244.0	W
6 Max. Continuous Current	$I_{e,max}$	21.0	14.0	10.4	A
7 Max. Continuous Torque	$M_{e,max}$	225 (31.86)	221 (31.3)	219 (31.02)	mNm (oz-in)
8 Back EMF Constant	$k_E$	1.12	1.66	2.21	V/1000 rpm
9 Torque Constant	$k_M$	10.7	15.8	21.1	mNm/A
10 Motor Regulation	$R/k^2$	0.2	0.3	0.3	10 <sup>3</sup> /Nms
11 Motor Regulation	$k/R^{1/2}$	63.5 (9)	62.3 (8.83)	61.4 (8.69)	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )
12 Internal Resistance - phase to phase	$R_l$	0.03	0.06	0.12	ohms
13 Line to Line Resistance at Connectors	$R_L$	0.04	0.08	0.13	ohms
14 Inductance Phase to Phase	$L$	0.01	0.02	0.03	mH
15 Mechanical Time Constant	$\tau_m$	1.1	1.2	1.2	ms
16 Electrical Time Constant	$\tau_e$	0.27	0.26	0.25	ms

General Data					
17 Maximum Motor Speed	$n_{max}$	25,000			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	-	13.5			N
21 Axial Static Force w/o Shaft Support (max)	-	134			N
22 Maximum Winding Temperature	-	150 (302)			°C (°F)
23 Thermal Resistance	$R_{th}$	0.7/5.9			°C/W
24 Thermal Time Constant	$\tau_w$	1,659			s
25 Weight	-	380 (13.41)			g (oz)
26 Rotor Inertia	$J$	45.00			g-cm <sup>2</sup>
27 Hall Sensor Electrical Phasing	-	120			Electrical °

Wire	Description
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	4 to 24V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3
Black	Thermistor (+)
White	Thermistor (-)

with hall effect sensor

