



16G88 **** .1

Electrical Data	****	220P	214E	213E	211E	210E	205E		
1 Nominal Voltage	V	3	8	9	12	15	32	Volt	
2 No-Load Speed	n_0	11,025	9,250	7,980	8,690	9,000	8,150	rpm	
3 No-Load Current	I_0	45.0	10.0	8.0	6.5	5.5	2.0	mA	
4 Terminal Resistance	R	0.5	5.4	7.6	13.0	19.5	135.0	Ω	
5 Output Power	$P_{2\text{max.}}$	4.1	4.2	4.6	4.2	4.2	2.5	W	
6 Stall Torque	mNm	16 (2.27)	12.1 (1.72)	12.7 (1.8)	12.1 (1.72)	12.2 (1.73)	8.8 (1.25)	mNm (oz-in)	
7 Efficiency	$\eta_{\text{max.}}$	83	84	84	84	84	82	%	
8 Max continuous speed	$n_{e \text{ max.}}$	12,000	12,000	12,000	12,000	12,000	12,000	rpm	
9 Max continuous torque	$M_{e \text{ max.}}$	5.5 (0.76)	5.3 (0.76)	5.8 (0.83)	5.4 (0.77)	5.4 (0.77)	4.8 (0.68)	mNm (oz-in)	
10 Max continuous current	$I_{e \text{ max.}}$	2.20	0.66	0.55	0.42	0.35	0.13	A	
11 Back-EMF Constant	k_E	0.27	0.86	1.12	1.37	1.65	3.90	mV/rpm	
12 Torque Constant	k_M	2.58	8.20	10.70	13.10	15.80	37.20	mNm/A	
13 Motor Regulation	R/k^2	75.1	80.3	66.4	75.75	78.11	97.55	$10^3/\text{Nms}$	
14 Friction Torque	T_F	0.12 (0.02)	0.08 (0.02)	0.09 (0.02)	0.09 (0.02)	0.09 (0.02)	0.07 (0.01)	mNm (oz-in)	
15 Rotor Inductance	L	0.01	0.12	0.15	0.26	0.40	1.70	mH	
16 Mechanical Time Constant	τ_m	6.0	6.4	5.3	6.1	5.8	7.8	ms	
17 Rotor Inertia	J	0.80	0.80	0.80	0.80	0.74	0.80	g.cm^2	
18 Thermal Resistance (rotor/body)	$R_{\text{th1}} / R_{\text{th2}}$	8 / 35	8 / 35	8 / 35	8 / 35	8 / 35	8 / 35	$^\circ\text{C/W}$	
19 Thermal Time Constant (rotor/stator)	τ_{w1}/τ_{w2}	6 / 500	6 / 500	6 / 500	6 / 500	6 / 500	6 / 500	$^\circ\text{C/W}$	
20 Operating Temperature Range:	motor						-30°C to 85°C (-22°F to 185°F)		$^\circ\text{C}$ ($^\circ\text{F}$)
	rotor						100°C (212°F)		$^\circ\text{C}$ ($^\circ\text{F}$)
21 Shaft Load max.:							With sleeve bearings		
	at 3,000 rpm (5mm from bearing)	-radial						1.5 (5.4)	N (oz)
	at 3,000 rpm	-axial						100 (359.6)	N (oz)
22 Shaft play:		-radial						<0.03 (0.0012)	mm (inch)
		-axial						0.15 (0.0059)	mm (inch)
23 Weight	g						24 (0.85)	g (oz)	

Execution		
Gearbox	Single Shaft	MR2
B16	5	9
BA16	5	9
R16	1	Contact Us

Max. Recommended Speed

