



28DT12 **** .1

Electrical Data	****	222P	219P	222E	219E	
1 Nominal Voltage	V	12	15	24	28	Volt
2 No-Load Speed	n_0	6,840	7,100	6,851	6,870	rpm
3 No-Load Current	I_0	210.0	180.0	110.0	90.0	mA
4 Terminal Resistance	R	1.9	2.9	6.2	9.9	Ω
5 Output Power	P_{2max}	24.0	24.0	27.0	24.0	W
6 Stall Torque	mNm	102 (14.45)	101 (14.31)	126 (17.85)	107 (15.16)	mNm (oz-in)
7 Efficiency	η_{max}	67	66	69	68	%
8 Max continuous speed	$n_{e max}$	9,000	9,000	9,000	9,000	rpm
9 Max continuous torque	$M_{e max}$	37 (5.1)	36 (5.1)	41 (5.81)	37 (5.24)	mNm (oz-in)
10 Max continuous current	$I_{e max}$	2.50	2.00	1.40	1.10	A
11 Back-EMF Constant	k_E	1.70	2.04	3.40	3.95	mV/rpm
12 Torque Constant	k_M	16.20	19.50	32.50	37.70	mNm/A
13 Motor Regulation	R/k^2	7.0	8.0	6.0	7.00	$10^3/Nms$
14 Friction Torque	T_F	3.4 (0.49)	3.4 (0.49)	3.4 (0.49)	3.4 (0.49)	mNm (oz-in)
15 Rotor Inductance	L	0.20	0.30	0.75	1.10	mH
16 Mechanical Time Constant	τ_m	14.0	14.4	12.0	12.6	ms
17 Rotor Inertia	J	20.00	18.00	20.00	18.00	$g.cm^2$
18 Thermal Resistance (rotor/body)	R_{th1} / R_{th2}	3.5/8	3.5/8	3.5/8	3.5/8	$^{\circ}C/W$
19 Thermal Time Constant (rotor/stator)	τ_{w1}/τ_{w2}	18/630	18/630	18/630	18/630	$^{\circ}C/W$
20 Operating Temperature Range:	motor	-30 $^{\circ}C$ to 85 $^{\circ}C$ (-22 $^{\circ}F$ to 185 $^{\circ}F$)				$^{\circ}C$ ($^{\circ}F$)
	rotor	155 $^{\circ}C$ (311 $^{\circ}F$)				$^{\circ}C$ ($^{\circ}F$)
21 Shaft Load max.:		With sleeve bearings				
at 3,000 rpm (5mm from bearing)	-radial	8.0 (28.8)				N (oz)
at 3,000 rpm	-axial	500 (1,798.5)				N (oz)
22 Shaft play:	-radial	<0.025 (0.001)				mm (inch)
	-axial	0.15 (0.0059)				mm (inch)
23 Weight	g	200 (7.06)				g (oz)

Execution			
Gearbox	Single Shaft	Double Shaft for E9	HEDS
R32	4	106	103
R40	1	98	Contact Us

Max. Recommended Speed

