



35NT2R32 **** .1

Electrical Data	****	228P	228E	416SP	
1 Nominal Voltage	V	9	15	24	Volt
2 No-Load Speed	n_0	5,020	4,315	4,365	rpm
3 No-Load Current	I_0	180.0	90.0	50.0	mA
4 Terminal Resistance	R	1.0	3.6	8.3	Ω
5 Output Power	P_{2max}	33.0	33.0	35.0	W
6 Stall Torque	mNm	151 (21.39)	137 (19.41)	150 (21.25)	mNm (oz-in)
7 Efficiency	η_{max}	74	73	75	%
8 Max continuous speed	$n_{e max}$	9,000	9,000	9,000	rpm
9 Max continuous torque	$M_{e max}$	52 (7.65)	54 (7.65)	56 (7.94)	mNm (oz-in)
10 Max continuous current	$I_{e max}$	3.30	1.75	1.18	A
11 Back-EMF Constant	k_E	1.76	3.40	5.40	mV/rpm
12 Torque Constant	k_M	16.80	32.50	51.60	mNm/A
13 Motor Regulation	R/k^2	3.5	3.4	3.1	$10^3/Nms$
14 Friction Torque	T_F	3 (0.43)	2.93 (0.42)	2.6 (0.37)	mNm (oz-in)
15 Rotor Inductance	L	0.13	0.52	1.30	mH
16 Mechanical Time Constant	τ_m	16.8	16.3	16.2	ms
17 Rotor Inertia	J	48.00	48.00	52.00	$g.cm^2$
18 Thermal Resistance (rotor/body)	R_{th1} / R_{th2}	4/8	4/8	4/8	$^{\circ}C/W$
19 Thermal Time Constant (rotor/stator)	τ_{w1}/τ_{w2}	40/920	40/920	40/920	$^{\circ}C/W$
20 Operating Temperature Range:	motor	-55°C to 125°C (-31°F to 257°F)			$^{\circ}C (^{\circ}F)$
	rotor	155°C (311°F)			$^{\circ}C (^{\circ}F)$
21 Shaft Load max.:		With ball bearings			
at 3,000 rpm (5mm from bearing)	-radial	35.0 (125.9)			N (oz)
at 3,000 rpm	-axial	100 (359.6)			N (oz)
22 Shaft play:	-radial	negligible			mm (inch)
	-axial	negligible			mm (inch)
23 Weight	g	310 (10.94)			g (oz)

Execution			
Gearbox	Single Shaft	E9	HEDS
R32	54	66	Contact Us
R40	1	96	Contact Us

Max. Recommended Speed

