

SERIES TT-40

PERFORMANCE SPECIFICATIONS

FIG. : 2. 2. 1. 4 (b)

Motor Parameters (DC)

	Tol	Symbol	Units
Horsepower	Rated	hp	hp
Max. operating speed	Max.	ω Max.	rpm
Continuous torque (stall) @ 40 °C ambient	Nom.	Tc	lb · ft N · m
Peak torque	Nom.	Tp	lb · ft N · m
Theoretical acceleration	Nom.	α M	rad/sec ²

Current @ cont. torque	Rated	Ic	amps
Current @ peak torque	Rated	Ip	amps
Max. terminal voltage	Max.	Vt	volts

Torque sensitivity	± 10%	Kt	lb · ft/amp N · m/amp
Back EMF constant	± 10%	Kb	V/k rpm
DC resistance @ 25 °C	± 12.5%	Rm	ohms
Inductance	± 30%	Lm	mH
Time constant @ 25 °C	Mech. Nom.	TM	msec
	Elect. Nom.	TE	msec

Tachometer Parameters

Voltage sensitivity	± 10%	Ka	V/k rpm
Volt ripple @ 33 cy/rev	Max.	Va	% avg-pk
DC resistance	± 12.5%	Rt	ohms
Load resistance	Min.	Rl	ohms
Inductance	± 30%	La	mH

Basic Motor-Tachometer Constants

	Symbol	Units
Motor inertia	Jm	lb · ft · sec ² kg · m ²
Weight	Wt.	lb kg (l)
Static friction	Tr	lb · ft N · m
Thermal time constant	TCT	minutes
Viscous damping (= 2 source)	F1	lb · ft/k rpm N · m/k rpm

TT4020 TT4030		TT4023 TT4033		TT4035
A	B	A	B	B
1.75	1.75	2	2	3.7
2000	2850	1500	2000	1800
10	10	13	13	18
13.8	13.8	17.8	17.6	24.4
45	45	80	45	87
81	81	81.4	61	91
4500	4500	5000	3750	3722

20	26.6	19.6	20	32.1
90	120	90	90	120
150	150	150	150	150

0.50	0.38	0.68	0.50	0.50
0.68	0.52	0.89	0.68	0.70
71	54	93.7	71.2	79.6
0.48	0.32	0.57	0.37	0.19
3	1.7	4	2.25	1.5
14.2	18.2	11.8	13.1	10
6.25	6.31	7	6.1	5.7

18.9	18.9	18.9	18.9	18.9
2	2	2	2	2
20	20	20	20	20
2000	2000	2000	2000	2000
22	22	22	22	22

0.010	0.010	0.012	0.012	0.018
0.014	0.014	0.016	0.016	0.024
75	75	90	90	135
34	34	41	41	61
0.40	0.40	0.48	0.48	0.60
0.54	0.54	0.65	0.65	0.80
57	57	80	80	120
0.08	0.08	0.11	0.11	0.165
0.11	0.11	0.15	0.15	0.224

Other windings are available to match with amplifier characteristics. For the TT4020/30 and TT4023/3 windings have been generated for system operation up to 3,000 rpm with corresponding changes in peak acceleration/deceleration or torque.