

Motor Winding

Basic Motor Constants

	M4-2950						M4-2951				M4-2952					M4-2959		M4-2953					M4-2954		
	K	C	B	A	H	D	C	F	D	B	C	B	A	F	U	B	A	D	A	K	B	G	C	H	D
Power, P (W)	522	746	746	746	820	746	800	820	820	820	820	895	895	1044	/	1000	1200	1044	1193	1119	1492	1492	1119	/	1790
Max Speed, Nmax (rpm)	3,000	4,500	5,000	5,000	5,000	5,000	3,000	3,500	5,000	5,000	2,000	2,500	3,000	4,000	5,000	1,700	2,700	1,400	2,000	2,400	3,000	3,600	1,500	2,000	2,300
Cont. Torque Mo (Nm)	2	2	2	2	2.3	2	2.85	2.9	2.9	2.8	4.07	4.07	4.07	4.1	3.5	6	6	8.4	8.14	8.1	7.86	7.9	11.1	10	10.3
Peak Torque, Mmax (Nm)	17.6	16.3	14.9	12.9	11.12	8.1	21.9	19	12.8	10.4	33.9	29.8	27.1	20.3	14.9	41	30	53	40.7	34	29.8	23	52.9	45.1	37.2
Current @ Cont. Torque, Io (A)	5.86	8.33	9.74	11.72	17.40	19.50	10.00	12.00	19.00	22.30	8.04	9.38	11.30	16.10	19.70	10.50	16.00	11.40	15.80	18.50	21.40	26.70	15.10	18.10	22.40
Current @ Peak Torque, Ip (A)	70	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Max Terminal Voltage, Vt (V)	115	115	115	115	115	115	115	115	115	115	115	115	115	115	95	115	115	115	115	115	115	115	115	115	115
Back EMF Const, Ke (V/krpm)	36.4	25.5	21.9	18.2	14.5	10.9	32.6	27.3	16.7	13.6	53.0	45.4	37.8	26.4	18.7	61.0	39.5	77.1	54.0	46.2	38.5	30.8	77.1	57.8	48.3
Torque Const., Ki (Nm/A)	0.347	0.244	0.209	0.174	0.139	0.104	0.308	0.258	0.158	0.129	0.506	0.434	0.361	0.252	0.132	0.58	0.37	0.736	0.515	0.441	0.368	0.294	0.736	0.552	0.46
DC Resistance, R (Ω)	1.28	0.712	0.484	0.321	0.205	0.121	0.6	0.39	0.15	0.115	1	0.68	0.452	0.25	0.129	0.8	0.32	0.707	0.393	0.267	0.199	0.112	0.481	0.34	0.212
Inductance, L (mH)	3.68	1.8	1.3	0.92	0.59	0.32	2	1.4	0.5	0.34	3.2	2.5	1.6	0.4	2.9	1.2	3.27	1.6	1.2	0.81	0.52	3.1	1.6	1.2	

Weight, M (kg)	7.5						8.75				10					12.5		14.5					16.5		
Inertia, JM (kg.m ²)	0.000942						0.001171				0.0014					0.00207		0.00274					0.00343		
Static Friction, Tf (Nm)	0.145						0.222				0.3					0.365		0.43					0.45		
Viscous Damping, F1 (Nm/krpm)	0.03						0.052				0.075					0.113		0.152					0.19		

Tachogenerator Option

Tachogenerator Model	TGF1810-147						TGF1810-147				TGF1810-147					TGF1810-147		TGF1810-147					TGF1810-147		
Voltage, Kg (V/krpm)	12.5v / 20v / 7v						12.5v / 20v / 7v				12.5v / 20v / 7v					12.5v / 20v / 7v		12.5v / 20v / 7v					12.5v / 20v / 7v		
Ripple (pk-pk/avg)	4%						4%				4%					0.04		4%					4%		
Inertia, Jt (kg.cm ²)	0.353						0.353				0.353					0.353		0.353					0.353		
Weight, Mt (grams)	470						470				470					470		470					470		

Encoder Option

Encoder Type	Incremental (A quad B with index Z & complements)																								
Power Supply	5V DC ± 5%, 200mA max																								
Output	Line Driver, 20mA Max source/sink																								
Resolution (ppr)	1024 / 2048 / 4096																								
Frequency Response	200 kHz max																								

Brake Option

Brake Open Voltage (Volts D.C.)	24																								
Power (Watts)	16																								
Brake Static Torque (Nm)	12																								
Weight (brake + housing) Kg	2.5																								