

Motor
Winding

Basic Motor Constants

	M4-4203				M4-4204				M4-4205				M4-4206				M4-4207				M4-4208				M4-4209				
	A	B	C	D	A	B	C	E	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	
Power, P (W)	1492	1678	1678	/	1716	1790	1865	1641	2051	2238	2238	2238	2238	2313	2313	2313	2313	2089	2536	2536	2686	2387	2611	2835	2835	2238	2536	2686	2835
Max Speed, Nmax (rpm)	2,500	3,200	3,600	3,600	1,950	2,400	3,200	1,400	1,550	1,950	2,600	3,200	1,300	1,600	2,100	2,800	1,100	1,400	1,850	2,600	975	1,200	1,600	2,400	875	1,000	1,400	2,100	
Cont. Torque Mo (Nm)	10.8	10.4	9.5	8.95	14.2	14.2	13.6	14.9	17.6	17	16.3	15.6	21	21	19.7	19	24.4	24.4	23.1	21.9	27	27	26	24	30	30	28	27	
Peak Torque, Mmax (Nm)	52.9	44.7	33.9	23	72	60	46	74.6	88	75	57	38	107	90	69	46	125	104	80	54	142	119	92	62	161	129	103	69	
Current @ Cont. Torque, Io (A)	21.30	25.70	31.10	44.00	21.00	26.30	33.30	15.70	20.80	25.00	32.00	46.00	20.70	25.80	32.20	46.70	20.60	25.70	32.40	46.30	20.00	25.00	31.70	44.90	19.50	24.40	31.10	44.40	
Current @ Peak Torque, Ip (A)	120	120	120	120	120	120	120	90	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Max Terminal Voltage, VT (V)	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
Back EMF Const, Ke (V/krpm)	53.2	42.6	31.9	21.3	71.0	56.8	42.6	99.4	88.9	71.0	53.2	35.5	106.5	85.2	63.9	42.6	124.2	99.4	74.5	49.7	142.0	113.1	85.2	56.8	160.0	127.9	95.8	63.9	
Torque Const., Kt (Nm/A)	0.509	0.407	0.305	0.203	0.68	0.54	0.41	0.949	0.849	0.678	0.509	0.339	1.017	0.814	0.61	0.407	1.187	0.95	0.712	0.475	1.36	1.08	0.81	0.54	1.528	1.22	0.915	0.61	
DC Resistance, R (Ω)	0.243	0.154	0.092	0.038	0.285	0.181	0.107	0.5	0.327	0.208	0.125	0.052	0.369	0.234	0.14	0.059	0.41	0.26	0.156	0.065	0.453	0.287	0.172	0.072	0.494	0.314	0.188	0.079	
Inductance, L (mH)	1.03	0.66	0.37	0.16	1.37	0.88	0.49	2.68	1.71	1.1	0.62	0.275	2.06	1.32	0.74	0.33	2.39	1.53	0.86	0.38	2.73	1.75	0.98	0.44	308	1.97	1.11	0.49	

Weight, M (kg)	23				26				30				33				37				41				44			
Inertia, Jm (kg.m ²)	0.0085				0.011				0.014				0.016				0.186				0.0217				0.0241			
Static Friction, Tf (Nm)	0.41				0.47				0.54				0.68				0.75				0.81				0.95			
Viscous Damping, F1 (Nm/krpm)	0.11				0.14				0.16				0.19				0.23				0.26				0.3			

Tachogenerator Option

Tachogenerator Model	TGF2030-147				TGF2030-147				TGF2030-147				TGF2030-147				TGF2030-147				TGF2030-147				TGF2030-147			
Voltage, KG (V/krpm)	19v / 57v / 38v / 47v				19v / 57v / 38v / 47v				19v / 57v / 38v / 47v				19v / 57v / 38v / 47v				19v / 57v / 38v / 47v				19v / 57v / 38v / 47v				19v / 57v / 38v / 47v			
Ripple (pk-pk/avg)	2%				2%				2%				2%				2%				2%				2%			
Inertia, Jt (kg.cm ²)	0.64				0.64				0.64				0.64				0.64				0.64				0.64			
Weight, Mt (grams)	640				640				640				640				640				640				640			

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)	28																							
Brake Static Torque (Nm)	20																							
Weight (brake + housing) Kg	13																							