

Motor Winding	M4-2003			M4-2004			M4-2005			M4-2006		
	F	A	C	A	C	R	A	C	F	A	C	M
<b>Basic Motor Constants</b>												
Power, P (W)	/	100	90	200	180	150	300	250	220	300	220	200
Max Speed, Nmax (rpm)	6,000	6,000	4,500	5,000	3,500	2,500	4,000	3,300	2,000	3,000	2,000	1,200
Peak Torque, Mmax (Nm)	1.3	2.1	2.3	2.6	3.5	4.2	3.2	4	5	4.3	6	8
Current @ Peak Torque, Ip (A)	18	18	15.3	18	18	18	18	18	18	18	18	18
Max Terminal Voltage, VT (V)	60	90	90	90	90	90	90	90	90	90	90	90
Back EMF Const, Ke (V/krpm)	8.0	12.5	16.0	15.6	21.3	26.0	19.5	23.8	31.2	26.0	35.8	50.0
Torque Const., KT (Nm/A)	0.075	0.118	0.151	0.148	0.201	0.246	0.184	0.225	0.295	0.246	0.339	0.473
DC Resistance, R (Ω)	1.1	2.9	4.4	1.5	2.8	4	1.1	1.8	3.4	1.3	2.7	5.3
Inductance, L (mH)	0.95	2.4	3.8	1.6	2.9	4.3	1.3	2.1	3.5	1.6	3	6
Weight, M (kg)	1.8			2.3			2.9			3.4		
Inertia, JM (kgm <sup>2</sup> )	0.75x10 <sup>-4</sup>			1.28x10 <sup>-4</sup>			1.85x10 <sup>-4</sup>			2.40x10 <sup>-4</sup>		
Static Friction, TF (Nm)	0.03			0.04			0.045			0.05		
Viscous Damping, F1 (Nm/krpm)	0.005			0.01			0.015			0.02		
<b>Motor without Tachogenerator</b>												
Cont. Torque Mo (Nm)	0.43	0.45	0.45	0.9	0.9	0.9	1.2	1.15	1.15	1.6	1.6	1.6
Current @ Cont. Torque, Io (A)	6.0	3.9	3.1	6.3	4.6	3.8	6.7	5.2	4	6.7	4.8	3.5
<b>Motor with Tachogenerator</b>												
Cont. Torque Mo (Nm)	0.38	0.4	0.4	0.85	0.85	0.85	1.15	1.1	1.1	1.5	1.5	1.5
Current @ Cont. Torque, Io (A)	5.3	3.5	2.75	6	4.4	3.6	6.5	5	3.9	6.3	4.6	3.3
<b>Tachogenerator Option</b>												
Tachogenerator Model	TGF 1568			TGF 1568			TGF 1568			TGF 1568		
Voltage, KG (V/krpm)	3.0 / 7.0			3.0 / 7.0			3.0 / 7.0			3.0 / 7.0		
Ripple (pk-pk/avg)	3%			3%			3%			3%		
Inertia, JT (kgm <sup>2</sup> )	0.14x10 <sup>-4</sup>			0.14x10 <sup>-4</sup>			0.14x10 <sup>-4</sup>			0.14x10 <sup>-4</sup>		
Weight, MT (kg)	0.6			0.6			0.6			0.6		
<b>Encoder Option</b>	Incremental (A quad B with index Z & complements)											
Encoder Type	5 V DC, ±5%, 200 mA max											
Power Supply	Line Driver, 20mA max sink/source											
Output												
Resolution (ppr)	1024 / 2048 / 4096			1024 / 2048 / 4096			1024 / 2048 / 4096			1024 / 2048 / 4096		
Frequency Response	200 kHz Max.											
<b>Brake Option</b>												
Brake Open Voltage (Volts D.C.)	24											
Power (Watts)	10											
Brake Static Torque (Nm)	2.0											
Weight (brake + housing) Kg	0.8											