

70 mm or Size 34, Resolver Feedback, Specifications

Parameter	Symbol	Units	N0701D	N0701F	N0702E	N0702F	N0703F	N0703G	N0704F	N0704G
			N0341D	N0341F	N0342E	N0342F	N0343F	N0343G	N0344F	N0344G
Stall Torque Continuous <sup>1</sup>	$T_{cs}$	lb-in	6.3	6.3	11.6	11.6	17.6	17.6	21.8	21.8
		oz-in	101	100	186	186	282	282	348	349
		Nm	0.71	0.70	1.30	1.30	1.97	1.97	2.44	2.44
Stall Current Continuous <sup>1,4,7</sup>	$I_{cs}(\text{sine})$	Amps Peak	3.7	5.8	4.3	6.0	5.9	8.2	6.1	8.4
Peak Torque <sup>6</sup>	$T_{pk}$	lb-in	19.0	18.8	34.9	34.8	52.9	52.9	65.3	65.4
		oz-in	304	300	559	557	846	846	1045	1047
		Nm	2.13	2.10	3.91	3.90	5.92	5.92	7.32	7.33
Peak Current <sup>4,6,7</sup>	$I_{pk}(\text{sine})$	Amps Peak	11.2	17.5	12.9	17.9	17.6	24.5	18.2	25.3
Rated Speed <sup>2</sup>	$\omega_r$	rpm	7500	7500	7100	7500	6600	7500	5500	7500
Current @ Rated Speed	$I_r(\text{sine})$	Amps	3.5	5.4	3.8	5.2	5.1	6.9	5.4	6.8
Torque @ Rated Speed	$T_r$	lb-in	5.4	5.3	8.6	9.3	12.8	13.6	16.1	15.0
		oz-in	86	85	138	149	205	217	257	240
		Nm	0.60	0.60	0.97	1.04	1.44	1.52	1.80	1.68
Shaft Power @ Rated Speed	$P_o$	watts	477	472	725	827	1001	1204	1045	1331
Voltage Constant <sup>3,4</sup>	$K_b$	Volts/rad/s	0.221	0.140	0.353	0.253	0.392	0.282	0.468	0.338
Voltage Constant <sup>3,4</sup>	$K_e$	Volts/KRPM	23.14	14.66	36.97	26.49	41.05	29.53	49.01	35.40
Torque Constant <sup>8</sup>	$K_t(\text{sine})$	oz-in/Amp Peak	27.10	17.17	43.29	31.03	48.07	34.58	57.39	41.45
		Nm/Amp Peak	0.190	0.120	0.303	0.217	0.336	0.242	0.402	0.290
Resistance <sup>3</sup>	R	Ohms	5.52	2.27	5.22	2.70	3.36	1.74	3.47	1.80
Inductance <sup>5</sup>	L	mH	12.98	5.23	15.80	8.16	12.13	6.30	14.50	7.55
Maximum Bus Voltage	Vm	Volts DC	340	340	340	340	340	340	340	340
Thermal Res Wind-Amb	$R_{th-w-a}$	°C/watt	1.44	1.44	1.15	1.15	0.96	0.96	0.87	0.87
Motor Constant	$K_m$	oz-in/√watt	13.32	13.16	21.88	21.80	30.28	30.27	35.57	35.67
		Nm/√watt	0.093	0.092	0.153	0.153	0.212	0.212	0.249	0.250
Viscous Damping	B	oz-in/Krpm	0.2	0.2	0.4	0.4	0.6	0.6	0.8	0.8
		Nm/krpm	1.4 E-3	1.4 E-3	2.8 E-3	2.8 E-3	4.2 E-3	4.2 E-3	5.6 E-3	5.6 E-3
Static Friction	$T_f$	oz-in	0.8	0.8	1.6	1.6	2.4	2.4	3.2	3.2
		Nm	5.6 E-3	5.6 E-3	1.2 E-2	1.2 E-2	1.7 E-2	1.7 E-2	2.2 E-2	2.2 E-2
Motor Thermal Time Constant	$\tau_{th}$	minutes	16.6	16.6	21.7	21.7	22.5	22.5	23.3	23.3
Electrical Time Constant	$\tau_{elec}$	millisecs	2.35	2.30	3.03	3.02	3.61	3.62	4.18	4.19
NeoMetric Mech. Time Constant	$\tau_{mch}$	millisecs	1.6	1.7	0.9	0.9	0.6	0.6	0.6	0.6
J Series Mech. Time Constant	$\tau_{mch}$	millisecs	14.7	14.7	5.7	5.7	3.2	3.2	N/A	N/A
Intermittent Torque Duration <sup>9</sup>	$T_{2x}$	seconds	22	22	32	32	39	39	38	38
Peak Torque Duration <sup>10</sup>	$T_{3x}$	seconds	9	9	11	11	13	13	12	12
NeoMetric Rotor Inertia	J	lb-in-sec <sup>2</sup>	1.3 E-4	1.3 E-4	2.0 E-4	2.0 E-4	2.6 E-4	2.6 E-4	3.3 E-4	3.3 E-4
		kg-m <sup>2</sup>	1.5 E-5	1.5 E-5	2.2 E-5	2.2 E-5	3.0 E-5	3.0 E-5	3.7 E-5	3.7 E-5
J Series Rotor Inertia	J	lb-in-sec <sup>2</sup>	1.1 E-3	1.1 E-3	1.2 E-3	1.2 E-3	1.3 E-3	1.3 E-3	N/A	N/A
		kg-m <sup>2</sup>	1.3 E-4	1.3 E-4	1.4 E-4	1.4 E-4	1.5 E-4	1.5 E-4	N/A	N/A
Number of Poles	Np		4	4	4	4	4	4	4	4
NeoMetric Weight	#	lbs	3.5	3.5	4.5	4.5	6.0	6.0	7.3	7.3
		kg	1.6	1.6	2.1	2.1	2.7	2.7	3.3	3.3
J Series Weight	#	lbs	4.4	4.4	5.4	5.4	6.9	6.9	N/A	N/A
		kg	2.0	2.0	2.5	2.5	3.1	3.1	N/A	N/A
Winding Class			H	H	H	H	H	H	H	H

- <sup>1</sup> @ 25°C ambient, 150°C winding temperature, motor connected to a 10"x10"x1/4" aluminum mounting plate.
- <sup>2</sup> @40°C ambient derate phase currents and torques by 12%. Maximum speed is 7500 RPM. For higher speed operation please call the factory.
- <sup>3</sup> Measured Line to Line, +/- 10%.
- <sup>4</sup> Value is measured peak of sine wave.
- <sup>5</sup> +/-30%, Line-to-Line, inductance bridge measurement @1Khz.
- <sup>6</sup> Initial winding temperature must be 60°C or less before Peak Current is Applied.
- <sup>7</sup> Peak of the sinusoidal current in any phase for a sinusoidally comutated motor.
- <sup>8</sup> Total motor torque per peak of the sinusoidal amps measured in any phase, +/-10%.
- <sup>9</sup> Maximum Time duration with 2 times rated current applied with initial winding temp at 60°C.
- <sup>10</sup> Maximum Time duration with 3 times rated current applied with initial winding temp at 60°C.

Note: These specifications are based on theoretical motor performance and are not specific to any amplifier.

Servo Motors

