

92 mm, Resolver Feedback, Specifications

Parameter	Symbol	Units	N0921F	N0921G	N0922G	N0922J	N0923H	N0923K	N0924J	N0924K
Stall Torque Continuous ¹	T_{cs}	lb-in	17.4	17.4	30.9	31.1	46.1	45.4	61.1	61.3
		oz-in	278	279	495	498	737	727	977	980
		Nm	1.95	1.95	3.47	3.49	5.16	5.09	6.84	6.86
Stall Current Continuous ^{1,4,7}	$I_{cs}(\text{sine})$	Amps Peak	5.3	7.4	7.3	11.3	11.1	19.4	12.1	17.0
Peak Torque ⁶	T_{pk}	lb-in	52.1	52.3	92.8	93.4	138.3	136.3	183.1	183.8
		oz-in	834	836	1484	1494	2212	2181	2929	2940
		Nm	5.84	5.85	10.39	10.46	15.48	15.27	20.50	20.58
Peak Current ^{4,6,7}	$I_{pk}(\text{sine})$	Amps Peak	15.9	22.1	21.8	33.8	33.4	58.3	36.4	51.0
Rated Speed ²	ω_r	rpm	6000	7500	4700	7100	4500	7500	3600	5200
Current @ Rated Speed	$I_r(\text{sine})$	Amps	4.7	6.2	6.5	8.7	10.0	14.7	11.2	14.6
Torque @ Rated Speed	T_r	lb-in	12.7	12.9	25.9	23.3	34.1	30.1	46.3	42.7
		oz-in	203	207	414	372	545	481	740	683
		Nm	1.42	1.45	2.90	2.60	3.82	3.37	5.18	4.78
Shaft Power @ Rated Speed	P_o	watts	901	1148	1378	1954	1814	2668	1970	2627
Voltage Constant ^{3,4}	K_b	Volts/rad/s	0.427	0.309	0.556	0.360	0.540	0.305	0.657	0.470
Voltage Constant ^{3,4}	K_e	Volts/KRPM	44.72	32.36	58.22	37.70	56.55	31.94	68.80	49.22
Torque Constant ⁸	$K_t(\text{sine})$	oz-in/Amp Peak	52.36	37.89	68.18	44.15	66.22	37.40	80.57	57.64
		Nm/Amp Peak	0.367	0.265	0.477	0.309	0.464	0.262	0.564	0.403
Resistance ³	R	Ohms	3.72	1.94	2.32	0.96	1.28	0.42	1.22	0.62
Inductance ⁵	L	mH	17.11	8.99	14.72	6.18	14.95	4.78	20.60	10.51
Maximum Bus Voltage	V_m	Volts DC	340	340	340	340	340	340	340	340
Thermal Res Wind-Amb	$R_{th,w-a}$	°C/watt	1.06	1.06	0.91	0.91	0.7	0.7	0.62	0.62
Motor Constant	K_m	oz-in/ $\sqrt{\text{watt}}$	31.35	31.41	51.69	52.03	67.59	66.64	84.23	84.52
		Nm/ $\sqrt{\text{watt}}$	0.219	0.220	0.362	0.364	0.473	0.466	0.590	0.592
Viscous Damping	B	oz-in/Krpm	0.5	0.5	0.8	0.8	1.1	1.1	1.4	1.4
		Nm/krpm	3.5 E-3	3.5 E-3	5.6 E-3	5.6 E-3	7.7 E-3	7.7 E-3	9.8 E-3	9.8 E-3
Static Friction	T_f	oz-in	2.5	2.5	4.8	4.8	5.4	5.4	6.6	6.6
		Nm	1.8 E-2	1.8 E-2	3.4 E-2	3.4 E-2	3.8 E-2	3.8 E-2	4.6 E-2	4.6 E-2
Motor Thermal Time Constant	τ_{th}	minutes	21.6	21.6	30	30	35	35	36.6	36.6
Electrical Time Constant	τ_{elec}	microsecs	4.60	4.63	6.34	6.44	11.68	11.38	16.89	16.95
NeoMetric Mech. Time Const.	τ_{mch}	microsecs	1.2	1.2	0.7	0.7	0.5	0.5	0.4	0.4
J Series Mech. Time Const.	τ_{mch}	microsecs	10.0	10.0	3.9	3.9	2.4	2.4	N/A	N/A
Intermittent Torque Duration ⁹	T_{2x}	seconds	48	48	39	39	61	61	61	61
Peak Torque Duration ¹⁰	T_{3x}	seconds	17	17	13	13	16	16	15	15
NeoMetric Rotor Inertia	J	lb-in-sec ²	5.3 E-4	5.3 E-4	7.9 E-4	7.9 E-4	1.1 E-3	1.1 E-3	1.3 E-3	1.3 E-3
		kg-m ²	6.0 E-5	6.0 E-5	9.0 E-5	9.0 E-5	1.2 E-4	1.2 E-4	1.5 E-4	1.5 E-4
J Series Rotor Inertia	J	lb-in-sec ²	4.4 E-3	4.4 E-3	4.7 E-3	4.7 E-3	5.0 E-3	5.0 E-3	N/A	N/A
		kg-m ²	4.9 E-4	4.9 E-4	5.3 E-4	5.3 E-4	5.7 E-4	5.7 E-4	N/A	N/A
Number of Poles	Np		4	4	4	4	4	4	4	4
NeoMetric Weight	#	lbs	8.1	8.1	11.7	11.7	15.1	15.1	18.0	18.0
		kg	3.7	3.7	5.3	5.3	6.9	6.9	8.2	8.2
J Series Weight	#	lbs	9.9	9.9	13.5	13.5	16.9	16.9	N/A	N/A
		kg	4.5	4.5	6.1	6.1	7.7	7.7	N/A	N/A
Winding Class			H	H	H	H	H	H	H	H

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

