

**92 mm, Encoder Feedback, Specifications**

Parameter	Symbol	Units	N0921F	N0921G	N0922G	N0922J	N0923H	N0923K	N0924J	N0924K
Stall Torque Continuous <sup>1</sup>	$T_{cs}$	lb-in	15.5	15.6	27.6	28.3	41.3	40.6	54.6	54.8
		oz-in	249	249	442	453	660	650	873	876
		Nm	1.74	1.74	3.09	3.17	4.62	4.55	6.11	6.14
Stall Current Continuous <sup>1,4,8</sup>	$I_{cs}(\text{sine})$	Amps Peak	4.7	6.6	6.5	10.1	10.0	17.4	10.8	15.2
		Amps DC	4.1	5.7	5.6	8.7	8.6	15.1	9.4	13.2
Stall Current Continuous <sup>1,7</sup>	$I_{cs}(\text{trap})$	Amps DC	4.1	5.7	5.6	8.7	8.6	15.1	9.4	13.2
		Amps DC	4.1	5.7	5.6	8.7	8.6	15.1	9.4	13.2
Peak Torque <sup>6</sup>	$T_{pk}$	lb-in	46.6	46.7	82.9	83.5	123.7	121.9	163.8	164.3
		oz-in	746	747	1327	1336	1979	1951	2620	2629
		Nm	5.22	5.23	9.29	9.35	13.85	13.66	18.34	18.41
Peak Current <sup>4,6,8</sup>	$I_{pk}(\text{sine})$	Amps Peak	14.2	19.7	19.5	30.3	29.9	52.2	32.5	45.6
		Amps DC	12.3	17.1	26.9	26.2	25.9	45.2	28.2	39.5
Peak Current <sup>6,7</sup>	$I_{pk}(\text{trap})$	Amps DC	12.3	17.1	26.9	26.2	25.9	45.2	28.2	39.5
		Amps DC	12.3	17.1	26.9	26.2	25.9	45.2	28.2	39.5
Rated Speed <sup>2</sup>	$\omega_r$	rpm	6000	7500	4650	7300	4700	7500	3750	5250
Current @ Rated Speed	$I_r(\text{sine})$	Amps	4.1	5.2	5.6	7.0	8.6	11.9	9.7	12.4
Current @ Rated Speed	$I_r(\text{trap})$	Amps	3.5	4.5	4.8	6.0	7.4	10.3	8.4	10.7
		Amps	3.5	4.5	4.8	6.0	7.4	10.3	8.4	10.7
Torque @ Rated Speed	$T_r$	lb-in	11.8	11.3	20.4	16.3	30.4	28.8	41.0	39.1
		oz-in	188	181	326	260	487	461	656	626
		Nm	1.32	1.27	2.28	1.82	3.41	3.23	4.59	4.38
Shaft Power @ Rated Speed	$P_o$	watts	834	1004	1121	1404	1689	2557	1820	2431
Voltage Constant <sup>3,4</sup>	$K_b$	Volts/rad/s	0.427	0.309	0.556	0.360	0.540	0.305	0.657	0.470
Voltage Constant <sup>3,4</sup>	$K_e$	Volts/KRPM	44.72	32.36	58.22	37.70	56.55	31.94	68.80	49.22
		Volts/KRPM	44.72	32.36	58.22	37.70	56.55	31.94	68.80	49.22
Torque Constant <sup>9</sup>	$K_t(\text{sine})$	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
		oz-in/Amp DC	60.46	43.75	78.73	50.98	76.46	43.19	93.03	66.55
Torque Constant <sup>3,4</sup>	$K_t(\text{trap})$	Nm/Amp DC	0.423	0.306	0.551	0.357	0.535	0.302	0.651	0.466
		Nm/Amp DC	0.423	0.306	0.551	0.357	0.535	0.302	0.651	0.466
Resistance <sup>3</sup>	R	Ohms	3.72	1.94	2.32	0.96	1.28	0.42	1.22	0.62
Inductance <sup>5</sup>	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	$\tau_{th}$	minutes	21.6	21.6	30	30	35	35	37	37
Electrical Time Constant	$\tau_{elec}$	milliseconds	4.60	4.63	6.34	6.44	11.68	11.38	16.89	16.95
NeoMetric Mech. Time Constant	$\tau_{mch}$	milliseconds	0.8	0.8	0.5	0.5	0.4	0.5	0.4	0.4
J Series Mech. Time Constant	$\tau_{mch}$	milliseconds	10.0	10.0	3.9	3.9	2.4	2.4	N/A	N/A
Intermittent Torque Duration <sup>10</sup>	$T_{2x}$	seconds	48	48	39	39	61	61	61	61
Peak Torque Duration <sup>11</sup>	$T_{3x}$	seconds	17	17	13	13	16	16	15	15
NeoMetric Rotor Inertia	J	lb-in-sec <sup>2</sup>	3.6 E-4	3.6 E-4	6.2 E-4	6.2 E-4	8.8 E-4	8.8 E-4	1.1 E-3	1.1 E-3
		kg-m <sup>2</sup>	4.1 E-5	4.1 E-5	7.0 E-5	7.0 E-5	1.0 E-4	1.0 E-4	1.3 E-4	1.3 E-4
J Series Rotor Inertia	J	lb-in-sec <sup>2</sup>	4.2 E-3	4.2 E-3	4.5 E-3	4.5 E-3	4.8 E-3	4.8 E-3	N/A	N/A
		kg-m <sup>2</sup>	4.8 E-4	4.8 E-4	5.1 E-4	5.1 E-4	5.4 E-4	5.4 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
J Series Weight	#	lbs	3.7	3.7	5.3	5.3	6.9	6.9	8.2	8.2
		kg	9.9	9.9	13.5	13.5	16.9	16.9	N/A	N/A
Winding Class		lbs	4.5	4.5	6.1	6.1	7.7	7.7	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, 125°C winding temperature, motor connected to a 10"x10"x1/4" aluminum mounting plate.
- 2 @40°C ambient derate phase currents and torques by 12%. Maximum speed is 7500 RPM with 500 line Encoder. For 1000 line encoders, derate to 6000RPM. 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 DC current through a pair of motor phases of a trapaziodally (six state) commutated motor.
- 8 Peak of the sinusoidal current in any phase for a sinusiodally comutated motor.
- 9 Total motor torque per peak of the sinusiodal amps measured in any phase, +/-10%.
- 10 Maximum Time duration with 2 times rated current applied with initial winding temp at 60°C.
- 11 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.

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