

N-SERIES NEMA FRAME SERVO MOTORS

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AUTHORIZED REPLACEMENTS
FOR ROCKWELL AUTOMATION
N-SERIES SERVO MOTORS

ELWOOD[®] HIGH PERFORMANCE
MOTORS
SERVOS - STEPPERS

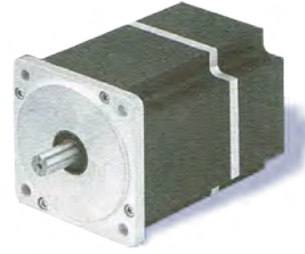
ISO 9001
CERTIFIED COMPANY

**Rockwell
Automation**
Encompass™
Product Partner
Americas

ELWOOD N-SERIES SERVO MOTORS

FORM, FIT, FUNCTION REPLACEMENTS FOR N-SERIES MOTORS FROM ROCKWELL AUTOMATION

- TRUE DROP-IN COMPATABILITY
- USE THE SAME MOTOR DATA FILES
- IDENTICAL WINDINGS AND INERTIA
- IDENTICAL MOUNTING & CONNECTORS
- NO SOFTWARE MODIFICATIONS
- NO HARDWARE MODIFICATIONS



N-SERIES MOTOR DATA

MOTOR MODEL		N-2302-1	N-2304-1	N-3406-2	N-3412-2	N-4214-2	N-4220-2	N-5630-2	N-5637-2	N-5647-2	
MECHANICAL DATA(1)											
Rated Torque	Nm	0.2	0.4	0.7	1.5	2.0	2.7	3.4	4.5	5.9	
	lb-in	1.5	3.8	6.1	13.0	18.0	24.0	30.0	40.0	52.0	
Peak Torque	Nm	0.5	1.3	2.0	4.1	5.1	7.1	10.5	13.6	16.9	
	lb-in	4.5	11.4	18.0	36.0	45.0	63.0	93.0	120.0	150.0	
Rated Current	Arms	1.9	2.3	3.4	3.7	4.2	7.8	7.8	8.1	7.4	
Rated Power	kW	0.09	0.19	0.28	0.6	0.75	1.1	1.2	1.6	1.4	
Rated Voltage	Vrms	115	115	230	230	230	230	230	230	230	
Rotor Moment of Inertia	kg-m ²	0.000009	0.00002	0.00008	0.00015	0.00024	0.00035	0.00090	0.00113	0.00147	
	lb-in-s ²	0.00008	0.00017	0.00069	0.00133	0.00212	0.00310	0.00800	0.01000	0.013	
Rotor Moment of Inertia (Brake Motors)	kg-m ²	0.000018	0.000032	0.000085	0.000159	0.00026	0.00037	0.00092	0.00115	0.00148	
	lb-in-s ²	0.00016	0.00028	0.00075	0.00141	0.00228	0.00327	0.00814	0.01014	0.013	
Motor Weight	Net	kg/lb	1.0/2.2	1.5/3.2	2.8/6.2	3.5/7.6	4.7/10.4	6.3/14.0	9.5/21	11.0/24.2	13.0/28.7
Brake Motor Weight	Net	kg/lb	1.3/2.9	2.0/4.3	3.4/7.5	4.3/9.5	5.3/11.6	6.9/15.2	10.9/24.0	13.2/29.0	15.9/35.0
Damping	Nm/krpm	0.023	0.034	0.13	0.19	0.20	0.19	0.35	0.32	0.45	
	lb-in/krpm	0.20	0.30	1.15	1.68	1.77	1.68	3.10	2.83	3.98	
Friction Torque	Nm	0.012	0.014	0.021	0.035	0.043	0.048	0.078	0.10	0.11	
	lb-in	0.11	0.12	0.19	0.31	0.38	0.42	0.69	0.89	0.97	
Max. Operating Speed	rpm	6000	6000	6000	5500	4500	5000	4000	4000	3000	
WINDING DATA (1)											
Poles	#	4	4	4	4	4	4	4	4	4	
Sine Wave K _T	Nm/A	0.08	0.18	0.17	0.33	0.40	0.28	0.38	0.50	0.63	
	lb-in/A	0.7	1.6	1.5	2.9	3.5	2.5	3.4	4.4	5.6	
Square Wave K _T	Nm/A	0.10	0.24	0.18	0.37	0.45	0.30	0.41	0.54	0.70	
	lb-in/A	0.9	2.1	1.6	3.3	4.0	2.7	3.6	4.8	6.2	
K _E Voltage Constant(4)	V/krpm	11	22	21	41	46	34	47	60	77	
Winding Resistance (Phase to Phase at 25°C)	Ohms	3.2	4.9	2.2	2.7	2.8	0.8	0.9	1.0	1.2	
	±10%										
Winding Inductance (Phase to Phase)	mH	4.1	8.1	6.1	8.6	11.0	2.9	4.3	5.2	7.0	
Thermal Resistance	°C/Watt	3.0	2.2	1.6	1.2	1.1	0.8	0.8	0.8	0.7	
Dielectric Rating		Power Leads (R,S,T) to Ground: 1800 VACrms 50/60 Hz for 1s									
(1) Specifications are at 25°C unless otherwise noted.						(3) Peak value of per phase square wave Amperes					
(2) Peak value of per phase sine wave Amperes						(4) Volts 0-peak Line-Line / kRPM					
STORAGE AND OPERATING CONDITIONS											
Ambient Temperature		Operating: 0 to 40°C (32 to 104°F) Storage: -30 to 70°C (-25 to 158°F)									
Relative Humidity		5% to 95% non-condensing									



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