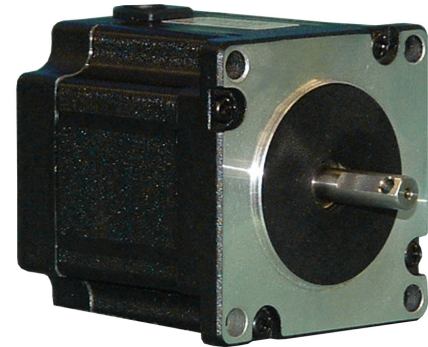


23L Series - High Torque Stepper Motors



FEATURES

- **NEMA 23 Frame Size**
- **1.8° or 0.9° Step Angle (see 23L9 for 0.9°)**
- **High Torque - Up To 384 oz-in (320 for 23L9)**
- **High Step Accuracy and Resolution**
- **Shaft Flat Included as Standard**
- **Can be Customized for**
 - **Winding Current**
 - **Shaft Options**
 - **Cables and Connectors**
- **RoHS Compliant**



DESCRIPTION

The 23L Series High Torque Stepper Motors offer a great value without sacrificing quality. These motors were designed to offer the highest possible torque while minimizing vibration and audible noise. A broad line of motor windings and stack lengths are available off-the-shelf. The standard 8-lead motors can be connected in all possible configurations: series, unipolar, or parallel, to allow the maximum flexibility for your application. We can also customize the winding to perfectly match voltage, current, and maximum operating speed to meet your requirements.

See Accessories on our website for optional motor adders such as encoders, cables, and connectors.

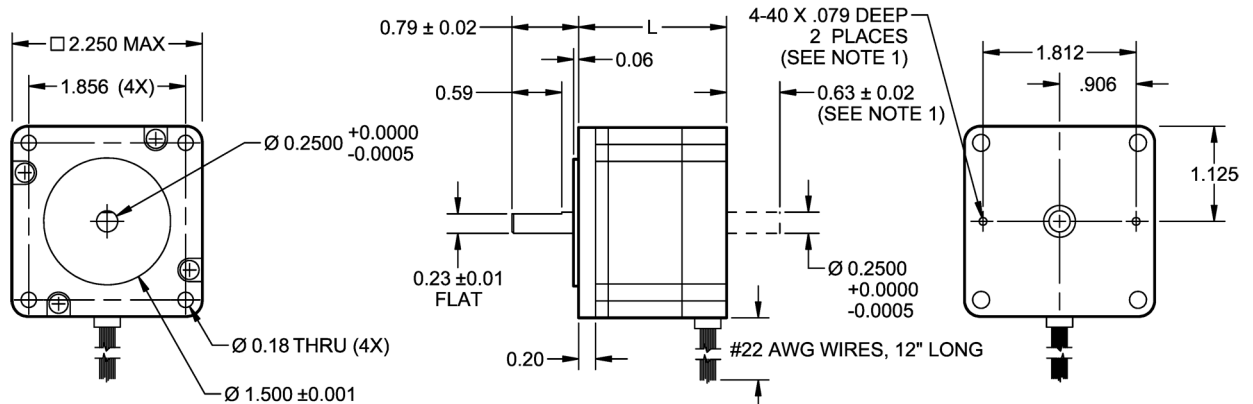
SPECIFICATIONS

Model #	NEMA Size	Bipolar Torque (oz-in)	Series Current (A)	Unipolar Current (A)	Parallel Current (A)	Series Inductance (mH)	Rotor Inertia (oz-in-sec ²)	Step Angle	# of Lead Wires	Weight (lbs)	"L" Length (in)
23L002S-LW8	23	66	0.707	1.0	1.414	28.0	0.001813	1.8°	8	1.05	1.70
23L004S-LW8	23	66	1.414	2.0	2.828	6.0	0.001813	1.8°	8	1.05	1.70
23L006S-LW8	23	66	2.121	3.0	4.242		0.001813	1.8°	8	1.05	1.70
23L102S-LW8	23	151	0.707	1.0	1.414	40.0	0.003885	1.8°	8	1.54	2.15
23L104S-LW8	23	151	1.414	2.0	2.828	10.0	0.003885	1.8°	8	1.54	2.15
23L106S-LW8	23	151	2.121	3.0	4.242	4.4	0.003885	1.8°	8	1.54	2.15
23L108S-LW8	23	151	2.828	4.0	5.656	2.0	0.003885	1.8°	8	2.20	2.15
23L202S-LW8	23	226	0.707	1.0	1.414		0.006734	1.8°	8	2.20	3.10
23L204S-LW8	23	226	1.414	2.0	2.828	14.4	0.006734	1.8°	8	2.20	3.10
23L206S-LW8	23	226	2.121	3.0	4.242	6.4	0.006734	1.8°	8	2.20	3.10
23L210S-LW8	23	226	3.535	5.0	7.070	1.6	0.006734	1.8°	8	2.20	3.10
23L303S-LW8	23	384	1.061	1.5	2.121	20.4	0.008288	1.8°	8	3.20	4.05
23L306S-LW8	23	384	2.121	3.0	4.242	12.8	0.008288	1.8°	8	3.20	4.05
23L310S-LW8	23	384	3.535	5.0	7.070	1.08	0.008288	1.8°	8	3.20	4.05
23L9004S-LW8*	23	66	1.414	2.0	2.828	4.8	0.001813	0.9°	8	1.05	1.07
23L9104S-LW8*	23	151	1.414	2.0	2.828	10.0	0.003885	0.9°	8	1.54	2.15
23L9206S-LW8*	23	266	2.121	3.0	4.242		0.006734	0.9°	8	2.20	3.10
23L9304S-LW8*	23	360	1.414	2.0	2.828	24.0	0.008288	0.9°	8	3.20	3.10
23L9306S-LW8*	23	360	2.121	3.0	4.242		0.008288	0.9°	8	3.20	4.05

Notes: The 7th character "S" denotes a single shaft. Custom leadwires, cables, connectors and windings are available upon request. *0.9 step angle

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DIMENSIONS

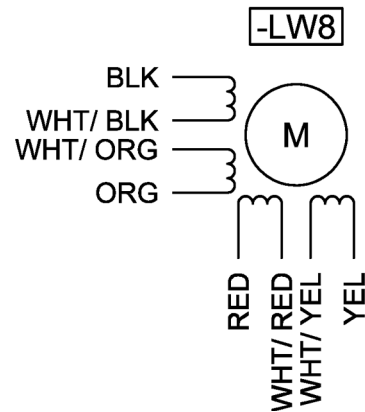
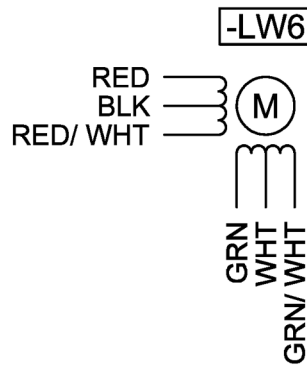
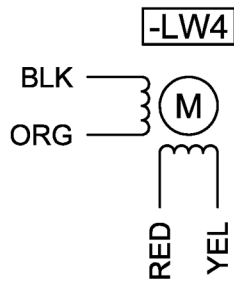


All units are in inches

Note 1: Applies to dual shaft option only

WIRING INFORMATION

SPECIFICATION CONVERSION TABLE			
Connection	Current (A)	Resistance (R)	Inductance (L)
Series Standard	A	R	L
Parallel	2A	R / 4	L / 4
Unipolar	1.414A	R / 2	L / 4



SPECIFICATIONS

Step Angle Accuracy:	± 5% (Full Step, No Load)	Insulation Resistance:	100M Ohm Min, 500VDC
Resistance Accuracy:	± 10%	Dielectric Strength:	500VDC for 1 minute
Inductance Accuracy:	± 20%	Shaft Radial Play:	0.00079" Max (1.0 lbs)
Temperature Rise:	80°C Max (2 Phases On)	End Play:	0.00315" Max (1.0 lbs)
Ambient Temperature:	-20° to +50° C	Max Radial Force:	6.3 lbs (0.79" from flange)
Insulation Type:	Class B (130°C Internal)	Max Axial Force:	2.3 lbs-Force