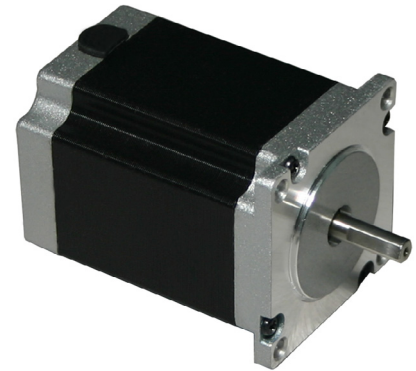


# 23Y Series - High Torque Stepper Motors



FEATURES

- **NEMA 23 Frame Size**
- **1.8° Step Angle**
- **IP50 Rated**
- **High Torque - Up To 320 oz-in**
- **High Step Accuracy and Resolution**
- **Shaft Flat as Standard**
- **Can be Customized for**
  - **Winding Current**
  - **Shaft Options**
  - **Cables and Connectors**
- **CE Certified RoHS Compliant**



DESCRIPTION

The 23Y 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 torque at operating speeds to meet your requirements.

See [Accessories](#) on our website for optional motor adders such as encoders, brakes, cables, and connectors. For compatible drivers, see the [MBC25081TB](#), [MBC05641](#), [MBC12101](#), and [Driver Packs](#).

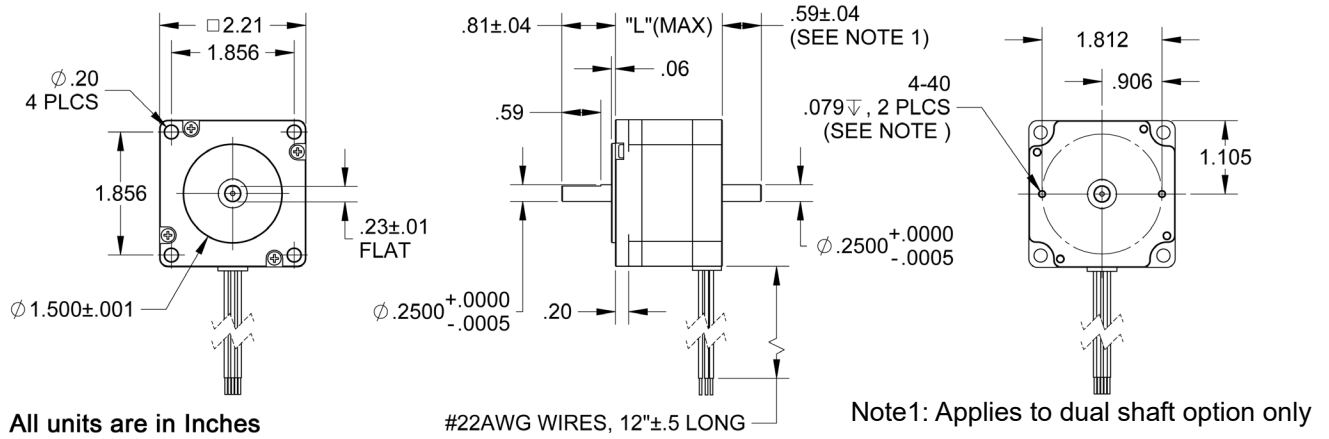
SPECIFICATIONS

Model #	NEMA Size	Bipolar Torque (oz-in)	Series Current (A)	Series Resistance (ohm)	Bipolar Voltage (V)	Series Inductance (mH)	Rotor Inertia (oz-in-sec <sup>2</sup> )	Shaft Diameter (in)	# of Lead Wires	Weight (lbs)	"L" Length (in)
23Y002S-LW8	23	76	0.70	11.4	8.1	21.6	0.0017	0.25	8	1.00	1.61
23Y004S-LW8	23	76	1.40	2.8	4	5.6	0.0017	0.25	8	1.00	1.61
23Y006S-LW8	23	76	2.10	1.26	2.7	2.4	0.0017	0.25	8	1.00	1.61
23Y102S-LW8	23	175	0.70	14.8	9.3	40.0	0.0042	0.25	8	1.55	2.20
23Y104S-LW8	23	175	1.40	3.24	5.09	12.0	0.0042	0.25	8	1.55	2.20
23Y106S-LW8	23	175	2.10	1.5	3.15	4.4	0.0042	0.25	8	1.55	2.20
23Y108S-LW8	23	178	2.80	1.0	2.8	2.6	0.0068	0.25	8	2.20	2.20
23Y202S-LW8	23	262	0.70	17.2	10.5	56.0	0.0068	0.25	8	2.20	2.99
23Y204S-LW8	23	262	1.40	4.5	5.1	14.4	0.0068	0.25	8	2.20	2.99
23Y206S-LW8	23	262	2.10	2.0	4.2	6.4	0.0068	0.25	8	2.21	2.99
23Y210S-LW8	23	262	3.50	0.7	2.5	2.4	0.0068	0.25	8	2.21	2.99
23Y306S-LW8	23	425	2.10	4.2	4.2	20.0	0.0092	0.25	8	3.20	4.53
23Y310S-LW8	23	425	3.53	1.4	5	6.4	0.0092	0.25	8	3.20	4.53

Notes: The 7<sup>th</sup> character "S" denotes a single shaft. Custom leadwires, cables, connectors and windings are available upon request.

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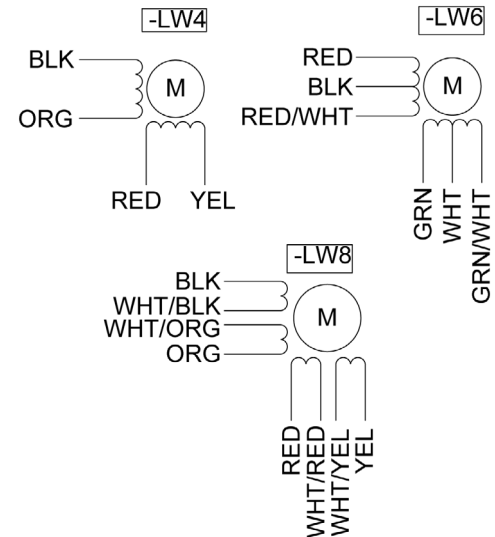
DIMENSIONS



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

Connection	Lead Wire Connection	Lead Wire Color
4 - Lead Bipolar Series MBC Series	Phase 1 (A)	Black
	Phase 3 (A)	Orange
	Phase 2 (B)	Red
	Phase 4 (B)	Yellow
	Connect Wires with Wire Nut	White/Black & White/Orange
4 - Lead Bipolar Parallel MBC Series	Phase 1 (A)	Black & White/Orange
	Phase 3 (A)	Orange & White/Black
	Phase 2 (B)	Red & White/Yellow
	Phase 4 (B)	Yellow & White/Red
	Connect Wires with Wire Nut	White/Red & White/Yellow
6 - Lead Unipolar BLD, TM Series	Phase 1	Black
	Phase 3	Orange
	Phase 2	Red
	Phase 4	Yellow
	Common Phase 1 & 3	White/Black & White/Orange
Common Phase 2 & 4	White/Red & White/Yellow	



SPECIFICATIONS

Step Angle Accuracy:	± 5% (Full Step, No Load)	Insulation Resistance:	100M Ohm Min, 500VDC
Resistance Accuracy:	± 10%	Dielectric Strength:	500VAC for 1 minute
Inductance Accuracy:	± 20%	Shaft Radial Play:	0.02" Max (1.0 lbs)
Temperature Rise:	80°C Max (2 Phases On)	End Play:	0.08" Max (1.0 lbs)
Ambient Temperature:	-20° to +50° C	Max Radial Force:	16.9 lbs (0.79" from flange)
Insulation Type:	Class B (130° C Internal)	Max Axial Force:	3.4 lbs-Force