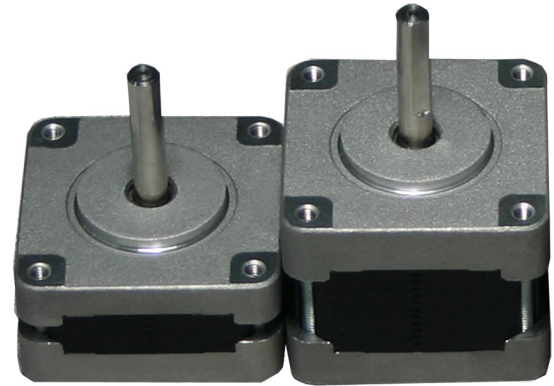


# 15Y Series - High Torque Stepper Motors



## FEATURES

- **NEMA 15 Frame Size**
- **1.8° Step Angle**
- **IP50 Rated**
- **High Torque - Up To 50 oz-in**
- **High Step Accuracy and Resolution**
- **Shaft Flat as Standard**
- **Can be Customized for**
  - **Winding Current**
  - **Shaft Options**
  - **Cables and Connectors**
  - **Encoders and Brakes**
- **CE Certified and RoHS Compliant**



## DESCRIPTION

The 15Y 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, or the motors can be customized to fit your machine requirements. These motors come standard with 4 leads for wiring in bipolar series. We can also customize the winding to perfectly match your voltage, current, and maximum operating speed. Other leadwire configurations are available upon request.

See [Accessories](#) on our website for optional motor adders such as encoders, cables, and connectors. See compatible drivers for the 15Y Series: [MBC15081](#), [MBC25081TB](#)

## SPECIFICATIONS

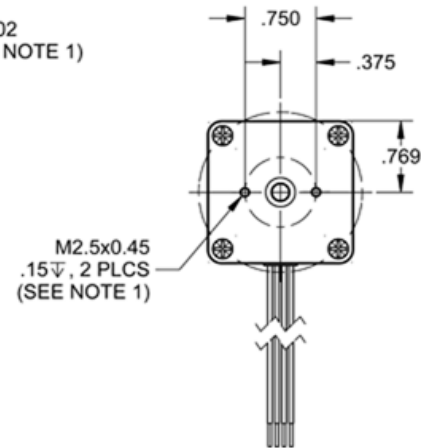
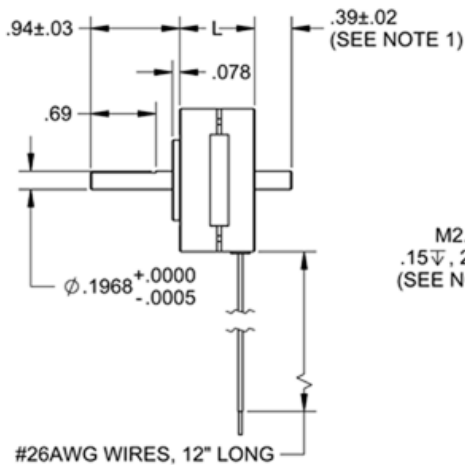
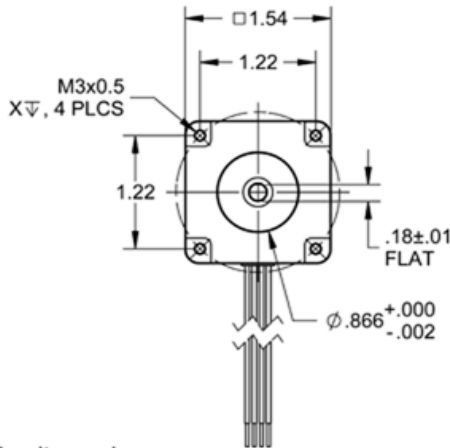
| Model #     | # of Lead Wires | Shaft Type | Bipolar Torque (oz-in) | Bipolar Current (A) | Bipolar Voltage (V) | Bipolar Resistance (ohms) | Bipolar Inductance (mH) | "L" Length (in) | Rotor Inertia (oz-in-sec <sup>2</sup> ) | Weight (lbs) |
|-------------|-----------------|------------|------------------------|---------------------|---------------------|---------------------------|-------------------------|-----------------|---|--------------|
| 15Y001S-LW4 | 4               | Single     | 9                      | 0.4                 | 2.64                | 6.6                       | 6.0                     | 0.79            | 0.00015                                 | 0.33         |
| 15Y001D-LW4 | 4               | Dual       | 9                      | 0.4                 | 2.64                | 6.6                       | 6.0                     | 0.79            | 0.00015                                 | 0.33         |
| 15Y102S-LW4 | 4               | Single     | 25                     | 0.65                | 4.55                | 7.0                       | 9.3                     | 1.339           | 0.00028                                 | 0.40         |
| 15Y102D-LW4 | 4               | Dual       | 25                     | 0.65                | 4.55                | 7.0                       | 9.3                     | 1.339           | 0.00028                                 | 0.40         |
| 15Y202S-LW4 | 4               | Single     | 40                     | 0.7                 | 8.4                 | 12.0                      | 23.0                    | 1.50            | 0.00034                                 | 0.44         |
| 15Y202D-LW4 | 4               | Dual       | 40                     | 0.7                 | 8.4                 | 12.0                      | 23.0                    | 1.50            | 0.00034                                 | 0.44         |
| 15Y203S-LW4 | 4               | Single     | 40                     | 1.1                 | 4.4                 | 4.0                       | 7.0                     | 1.50            | 0.00034                                 | 0.44         |
| 15Y303S-LW4 | 4               | Single     | 50                     | 1.0                 | 6.5                 | 6.5                       | 12.0                    | 1.73            | 0.00057                                 | 0.55         |
| 15Y303D-LW4 | 4               | Dual       | 50                     | 1.0                 | 6.5                 | 6.5                       | 12.0                    | 1.73            | 0.00057                                 | 0.55         |

Notes: Custom leadwires, cables, connectors, and windings are available upon request.

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DIMENSIONS

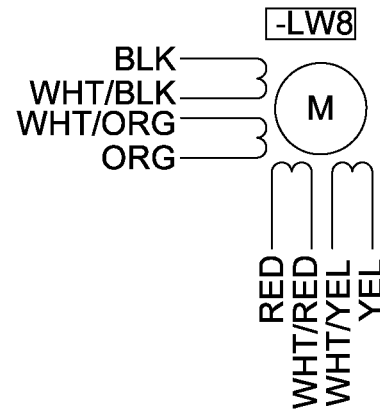
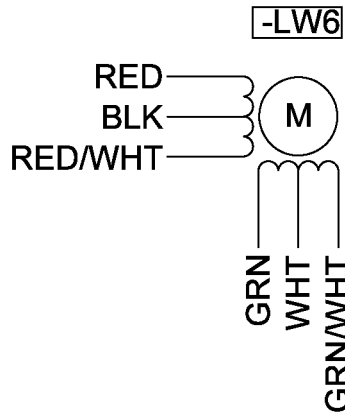
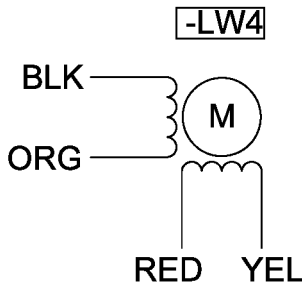
| PART NUMBER | "L" DIMENSION | "X" DIMENSION |
|-------------|---------------|---------------|
| 15Y0XXX-LWX | .787          | .079          |
| 15Y1XXX-LWX | 1.339         | .150          |
| 15Y2XXX-LWX | 1.496         | .150          |
| 15Y3XXX-LWX | 1.732         | .150          |



All units are in mm

Note1: Applies to dual shaft option only

WIRING INFORMATION



| Connection                          | Lead Wire Connection | Lead Wire Color |
|-------------------------------------|----------------------|-----------------|
| 4-Lead Bipolar<br>Series MBC Series | Phase 1 (A)          | Black           |
|                                     | Phase 3 (/A)         | Orange          |
|                                     | Phase 2 (B)          | Red             |
|                                     | Phase 4 (/B)         | 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:     | 0.00079" Max (1.0 lb load)  |
| Temperature Rise:    | 80° C Max (2 Phases On)   | Shaft Axial Play:      | 0.00315" Max (1.0 lb load)  |
| 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               |