

# BLYSG34 Series - Brushless DC Spur Gear Motors



## FEATURES

- **NEMA Size 34 BLDC Motor with Spur Gearboxes**
- **Compact Size and Power Density**
- **Cost-Effective Solution**
- **Lifetime of over 2,000 hours**
- **Available in Single and Double Shaft Options**
- **Can be Customized for**
  - **Maximum Speed/Winding Current**
  - **Shaft Options and Modifications**
  - **Cables and Connectors**
- **CE Certified and RoHS Compliant**



## DESCRIPTION

The BLYSG34xS Series Brushless DC Spur Gearmotors come in a compact package with high power density. These motors are cost-effective solutions to many velocity control applications. They come in three stack lengths to provide just the right torque for a specific application. A number of windings are available off-the-shelf and the motors can be customized to fit specific machine requirements. The motor comes in a standard 11-lead configuration and can be wired for either delta or star configurations. We can also customize the windings to perfectly match your voltage, current, and maximum operating speed. Special shaft modifications, gear ratios, cables and connectors are also available upon request.

## SPECIFICATIONS

| Output on Shaft of Motor before Gearbox |                     |                      |                 |                   |                              |                           |                   |                           |                           |                                         |               |           |
|-----------------------------------------|---------------------|----------------------|-----------------|-------------------|------------------------------|---------------------------|-------------------|---------------------------|---------------------------|-----------------------------------------|---------------|-----------|
| Model #                                 | Peak Torque (oz-in) | Rated Torque (oz-in) | Rated Power (W) | Rated Voltage (V) | Line to Line Inductance (mH) | Torque Constant (oz-in/A) | Rated Speed (RPM) | Back EMF Voltage (V/kRPM) | Winding Resistance (ohms) | Rotor Inertia (oz-in-sec <sup>2</sup> ) | Weight* (lbs) | L2** (in) |
| BLYSG341S-48V-3200                      | 149                 | 50                   | 110             | 48                | 0.63                         | 14.0                      | 3200              | 7.67                      | 0.45                      | 0.0057                                  | 3.3           | 2.20      |
| BLYSG341D-48V-3200                      | 149                 | 50                   | 110             | 48                | 0.63                         | 14.0                      | 3200              | 7.67                      | 0.45                      | 0.0057                                  | 3.3           | 2.20      |
| BLYSG342S-24V-3000                      | 297                 | 100                  | 220             | 24                | 0.08                         | 7.93                      | 3000              | 4.34                      | 0.07                      | 0.0113                                  | 4.1           | 2.72      |
| BLYSG342D-24V-3000                      | 297                 | 100                  | 220             | 24                | 0.08                         | 7.93                      | 3000              | 4.34                      | 0.07                      | 0.0113                                  | 4.1           | 2.72      |
| BLYSG342S-48V-3200                      | 297                 | 100                  | 220             | 48                | 0.40                         | 17.00                     | 3200              | 9.35                      | 0.18                      | 0.0113                                  | 4.1           | 27.2      |
| BLYSG342D-48V-3200                      | 297                 | 100                  | 220             | 48                | 0.40                         | 17.00                     | 3200              | 9.35                      | 0.18                      | 0.0113                                  | 4.1           | 27.2      |
| BLYSG343S-48V-3200                      | 595                 | 198                  | 440             | 48                | 0.20                         | 16.99                     | 3200              | 9.31                      | 0.11                      | 0.0227                                  | 5.7           | 3.78      |
| BLYSG343D-48V-3200                      | 595                 | 198                  | 440             | 48                | 0.20                         | 16.99                     | 3200              | 9.31                      | 0.11                      | 0.0227                                  | 5.7           | 3.78      |
| BLYSG344S-48V-3200                      | 892                 | 297                  | 660             | 48                | 0.10                         | 16.57                     | 3200              | 11.50                     | 0.07                      | 0.0340                                  | 8.8           | 4.78      |
| BLYSG344D-48V-3200                      | 892                 | 297                  | 660             | 48                | 0.10                         | 16.57                     | 3200              | 11.50                     | 0.07                      | 0.0340                                  | 8.8           | 4.78      |

| Output on Shaft after Gearbox |                       |                        |                     |
|-------------------------------|-----------------------|------------------------|---------------------|
| Gear Ratio                    | Number of Gear Trains | Gearbox Length L1 (in) | Peak Torque (oz-in) |
| R3                            | 2                     | 1.65                   | 3472                |
| R5                            | 2                     | 1.65                   | 3472                |
| R7.5                          | 2                     | 1.65                   | 3472                |
| R15                           | 2                     | 1.65                   | 3472                |
| R25                           | 3                     | 2.36                   | 3472                |
| R30                           | 3                     | 2.36                   | 3472                |
| R50                           | 4                     | 2.36                   | 3472                |
| R75                           | 4                     | 2.36                   | 3472                |
| R100                          | 4                     | 2.36                   | 3472                |
| R120                          | 4                     | 2.36                   | 3472                |
| R150                          | 4                     | 2.36                   | 3472                |

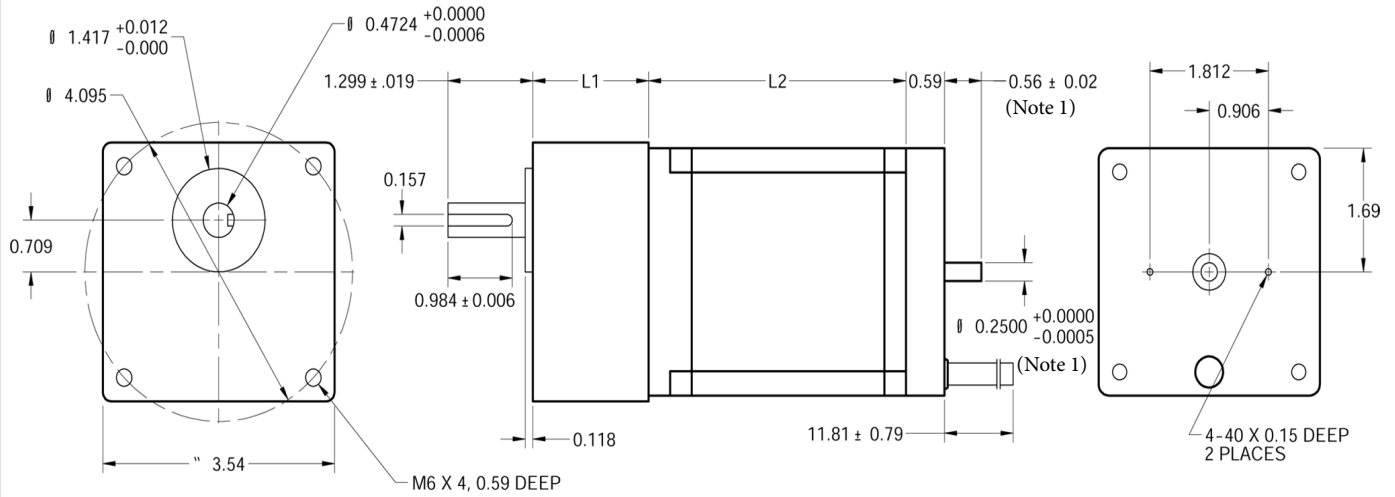
Note: Custom leadwires, cables, connectors, and windings are available upon request.

\*Weights will vary based on gear ratio selected.

\*\*Overall length of gearmotors will vary based on gear ratio selected.

L010377

DIMENSIONS

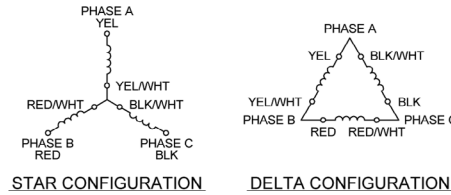


Note 1: Dual Shaft option

Units: Inch

WIRING INFORMATIONS

| Description | Motor Wire Color | Cable Adder Color |
|-------------|------------------|-------------------|
| Hall Supply | Red              | Re/White          |
| Hall A      | Blue             | Orange/White      |
| Hall B      | Green            | Orange            |
| Hall C      | White            | Yellow/White      |
| Hall Ground | Black            | Black/White       |
| Phase A     | Yellow, Yel/Wht  | Yellow            |
| Phase B     | Red, Red/Wht     | Red               |
| Phase C     | Black, Blk/Wht   | Black             |



NOTE:  
 1. STAR CONFIGURATION IS DEFAULT.  
 2. FOR DELTA CONFIGURATION:  
 REMOVE PLASTIC CAP.  
 REMOVE 3 SCREWS HOLDING PCB.  
 ROTATE HALL PCB TO LINE UP WITH RED MARKER. REPLACE SCREWS.  
 REPLACE PLASTIC CAP.

SPECIFICATIONS

|                        |                       |                   |                               |
|------------------------|-----------------------|-------------------|-------------------------------|
| Hall Effect Angle:     | 120° electrical angle | Number of poles:  | 8                             |
| Insulation Class:      | Class B               | Number of phase:  | 3                             |
| Dielectric Strength:   | 500VDC for one minute | Temperature Rise: | 70° C                         |
| Insulation Resistance: | 100MOhms Min, 500VDC  | Life Expectancy:  | Over 2000 Hours               |
| Axial Load:            | 10kg                  | Radial Load:      | 30kg - 10mm from end of shaft |