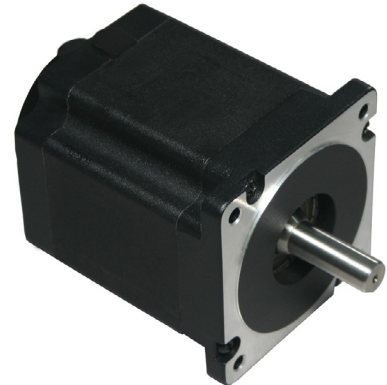


BLY34 Series - Brushless DC Motors



FEATURES

- **NEMA Size 34 BLDC Motors**
- **Compact Size and Power Density**
- **Lifetime of over 20,000 hours**
- **Long Life and Highly Reliable**
- **Can be Customized for**
 - **Maximum Speed**
 - **Winding Current**
 - **Shaft Options**
 - **Cables and Connectors**
- **CE Certified and RoHS Compliant**



DESCRIPTION

The BLY34 Series Brushless DC Motors come in a compact package with high power density. These motors are cost-effective solutions to many velocity control applications. They are available in both single and dual shaft options, and come in four different stack lengths to provide you with just the right torque for your application. A number of windings are available off-the-shelf and the motors can be customized to fit your 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 winding to perfectly match your voltage, current, and maximum operating speed. Special shaft modifications, cables and connectors are also available upon request.

SPECIFICATIONS

Model #	Rated Voltage (V)	Rated Speed (RPM)	Rated Torque (oz-in)	Rated Power (W)	Rated Current (A)	Line to Line Resistance (ohms)	Line to Line Inductance (mH)	Torque Constant (oz-in/A)	Back EMF Voltage (V/kRPM)	Rotor Inertia (oz-in-sec ²)	Weight (lbs)	"L" Length (in)
BLY341S-12V-3000	12	3000	42.5	94	10.24	0.08	0.16	4.15	2.17	0.005664	3.51	2.28
BLY341S-24V-3000	24	3000	50.0	110	6.67	0.15	0.17	7.50	4.11	0.005664	3.31	2.28
BLY341S-48V-3200	48	3200	50.0	110	3.76	0.45	0.63	13.30	7.67	0.005664	3.31	2.28
BLY341D-24V-3000	24	3000	50.0	110	6.67	0.15	0.17	7.50	4.11	0.005664	3.30	2.28
BLY341D-48V-3200	48	3200	50.0	110	3.76	0.45	0.63	13.30	7.67	0.005664	3.30	2.28
BLY342S-12V-3000	12	3000	85.0	189	20.83	0.02	0.06	4.08	2.13	0.005664	3.53	2.80
BLY342S-24V-3000	24	3000	100.0	220	12.61	0.07	0.08	7.93	4.59	0.011328	4.08	2.79
BLY342S-30V-3000	30	3000	100.0	220	10.09	0.12	0.11	9.91	5.11	0.011328	4.08	2.79
BLY342S-48V-1000	48	1000	198.0	147	4.51	0.80	2.00	43.90	22.2	0.011328	4.08	2.80
BLY342D-48V-1000	48	1000	198.0	147	4.51	0.80	2.00	43.90	22.2	0.011328	4.08	2.80
BLY342S-48V-3200	48	3200	100.0	220	5.88	0.18	0.35	17.0	8.64	0.011328	4.08	2.79
BLY342S-160V-3000	160	3000	100.0	220	1.86	3.26	9.50	53.80	28.64	0.011328	4.08	2.79
BLY342D-24V-3000	24	3000	100.0	220	12.61	0.07	0.08	7.93	4.59	0.011328	4.10	2.80
BLY342D-30V-3000	30	3000	100.0	220	10.09	0.12	0.11	9.91	5.11	0.011328	4.10	2.80
BLY342D-48V-3200	48	3200	100.0	220	5.88	0.18	0.35	17.0	8.64	0.011328	4.10	2.80
BLY342D-160V-3000	160	3000	100.0	220	1.86	3.26	9.50	53.80	28.64	0.011328	4.10	2.80
BLY343S-24V-1000	24	1000	212.0	157	9.98	0.33	0.18	21.24	11.28	0.022656	6.68	3.86

Note: The above specs are for motors hooked up with the star configuration. For different rated speeds, please contact the factory. Custom leadwires, cables, connectors, and windings are available upon request.

The 7th character "S" denotes a single shaft, use "D" for double shaft.

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BLY34 Series - Brushless DC Motors



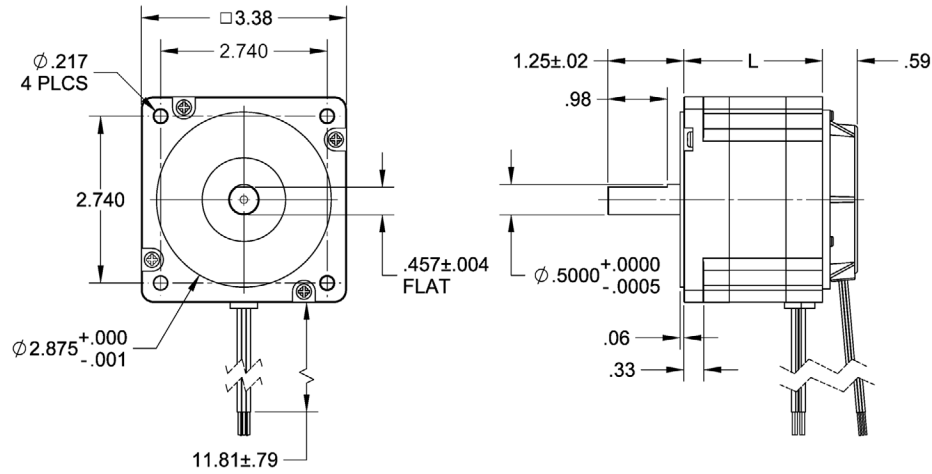
SPECIFICATIONS

Model #	Rated Voltage (V)	Rated Speed (RPM)	Rated Torque (oz-in)	Rated Power (W)	Rated Current (A)	Line to Line Resistance (ohms)	Line to Line Inductance (mH)	Torque Constant (oz-in/A)	Back EMF Voltage (V/kRPM)	Rotor Inertia (oz-in-sec ²)	Weight (lbs)	"L" Length (in)
BLY343S-48V-3200	48	2700	198.0	440	9.71	0.11	0.17	20.39	10.61	0.022656	5.73	3.81
BLY343S-48V-4200	48	4200	142.0	441	9.55	0.09	0.28	14.87	7.80	0.022656	6.94	3.77
BLY343S-160V-3000	160	3000	198.0	440	3.41	1.24	4.00	58.00	30.57	0.022656	5.73	3.81
BLY343S-240V-3000	240	3000	198.0	440	2.37	3.10	11.20	83.54	38.39	0.022656	5.73	3.81
BLY343D-24V-2000	24	2000	255.0	377	21.25	0.09	0.20	12.00	6.25	0.022656	5.73	3.86
BLY343D-36V-1700	36	1700	198.0	250	8.74	0.13	0.22	22.66	12.30	0.022656	5.73	3.86
BLY343D-48V-1000	48	1000	340.0	250	7.50	0.42	1.03	45.31	22.00	0.022656	5.73	3.86
BLY343D-48V-3200	48	2700	198.0	440	9.71	0.11	0.17	20.39	10.61	0.022656	6.90	3.86
BLY343D-160V-3000	160	3000	198.0	440	3.41	1.24	4.00	58.00	30.57	0.022656	5.73	3.86
BLY344S-24V-1000	24	1000	496.0	660	30.43	0.12	0.27	16.30	9.03	0.033984	8.80	4.92
BLY344S-48V-3200	48	3200	297.0	660	17.92	0.07	0.10	16.57	8.81	0.033984	8.82	4.92
BLY344S-160V-3000	160	3000	297.0	660	5.12	0.73	2.67	58.06	29.77	0.033984	8.82	4.92
BLY344S-240V-3000	240	3000	297.0	660	3.18	2.40	9.50	93.46	42.26	0.033984	8.82	4.92
BLY344D-48V-3200	48	3200	297.0	660	17.92	0.07	0.10	16.57	8.81	0.033984	8.80	4.92
BLY344D-160V-3000	160	3000	297.0	660	5.12	0.73	2.67	58.06	29.77	0.033984	8.80	4.92

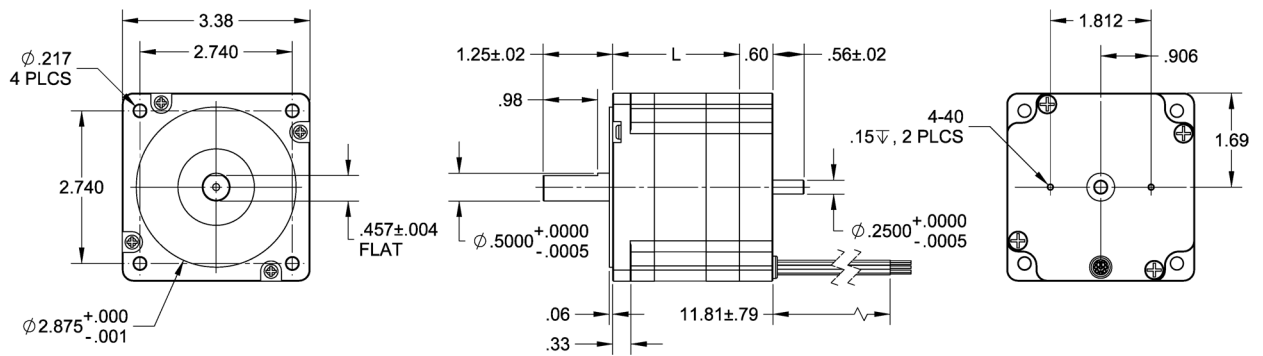
Note: The above specs are for motors hooked up with the star configuration. For different rated speeds, please contact the factory. Custom leadwires, cables, connectors, and windings are available upon request. The 7th character "S" denotes a single shaft, use "D" for double shaft.

Hall Effect Angle:	120° Electrical Angle	Insulation Class	Class B
Shaft Run Out:	0.05mm	Dielectric Strength	500VDC for one minute
Radial Play:	0.02mm@450g	Insulation Resistance:	100MOhms Min, 500VDC
End Play:	0.08mm@450g	Number of Poles	8
Max. Radial Force:	220N@20mm from the flange	Number of Phase:	3
Max. Axial Force:	60N	Temperature Rise:	70°C
Typical Efficiency:	80%	Life Expectancy:	Over 20,000 hours

Single Shaft:



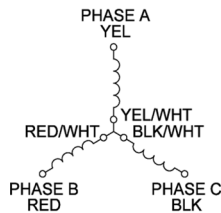
Dual Shaft:



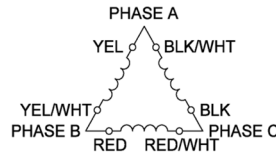
*All units are in (in)

Description	Motor Wire Color
Hall Supply	Red
Hall A	Blue
Hall B	Green
Hall C	White
Hall Ground	Black
Phase A	Yellow, Yel/Wht
Phase B	Red, Red/Wht
Phase C	Black, Blk/Wht

STAR CONFIGURATION



DELTA CONFIGURATION



- 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.

3. 160VDC RATED MOTORS HAVE ONLY YELLOW, RED AND BLACK WIRES SUPPLIED FOR THE PHASES. THESE MOTORS ARE WOUND IN STAR.

Hall Sensor Specifications

Supply Voltage: 4.5VDC to 28VDC
Current, I_{off} : 10mA max
Current, I_{on} : 11.3mA max
Rated Sinking Current: 20mA
Saturation Voltage: 0.4VDC max @ 25°C
Output Leakage Current: 10µA
Output Switching Time @ 25°C
Rise, 10% to 90% 1.5µs
Fall, 90% to 10% 1.5µs
Output Type: Open Collector

