

# BLWR09 - Brushless DC Motors



## FEATURES

- **22mm Round Body**
- **3-Phase, 8 Pole Motor**
- **Ball Bearing Design**
- **Strong NFeB Magnets**
- **Long Life - 20,000 Hour Operation**
- **Cost-Effective Replacement for Brush DC Motors**
- **Can be Customized for**
  - **Operating Voltage & Rated Speed**
  - **Cables and Connectors**
- **RoHS Compliant**



## DESCRIPTION

The BLWR09 Series Brushless DC Motors come in a compact package with high power density. These motors are cost-effective solutions to many velocity control applications. The star wound motor comes in a standard 8-lead configuration. 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.

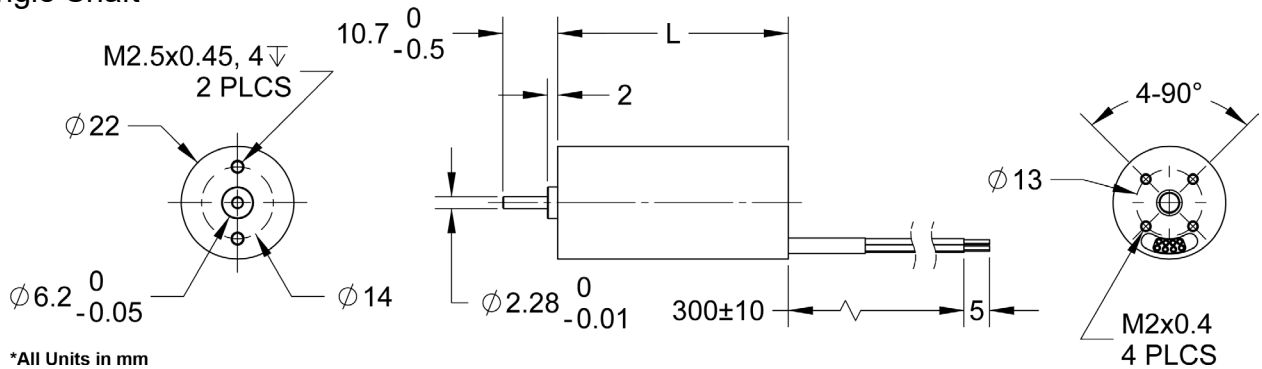
## SPECIFICATIONS

Model #	Rated Voltage (V)	Rated Power (W)	Peak Current (A)	Rated Torque (oz-in)	Peak Torque (oz-in)	Rated Speed (RPM)	Line to Line Resistance (ohms)	Line to Line Inductance (mH)	Torque Constant (oz-in/A)	Rotor Inertia (oz-in-sec <sup>2</sup> )	"L" Length (mm)	Weight (lbs)
BLWR092S-12V-8000	12	4.2	2.2	0.7	2.8	8000	3.50	0.7	1.25	9.3 x 10 <sup>-6</sup>	45	0.15
BLWR092S-24V-4600	24	3.8	1.1	1.1	3.8	4800	23	6.2	4.28	9.3 x 10 <sup>-6</sup>	45	0.15
BLWR0935-12V-500	12	0.2	0.07	0.6	1.7	500	122	39.8	7.73	18.7 x 10 <sup>-6</sup>	70	0.28
BLWR093S-24V-3500	24	8.0	1.5	3.1	7.1	3500	11.80	4.2	5.03	18.7 x 10 <sup>-6</sup>	70	0.26
BLWR093D-24V-3500	24	8.0	0.07	2.8	8.5	3800	11.6	4.3	5.03	18.7 x 10 <sup>-6</sup>	72	0.28

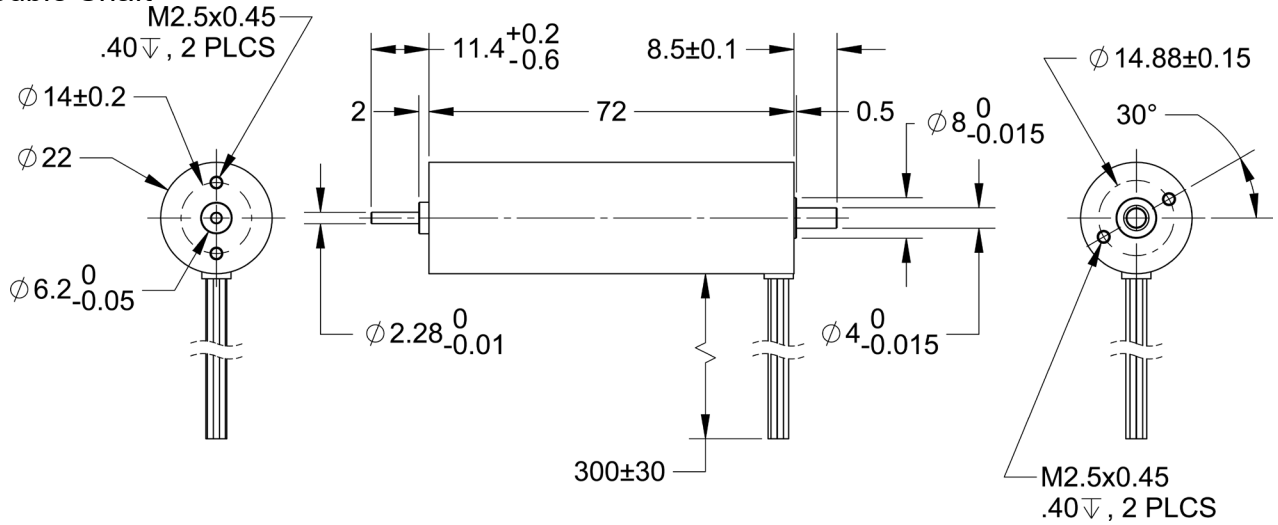
Note: Custom leadwires, cables, connectors and windings are available upon request.

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### Single Shaft



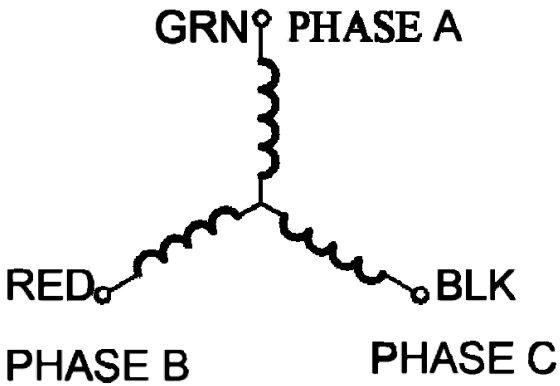
### Double Shaft



Wire Color	Description
Yellow	Hall Power
Blue	Hall A
Orange	Hall B
Brown	Hall C
White	Ground

Wire Color	Description
Green	Phase A
Red	Phase B
Black	Phase C

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



Winding Type:	Star, 8 Poles	Max. Radial Force:	10N @ 10mm from the flange
Hall Effect Angle:	120 degree electrical angle	Max. Axial Force:	2N
Shaft Run Out:	0.025mm	Insulation Class:	Class B
Radial Play:	0.02mm@450g	Dielectric Strength:	500VDC for one minute
End Play:	0.08mm@450g	Insulation Resistance:	100MOhm, 500VDC

