

# BLWR13 - Brushless DC Motors



## FEATURES

- **33mm Round Body**
- **Compact Size and Power Density**
- **Cost-Effective Replacement for Brush DC Motors**
- **Long Life and Highly Reliable**
- **Can be Customized for**
  - **Maximum Speed**
  - **Winding Current**
  - **Shaft Options**
  - **Cables and Connectors**



## DESCRIPTION

The BLWR13 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 available upon request.

## SPECIFICATIONS

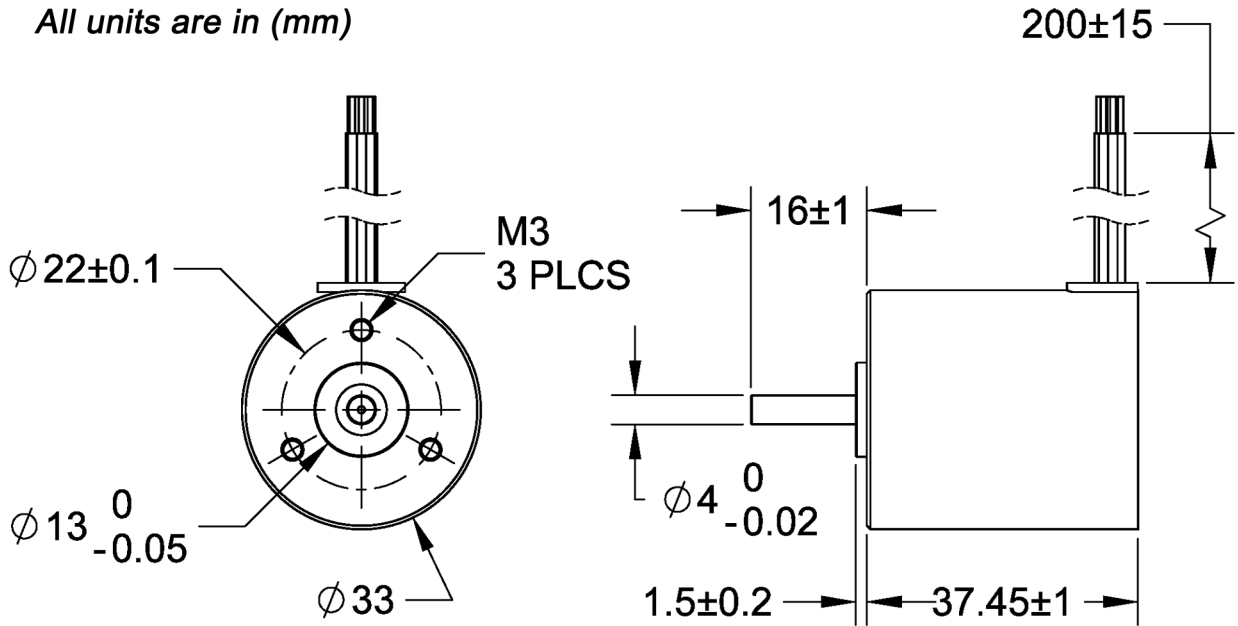
Model #	Rated Voltage (V)	Rated Speed (RPM)	Rated Power (W)	Rated Torque (oz-in)	Peak Torque (oz-in)	Rated Current (A)	Line to Line Resistance (ohms)	Line to Line Inductance (mH)	Torque Constant (oz-in/A)	Rotor Inertia (oz-in-sec <sup>2</sup> )	Weight (lbs)	"L" Length (mm)
BLWR132S-12V-3000	12	3000	4	2.0	7.1	0.57	4.45	2.00	3.82	0.000193	0.25	38
BLWR132S-24V-3000	24	3000	7	3.1	9.3	0.48	12.8	7.00	6.64	0.000193	0.25	38
BLWR132S-24V-4000	24	4000	21	7.0	21	2.17	3.64	1.62	3.24	0.000193	0.25	38

Note: Other speed options, custom leadwires, cables, connectors, and windings are available upon request.

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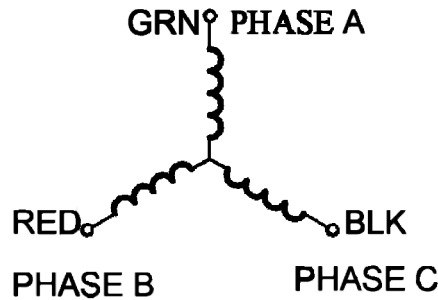
DIMENSIONS

All units are in (mm)



WIRING INFORMATION

Wire Color	Description
Green	Phase U
Red	Phase V
Black	Phase W
Yellow	Hall +5V
Blue	Hall 1
Orange	Hall 2
Brown	Hall 3
White	Hall Ground



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

SPECIFICATIONS

Winding Type:	Star, 4 Poles	Max. Radial Force:	15N @ 10mm from the flange
Hall Effect Angle:	120 degree electrical angle	Max. Axial Force:	10N
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:	100MΩ, 500VDC

