

BLWR17 - Brushless DC Motors



FEATURES

- **42mm 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 BLWR17 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

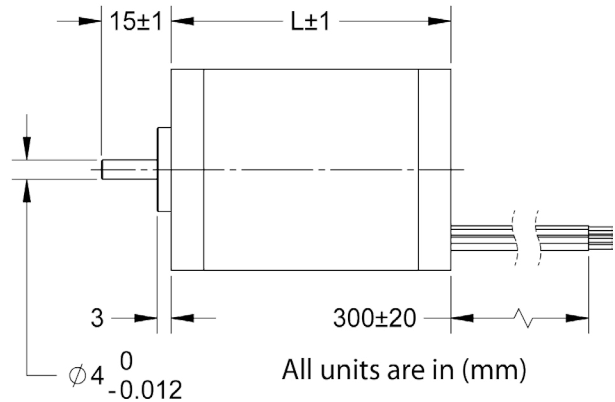
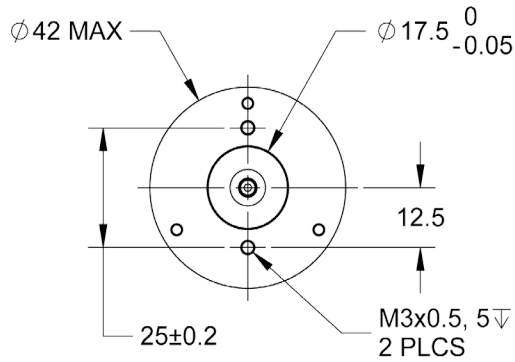
Model #	Rated Voltage (V)	Rated Speed (RPM)	Rated Power (W)	Rated Torque (oz-in)	Peak Torque (oz-in)	Rated Current (A)	Line to Line Resistance (ohms)	Line to Line Inductance (mH)	Torque Constant (oz-in/A)	Back EMF Voltage (V/kRPM)	Rotor Inertia (oz-in-sec ²)	Weight (lbs)	"L" Length (mm)
BLWR171S-12V-4000	12	4000	8	2.8	8.4	0.89	1.50	2.26	3.36	1.47	0.000221	0.55	30
BLWR171S-12V-5000	12	5000	10	2.8	8.4	1.24	1.08	0.84	2.28	1.21	0.000221	0.55	30
BLWR172S-12V-4200	12	4200	25	7.9	29.7	2.87	0.48	0.44	2.79	1.46	0.000221	0.88	60
BLWR172S-24V-2000	24	2000	12	7.9	25.4	0.82	6.00	6.40	9.70	5.48	0.000467	0.88	60
BLWR172S-24V-4200	24	4200	25	7.9	25.4	1.45	1.60	1.94	5.45	3.84	0.000467	0.88	60
BLWR173S-12V-4000	12	4000	63	21.2	63.7	7.69	0.19	0.22	2.73	1.53	0.000821	1.54	85
BLWR173S-24V-2000	24	2000	31	21.2	63.7	2.15	2.18	2.96	9.88	5.60	0.000821	1.54	85
BLWR173S-24V-4000	24	4000	62	21.2	63.7	4.08	0.71	0.86	5.47	3.10	0.000821	1.54	85

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

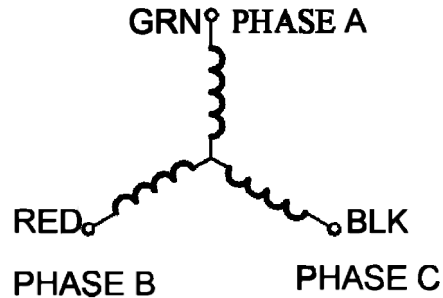
Winding Type:	Wye, 8 Poles	Max. Radial Force:	15N @ 10mm from the flange
Hall Effect Angle:	120 degree electrical angle	Max. Axial Force:	10N
Shaft Run Out:	0.025mm	Insulation Class:	Class B
Radial Play:	0.02mm@450g	Dielectric Strength:	500VDC for one minute
End Play:	0.08mm@450g	Insulation Resistance:	100MOhm, 500VDC

L010411

DIMENSIONS



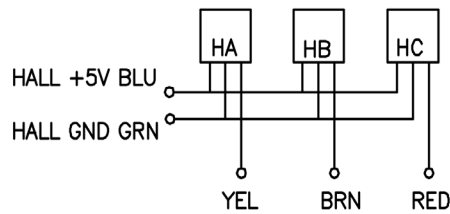
Description	Motor Wire Color	Cable Adder Color
Hall Supply	Yellow	Red/White
Hall A	Blue	Orange/White
Hall B	Orange	Orange
Hall C	Brown	Yellow/White
Hall Ground	White	Black/White
Phase A	Green	Yellow
Phase B	Red	Red
Phase C	Black	Black



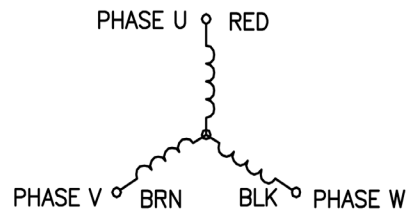
WIRING INFORMATION

Wire Colors used for part number BLWR173S-12V-4000 are as shown below.

HALL CONNECTING



THREE-PHASE CONNECTING STAR CONNECTION



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

