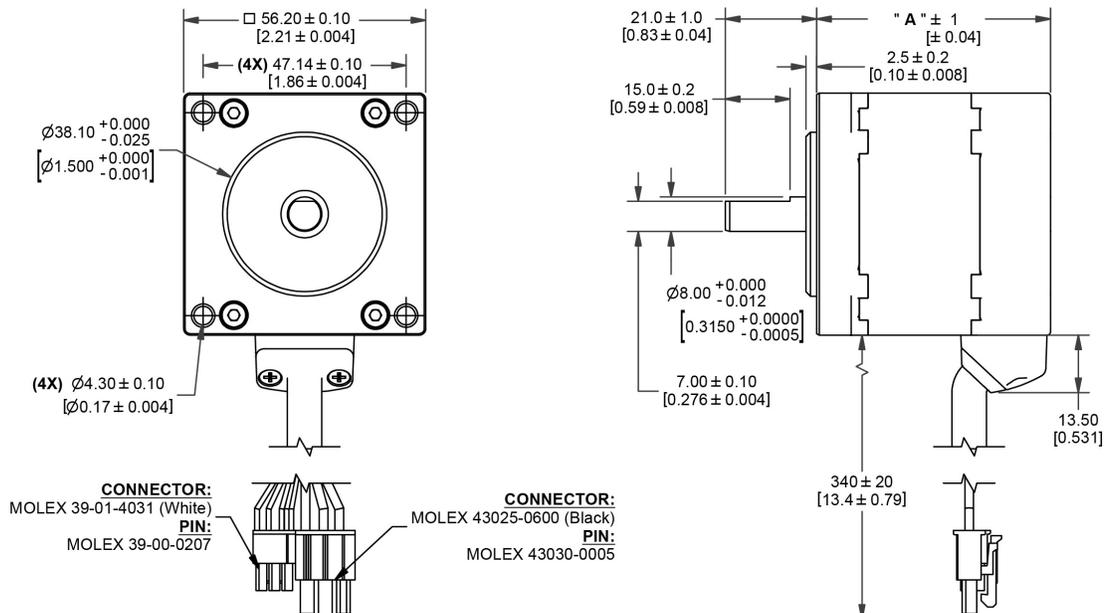


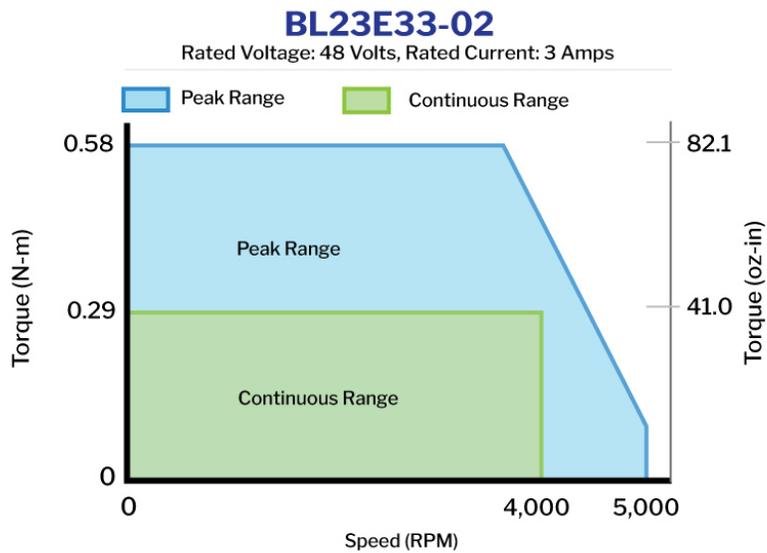
## Motor Specifications

Part Number	<b>BL23E33-02-R0</b>
Dimension "A" Max	3.29 in [83.5mm]
Rated Voltage	48 VDC
Rated Torque	41.07 oz-in [0.29N-m]
Rated Speed	4000 RPM
Rated Power	120 Watts
Rated Current	3 Amps
Peak Torque	82.13 oz-in [0.58N-m]
Peak Current	6 Amps
Torque Constant (kt)	13.74 oz-in/Amp
Back EMF Constant (Ke)	9.02 Vp/KRPM
Motor Constant (Km)	15.76 oz-in/√W [0.111 N-m/√W]
Resistance	0.76 Ohms
Inductance	0.84 mH
Rotor Inertia	1.53 oz-in <sup>2</sup>
Weight	2.38 lb [1.08 kg]
Electrical Time Constant	1.1 ms
Mechanical Time Constant	2.5 ms

## Dimensions



## Performance Curve



## Motor Operating Specs.

Hall Effect Angle	120° electrical Angle
Radial Play	0.002 in [0.05 mm] @ 0.99 lbs [0.45 kg]
End Play	0.003 in [0.08 mm] @ 99.21 lbs [45.00 kg]
Max. Radial Force	0.787 in [20.00 mm] @ 16.80 lbs [7.62 kg]
Max. Axial Force	3.37 lbs [1.53 kg]
Insulation Class	Class B
Dielectric Strength	500 VDC for 1 minute
Insulation Resistance	100 Ω min. 500 VDC
Ambient Operating Temperature	-20°C to 50°C
Storage Temperature	-20°C to 100°C
Humidity Range (%)	85% (RH) non-condensing
Direction of Rotation	CCW

## Pin Out Charts

PIN #	COLOR	PHASE
1	RED	VCC (+5V)
2	YELLOW	HV
3	BLUE	HW
4	BLACK	GND
5	ORANGE	HU

PIN #	COLOR	PHASE
1	BLUE	W
2	ORANGE	U
5	YELLOW	V

## Recommended Products



BLDC DRIVER  
BLDC50-BL23E33-02

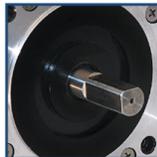


BLDC EXTENSION CABLE  
4201-100/300

## Operation & Usage Tips



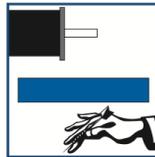
**Do not** disassemble motors; a significant reduction in motor performance will occur.



**Do not** machine shafts; this will have a negative effect on shaft run out and perpendicularity.



**Do not** disconnect motor from drive while in operation.



**Do not** use holding torque/detent torque of motor as a fail safe brake.



**Do not** hold motor by lead wires.



**Do not** exceed the rated current; this will burn the motor.

FAILURE TO COMPLY WITH THESE RECOMMENDATIONS WILL VOID ALL WARRANTY TERMS

# Motion Control, **Solved.**

## MOTOR ENGINEERING & MANUFACTURING



Optimized  
For Your  
Application



Quick  
Prototype  
Turnaround



Small Batch  
to OEM Volume  
Production



US Based  
Support &  
Manufacturing