

PART NUMBER **BL23E33-02-HP20**

MOTOR SPECIFICATIONS

| | |
|--------------------------|-------------------------------|
| Part Number | BL23E33-02 |
| Dimension "A" | 3.29 in 83.5 mm |
| Rated Voltage | 48 VDC |
| Rated Torque | 41.07 oz-in 0.29 N-m |
| Rated Speed | 4000 RPM |
| Rated Power | 120 Watts |
| Rated Current | 3 Amps |
| Peak Torque | 82.13 oz-in 0.58 N-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 | 84 mH |
| Rotor Inertia | 0.153 oz-in ² |
| Weight | 2.38 lb 1.08 kg |
| Electrical Time Constant | 1.1 ms |
| Mechanical Time Constant | 2.5 ms |

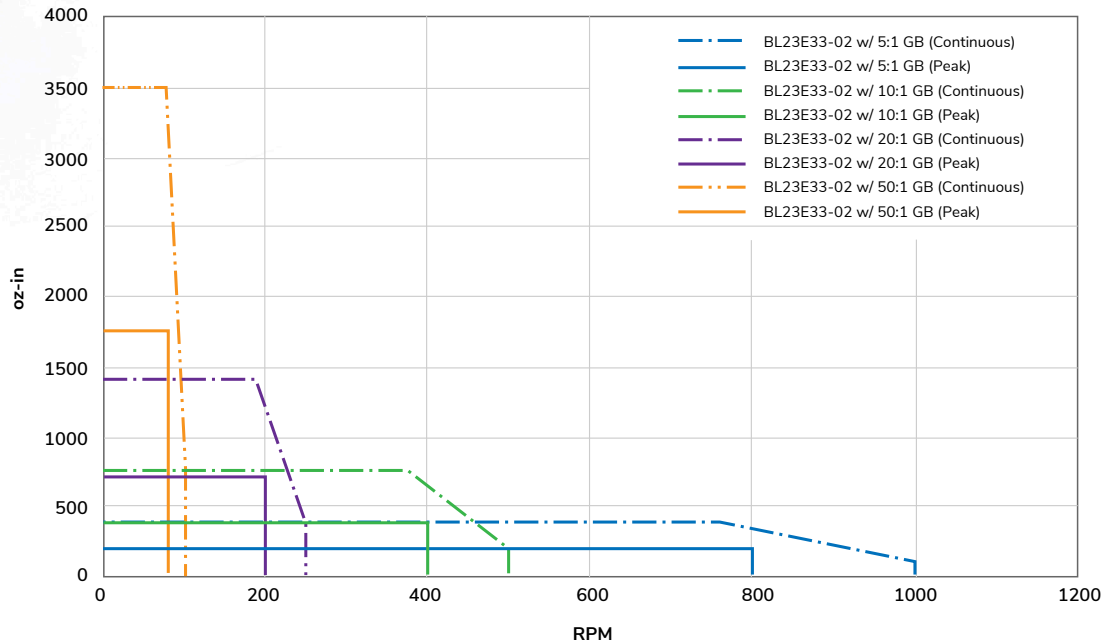
GEARBOX SPECIFICATIONS

| | |
|--|-------------------------------|
| Part Number | HP20 |
| Ratio | 20:1 |
| Nominal Output Torque (Nm) | 50 |
| Emergency Stop Torque (Nm) | 3 times nominal output torque |
| Nominal Input Speed (RPM) | 5000 |
| Max Input Speed (RPM) | 10000 |
| Max Radial Load (N) | 1377 |
| Max Axial Load (N) | 765 |
| Efficiency η (%) | 85 |
| Backlash (arcmin) | <7 |
| Protection Class | IP65 (gearbox), IP40 (motor) |
| Service Life (hr) | 20000 |
| Weight (kg) | 1.6 |
| Operating Temperature (°C) | -20 to 90 |
| Lubrication | Grease |
| Noise (n=3000 rpm) dB(A) | 58 |
| Mass Movement of Inertia (kg-cm ²) | 0.03 |

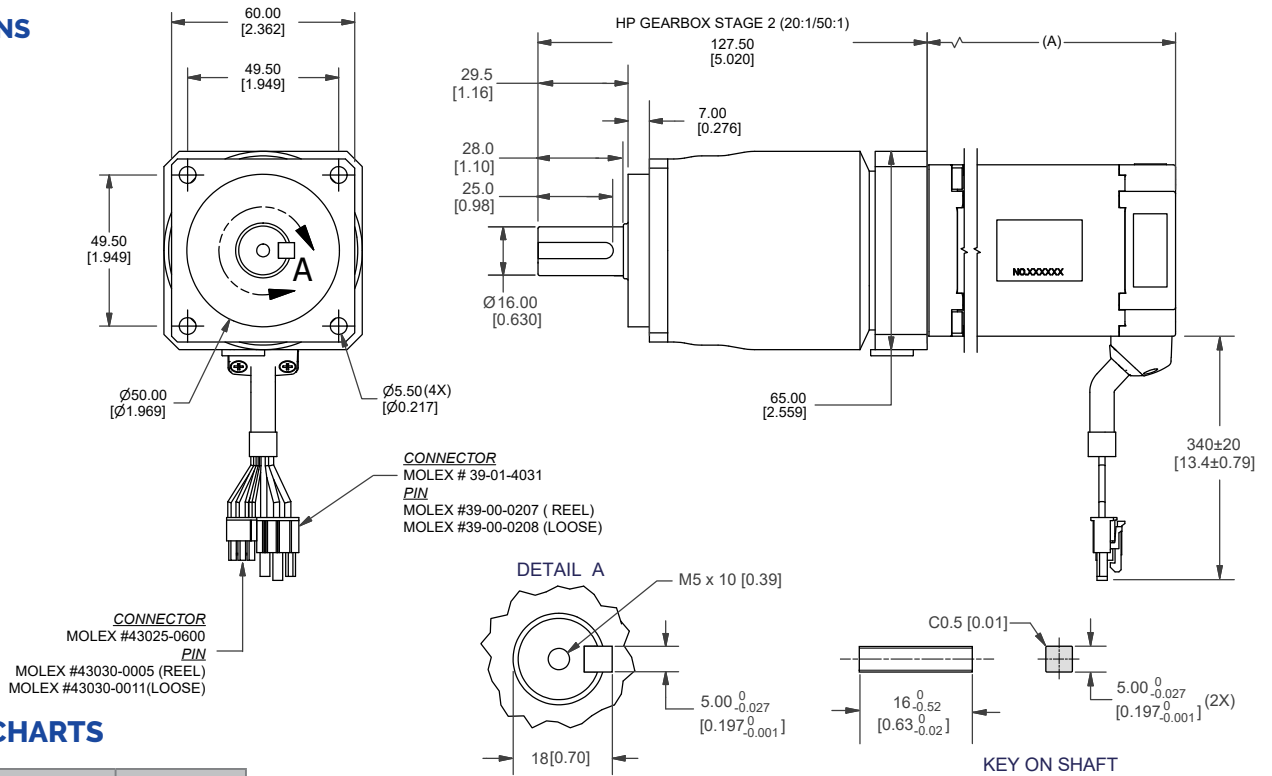


PERFORMANCE CURVE

BL23E33-02 GEARMOTOR TORQUE CURVES



DIMENSIONS



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

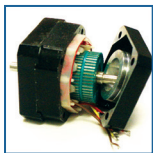


BLDC DRIVER
BLDC50-BL23E22-02

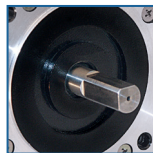


BLDC EXTENSION CABLE
4201-100/300

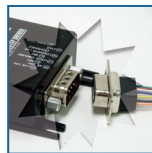
OPERATION & USAGE TIPS



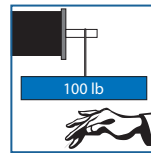
Do not disassemble motors; a significant reduction in motor performance will occur.



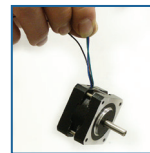
Do not machine shafts; this will have a negative effect on shaft run out and perpendicularity.



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 damage 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