



## MOTOR SPECIFICATIONS

|                    |   |
|--------------------|---|
| Part Number        | <b>BL34E21-02D-03R0</b>                               |
| Length Dimension   | 50 mm [1.97 in]                                       |
| Rated Voltage      | 48 VDC  |
| Rated Output Power | 100 W   |
| Pole Number        | 8   |
| Phase Number       | 3   |
| Rated Speed        | 4000 RPM  |
| Max Speed          | 4500 RPM  |
| Rated Torque       | 0.24 N-m [33.99 oz-in]                                |
| Rated Current      | 2.43 Amps   |
| Back EMF Constant  | 6.88 Vrms/krpm [9.73 Vpeak/krpm]                      |
| Moment of Inertia  | 0.000038 kg-m <sup>2</sup> [2.08 oz-in <sup>2</sup> ] |
| Resistance         | 0.710hms  |
| Inductance         | 1.35 mH   |
| Weight             | 0.98kg [2.16 lb]                                      |

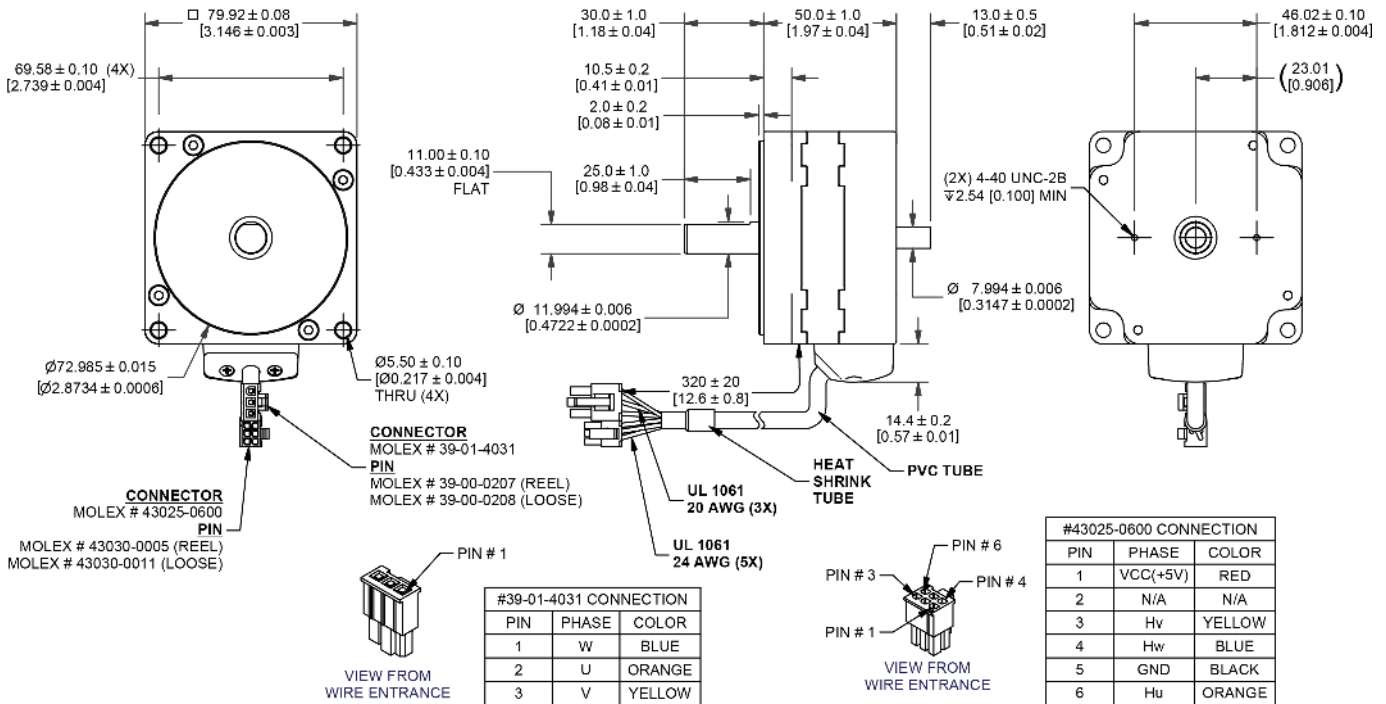
## ENCODER SPECIFICATIONS

|              |                             |
|--------------|-----------------------------|
| Part Number  | <b>E5 Encoder</b>           |
| Type         | Optical Incremental Encoder |
| Resolution   | 1000 CPR                    |
| Index        | Yes                         |
| Output Type: | Differential                |

## MOTOR OPERATING SPECIFICATIONS

|                         |  |
|-------------------------|--|
| 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 Temp. | -20°C to 50°C                              |
| Storage Temperature     | -20°C to 100°C                             |
| Humidity Range (%)      | 85% (RH) non-condensing                    |

# DIMENSIONS



# RECOMMENDED PRODUCTS



**BLDC DRIVER**  
**BLDC50-BL34E21-02**



**BLDC EXTENSION CABLE**  
**4201-100/300**

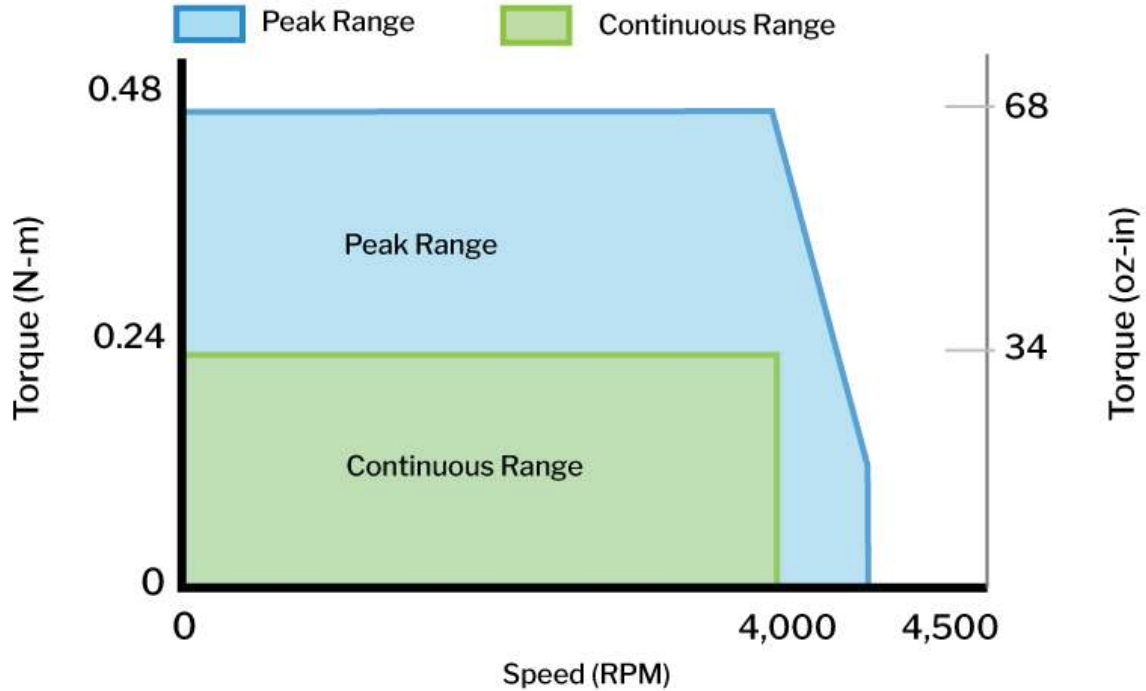


**E5 ENCODER CABLE**  
**CA-FC10-SH-NC-10-PKG**

# PERFORMANCE CURVE

## BL34E21-02

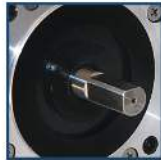
Rated Voltage: 48 Volts, Rated Current: 2.43 Amps



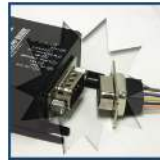
# OPERATION & USAGE TIPS



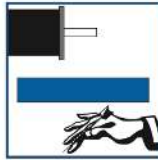
**Do not** disassemble motors; a significant reduction in motor performance will occur.



**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