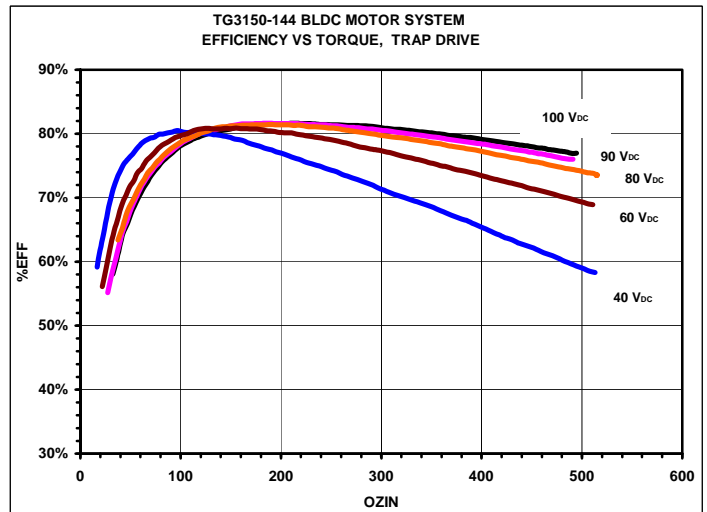
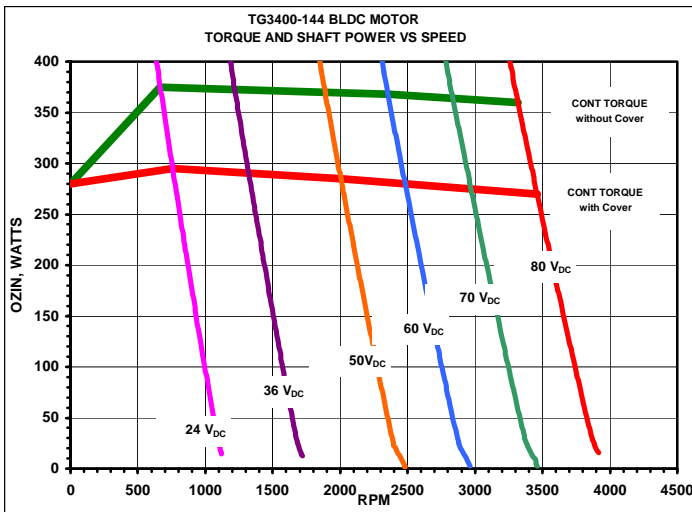
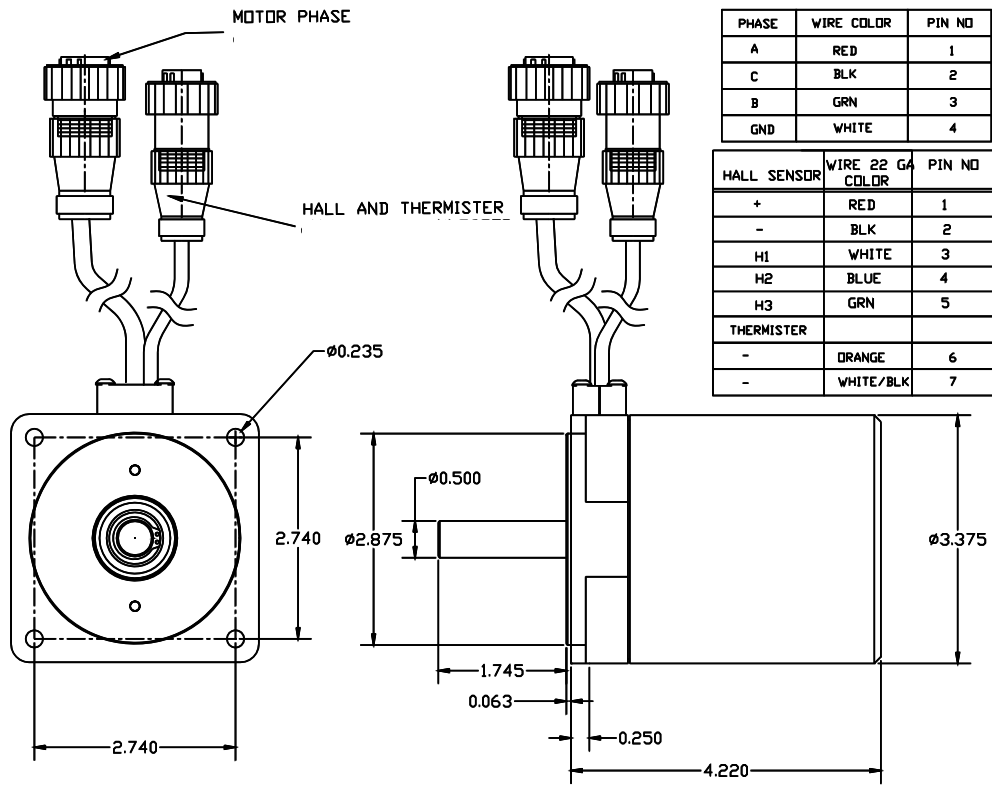


- 1,900 oz-in. peak torque
- 69 amps peak current
- Smooth, predictable power
- NEMA 34 compatible
- No cogging or hysteresis torque
- High power density and efficiency
- No torque-constant roll-off due to saturation
- Linear torque to current ratio
- Reduces need for gearbox
- Up to 80 V<sub>DC</sub> operation
- 8 Pole Construction



TG3400 BRUSHLESS DC MOTOR	
Peak torque ( $T_{peak}$ ) <sup>1</sup>	1,900 oz-in.
Peak current ( $I_{peak}$ )	69 amps
Continuous voltage	60 V <sub>DC</sub>
Shaft power ( $P_{cont}$ )	524 watts
Speed	2,575 rpm
Torque ( $T_{cont}$ )	275 oz-in.
Power density	6.3 W/oz
Current	11 amps
Thermal resistance (TPR)	0.94 °C/W
Maximum voltage	80 V <sub>DC</sub>
No load speed ( $\omega$ )	2,340 rpm @ 48 V <sub>DC</sub> / 2,930 rpm @ 60 V <sub>DC</sub>
Maximum speed ( $\omega_{max}$ )	3,900 rpm
Motor constant ( $K_m$ )	41 oz-in./sqrt (W)
Torque constant -trap drive ( $K_t$ )	27.5 oz-in./amp
Back EMF constant ( $K_e$ )	20.5 V/kRPM
No load DC current ( $I_o$ )	0.75 amps @ 80 V <sub>DC</sub>
Terminal resistance ( $R_t$ )	0.46 $\Omega$
Cogging and hysteresis torque ( $T_c$ and $T_h$ )	0 oz-in.
Viscous drag torque ( $T_{ac}$ )	2.5 oz-in./krpm
Friction torque ( $T_{fr}$ )	0.7 oz-in.
Inductance (L)	26 $\mu$ H
Mechanical time constant ( $T_m$ )	19 mS
Electrical time constant ( $T_e$ )	0.057 mS
Bearing type	Ball
System efficiency <sup>5</sup>	82%
Motor weight ( $W_t$ ) <sup>4</sup>	83 oz
Rotor inertia (J)	0.202 oz-in.-sec <sup>2</sup>
Max housing temperature <sup>3</sup>	100 °C
Max stator winding temperature	150 °C

1-Torque vs current relationship is linear. Thermally limited to short duration. 2-Motor testing performed at 25°C ambient with mounting heat sink of 4.5" x 0.5" x 8" aluminum. 3-Magnet temperature limited. 4-Weight shown with cables and connectors. 5- Tests performed using a 15-amp trapezoidal BLDC PWM controller with 50  $\mu$ H inductor each leg that adds .027  $\Omega$  phase resistance. Input power includes driver and 50uH inductor losses.



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