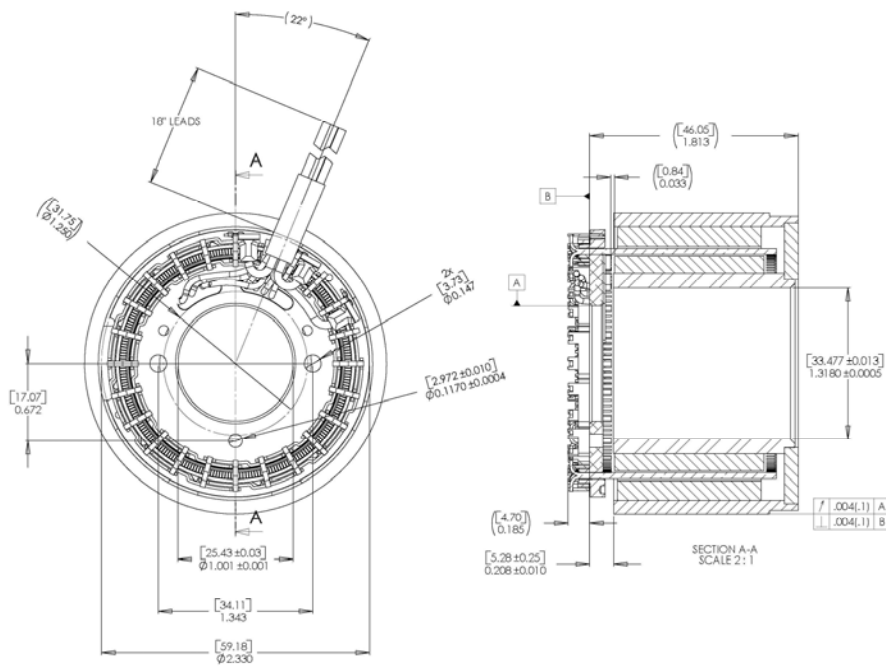


- High power – .68 H.P. at 48v
- 600 oz-in. peak torque
- 85% peak system efficiency
- No cogging or hysteresis torque
- 8 Pole, Y Coil
- Motor part set

TG2340 BRUSHLESS DC MOTOR			
Peak torque <sup>1</sup>	$T_{pk}$	600	oz-in.
Peak current <sup>1</sup>	$I_{pk}$	55	amps
Power density	-	10	W/oz
Continuous voltage	$V_{cont}$	48	$V_{dc}$
Shaft power <sup>2</sup>	$P_{cont}$	500	watts
Speed	$\omega_{cont}$	4886	rpm
Torque	$T_{cont}$	140	oz-in.
Current	$I_{cont}$	10.4	amps
Maximum locked rotor torque	$T_{lr}$	102	oz-in.
Maximum locked rotor current	$I_{lr}$	9.4	amps
No load voltage	$V_{nl}$	48	$V_{dc}$
No load speed	$\omega_{nl}$	6000	rpm
No load current	$I_{nl}$	1.3	amps
Motor constant	$K_m$	19.6	oz-in./sqrt (W)
Torque constant -trap drive	$K_t$	10.9	oz-in./amp
Back EMF constant	$K_v$	.077	$V_{dc}/rad/sec$
Back EMF constant	$K_e$	127	rpm/ $V_{dc}$
Terminal resistance	$R_t$	0.31	$\Omega$
Cogging and hysteresis torque	$T_c/T_h$	0	oz-in.
Viscous drag torque	$T_{ac}$	0.76	oz-in./krpm
Friction torque	$T_{fr}$	0.05	oz-in.
Armature inductance	$L$	10	$\mu H$
Mechanical time constant	$T_m$	29	mS
Electrical time constant	$T_e$	0.032	mS
Maximum system efficiency	-	90	%
Motor weight <sup>3</sup>	$Wt$	22	oz
Rotor inertia	$J$	5.52E-02	oz-in.-sec <sup>2</sup>
Max rotor temperature <sup>4</sup>	-	70	$^{\circ}C$
Max stator winding temperature <sup>4</sup>	-	110	$^{\circ}C$

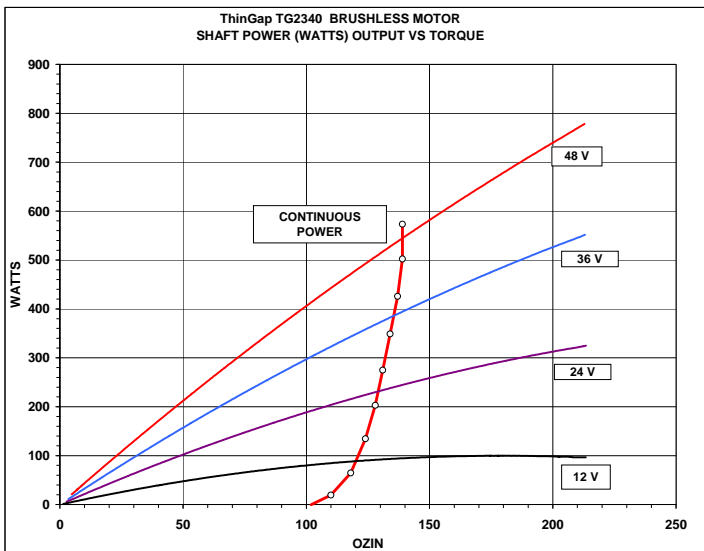
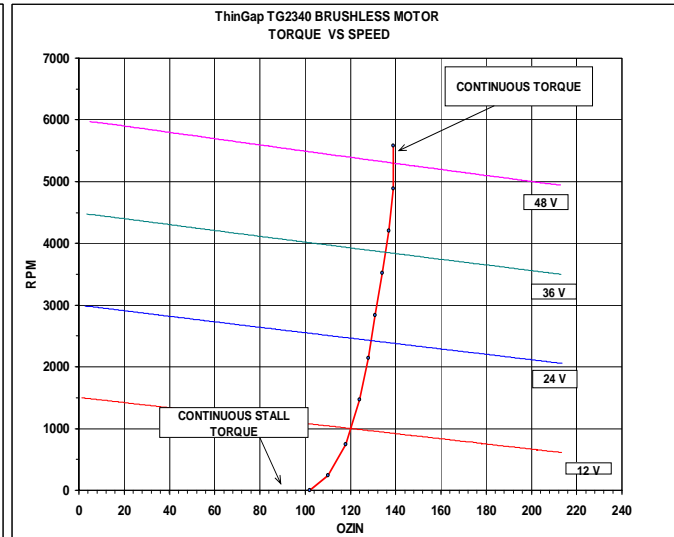
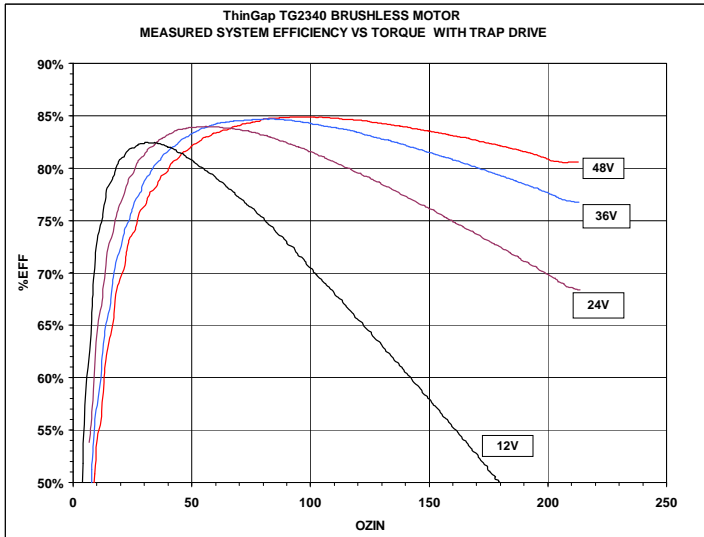
1-Torque vs. current is linear and thermally limited to short duration. 2-Motor testing performed at 25 °C ambient-no forced air cooling, with mounting heat sink of 3" x 0.375" x 8" aluminum. 3-Weight shown with wiring. 4-Magnet temperature stability limited. Tests performed using a 20-amp, 80  $V_{dc}$  trapezoidal BLDC PWM controllers with 50  $\mu H$  inductor each leg that adds .027  $\Omega$  phase resistance. Input power includes driver and 50uH inductor losses.



	1	2	3	4	5	6	7
A	+	-	-	-	+	+	
B	+	+	+	-	-	-	
C	-	-	-	+	+	+	
SENSOR OUTPUT							
H1	1	1	0	0	0	1	1
H2	0	1	1	1	0	0	0
H3	0	0	0	1	1	1	0

PHASE	WIRE COLOR	GAUGE
A	GRN	18
B	BLK	18
C	RED	18

PHASE	WIRE COLOR	GAUGE
+V	YELLOW	24
-	GREY	24
H1	BROWN	24
H2	ORANGE	24
H3	BLUE	24
O	VIOLET	24
I	VIOLET	24



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