

Combined Motor and Amplifier Specification Sheet				
Motor Model Number	K064150-5Y			
Amplifier Model Number	Custom			
Motor Thermal Test Condition	thick walls, mounted to a 6in x 6in x 0.5in aluminum plate			
Description	Notes	Symbol	Units	Value
Stall Torque Continuous	1,2,3,4,11,13	Tcs	Nm	1.40
Stall Torque Continuous	1,2,3,4,11,13	Tcs	in-lb	12.4
Stall Torque Continuous	1,2,3,4,11,13	Tcs	oz-in	198.2
Stall Current Continuous	1,2,3,4,11,13	Ics(rms)	Arms	7.1
Stall Current Continuous	1,2,3,4,11,13	Ics(trap)	Amps DC	8.723
Peak Torque	4,11	Tpk	Nm	1.94
Peak Torque	4,11	Tpk	in-lb	17.2
Peak Torque	4,11	Tpk	oz-in	275.0
Peak Current		Ipk(rms)	Arms	10.0
Peak Current		Ipk(trap)	Amps DC	12.25
Rated Speed	1,2,3	Sr	rpm	2210
Rated Torque	1,2,3,4,11	Tr	Nm	1.37
Rated Torque	1,2,3,4,11	Tr	in-lb	12.1
Rated Torque	1,2,3,4,11	Tr	oz-in	194.1
Rated Shaft Output Power	1,2,3,4,11	Pout	kW	0.3
Current at Rated Speed	1,2,3,4,11	Ir	Arms	7.0
Voltage Constant	9,10,12	Kb	V/rad/s	0.1631
Voltage Constant	9,10,12	Ke	Vrms/krpm	12.08
Torque Constant	4,9,12	Kt(sine)	Nm/Arms	0.200
Torque Constant	4,9,12	Kt(trap)	Oz*in/Amp DC	23.09
Resistance	4,9,12	R	ohm	0.673
Inductance	5,9	L	mH	1.496
Max DC bus Voltage	6	Vmbus	VDCmax	340.0
Max AC Voltage	6	Vs	VAC	240
Winding-Amb Thermal Resist	6,4	Rthw-a	°C/W	1.680
Winding-Case Thermal Resist	6,4	Rthw-c	°C/W	0.5637
Ambient Temp at Rating		Tamb	°C	25.00
Max Winding Temp		Tmax	°C	155.0
Winding Temp at Rating	7	Twr	°C	155.0
Motor Thermal Time Constant	6,5	tthc	minutes	22.0
Winding Thermal Time Constant	6,5	tthw	minutes	1.7
Rotor Shaft Viscous Damping	6,5	B	Nm/krpm	0.0031
Rotor Shaft Dynamic Friction	6,5	Tf	Nm	0.0090
Rotor Inertia	6,4	J	kg-m2	2.712E-05
Rotor Inertia	6,4	J	in-lb-sec2	2.400E-04
Number of rotor magnet poles		Np	#poles	8.000
Motor Weight	6,4	weight	kg	0.8
Motor Weight	6,4	weight	lb	1.870
Motor UL Class		F	UL class	H
Magnet Temp Used for Rating		Tmag	°C	n/a
Environmental Protection Rating	8	IP		IP40 - IP65
Amplifier Bus Voltage		Volts DC		48.00
Amplifier Continuous Current		Ica(rms)		10.00
Amplifier Peak Current		Ipa(rms)		10.00
Amplifier Switching Frequency		kHz		0

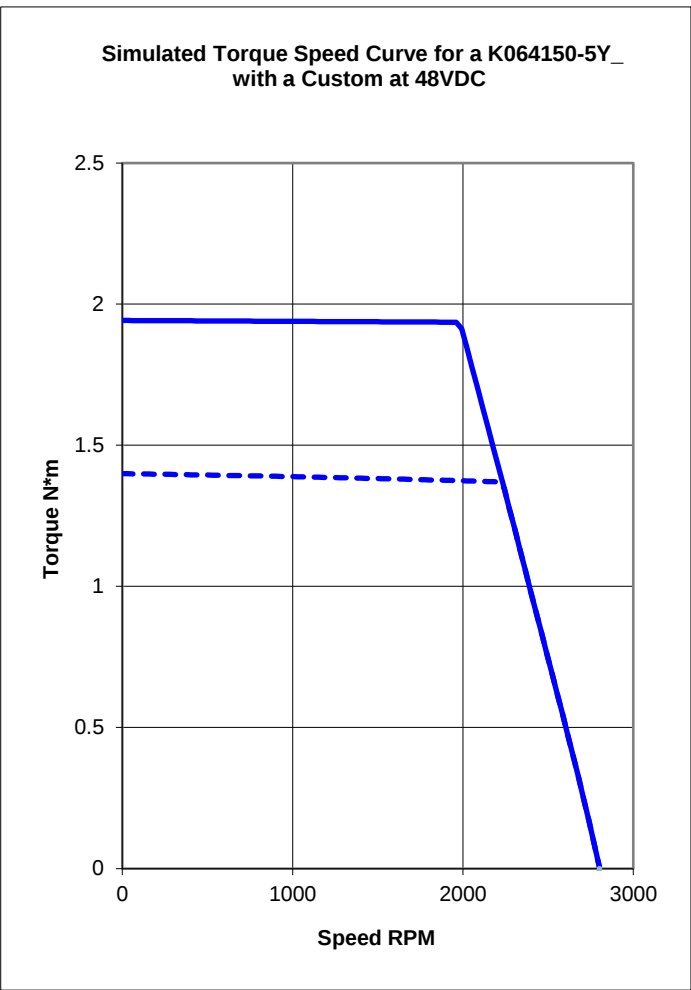


Chart Units:

Oz*In

In*lbs

Ft*lbs

N*m

RPM

RPS

Rads/s

Blue Dotted is the Continuous Torque
Blue Solid is the Peak Torque
Lt Blue Dotted is battery cont current limit (-10Amps)
Lt Blue solid is battery peak current limit (-10Amps)
Green Dotted is the Continuous Torque LV
Green Solid is the Peak Torque LV
Battery Cont Current: -10 Amps
Battery Peak Current: -10 Amps

Errors and Warnings:
Information - Simple Thermal Model is in use
Information - Lumped Electrical Motor Model is in use
Warning - The motor continuous current is much larger than the amplifier continuous current.

Prepared By:
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July 9, 2025
15:33:30

Application Notes:
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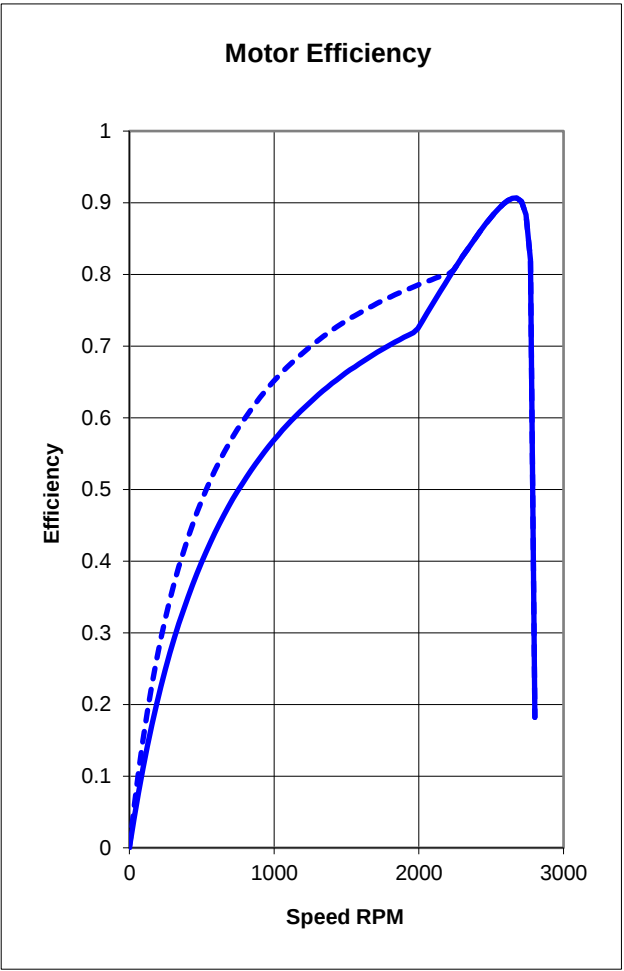
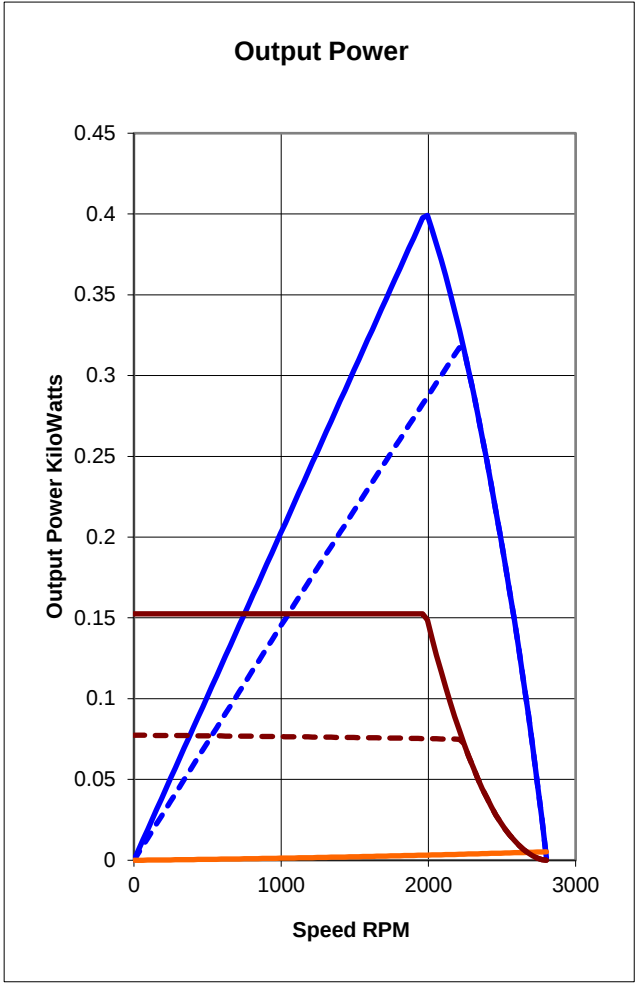
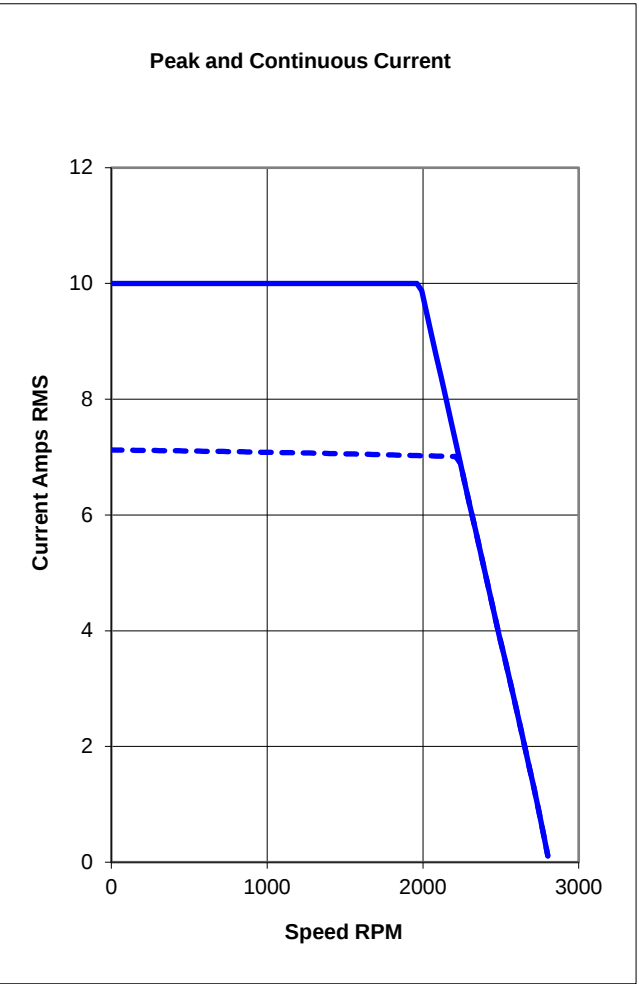


Chart Units:

Peak of Sine

Amps RMS

Six State

Blue Dotted is the Continuous Current
Blue Solid is the Peak Current
Green Dotted is the Continuous Current LV
Green Solid is the Peak Current LV

Chart units:

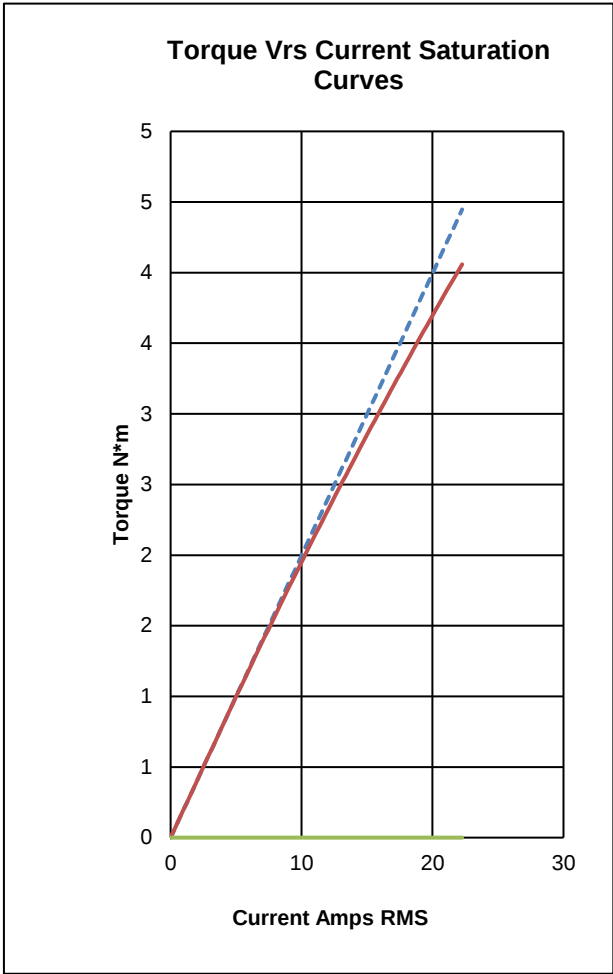
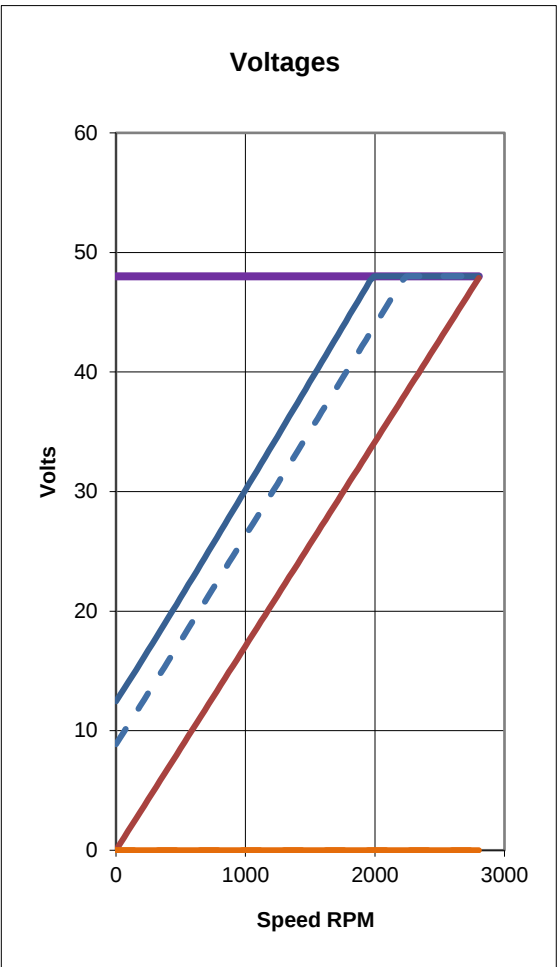
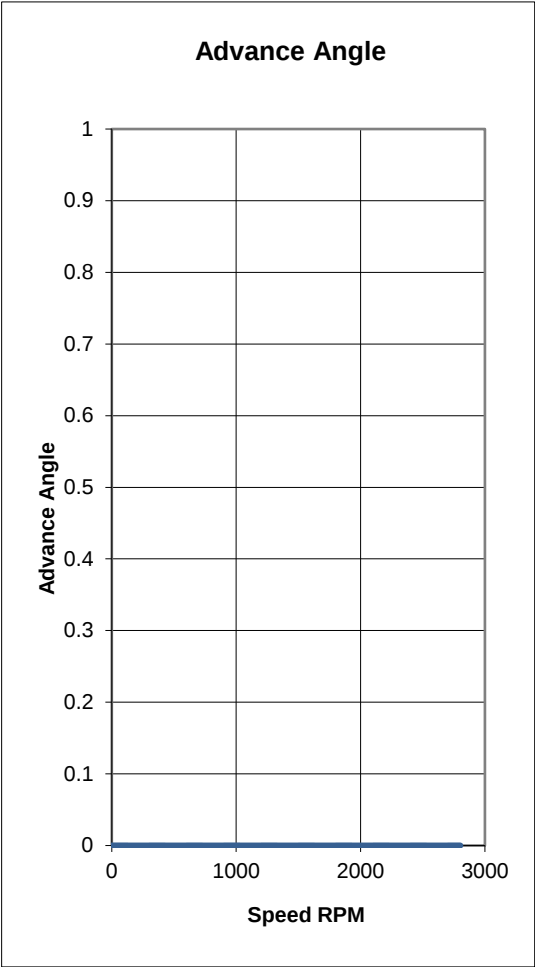
Watts

Kilowatts

HP

Blue Dotted is the Continuous Output Power
Blue Solid is the Peak Output Power
The orange line is the moving losses is the motor
Dotted Red is the Continuous Resistive Dissipation
Solid Red is the Peak Resistive Dissipation
Output Power is Shaft Power for positive speeds
Output Power is Electrical Power for negative speeds
Green Dotted is the Continuous Output Power LV
Green Solid is the Peak Output Power LV

Blue Dotted is the Continuous Efficiency
Blue Solid is the Peak Efficiency
Efficiency is Torque*Speed/Volts*Amp for Positive S
Efficiency is Volts*Amp/Torque*Speed for Negative :
This chart contains the motor only efficiency.
Green Dotted is the Continuous Efficiency LV
Green Solid is the Peak Efficiency LV



Blue Dotted is the Adv Angle w Cont Cur
Blue Solid is the Adv Angle w Peak Cur
Green Dotted is the Adv Angle w Cont Cur LV
Green Solid is the Adv Angle w Peak Cur LV

Blue Dotted is the Motor Volts w Cont Cur
Blue Solid is the Motor Volts w Peak Cur
Red is Motor Back EMF
Purple is the bus Voltage
Orange Dotted is FEA Mtr Volts w Cont I
Orange Solid is FEA Mtr Volts w Peak I

Blue Dashed is a linear line with initial slope
Red solid line is Galaxy saturation model
Green Solid is the FEA Predicted saturation curve at r

aed magnet temperature