FUTURENERGY

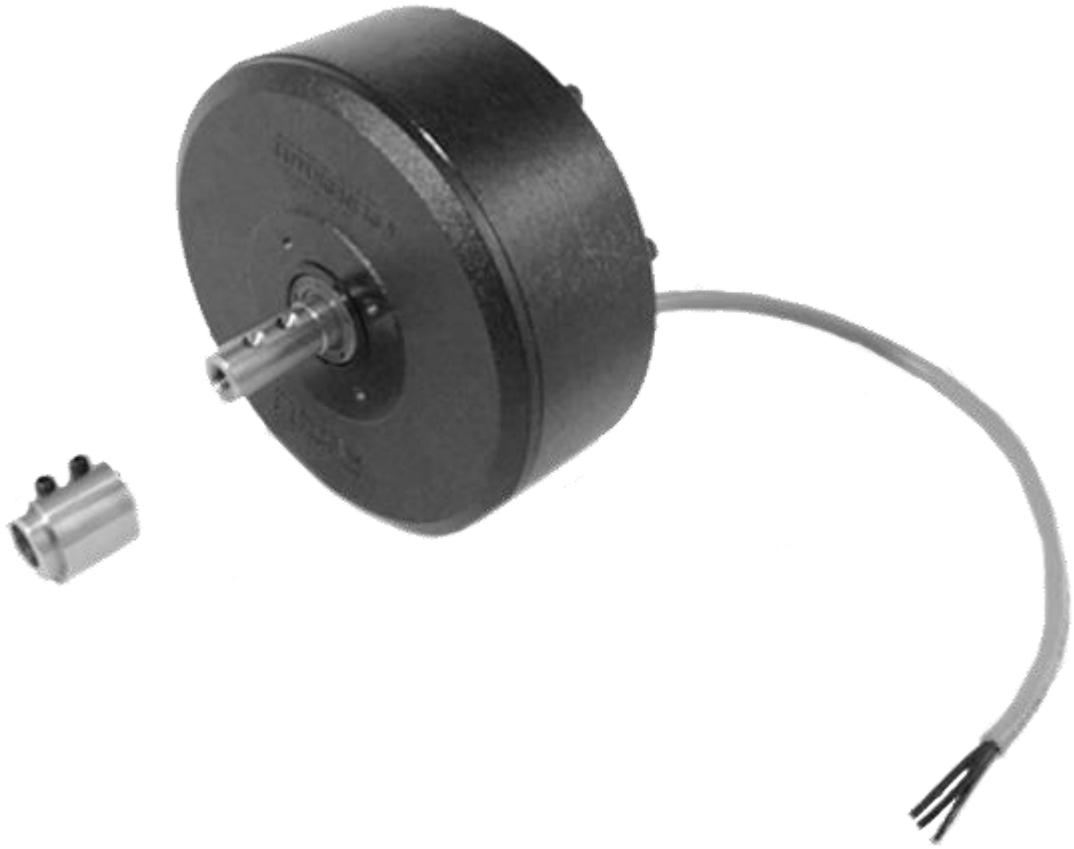
Specification

Futurenergy, 48V 1kW Permanent Magnet Generator

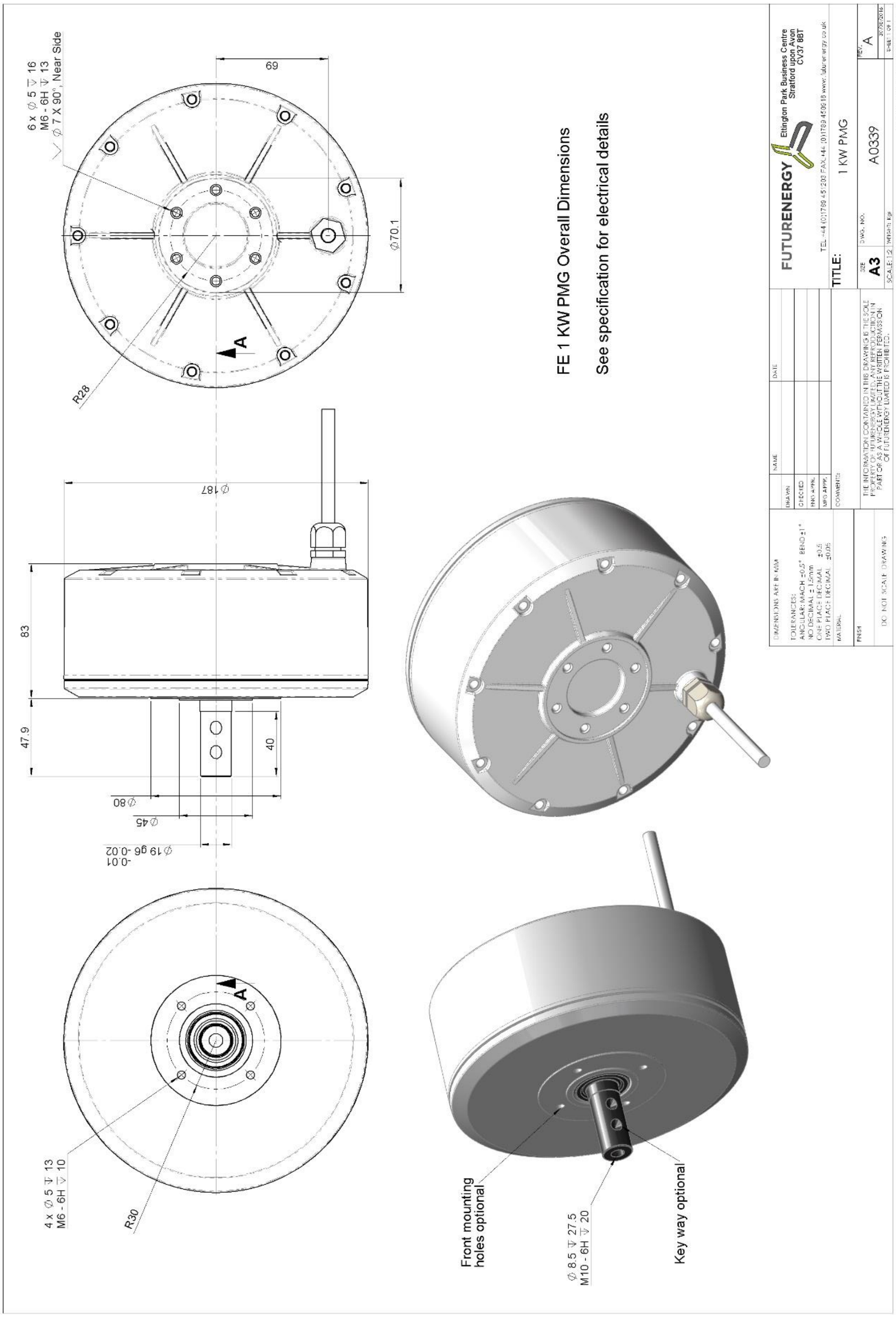
Prepared By

D. Nangle, November 2016

Contents



Dimensions



FE 1 KW PMG Overall Dimensions
See specification for electrical details
Front mounting holes optional
Key way optional
FUTURENERGY
TITLE:
1 KW PMG
A0339
A3
DO NOT SCALE DRAWINGS

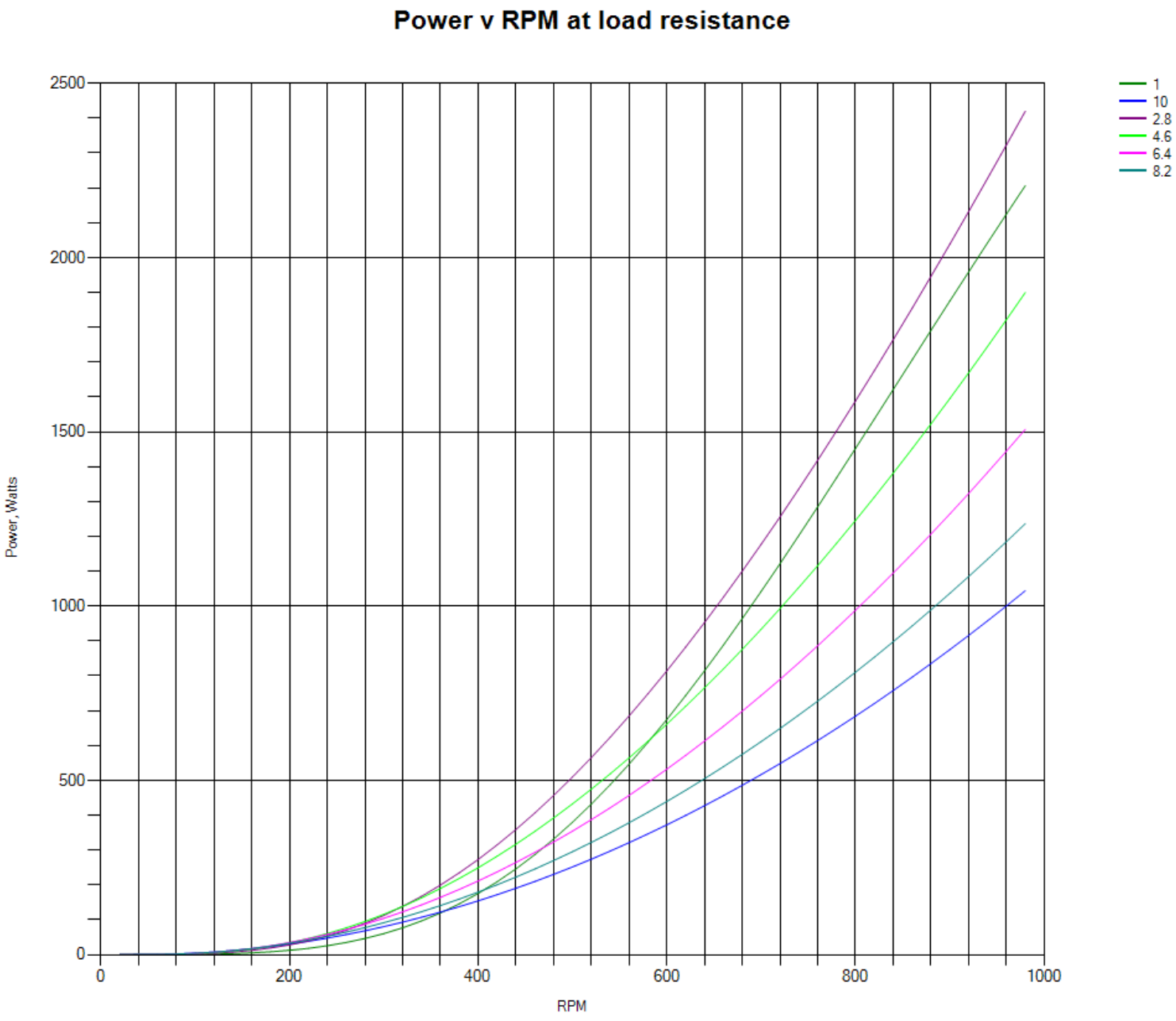
Specification

Nominal Rated Power	1 kW (@ 6.4 ohms load)
Nominal RPM	800 RPM
Line / Line RMS Open Voltage	68.3V*
Nominal Line Current	10 Amps**
Maximum Current (100% Duty Cycle / Air Cooled 20°C)	20 Amps
Configuration	3 Phase, Star wound AC output
Line / Line Winding Resistance	0.36 Ohms
Nominal Self Inductance	0.7776 mH
Maximum Over-Load Power	1.5 kW
Efficiency	92 %
Maximum Cogging Torque (Excluding Shaft Seals)	< 0.5 Nm
Duty @ Nominal Power	100%
Insulation Class	H
Mounting	Any
Shaft Material	Stainless Steel
Magnet Material	NdFeB
Shell Material	LM25 Aluminium
Protection	IP54
Poles	12
Winding code	P123-T20-W1.5

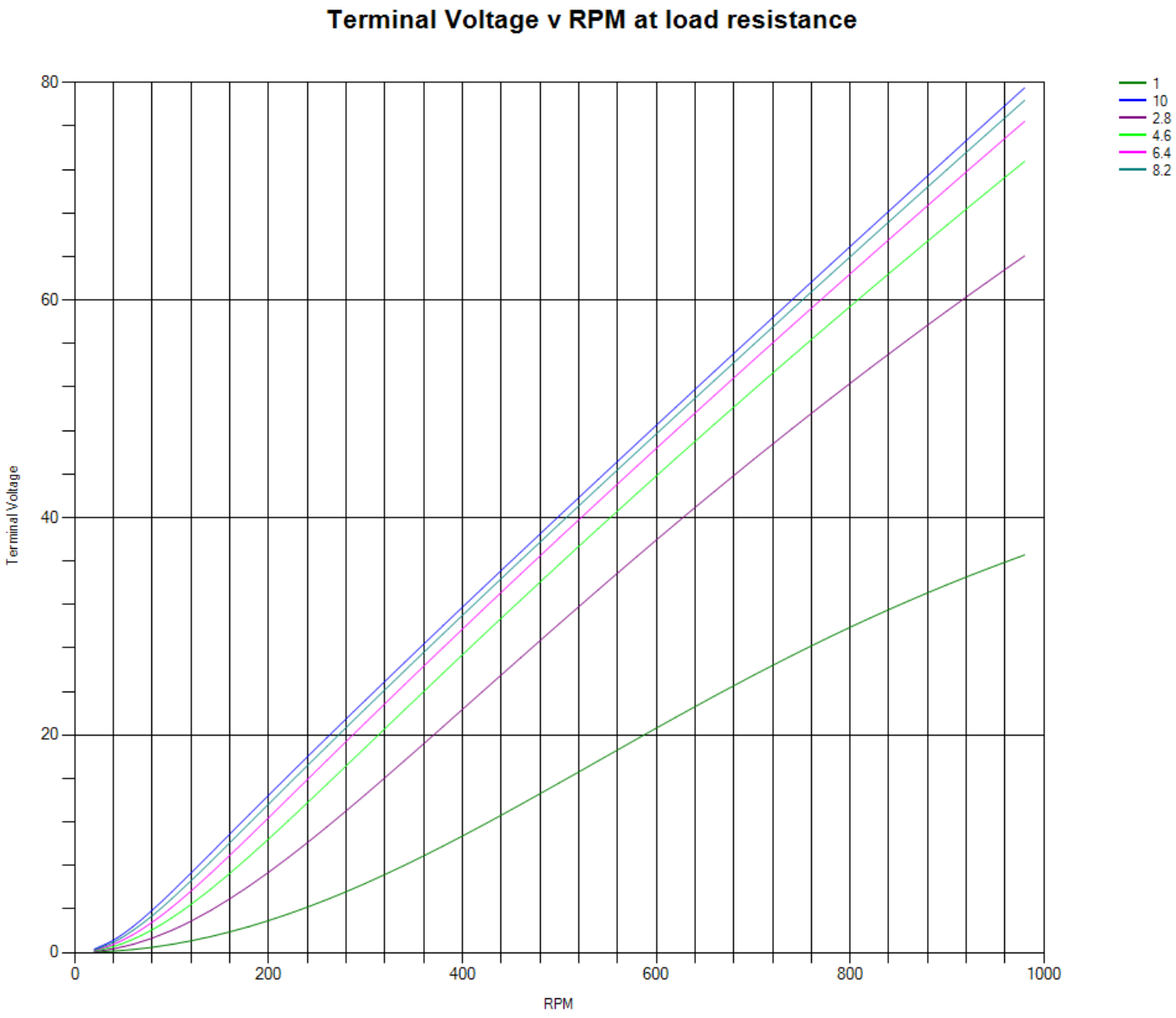
* DC Voltage requires an additional bridge rectifier

** Voltage and current will depend on connected electrical system. For example; a system charging 48V battery bank will reduce generator voltage to the battery charge voltage and increase current. Values quoted assume fixed resistance loads.

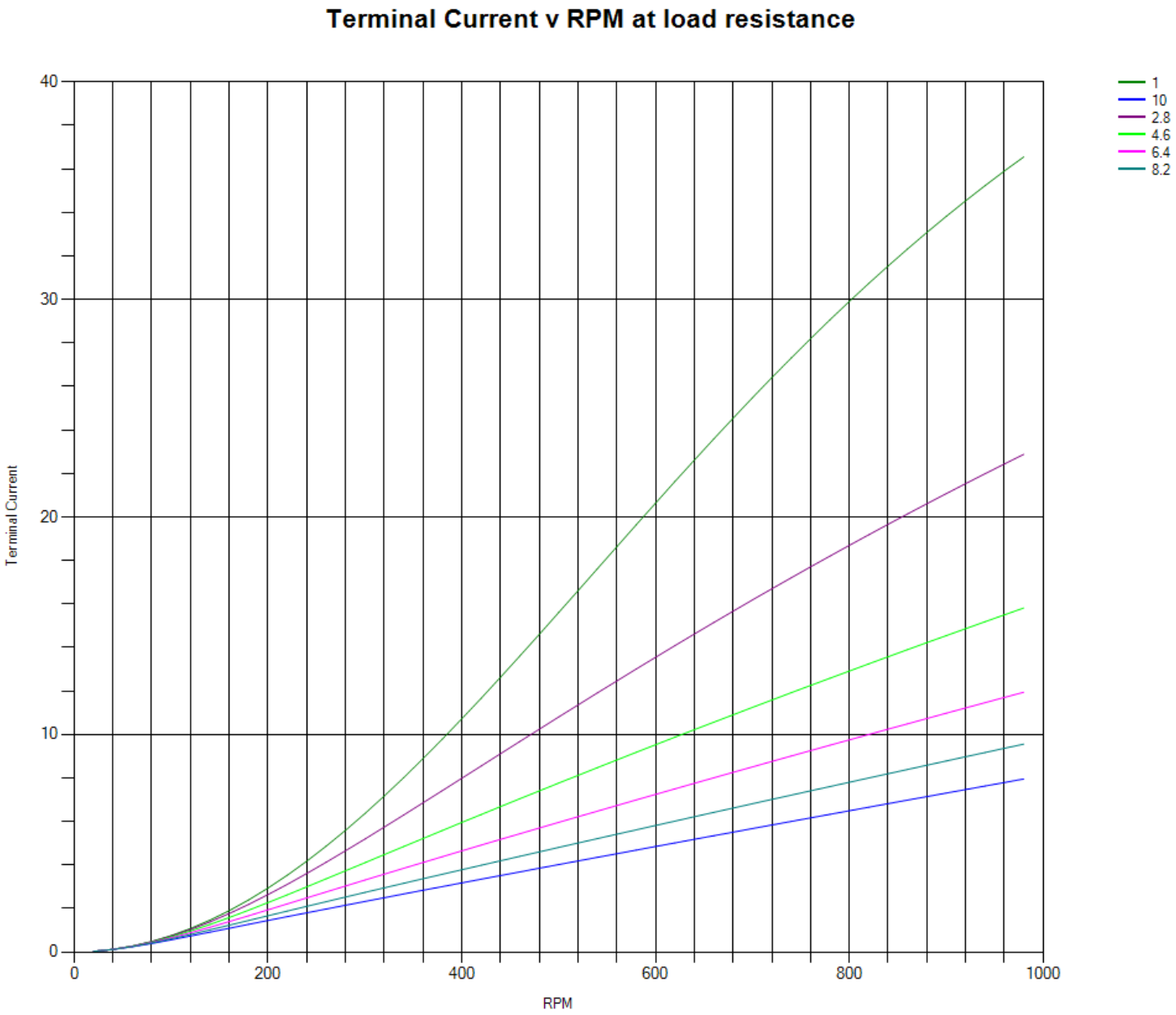
Graph: Power vs RPM @ Load Resistances (Ω)



Graph: Terminal Voltage vs RPM @ Load Resistances

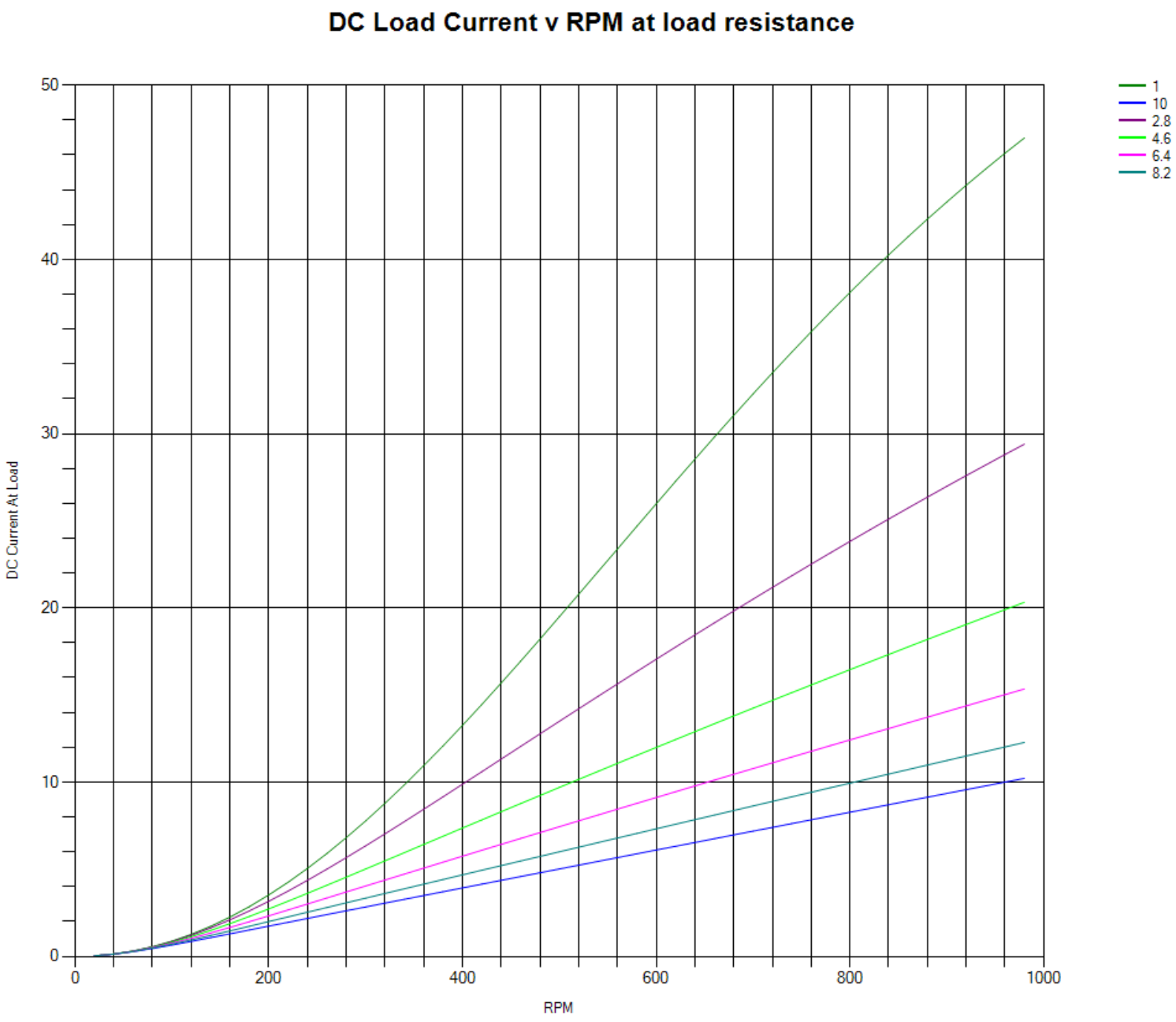


Graph: Terminal Current vs RPM @ Load Resistances

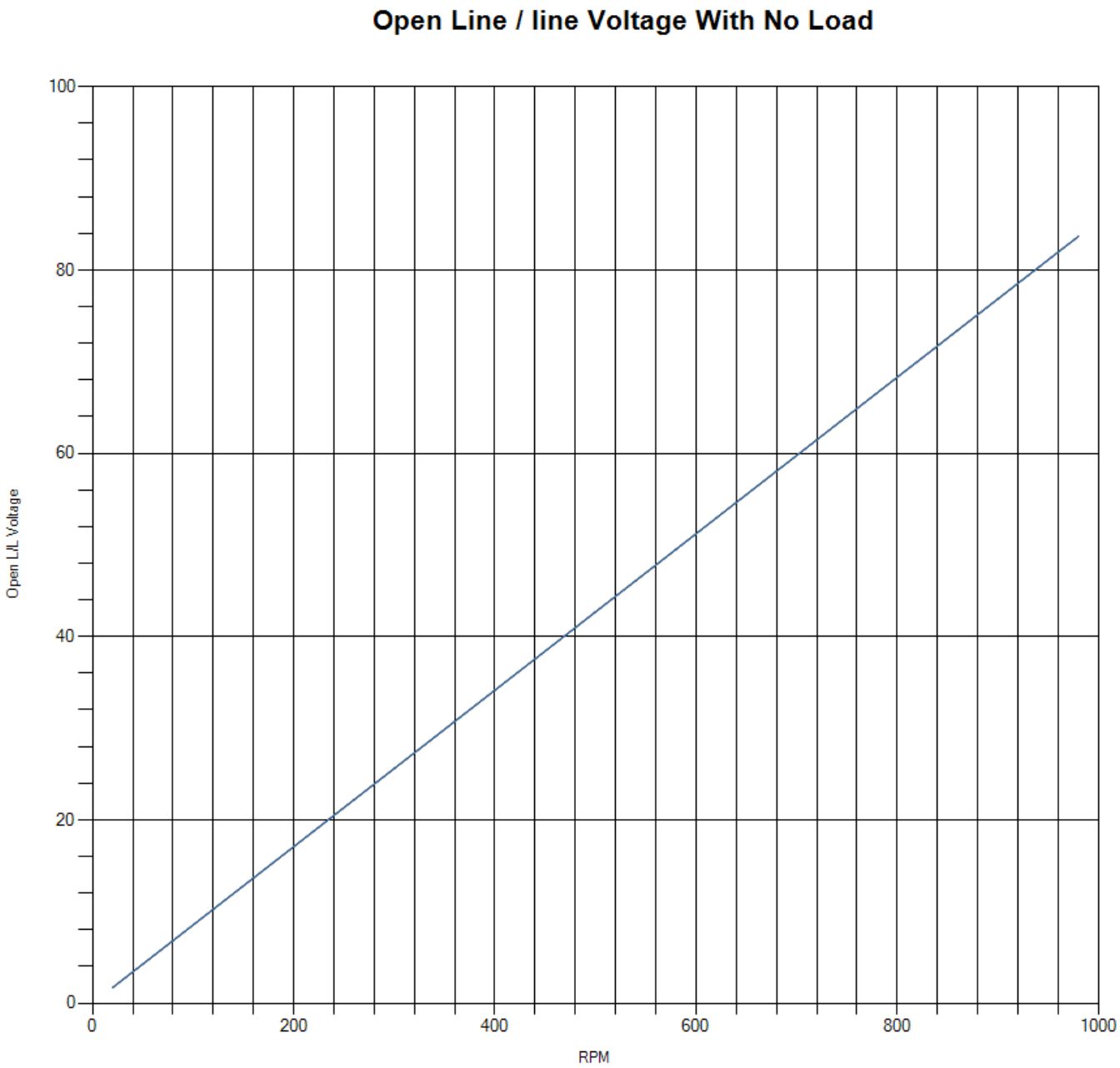


Graph: DC Load Voltage vs RPM @ Load Resistances

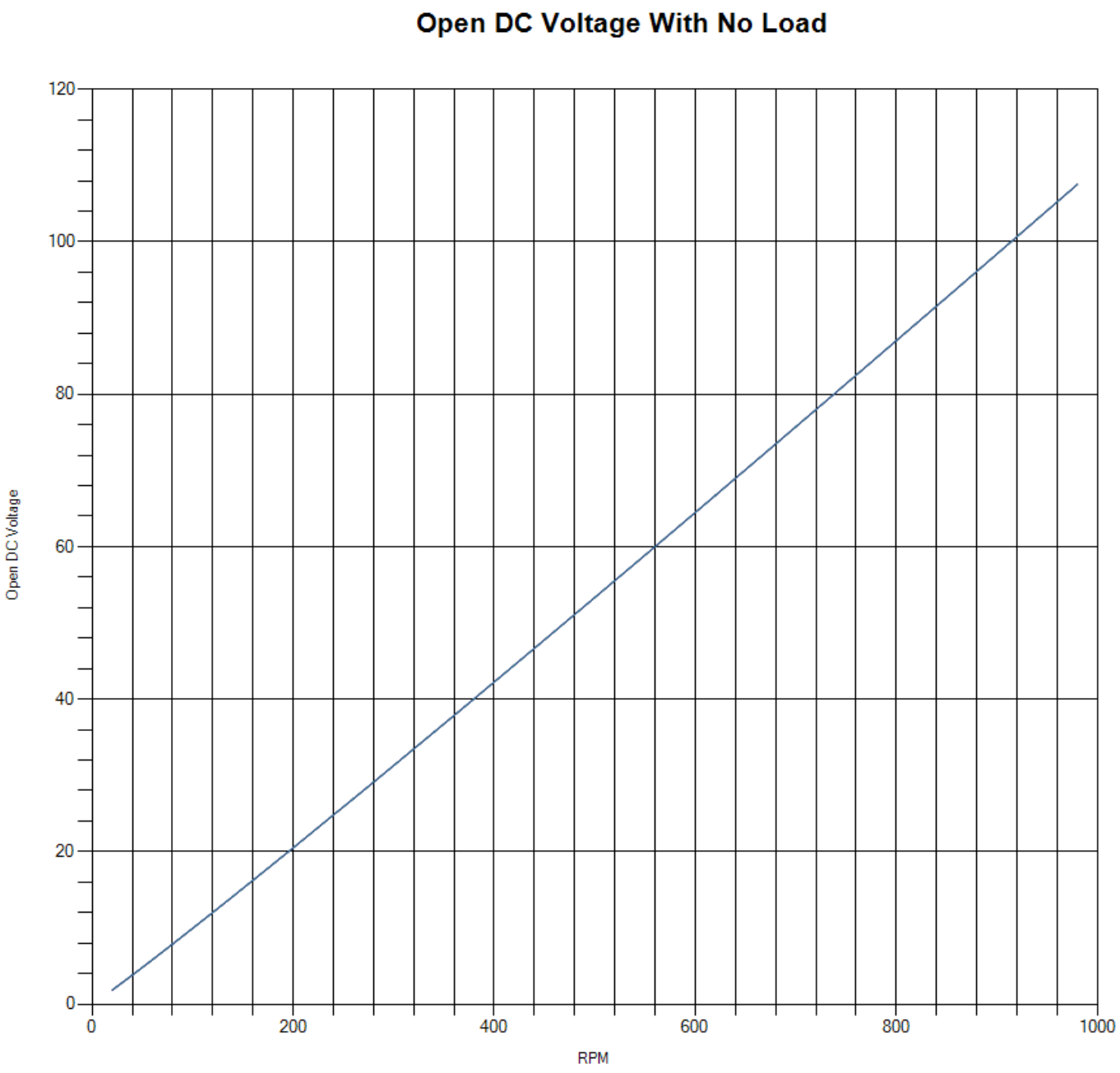
Graph: DC Load Current vs RPM @ Load Resistances



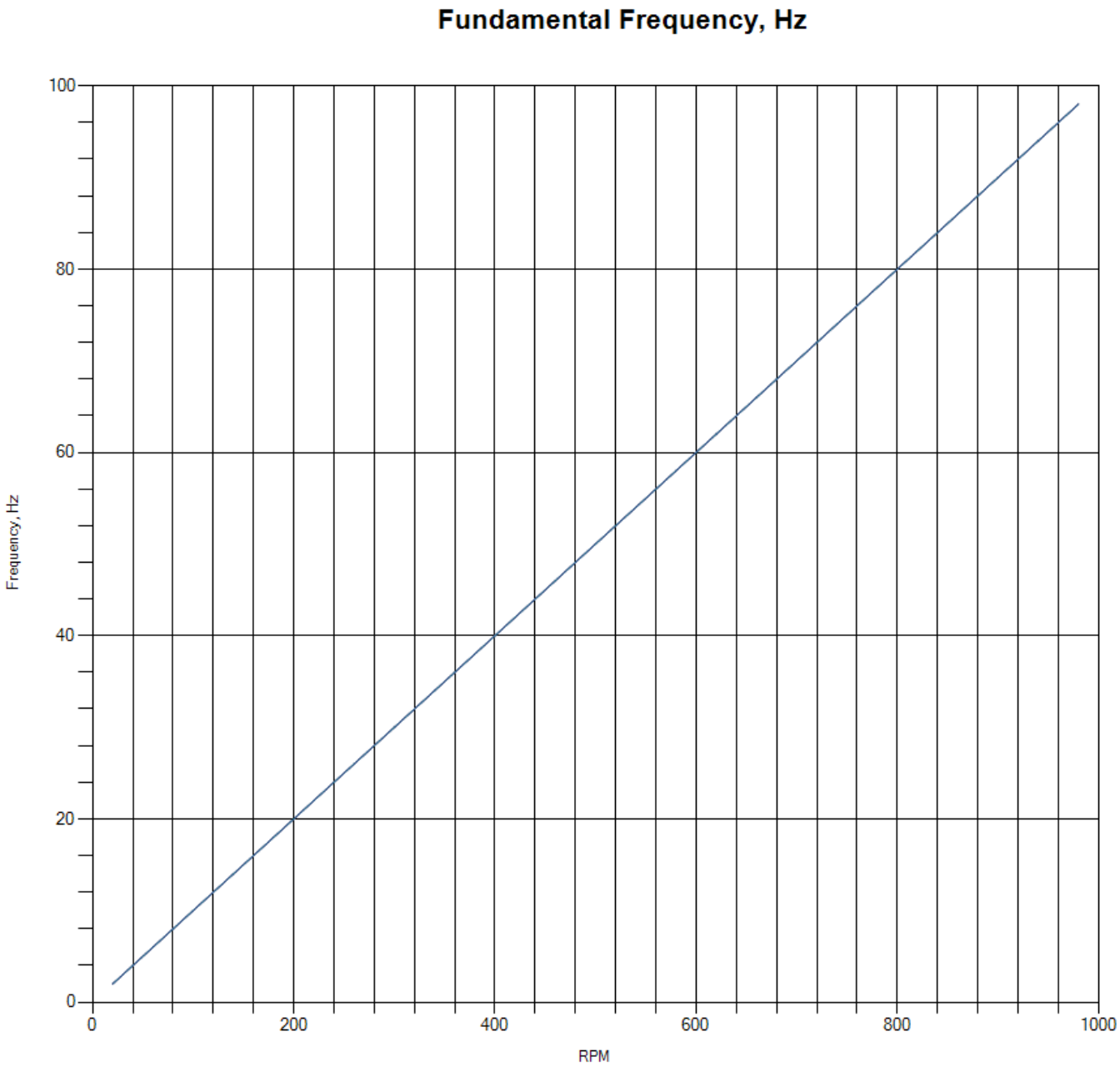
Graph: Open RMS L/L Voltage vs RPM



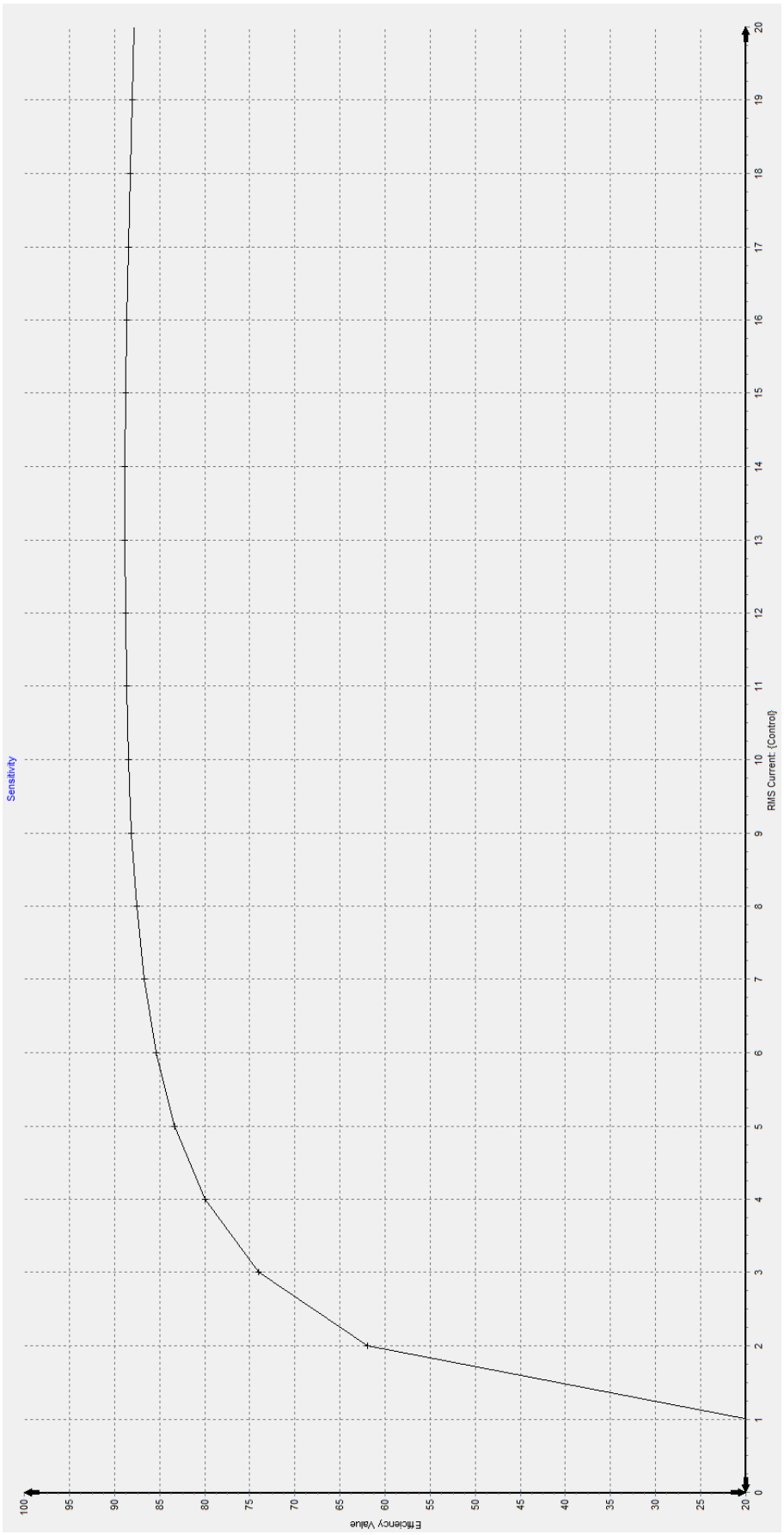
Graph: Open DC Voltage vs RPM



Graph: Fundamental Frequency vs RPM



Graph: Efficiency vs Current @ 750 RPM Constant



Graph: Cogging Torque