



## **Specification**

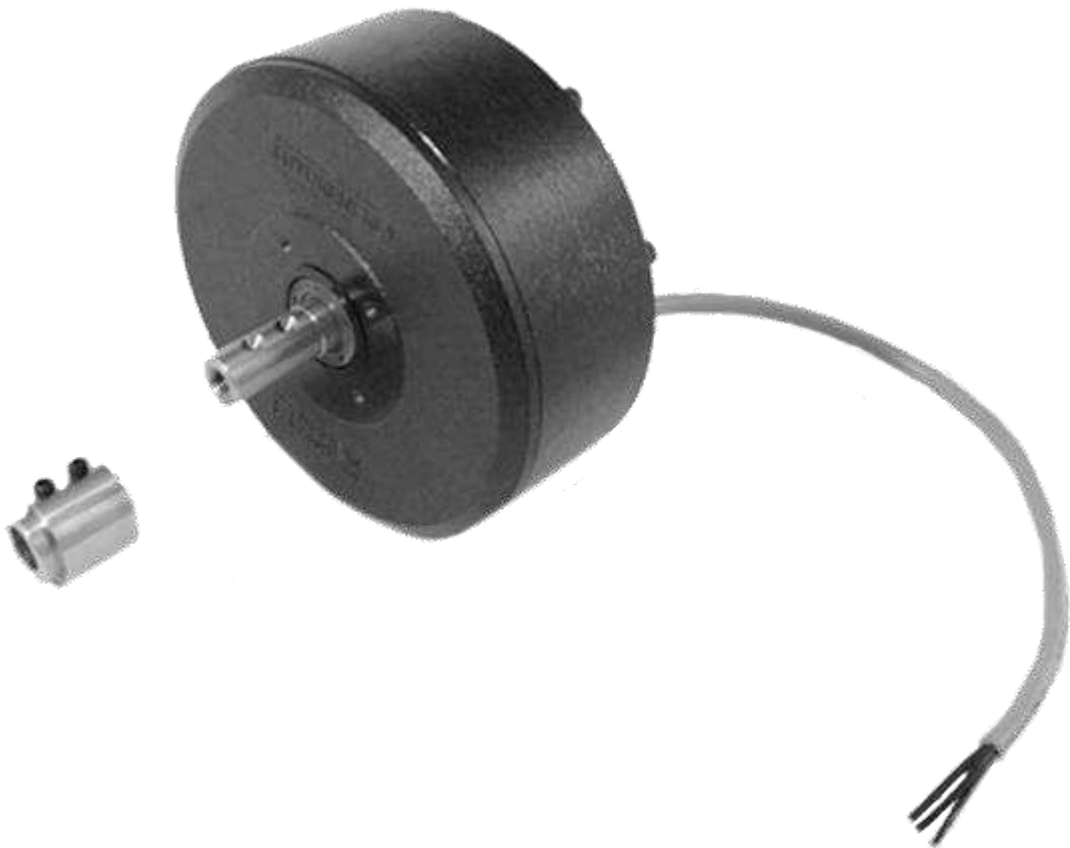
Futureenergy, 24V 1kW Permanent Magnet Generator

Prepared By

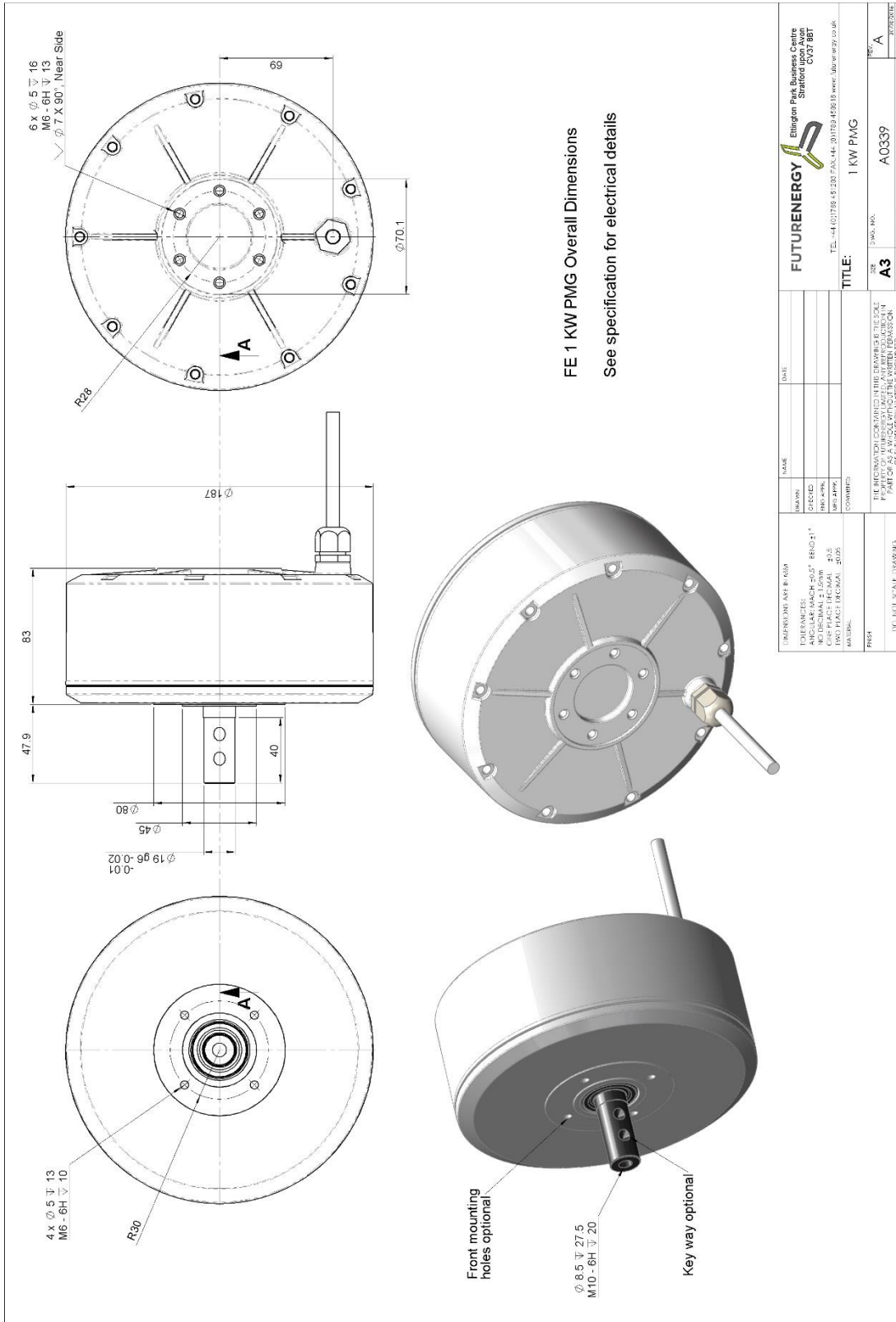
D Nangle, Sept 2016

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# Dimensions



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CHECKED BY: [ ]	DRWNG: [ ]	REV: [ ]	
SCALE: [ ]	DATE: [ ]	REV: [ ]	
DATE: [ ]	DATE: [ ]	DATE: [ ]	
DATE: [ ]	DATE: [ ]	DATE: [ ]	<p><b>TITLE:</b> 1 KW PMG</p> <p>DRWNG. NO. A0339</p> <p>SCALE: 1:1</p>
<p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FUTUREENERGY LIMITED. IT IS FOR THE USE OF THE CUSTOMER ONLY AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.</p>			<p>REV: A3</p> <p>DATE: 07/02/2012</p> <p>SCALE: 1:1</p>

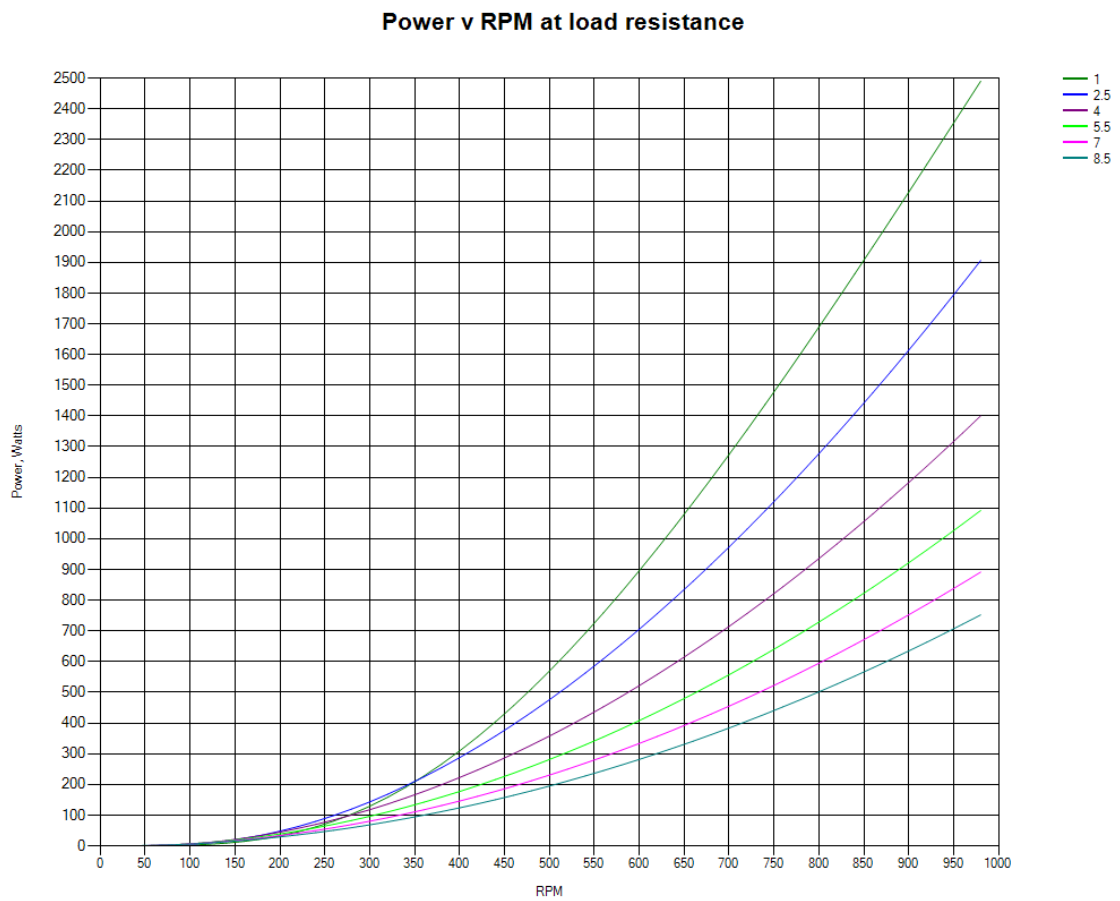
## Specification

<b>Nominal Rated Power</b>	1 kW
<b>Nominal RPM</b>	750 RPM
<b>Line / Line RMS Open Voltage</b>	48V (24V DC @ 300 RPM)*
<b>Nominal Line Current</b>	16 Amps**
<b>Configuration</b>	3 Phase, Star wound AC output
<b>Line / Line Winding Resistance</b>	0.4 Ohms
<b>Nominal Self Inductance</b>	0.4168 mH
<b>Maximum Over-Load Power</b>	1.5 kW
<b>Efficiency</b>	92 %
<b>Maximum Cogging Torque (Excluding Shaft Seals)</b>	< 0.5 Nm
<b>Duty @ Nominal Power</b>	100%
<b>Insulation Class</b>	H
<b>Mounting</b>	Any
<b>Shaft Material</b>	Stainless Steel
<b>Magnet Material</b>	NdFeB
<b>Shell Material</b>	LM25 Aluminium
<b>Protection</b>	IP54
<b>Poles</b>	12
<b>Winding code</b>	P123-T14-W1.5

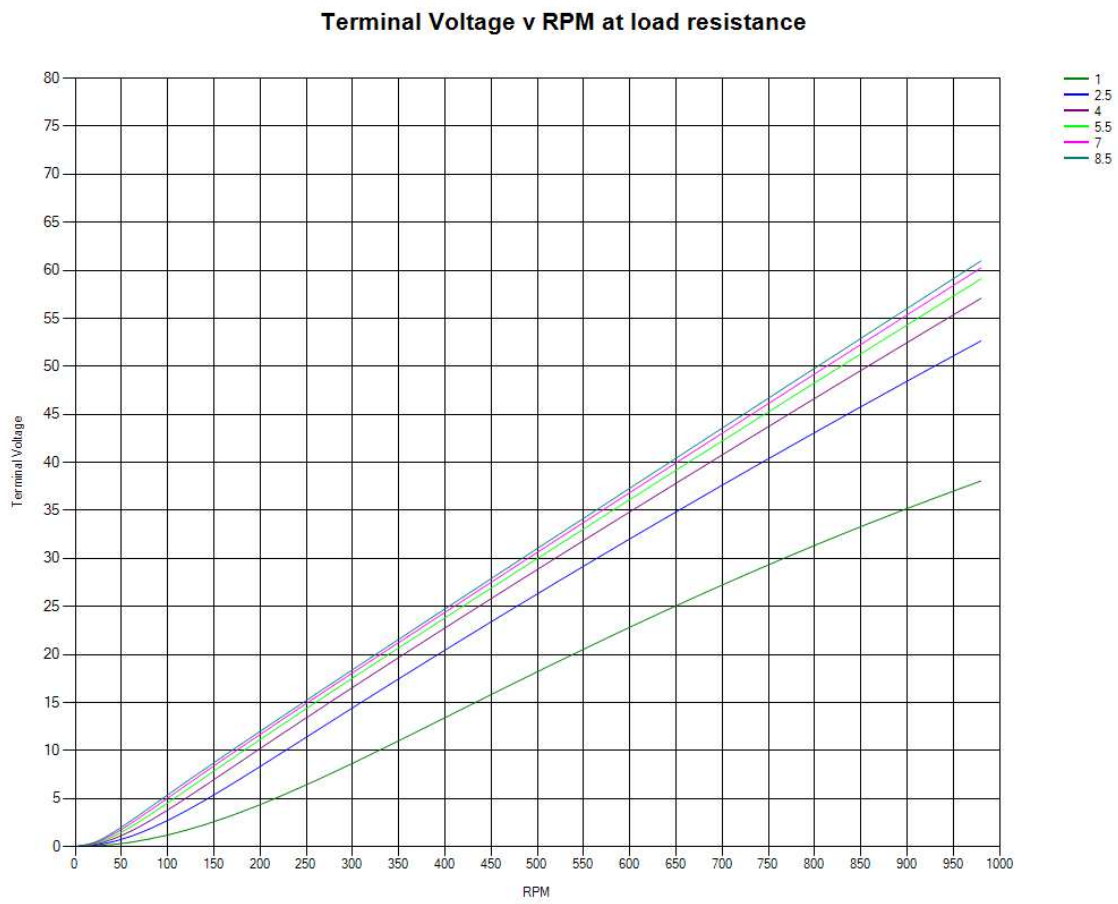
\* DC Voltage requires an additional bridge rectifier

\*\* Voltage and current will depend on connected electrical system. For example; a system charging 24V battery bank will reduce generator voltage to the battery charge voltage and increase current. Values quoted assume fixed resistance loads.

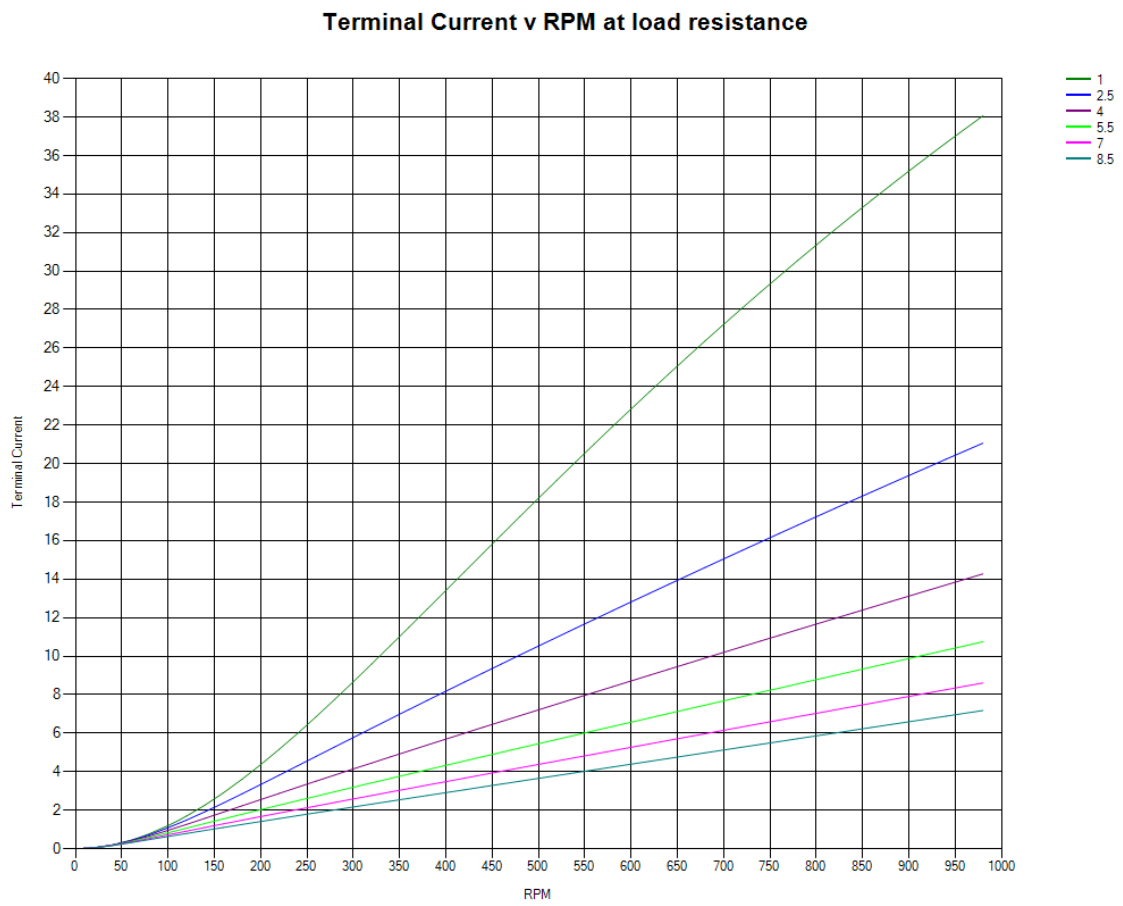
## Graph: Power vs RPM @ Load Resistances ( $\Omega$ )



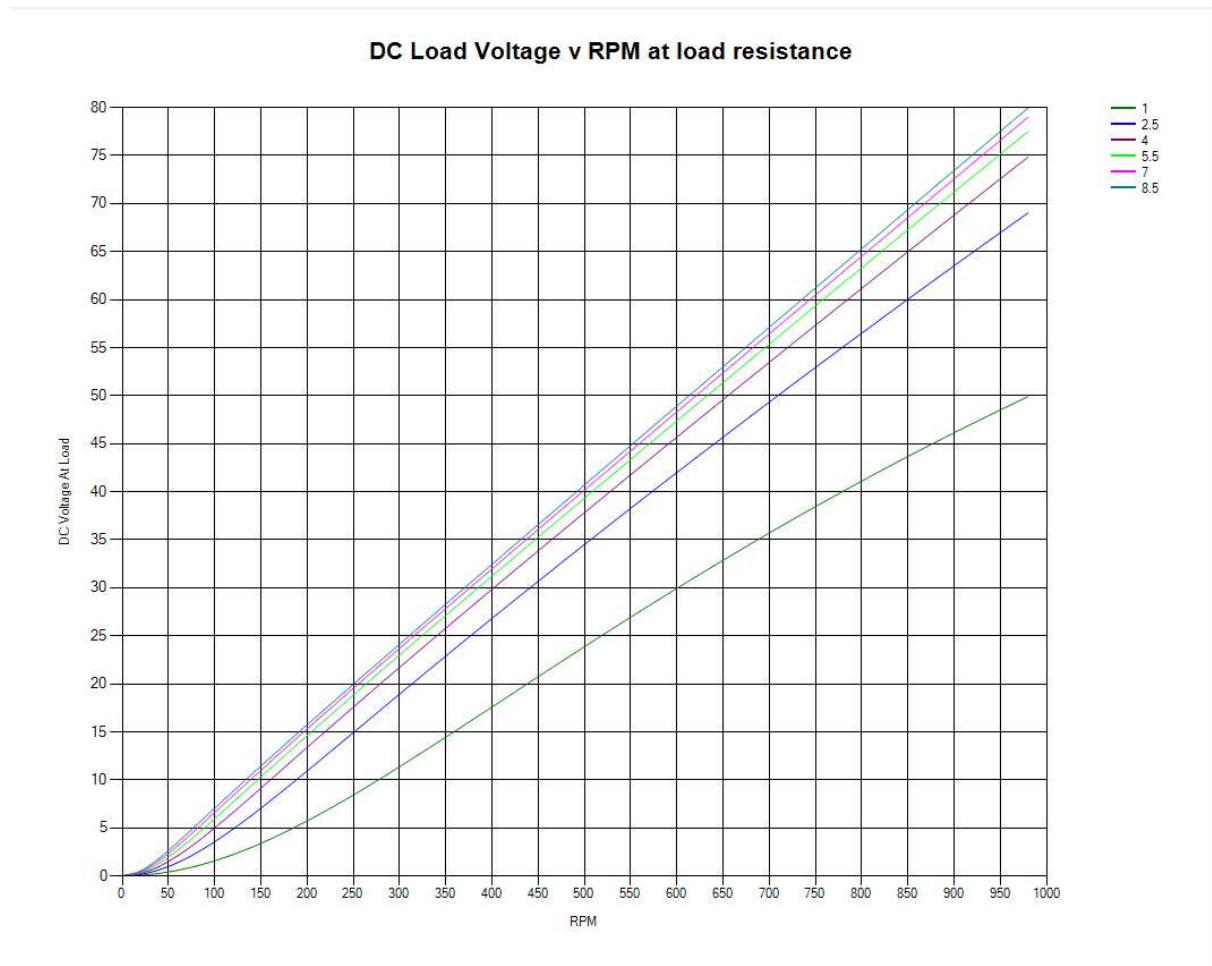
## Graph: Terminal Voltage vs RPM @ Load Resistances



## Graph: Terminal Current vs RPM @ Load Resistances

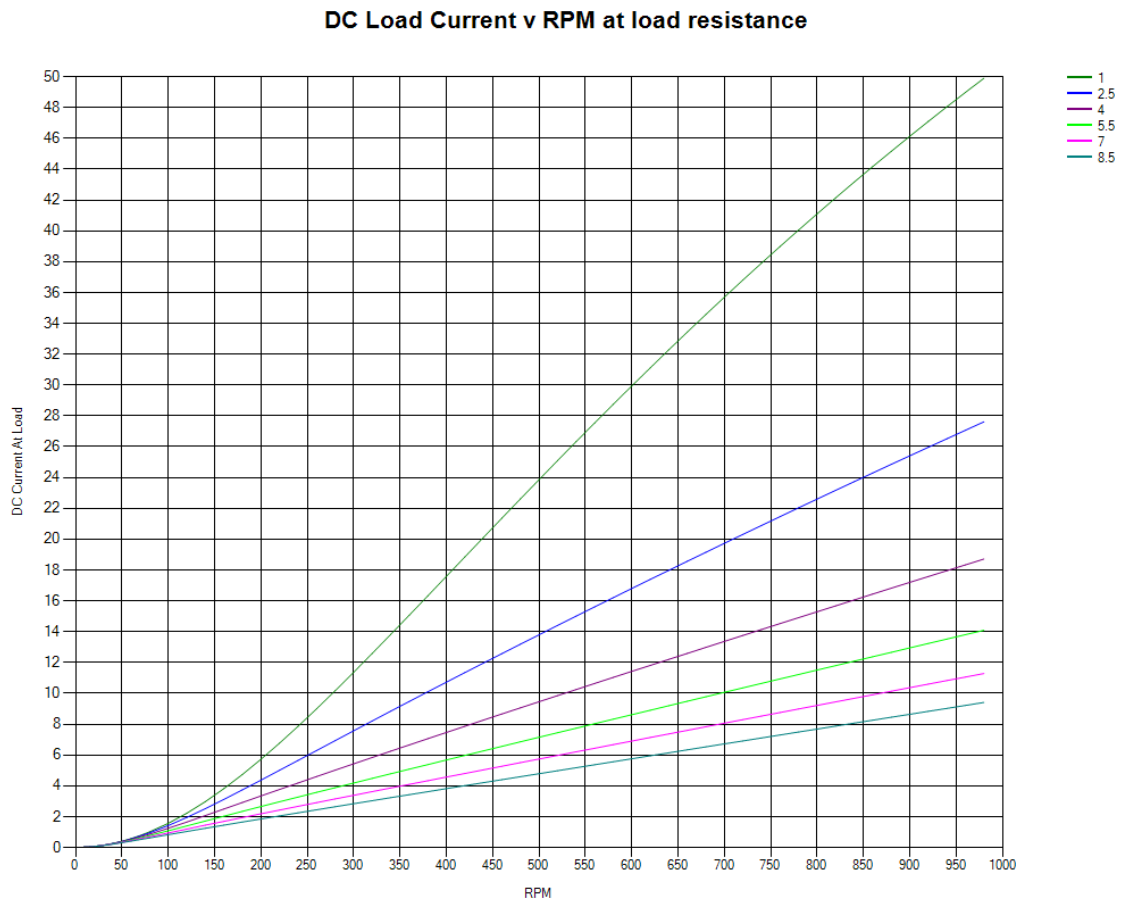


## Graph: DC Load Voltage vs RPM @ Load Resistances

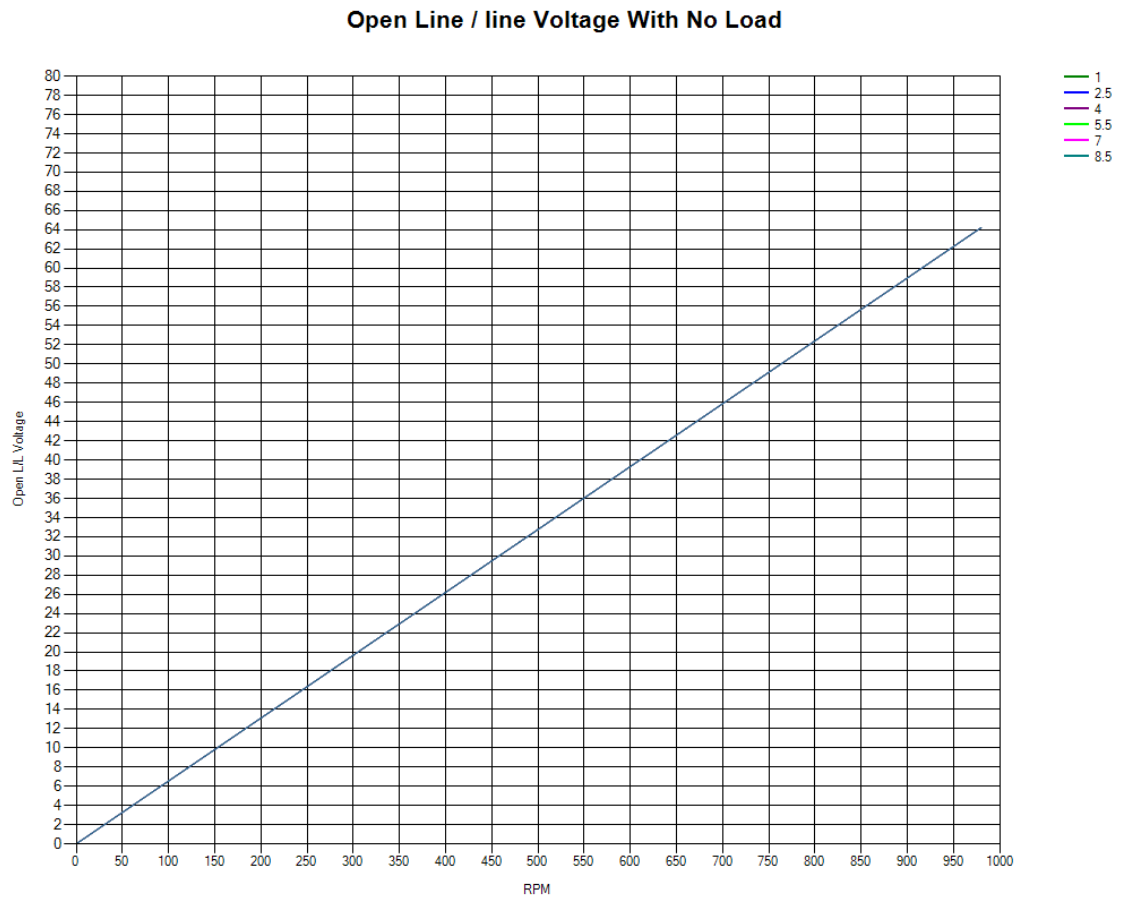




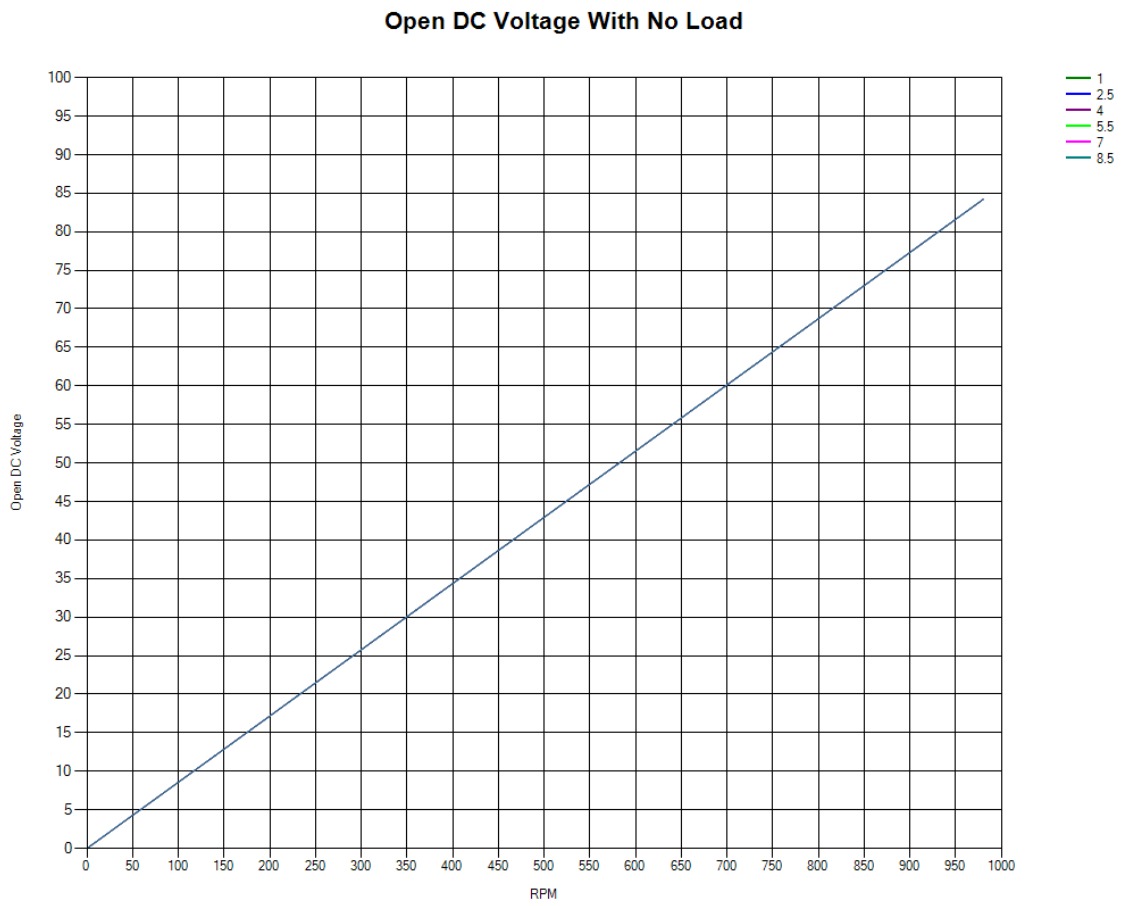
## Graph: DC Load Current vs RPM @ Load Resistances



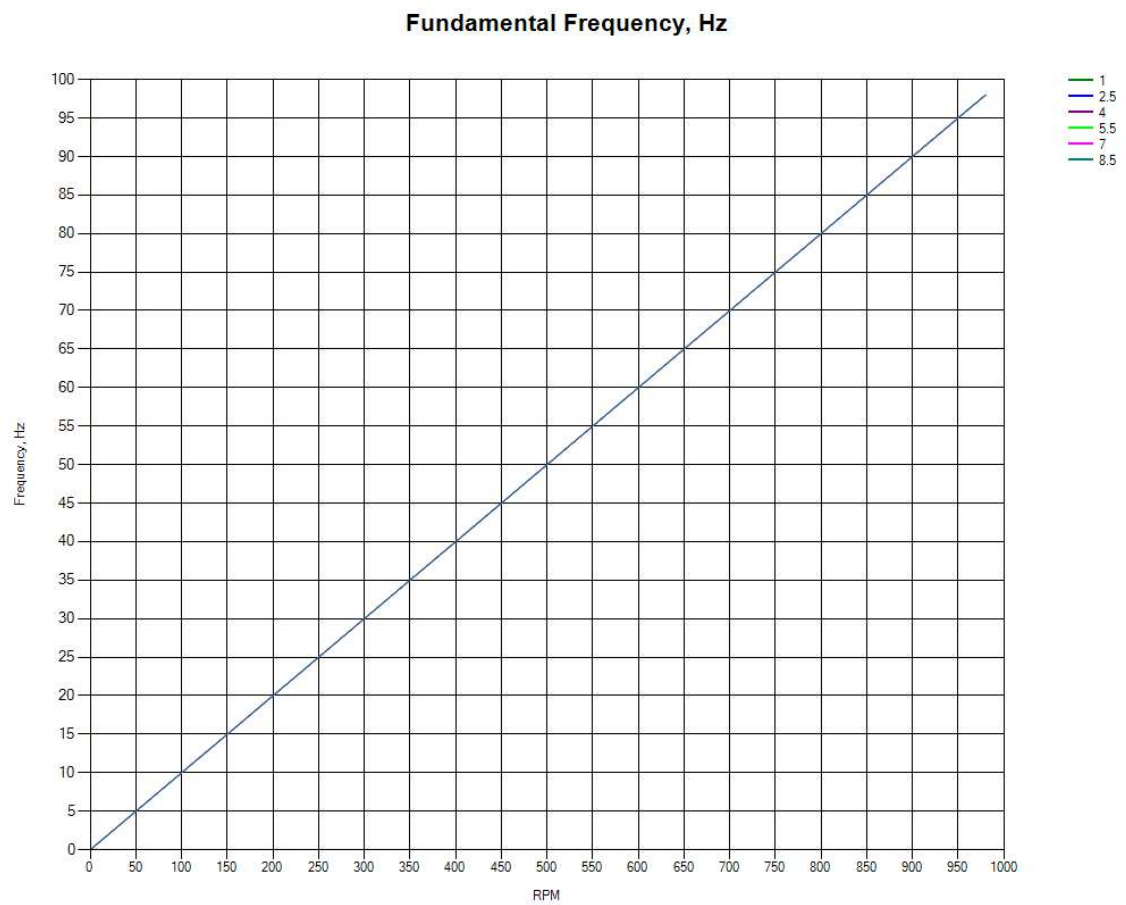
## Graph: Open RMS L/L Voltage vs RPM



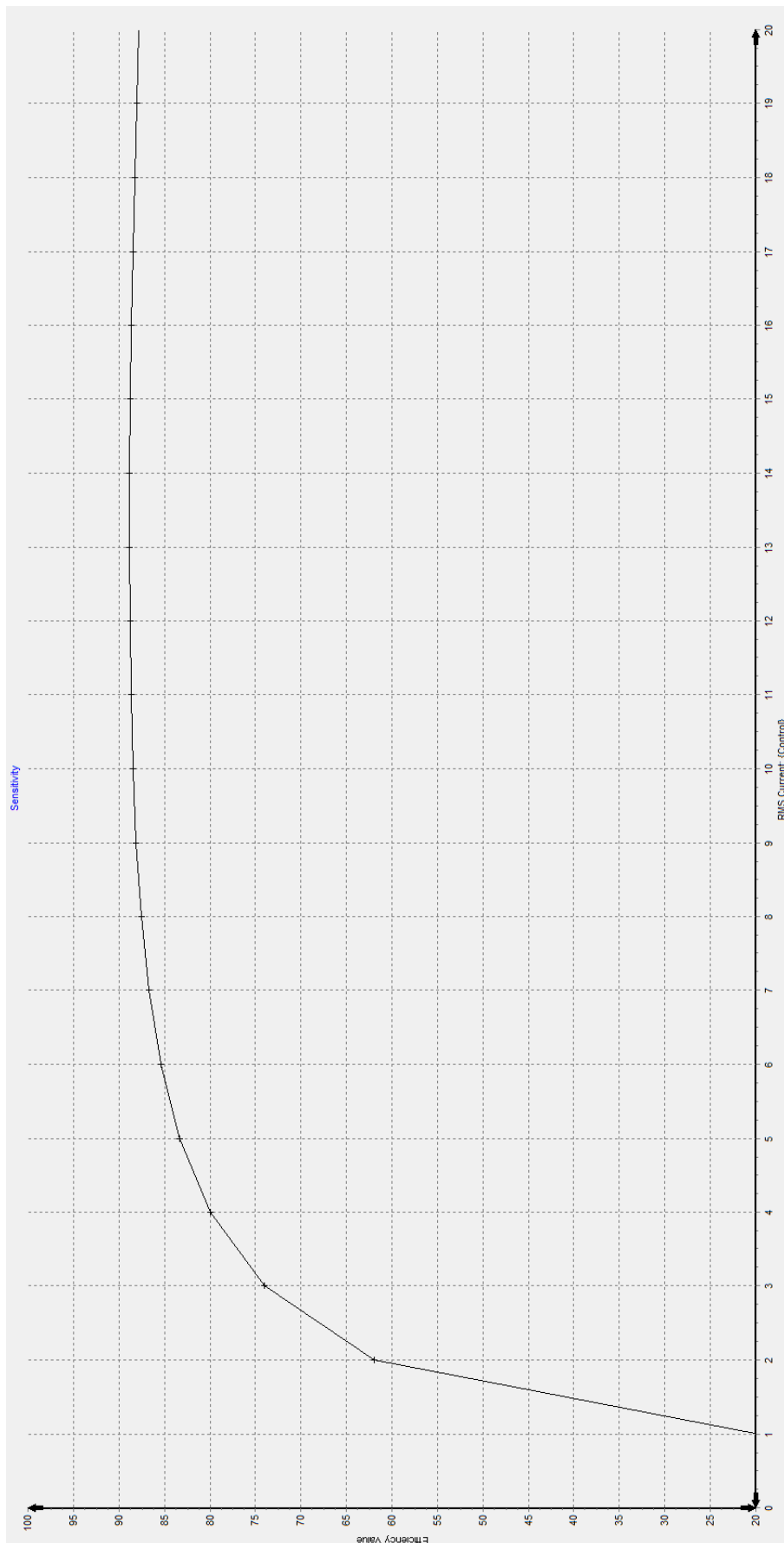
## Graph: Open DC Voltage vs RPM



## Graph: Fundamental Frequency vs RPM



Graph: Efficiency vs Current @ 750 RPM Constant



# Graph: Cogging Torque

