

# ***NetGain Motors, Inc.***

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## **USEFUL ELECTRICAL ENGINEERING FORMULAS**

### **DIRECT CURRENT(DC)**

$I$  = current(amps)

$V$  = voltage(volts)

$P$  = power(watts)

♦ **CURRENT:**

■  $I = P/V$

♦ **VOLTAGE:**

■  $V = P/I$

♦ **POWER:**

■  $P = V/I$

**746 Watts = 1 Horsepower**

**or**

**HP = Watts / 746**

$$\text{HP}_M = \frac{(\text{RPM}) * (\text{Lbs-Ft.})}{5252}$$

$$\text{HP}_E = \frac{(\text{Volts}) * (\text{Amps})}{746}$$

**Watts = Volts \* Amps**

$$\text{Amps} = \frac{(\text{HP}_m) * (746)}{(\text{ME}) (V_T)}$$

**ME = Motor Efficiency as a decimal**

**V<sub>T</sub> = Terminal Voltage**