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

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

$$HP_E = \frac{(Volts) * (Amps)}{746}$$

Watts = Volts * Amps

$$Amps = \frac{(HP_m) * (746)}{(ME) \quad (V_T)}$$

ME = Motor Efficiency as a decimal

V_T = Terminal Voltage