OHM'S LAW

VOLTS (E)

$$Volts = \sqrt{Watts \bullet Ohms}$$

$$Volts = \frac{Watts}{Amperes}$$

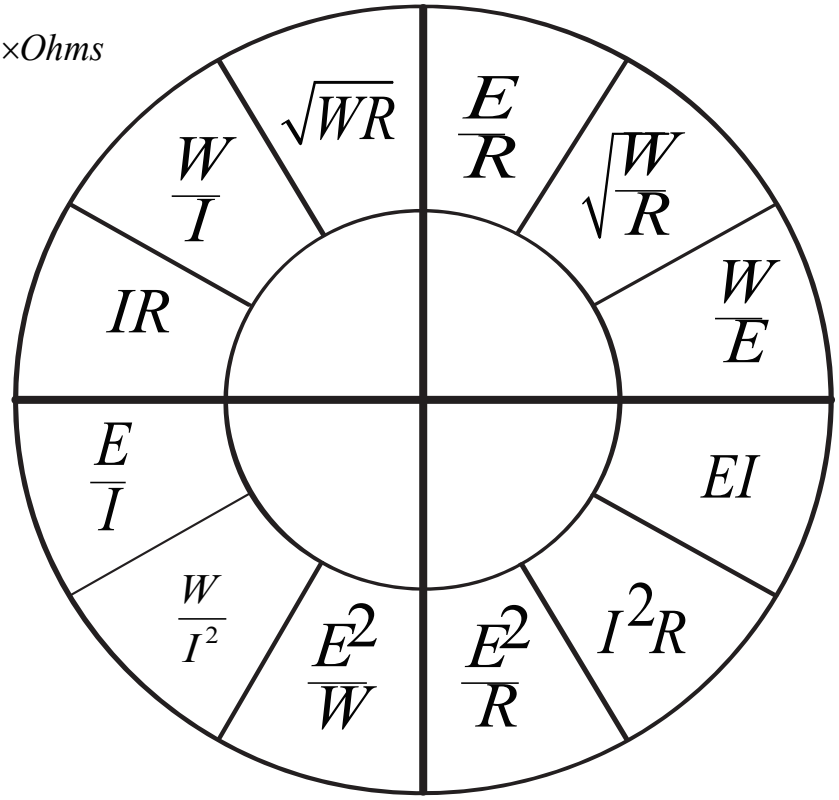
$$Volts = Amperes \times Ohms$$

AMPERES(I)

$$Amperes = \frac{Volts}{Ohms}$$

$$Amperes = \frac{Watts}{Volts}$$

$$Amperes = \sqrt{\frac{Watts}{Ohms}}$$



OHMS(R)

$$Ohms = \frac{Volts}{Amperes}$$

$$Ohms = \frac{Volts^2}{Watts}$$

$$Ohms = \frac{Watts}{Amperes^2}$$

WATTS(W)

$$Watts = \frac{Volts^2}{Ohms}$$

$$Watts = Amperes^2 \times Ohms$$

$$Watts = Volts \times Amperes$$

Wattage varies directly as ration of voltage squared

$$W_2 = W_1 \times (\frac{E_2}{E_1})^2$$

$$3\ Phase\ Amperes = \frac{Total\ watts}{Volt \times 1.732}$$

WATT DENSITY CALCULATIONS

Band Heaters

$$\frac{Wattage}{Dia \times 3.1416 \times Width}$$

Cartridge & Tubular Heaters:

$$\frac{Wattage}{Dia \times 3.1416 \times Heated\ Length}$$

Strip Heaters:

$$\frac{Wattage}{Heated\ Length \times Width}$$