

Formulas For Electrical Circuits

To Find	Direct Current	Single Phase	Three Phase
Amperes	Watts	Watts	Watts
	Volts	Volts x Power Factor	1.732 x Volts x Power Factor
Volt Amperes	_____	Volts x Amperes	1.732 x Amperes
Watts	Volts x Amperes	Volts x Amperes X Power Factor	1.732 x Volts x Amperes x Power Factor

OHMS LAW

Ohms = Volts / Amperes (R = E/I)
Amperes = Volts / Ohms (I = E/R)
Volts = Amperes x Ohms(E=IR)

Capacitance In Microfarads At 60 HZ

Capacitance	$\frac{2650 \times \text{Amperes}}{\text{Volts}}$
Capacitance	$\frac{2.56 \times \text{kVAR}}{(\text{Volts})^2}$

Formulas For Electrical Motors

To Find	Direct Current	Single Phase	Three Phase
Hourse Power	$\frac{E \times I \times \text{EFF}}{746}$	$\frac{E \times I \times \text{EFF} \times \text{PF}}{746}$	$\frac{1.732 \times E \times I \times \text{EFF} \times \text{PF}}{746}$
Current	$\frac{746 \times \text{HP}}{E \times \text{EFF}}$	$\frac{747 \times \text{HP}}{E \times \text{EFF} \times \text{PF}}$	$\frac{748 \times \text{HP}}{1.732 \times E \times \text{EFF} \times \text{PF}}$
Efficiency	$\frac{748 \times \text{HP}}{E \times I}$	$\frac{748 \times \text{HP}}{E \times I \times \text{PF}}$	$\frac{748 \times \text{HP}}{1.732 \times E \times I \times \text{PF}}$
Power Factor	_____	Input Watts	Input Watts
		$E \times I$	$1.732 \times E \times I$

E = Volts

EFF = Efficiency (decimal)

HP = Horse Power

I = Amperes

PF = Power Factor (decimal)