

Ω hms LAW

A guide to ...

PART ONE

What is Ohm's Law? a quick introduction
The Three formulas that make up Ohm's Law
Ohm's Law Triangle and how to use it



What is Ohm's Law?

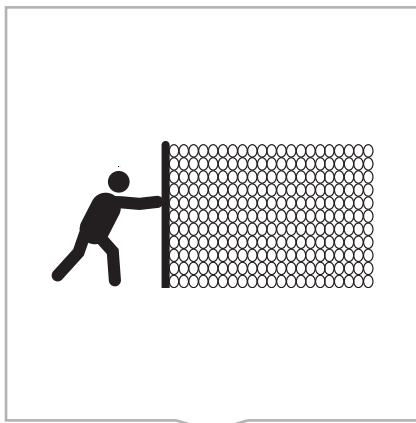
A Quick Introduction...

Ohm's Law is specifically the relationship between:

- Voltage
- Current
- & Resistance

Individually we may interpretate :

VOLTAGE

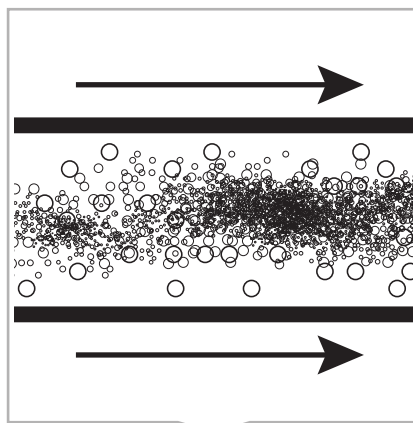


As the **pressure** within a circuit

Measured in

Volts (V)

CURRENT

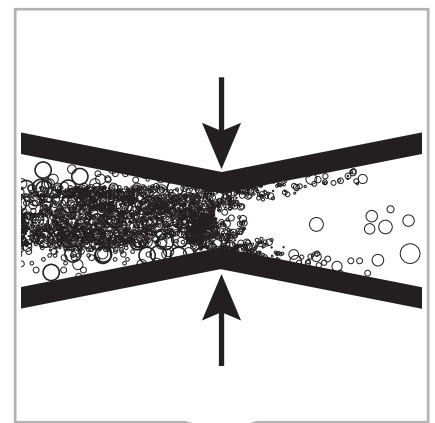


The **flow** of electrically charged particles

Measured in

Amps (A)

RESISTANCE



The **opposition** to current or flow

Measured in

Ohms Ω

When we consider how circuits and electricity works, **Ohm's Law** is essentially a formula to help you discover the relationship between Voltage, Current and Resistance in any given circuit.

When you apply Ohm's law to discover the Voltage, Current or Resistance of a circuit you will start to notice there's a **proportional balance** between each of the basic principles that make up Ohm's Law.

The Ohms Law Theorem was defined by Georg Simon Ohm, A German Physicist born **16th March 1789 - Died 6th July 1854**, In his honour the Ohm's Law symbol Ω was named after him.



The 3 formulas ...

To work out the Voltage, Current or Resistance of a circuit, one of the three formulas shown below, must be applied. Using these formulas will help you discover the relationship between Voltage, Current and Resistance within a circuit.

To discover **Voltage** apply the following formula

V	=	I	x	R
Voltage	Equals	Current	Multiply by	Resistance
Voltage is the equivalent to pressure within a circuit				

To discover **Current** apply the following formula

I	=	V	÷	R
Current	Equals	Voltage	Divided by	Resistance
Current is the equivalent to flow of electrically charged particles				

To discover **Resistance** apply the following formula

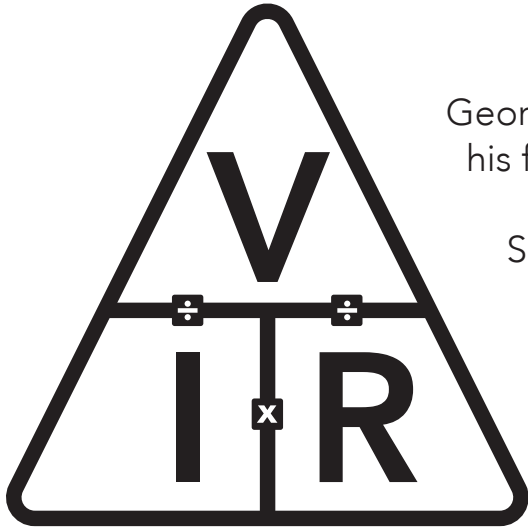
R	=	V	÷	I
Resistance	Equals	Voltage	Divided by	Current
Resistance is the opposition to flow				

Confused ?

There's a **super easy** way to remember the formulas that means you don't have to memorise these formulas in this way at all

The Ohm's Law Triangle

And How to use it ...



Georg Simon Ohm, knew that remembering his formulas would be a challenge for some ...

So he devised a really easy way to help us remember them and work out the Voltage, Current or Resistance using the Ohms Law triangle.

How to use the Ohm's Law Triangle

V.I.R

The first step to mastering the Ohms Law triangle is to remember the letters in this specific order.

STEP 1



Cover up the value that your trying to work out. This will leave you with the formula, specific to the value you are trying to work out.

STEP 2



Multiply to get up, divide to get down. To work out current or resistance, divide against voltage to get down the triangle. To work out voltage, multiply current by resistance to get up the triangle.

STEP 3

✓	V	=	I	x	R
✓	I	=	V	÷	R
✓	R	=	V	÷	I
✗	R	=	I	÷	V

Priority & order; when writing your formulas don't forget step one **V.I.R** Voltage always takes priority.

STEP 4



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