PHY1024

# Electric current, resistance, and Ohm’s law

**Electric current**

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I is electric current (SI unit is A), △Q is electric charge, △t is time.

**Ohm’s law**

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I is electric current, V is voltage, R is resistance.

**Electric power**

P is power, I is electric current, V is voltage, R is resistance.

# Resistors in Series

Definition:

Resistors are in series whenever the flow of charge, called the **current**, must flow through devices sequentially.

If two resistors are connected in series; index 1 is related to resistor 1 and index 2 is related to resistor 2:

Total Voltage

Total Resistance

Current

# Resistors in Parallel

Definition:

Resistors are in series whenever the flow of charge, called the **current**, must flow through devices sequentially.

If two resistors are connected in parallel; index 1 is related to resistor 1 and index 2 is related to resistor 2:

Voltage

Total Resistance

Total Current