**Different Electrical Units:**

|  |  |  |
| --- | --- | --- |
| Unit Name | Unit Symbol | Quantity |
| [Ampere (amp)](https://www.rapidtables.com/electric/Electric_units.html#ampere) | A | [Electric current](https://www.rapidtables.com/electric/Current.html) (I) |
| [Volt](https://www.rapidtables.com/electric/Electric_units.html#volt) | V | [Voltage](https://www.rapidtables.com/electric/Voltage.html) (V, E)  Electromotive force (E)  Potential difference (Δφ) |
| [Ohm](https://www.rapidtables.com/electric/Electric_units.html#ohm) | Ω | [Resistance](https://www.rapidtables.com/electric/Resistance.html) (R) |
| [Watt](https://www.rapidtables.com/electric/Electric_units.html#watt) | W | [Electric power](https://www.rapidtables.com/electric/electric_power.html) (P) |
| [Farad](https://www.rapidtables.com/electric/Electric_units.html#farad) | F | [Capacitance](https://www.rapidtables.com/electric/capacitor.html) (C) |
| [Henry](https://www.rapidtables.com/electric/Electric_units.html#henry) | H | [Inductance](https://www.rapidtables.com/electric/inductor.html) (L) |
| [siemens / mho](https://www.rapidtables.com/electric/Electric_units.html#siemens) | S | Conductance (G)  Admittance (Y) |
| [Coulomb](https://www.rapidtables.com/electric/Electric_units.html#coulomb) | C | [Electric charge](https://www.rapidtables.com/electric/electric_charge.html) (Q) |
| [Joule](https://www.rapidtables.com/electric/Electric_units.html#jouule) | J | Energy (E) |
| [Kilowatt-hour](https://www.rapidtables.com/electric/Electric_units.html#kwh) | kWh | Energy (E) |
| Electron-volt | eV | Energy (E) |
| Ohm-meter | Ω∙m | Resistivity (*ρ*) |
| siemens per meter | S/m | Conductivity (*σ*) |
| Volts per meter | V/m | Electric field (E) |
| Newtons per coulomb | N/C | Electric field (E) |
| Volt-meter | V⋅m | Electric flux (Φe) |
| [Tesla](https://www.rapidtables.com/electric/Electric_units.html#tesla) | T | Magnetic field (B) |
| Gauss | G | Magnetic field (B) |
| [Weber](https://www.rapidtables.com/electric/Electric_units.html#weber) | Wb | Magnetic flux (Φm) |
| [Hertz](https://www.rapidtables.com/electric/Electric_units.html#hertz) | Hz | Frequency (f) |
| Seconds | s | Time (t) |
| Meter / metre | m | Length (l) |
| Square-meter | m2 | Area (A) |

Units prefix table

|  |  |  |  |
| --- | --- | --- | --- |
| Prefix | Prefix  Symbol | Prefix  factor | Example |
| pico | p | 10-12 | 1pF = 10-12F |
| nano | n | 10-9 | 1nF = 10-9F |
| micro | μ | 10-6 | 1μA = 10-6A |
| milli | m | 10-3 | 1mA = 10-3A |
| kilo | k | 103 | 1kΩ = 1000Ω |
| mega | M | 106 | 1MHz = 106Hz |
| giga | G | 109 | 1GHz = 109Hz |

**Electrical units definitions**

Volt (V)

[Volt](https://www.rapidtables.com/electric/volt.html) is the electrical unit of [voltage](https://www.rapidtables.com/electric/Voltage.html).

One volt is the energy of 1 joule that is consumed when electric charge of 1 coulomb flows in the circuit.

1V = 1J / 1C

Ampere (A)

[Ampere](https://www.rapidtables.com/electric/ampere.html) is the electrical unit of [electrical current](https://www.rapidtables.com/electric/Current.html). It measures the amount of electrical charge that flows in an electrical circuit per 1 second.

1A = 1C / 1s

Ohm (Ω)

[Ohm](https://www.rapidtables.com/electric/ohm.html) is the electrical unit of resistance.

1Ω = 1V / 1A

Watt (W)

[Watt](https://www.rapidtables.com/electric/watt.html) is the electrical unit of [electric power](https://www.rapidtables.com/electric/electric_power.html). It measures the rate of consumed energy.

1W = 1J / 1s

1W = 1V ⋅ 1A

Farad (F)

[Farad](https://www.rapidtables.com/electric/farad.html) is the unit of capacitance. It represents the amount of [electric charge](https://www.rapidtables.com/electric/electric_charge.html) in coulombs that is stored per 1 volt.

1F = 1C / 1V

Henry (H)

Henry is the unit of inductance.

1H = 1Wb / 1A

siemens (S)

siemens is the unit of conductance, which is the opposite of resistance.

1S = 1 / 1Ω

Coulomb (C)

Coulomb is the unit of [electric charge](https://www.rapidtables.com/electric/electric_charge.html).

1C = 6.238792×1018 electron charges

Ampere-hour (Ah)

Ampere-hour is a unit of [electric charge](https://www.rapidtables.com/electric/electric_charge.html).

One ampere-hour is the electric charge that flow in electrical circuit, when a current of 1 ampere is applied for 1 hour.

1Ah = 1A ⋅ 1hour

One ampere-hour is equal to 3600 coulombs.

1Ah = 3600C

Tesla (T)

Tesla is the unit of magnetic field.

1T = 1Wb / 1m2

Weber (Wb)

Weber is the unit of magnetic flux.

1Wb = 1V ⋅ 1s

Joule (J)

Joule is the unit of energy.

1J = 1 kg ⋅ m2 / s2

Kilowatt-hour (kWh)

[Kilowatt-hour](https://www.rapidtables.com/electric/kWh.html) is a unit of energy.

1kWh = 1kW ⋅ 1h = 1000W ⋅ 1h

Kilovolt-amps (kVA)

[Kilovolt-amps](https://www.rapidtables.com/electric/kva.html) is a unit of power.

1kVA = 1kV ⋅ 1A = 1000 ⋅ 1V ⋅ 1A

Hertz (Hz)

Hertz is the unit of frequency. It measures the number of cycles per second.

1 Hz = 1 cycles / s