

# RESISTOR

A device used to limit, or resist current in an electrical circuit. Resistors can be made from many different materials, but the most common is carbon composition (graphite plus binding agents). The carbon composition resistor is basically a small, thin section of carbon composition with a lead at each end.

The current limiting ability, or resistance can be varied at manufacture by changing the ratio of carbon to binding agent.

Resistance is measured in Ohms, represented by the Greek symbol Omega ( $\Omega$ ). To abbreviate a bit, prefixes are generally used to indicate a multiplier on resistance value. You will typically see just two of these:

K = thousand -- 1 KW = 1000 W

M = million -- 1MW = 1,000,000 W = 1000 KW

Note that more details on unit prefixes are available in a Starting

Block article here. Sometimes, to shorten things even further, people will drop the "W" entirely (so "1 KW" would become "1 K", etc.). A few get even more cryptic and use the prefix as punctuation -- so in this scheme, 4.7 KW would be written as "4K7".

Most resistors have some essentially static value of resistance ('though all resistors are somewhat temperature sensitive, but that's another story...'); other types are made, however.

### **Variable resistors**

Variable resistors have a dial, knob, or screw that allows you to change their resistance. The value of a variable resistor is given as it's highest resistance value. A variable resistor may also be called a potentiometer (pot for short).

### **Photo resistors**

Photo resistors, as their name suggests, are resistors whose resistance is a function of the amount of light falling on them. Their resistance is very high when no light is present (up to millions of Ohms), and significantly lower when they are illuminated (hundreds of Ohms). These are also often called Light-dependent Resistors (LDRs) and Cadmium-Sulfide (CDS) cells.

Source: <http://encyclobeamia.solarbotics.net/articles/resistor.html>