

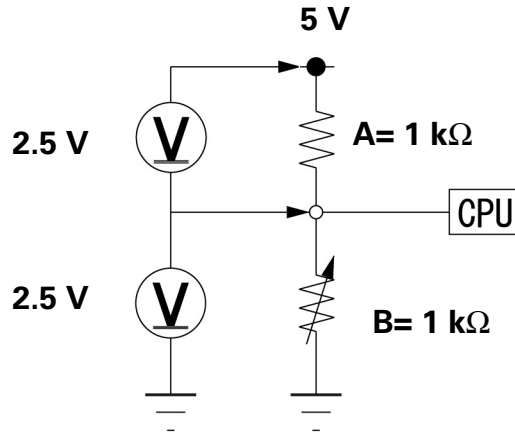
TECHNICAL FEATURES

SENSORS

There are two kinds of sensor output: One translates changes of the electrical resistance into changes of voltage, the other produces its own voltage or current.

OUTPUT VOLTAGE SENT TO ECM

As shown on the diagram below, two resistors divide the source voltage when connected to the source in series.



When resistor A and B have same resistance value, source voltage would be divided equally. When one of them has larger resistance value than the other, it would receive larger share of the load.

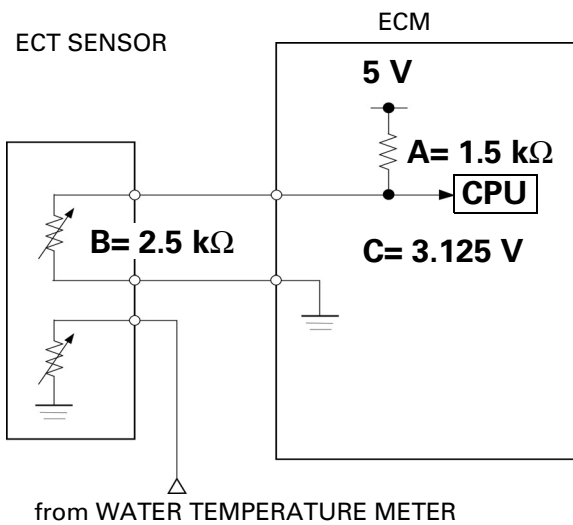
ECT sensor and IAT sensor utilize this principle.

ECM receives changes of physical information (changes of temperature, pressure etc.) as variable voltage by reading it at both ends of resistor B (Resistor A: fixed resistor/Resistor B: variable resistor that reacts to physical changes).

For example, when source voltage is 5 V, resistance value of resistor A is 1.5 kΩ , resistance value of resistor B is 2.5 kΩ , the voltage measured at point C would be 3.125 V as shown below. If the value of resistor B is 0.1 kΩ , the voltage measured at point C would be 0.3125 V.

e.g.: ECT (engine coolant temperature) SENSOR

WHEN ENGINE COOLANT TEMPERATURE IS 20°C:



WHEN ENGINE COOLANT TEMPERATURE IS 110°C:

