High Side Vs Low Side Switch

## High Side Switch:

The opposite of the low-side switch is the high-side switch. This transistor connects between +V and the load. Because of how transistors work, these can be a little more difficult to use in an Arduino or Raspberry Pi circuit.

Typically these use a PNP BJT or P-Channel MOSFET.

## Low Side Switch:

When the transistor is connected to ground, that means the load is between +V and the transistor. Since the transistor is switching the path to ground or is sitting on the low side of the load, it is called a low-side switch.

Typically these use an NPN BJT or an N-Channel MOSFET.

## Usage Examples On High Side And Low Side Switches:

IPDs incorporate a high side switch for the upper circuit and a low side switch for the lower circuit with respect to external loads, utilizing a circuit design optimized for each location.  
As shown in the figure at left below, in a circuit where various loads are connected to a single power supply voltage, such as in a vehicle where the battery voltage is fixed and body connected to ground, the output can easily become grounded, making a high-side switch more suitable for detecting abnormal conditions such as ground faults.  
Conversely, low side switches are ideal for circuits in which loads are placed at various power supply voltages as shown in the figure at right below. The low side switch operates by applying an input voltage to the gate and connecting the MOSFET Source to ground. This control scheme is the same as with single MOSFETs, making it easy to replace individual MOSFETs.

A diagram of a load

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