

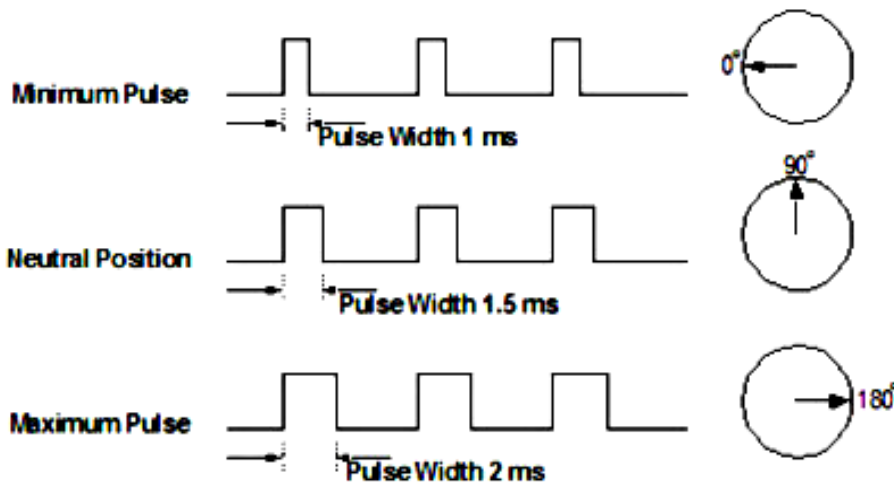
Servo Motors

A servo motor is a device that responds to a signal by moving an arm (called a horn) to a position that relates to that signal. They are commonly used to remotely control radio controlled (RC) toys and devices.

Servo motors have three wires, a negative (0 volts, black or brown), a positive (4.5 to 6 volts, red) and a signal wire (white or orange).

The signal the servo interprets is: on (“HIGH”) for one millisecond, on (“HIGH”) for a further percentage of a millisecond dependant on the position desired, then off (“LOW”) for around 18 milliseconds.

The servo decides the position it needs to be in depending on the amount the signal is “on” after one millisecond.



A standard analogue servo expects to see the signal repeated every 20ms, or at 50hz. It is not recommended to exceed that rate.

Cheap servos can have a range for their full horn movement outside of the nominal specifications, so can range from .6ms to 2.4ms (600us (microseconds) to 2400us).

Multiple servos can be controlled by a single Arduino by sending the signal pulse for the other servos in the “off-time” (18ms) of the first servo.

A digital servo can see the signal at 100hz. The easiest way to check if it is a digital or analogue servo is via the price. Digital servos are a lot more expensive.