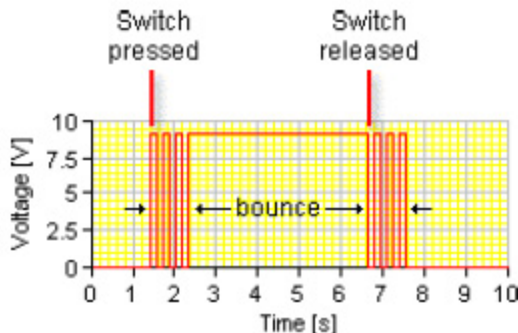


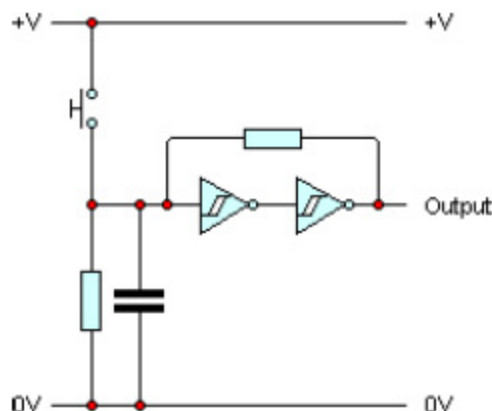
The debounced switch subsystem provides a switch that closes when pressed.

Whenever a mechanical switch is pressed, the switch contacts will **bounce**, producing several very quick on and off signals. Each of these signals would be counted by a [counter](#) subsystem.

To overcome this, a **debouncing** circuit is used to produce a clean output signal from the switch.



Understanding the debounced switch circuit



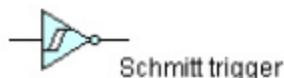
Debounced switch circuit

The debounced switch circuit uses a **push-to-make** (PTM) switch:



A capacitor along with a pair of **Schmitt triggers** are used to clean the signal.

Schmitt triggers are logic gates that have both an upper and a lower **threshold** level.



This ability of the schmitt trigger to switch on and off at different voltage levels is known as **hysteresis**.