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Collision Limit Switch For Arduino & Raspberry Pi

## Introduction:

A miniature snap-action switch, also trademarked and frequently known as a micro switch, is an electric switch that is actuated by very little physical force. Micro switches are very widely used; among their applications are appliances, machinery, industrial controls, vehicles, and many other places for control of electrical circuits. They are usually rated to carry current in control circuits only, although some switches can be directly used to control small motors, solenoids, lamps, or other devices.

This is a small micro switch sensor designed for the Arduino micro controller. It could be directly connected to the IO Expansion shield. It integrates the pull-up resistor and the status indicator LED onboard. This makes it easier for testing and integration. The miniature snap-action micro switch with roller lever makes it suitable for more different environment application and can be applied to any imaginative project you can think of!



## **Objective:**

1. To make a limit switch as a sensor and detect the crash.

## **Components:**

- Arduino Uno Board
- Collision Limit Switch For Arduino & Raspberry Pi
- USB Cable



## **Procedures:**

Step 1: Build the circuit.

The connection between the Collision Limit Switch For Arduino & Raspberry Pi and the Arduino Uno Board:

Collision Limit Switch For Arduino &	Arduino Uno Board
Raspberry Pi	
VCC	5V
GND	GND
OUT	PIN ~3



**Step 2:** Insert the sample programming provided below by copy and paste it into Arduino IDE.

int ledPin = 13;	// choose the pin for the LED
int inputPin = 3;	// Connect sensor to input pin 3
<pre>void setup() {</pre>	
Serial.begin(9600);	// Init the serial port



pinMode(ledPin, OUTPUT); // declare LED as output
pinMode(inputPin, INPUT); // declare Micro switch as input
}
void loop(){
int val = digitalRead(inputPin); // read input value
if (val == HIGH) { // check if the input is HIGH
digitalWrite(ledPin, LOW); // turn LED OFF
Serial.println("Switch UnPressed!");
} else {
digitalWrite(ledPin, HIGH); // turn LED ON
Serial.println("Switch Pressed!");
}
delay(50);
}

Step 3: Open the serial monitor to observe the result as shown below.

😎 СОМ11 —	
[	Send
14:21:45.732 -> Switch Pressed!	^
14:21:45.802 -> Switch Pressed!	
14:21:45.837 -> Switch Pressed!	
14:21:45.873 -> Switch Pressed!	
14:21:45.943 -> Switch UnPressed!	
14:21:45.979 -> Switch UnPressed!	
14:21:46.051 -> Switch UnPressed!	
14:21:46.087 -> Switch UnPressed!	
14:21:46.158 -> Switch UnPressed!	
14:21:46.194 -> Switch Pressed!	
14:21:46.228 -> Switch Pressed!	
14:21:46.301 -> Switch Pressed!	
14:21:46.337 -> Switch Pressed!	
14:21:46.373 -> Switch Pressed!	
14:21:46.445 -> Switch UnPressed!	
14:21:46.481 -> Switch UnPressed!	
14.01.46 FEA > Contest MeDuccesdi	*
Autoscroll 🗹 Show timestamp Newline 🗸 9600 baud 🗸	Clear output