



## BISS001 module

BISS001 - Micro Power PIR Motion Detector IC

- Input voltage: 3-5 V
- Hi:  $0.7 \cdot V_{dd} = 0.7 \cdot 5 \text{ V} = 3.5 \text{ V}$
- Lo:  $0.3 \cdot V_{dd} = 0.3 \cdot 5 \text{ V} = 1.5 \text{ V}$

## HC-SR501 module

Technical data of the HC-SR501 Motion and Sensor Modules:

Input voltage: 4.5 V - 20 V

Digital output when motion is detected: 3.3 V (high)

Digital output with no movement on the HC-SR501: 0 V (low)

Working temperature in the environment:  $-15 \frac{1}{2} \text{ }^{\circ}\text{C}$  to  $70 \frac{1}{2} \text{ }^{\circ}\text{C}$

Delay Time 0.5 to 200 seconds

Angle of coverage:  $100 \frac{1}{2} \text{ }^{\circ}$

Reach 5m - 7m

Size of the HC-SR501 motion:

Sensor Lens diameter: 23mm

Length: 24.03mm

Width: 32.34mm

Height (with lens): 24.66mm

Center screw hole spacing: 28 mm  
Screw hole diameter: 2mm (M2)

# Collect pir data using Linux gpio and send it to mqtt

both pots are all the way to the left (if jumper is on the left toward edge of board) to make minimal timeout

[pir.sh](#)

## gpio-utils

gpio-utils exists on Raspberry Pi

```
#!/bin/sh -e

led=/sys/devices/platform/rpi_control_board/leds/d1/brightness

# pir sensor conncted to 5V, GPIO12, GND
sudo stdbuf -oL -eL gpio-event-mon -n gpiochip0 -o 12 -r -f | while read gpio event time dir edge
    case $dir in
        rising)
            echo -n "^"
            echo 1 > $led
            ;;
        falling)
            echo -n "_"
            echo 0 > $led
            ;;
        *)
            echo -n "?"
            ;;
    esac
done
```

## gpiod

alternative version using gpiod package available on sunxi

```
#!/bin/sh -e

led=/sys/class/leds/orangepi:red:status/brightness

# pir sensor conncted to 5V, PA6, GND
sudo stdbuf -oL -eL gpiomon 0 6 | while read event dir edge time ; do
    echo "# $dir"
    case $dir in
        RISING)
            echo -n "^"
            echo 1 > $led
            ;;
        FALLING)
            echo -n "_"
            echo 0 > $led
            ;;
    esac
done
```

```
done
    esac
*)
    echo -n "_"
    echo 0 > $led
    ;;
    echo -n "?"
    ;;
```