Picromatics

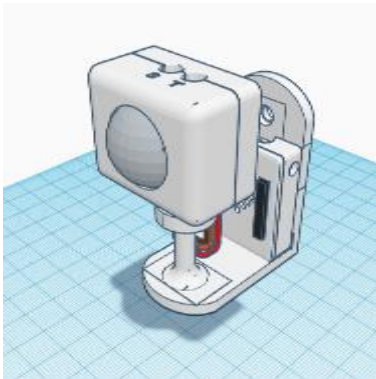## PicoMotion
v.2021.01

Quick Start Guide

2021
Powered by Home Assistant™ and ESPHome

1. Introduction

Thank you for choosing **PicoMotion** for your smart motion detection needs and presence-based automation. PicoMotion is an open-source design. Out of the box, it is running ESPHome-generated firmware, intended to be used with a Home Assistant™ server, providing local control and privacy by design.

2. Inside the box

The PicoMotion kit consists of:
- D1 mini WiFi module (2.4GHz) with ESPHome-based firmware
- HC-SR501 PIR motion sensor
- Jumper wires
- micro-USB Type-B cable
- 5V DC power adapter
- Custom 3D printed enclosure
- (optional) mounting screw

If any of the components is missing, please contact Picromatics support on: contact@picromatics.com

3. Getting started

Step 1: Remove all the packaging materials.

Step 2: Using the provided mounting screws, or any other more appropriate screws for your mounting place material, secure the support according to your needs. The sensor can be mounted vertically, either with the USB connector upward or downward, depending on your custom case.
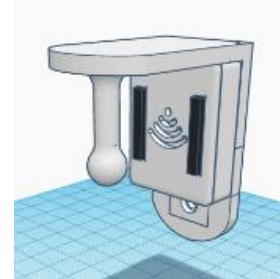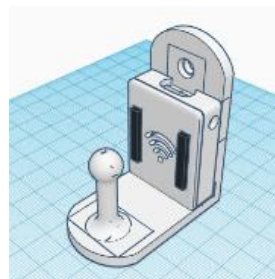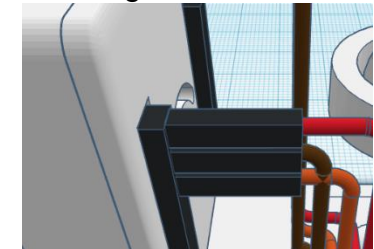

Step 3: Insert the jumper wires, exactly in the below order.
Sensor, as you look from behind (left-to-right): red, orange, brown
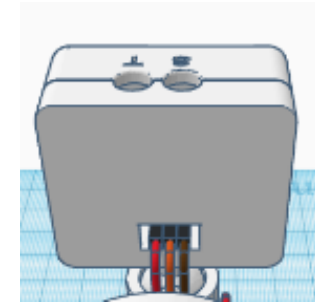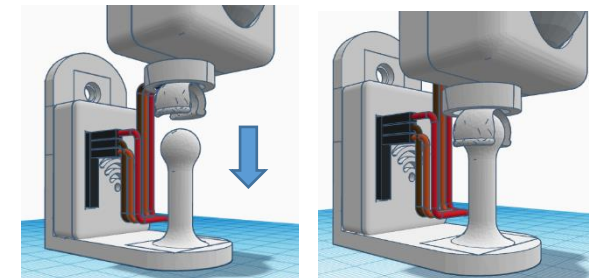

From left to right: R, O, B

WiFI module on the left black header, as you look from the front side (top-to-bottom): red, brown, orange


From top to bottom: R, B, O

Step 4: Put the tightening ring on the shaft of the case and, gently push the case on the spherical stem, until it fits properly.

Step 5: Adjust the position of the sensor, according to your needs. The PIR sensor should sense Infrared radiation emitted by living bodies, within 120° angle and 7 meters. Secure the position by, gently, pushing down the tightening ring on the spherical stem.
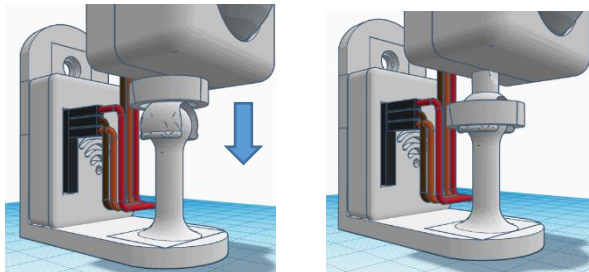
Step 6: Connect the power adapter to an adequate supply (like a wall socket) and connect the USB cable to the sensor.
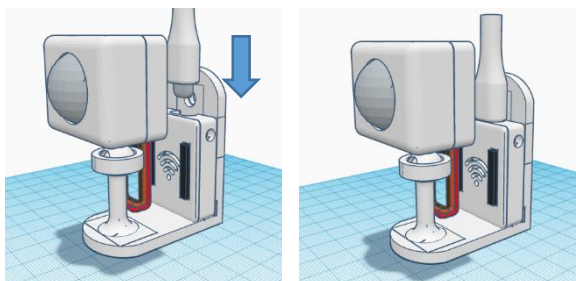
Step 7: After powering on, the sensor will try to connect to the last known WiFi network. After 1 minute of failed attempts, the module will start a WiFi hotspot with the SSID: Picomotion X (where X is the ID no.) Connect to the hotspot using a wifi-enabled device using the provided password stuck on the bottom of your PicoMotion.

Step 8: If your device alerts you, that the WiFi network does not have an active or reliable Internet connection, just continue and select "Keep WiFi connection". If it prompts you to sign in or automatically navigates to your browser, just continue.

Step 9: If your device does not automatically navigate to the setup page, or does not prompts you to sign in, manually open up your browser and navigate to http://192.168.4.1/

Step 10: The configuration page opens up and displays a list of available, discovered WiFi networks. Select the network you wish, the sensor will reside in, enter the wifi password of your network, and hit "Save". After a few minutes, the sensor will restart and connect automatically to your WiFi network.
Note: The sensor should be on the same local network as your Home Assistant™ server.

WiFi Networks

NETGEAR	🔒
Not your WiFi	🔒
3HuiTube_2.4Ghz	🔒
Hello World	🔒

WiFi Settings

SSID

Password

Save

Step 11: Let Home Assistant™ automatically discover the sensor. If the notification to configure a new ESPHome device does not appear in a few minutes, you can manually trigger the discovery with a restart of the server. (make sure the discovery component is enabled, check online resources for documentation)

Final step: On the *Integrations* page from Home Assistant™ you should hit the "*Configure*" button on the newly discovered ESPHome device. Click "Submit" and enter the password, stuck on the bottom of the support.

Troubleshooting
1. "I get a strange behavior"
Try adjusting the sensitivity and the timer between triggers from the knobs on top of the sensor, labeled "S", and "T" respectively. Restart the device, by pushing the small restart button on the right side.

2. "The device becomes often unavailable"
Make sure the sensor has a reliable WiFi connection and power supply. Try setting up a static IP address from your router settings. Restart the device, by pushing the small restart button on the right side. Try restarting your Home Assistant™ server.

If everything fails, try to find assistance on Home Assistant™, ESPHome and Picromatics websites, forums, repositories or write an e-mail to
contact@picromatics.com