POWERMYPI-UNO

Smart Power Supply Unit for Raspberry Pi Family

USER MANUAL

1. <u>INTRODUCTION</u>

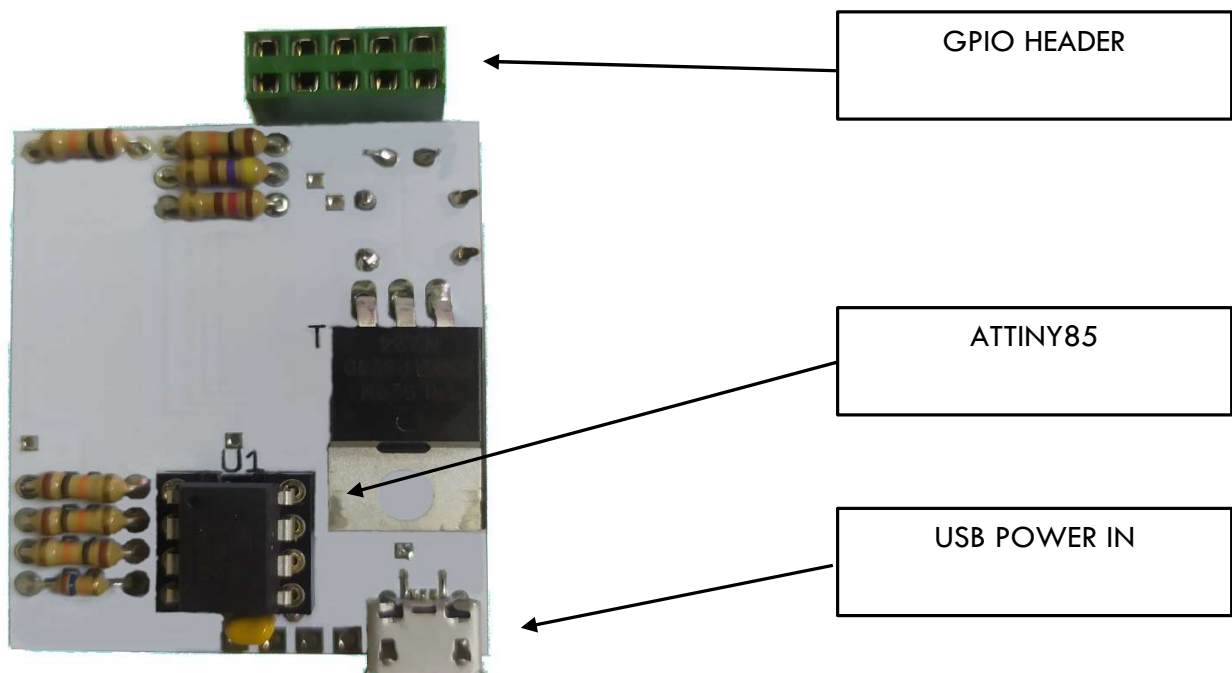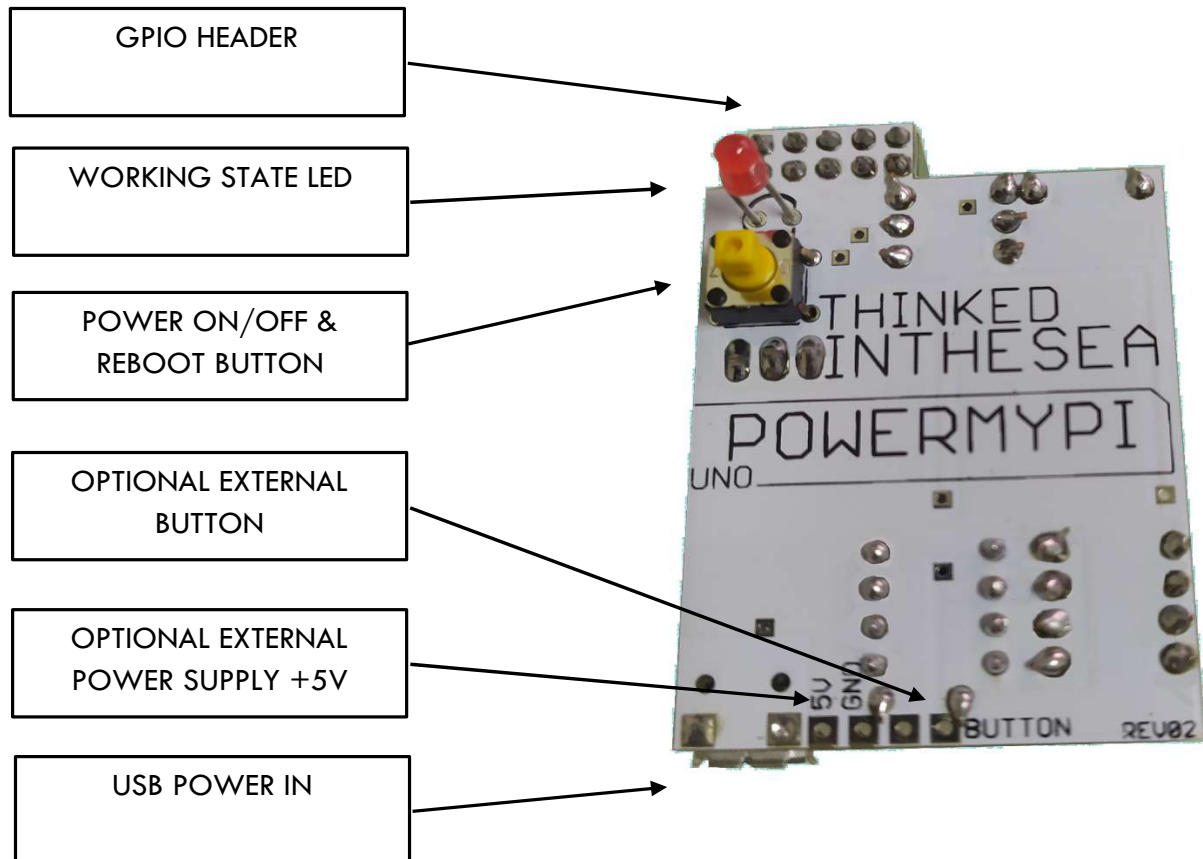POWERMYPI-UNO is an add-on for Single Board Computer of the Raspberry Pi family.

Its main feature is to control the power supply of the Raspberry Pi, providing a button for Power On / Off and Reboot operations.

The heart of POWERMYPI-UNO is formed by an ATTINY85 microprocessor programmed in ARDUINO, which manages the vitality signals with Raspberry Pi.
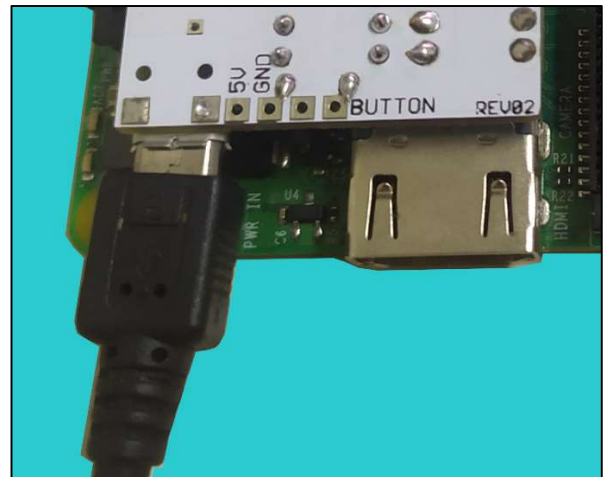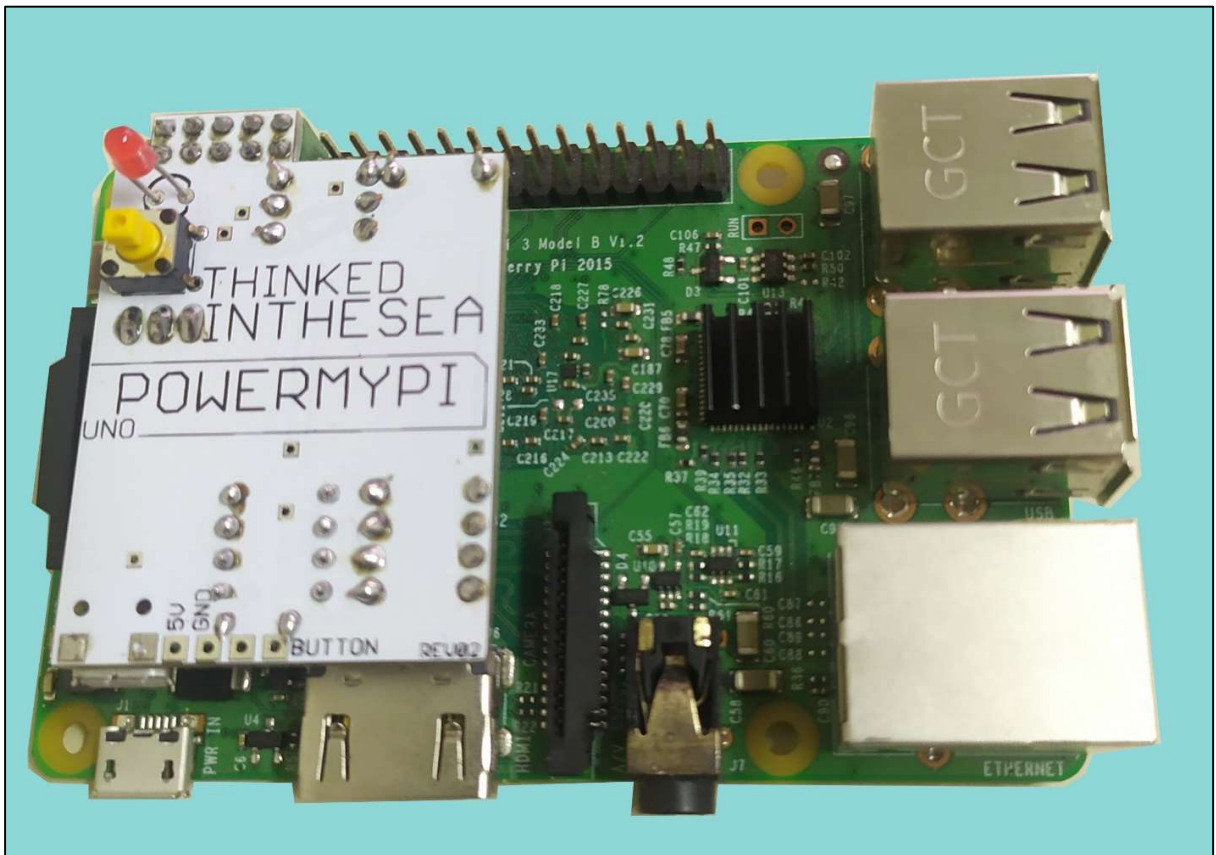
The vitality signals on the Raspberry Pi are guaranteed by a Python script executed at startup.

2. <u>BOARD DESCRIPTION</u>

The figure shows the various features of POWERMYPI-UNO:

GPIO HEADER

WORKING STATE LED

POWER ON/OFF & REBOOT BUTTON

OPTIONAL EXTERNAL BUTTON

OPTIONAL EXTERNAL POWER SUPPLY +5V

USB POWER IN

GPIO HEADER

ATTINY85

USB POWER IN

POWERMYPI-UNO connects to the Raspberry Pi GPIO HEADER:

The board is powered via the USB connector. The GPIO pins supply power to the Raspberry Pi and handle the vitality signals.

3. <u>HOW IT WORK</u>

As soon as the power supply is connected, POWERMYPI-UNO waits for the button to be pressed to power the Raspberry Pi.

Once the button is activated, the power to the Raspberry Pi begins. During this phase, POWERMYPI-UNO waits for the Raspberry Pi vitality signal via GPIO Pin. If after a timeout period there is no vitality, POWERMYPI-UNO turns off the power to the Raspberry Pi. During the vitality wait phase, the operation LED flashes.

As soon as the vitality signal is received, the operation LED stops flashing and stays on steadily. In this phase the Raspberry Pi is correctly powered and normal operations can be carried out.

In this phase the operation button has 2 functions:

1) Pressure < 3 seconds. Restart the Raspberry Pi

2) Pressure > 3 seconds. Raspberry Pi shutdown

In addition, through the vitality signal, POWERMYPI-UNO is able to understand if a restart or shutdown has been commanded by the Raspberry Pi and operates accordingly.

Go to https://youtu.be/da0FRC9sngk and see POWERMYPI-UNO in action.

4. INSTALL

Open a terminal on your RPi:

cd /home/pi

curl https://raw.githubusercontent.com/thinkedinthesea/PowermyPi-UNO/master/install.sh > install.sh

sudo bash install.sh

```
                              kali@kali:/home                              _ □ ✕
File   Actions   Edit   View   Help
root@kali:/home# cd /home/pi
root@kali:/home/pi# curl https://raw.githubusercontent.com/thinkedinthesea/PowermyPi-UNO/master/install.sh > install.sh
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  1776  100  1776    0     0   5567       0 --:--:-- --:--:-- --:--:--  5567
root@kali:/home/pi# sudo bash install.sh
```

```
                              kali@kali:/home                              _ □ ✕
File   Actions   Edit   View   Help
----------------------------------------------------------------
This script downloads and install
POWERMYPI-UNO python script

- Update package index files (apt-get update).
- Install Python libraries.
- Install powermypi_uno.py script in /usr/local/bin.

WARNING:
After install complete, shutdown and connect POWERMYPI-UNO board.
----------------------------------------------------------------

CONTINUE? [y/N] █
```

Enjoy!