

APIO USER GUIDE

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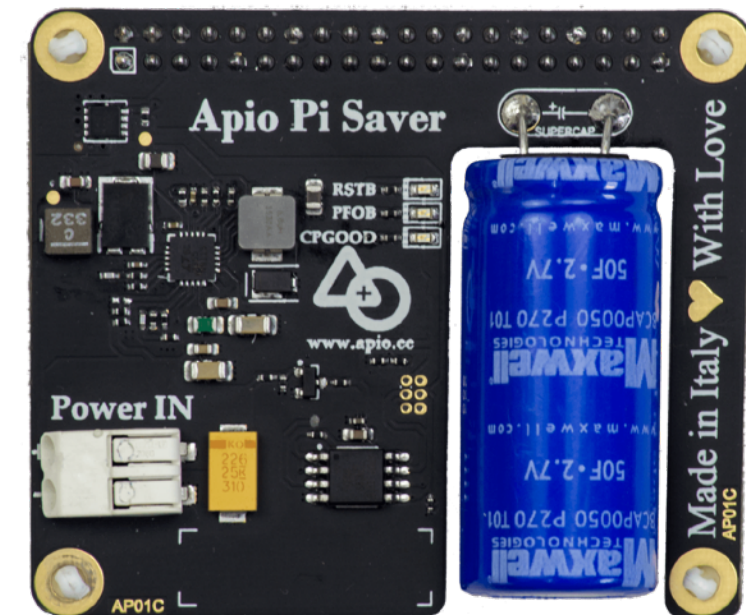
# APIO PI SAVER



## INTRODUCTION

Apio Pi Saver is a Smart UPS for Raspberry Pi that allows the safe shutdown of the Raspberry in case of unexpected power outages. The device guarantees Raspberry power in case of short electric shocks (less than 4 seconds) and in the absence of voltage up to one minute of autonomy for a proper power-off.

The Apio Pi Saver detects the presence of power supply and automatically initiates the Raspberry as soon as the supercapacitor is sufficiently charged.



# TECHNICAL SPECIFICATIONS

- ▶ Power supply: 12-14V (recommended current: 2.1A);
- ▶ Charging time: 1-10 min (time varies according to power supply);
- ▶ PIN 23 GPIO Raspberry: this is the PIN that tells Raspberry whether or not there is power (HIGH power on, LOW power off);
- ▶ PIN 22 GPIO Raspberry: this is the PIN that tells to the Apio Pi Saver the state of the Raspberry (HIGH on, LOW off);
- ▶ Led indicators:
  - ▶ RSTB - flashes once when the power is connected;
  - ▶ PFOB - is off when there is power and on when there is not;
  - ▶ CPGOOD - is on when the supercapacitor is charging/discharging and it's off when it's completely charged/discharged.
- ▶ The maximum current delivered to the Raspberry is 1A; if the absorption of Raspberry exceeds 15% the maximum current, the Apio Pi Saver can go into a state of protection.

## HOW IT WORKS

### Premise:

In the presence of Apio Pi Saver, it is enough to power the Shield at a 12Volt nominal voltage without any further power to the Raspberry!

### First setup:

- ▶ Make sure you have Python and RPi.GPIO library installed on your Raspberry;
- ▶ Download the file "PiSaver.py" from the [Github repository](https://github.com/ApioLab/Apio-Pi-Saver) Apio Pi Saver ([github.com/ApioLab/Apio-Pi-Saver](https://github.com/ApioLab/Apio-Pi-Saver))
- ▶ Add the "PiSaver.py" script on `/home/pi`;
- ▶ Open the file "rc.local" located in `/etc/rc.local`;
- ▶ Add on the bottom of the file the following code: `python /home/pi/PiSaver.py`;
- ▶ Save the edits;
- ▶ Shutdown the Raspberry Pi, add the Shield and power it.

Once the Apio Pi Saver is on the Raspberry and is powered will turn on the CPGOOD LED and start charging the supercapacitor. When the device is sufficiently charged the CPGOOD LED will turn off and the Shield will start powering the Raspberry. At this point, Raspberry performs the usual boot procedure.

# Apio Pi Saver

Thanks to choose our products. For any question please contacts us using our official contact details.

## CONTACTS

Apio s.r.l.

via Mare Adriatico 75,  
65010 - Spoltore (PE)

[www.apio.cc](http://www.apio.cc)

[info@apio.cc](mailto:info@apio.cc)

