SmartPID BBQ Easy is a plug and play compact system for temperature and cooking process management in charcoal systems. Contents of the pack are the following:

- SmartPID control unit installed on stainless bracket
- 1PIT NTC 100K probe – beta 3950 cable 1.5m
- 220V power supply with USB 5V 2A output
- Adapter cable for USB battery pack
- PWM 4 - wires fan with speed control and tachometer
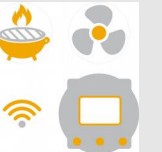- Stainless bracket 1/2" female thread output

Main controller characteristics and features are

| 1 PIT probe	PID control of grill temperature	Fan speed modulation from 0 to 100%
Configurable NTC beta Probe	4 wire fan support with PWM and tachometer	220v power supply or with USB 5V battery pack
Configurable alarm thresholds on PIT channel	Wi-Fi connection for remote monitoring and control	Desktop and smartphone universal WEB APP

Operating principle of SmartPID controller for temperature management in a charcoal BBQ it's easy: the controller handles speed of a dedicated fan and adjusts airflow on the embers in an inversely proportional way to the difference between the grill temperature and the one set (PID control) in order to gradually reach the desired temperature and keep it constant. .

Besides the SmartPID Easy controller for BBQ disposes of a range of intuitive easy-to-use functionalities for cooking process management

- A single PIT control channel
- Three different modes of operation
- Monitor temperature
- Manual with fixed fan speed setting
- Automatic mode with PID-PWM control of the fan
- PID-PWM modulation of fan speed 0-100%
- PID and Max/Min fan speed parameters configuration
- Speedometer with graphic and numeric indication of speed
- Adjustable alarm thresholds for PIT channel
- Open lid automatic detection
- TFT back-lit display with adjustable contrast
- SW upgrade via USB

LID OPEN DETECTION
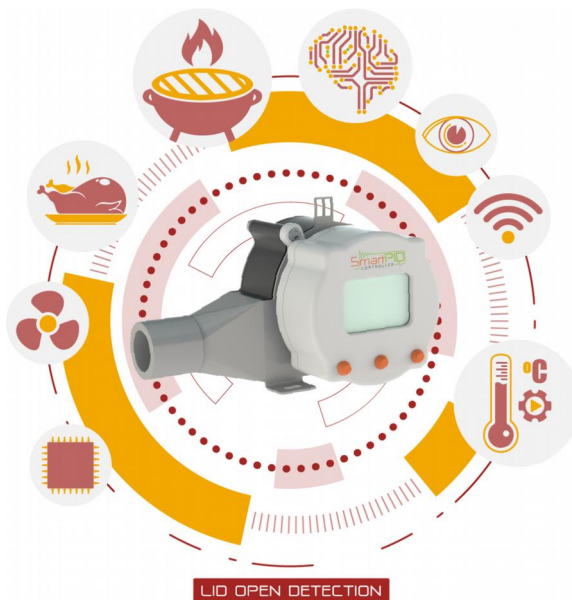
The controller comes in a compact and pre-wired design. You just need to connect the PIT probe and the power supply cable (via USB TYPE C connector) and SmartPID Easy is ready to use.

Power (5-12v)

PIT probe
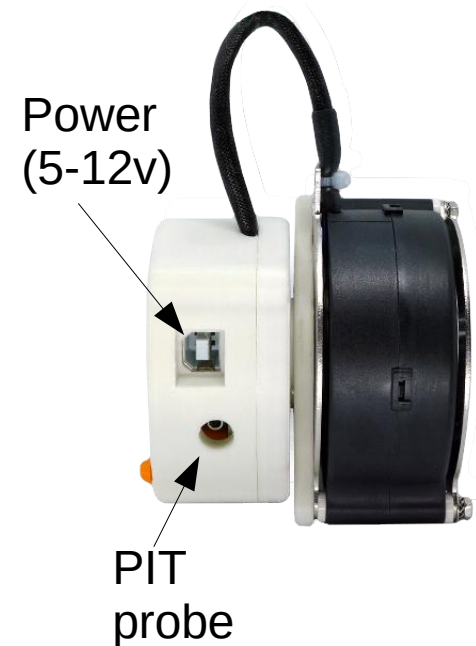
You can supply the controller by means of USB battery pack (power bank) with 5V 2A output.

SmartPID connection to Wi-Fi network and initial setup To connect SmartPID to Wi-Fi network and to server for remote management you need to run a series of simple operations:

Wi-Fi Network and Password Configuration

1) Switch on SmartPID Easy and access Wifi/Log → Wi-Fi menu and set WiFi mode AP (access point))

2) Run a scan of Wi-Fi networks from your own smartphone or from a PC with Wi-Fi connection
3) Select SPC1000_XXXXXXXXXX network and connect. To password prompt enter "smartpid!"
4) Open an internet browser and in the URL bar enter 192.168.4.1 valu
5) In the browser appears a form with a series of fields to be filled
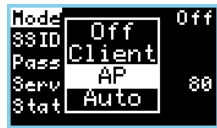
Nome rete WiFi

Password

IP 18.196.43.33

1883

Username registrazione APP

PWD registrazion APP

6) Save, smartPID makes the reboot
7) Access Connectivity/MQTT → WiFi menu and set up Wi-Fi mode Client
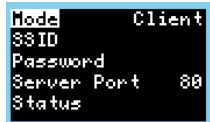
8) Verify in the menu SSID and Password the accuracy of the information
9) In the Status menu, if everything is correct, you'll find the "connected" status and IP address assigned by home router
10) Wifi/log → Logging menu and enable log mode via Wi-Fi and set up sample time 5s
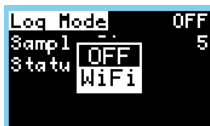
11) Check in the WiFi/Log → Logging → status menu the correct connection to server MQTT
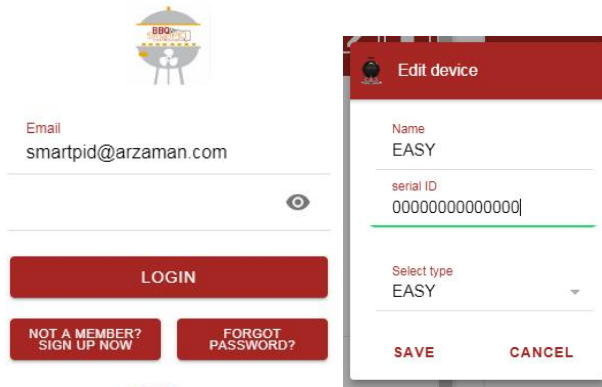

Smartphone / desktop remote management with Web App

For remote control via smartphone or pc desktop you need to open on the browser (chrome, mozilla, safari) the following link

https://mybbq.smartpid.com

1) Open the home page and Login

2) When you first open it, sign up entering your email and a personal password

3) With + key from the home page add your own controller assigning a name and entering the 14-digit serial number (value showed on start up screen) and selecting "Easy" type

At this stage the app is ready to use and on the main control panel it displays PIT channel temperature and related thresholds, fan speed and event notifications. In commands section you can change alarms, timer and force the fan pause status.
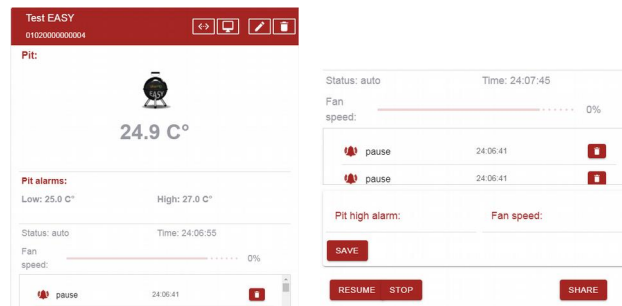

Similarly, you can change Kp Ki Kd PID parameters and min-max fan speed.

SmartPID BBQ Easy controller management, can be done not only with the web app, yet also with the three function buttons on the panel

- **UP/DOWN** → navigate through menus, change configuration parameters, increase and decrease temperature threshold values, change fan speed
- **SET** → confirm selections and access sub menu. Long press allows to go back to previous menu

Once the controller SmartPID BBQ is configured, you can access from the main menu to the two possible modes.

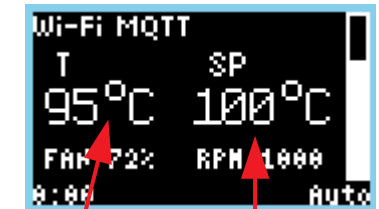1) **Manual** → PIT probe temperature is tracked and fan speed is manually adjusted
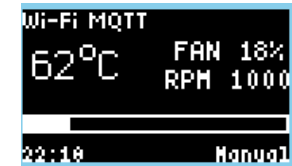
2) **Auto** → once fixed the PIT channel set point, fan is automatically controlled by the PID-PWM algorithm
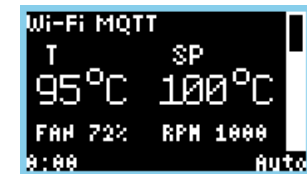
In operational mode various alphanumeric information is available on the display.

WiFi e MQTT connection

% FAN

RPM FAN

Clock   Notificattions   control mode

PIT temperature   Set Point PIT