

References:

**IOP of 09/08/2016**

Riferimenti:

Subject:

**102030 SPEEDY BOARD**

Oggetto:

Title:

**For Final Customer**

Titolo:

Notes:

Note:

**This document includes 45 pages**

Questo documento comprende 45 pagine

Author		Approved signature			
___/___/___		___/___/___		___/___/___	

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IOP - 102030 SPEEDY BOARD - Setup

## SCOPE:

This operating instruction is a guide for the user manual of the printer.

**The document is based on the firmware 2-0-8, Wi-Fi 0-60-0.**

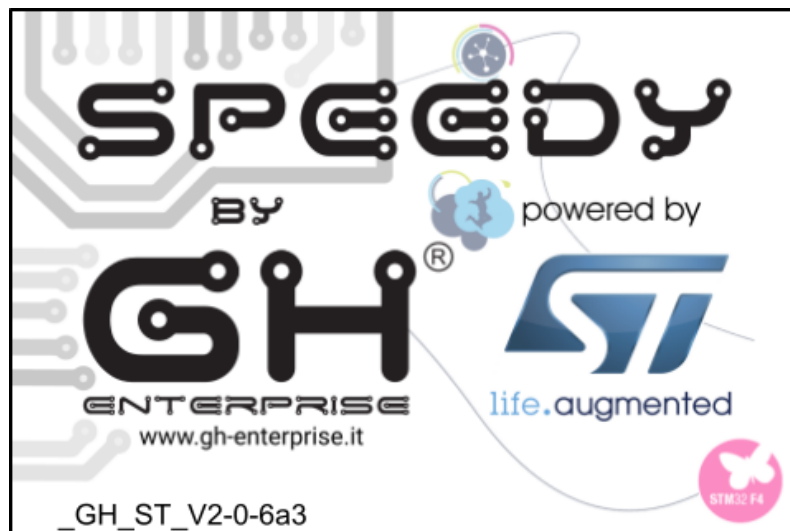
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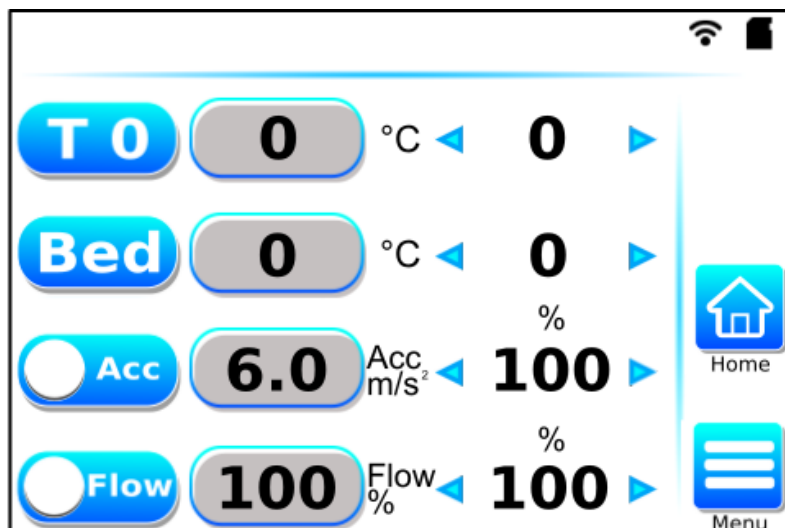
## PRINTING PROCEDURE

### START:

1. Power up the SPEEDY BOARD. The SPEEDY BOARD display show the SPLASH menu:



2. Wait 3 second and Tap anywhere.
3. The SPEEDY BOARD display show the DESKTOP menu:





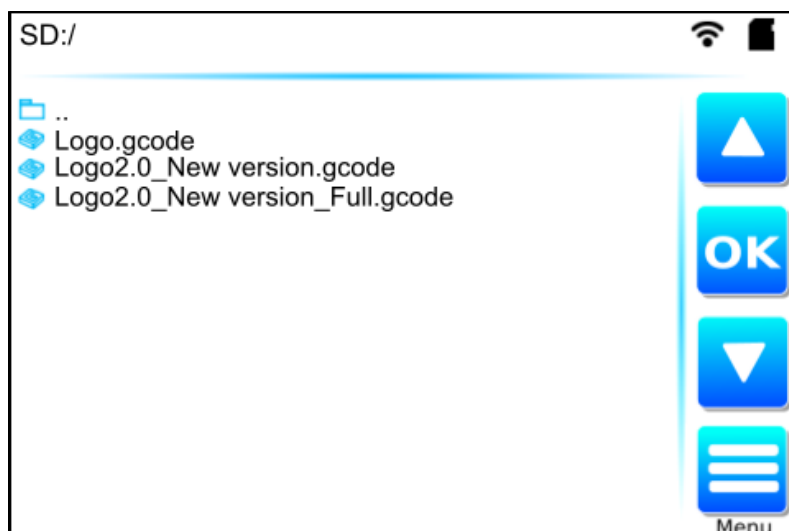
IOP - 102030 SPEEDY BOARD - Setup

### SELECT G CODE FILE:

- From DESKTOP screen, tap MENU key for go in MENU screen:



- Tap SD key for go in "SD" menu, choose the file that you want to print using "UP" and "DOWN" arrow key and tap "OK".



**The printer begin to warm up. The display show the desktop menu. The temperature number showed in the desktop menu will be in red when heater is ON.**

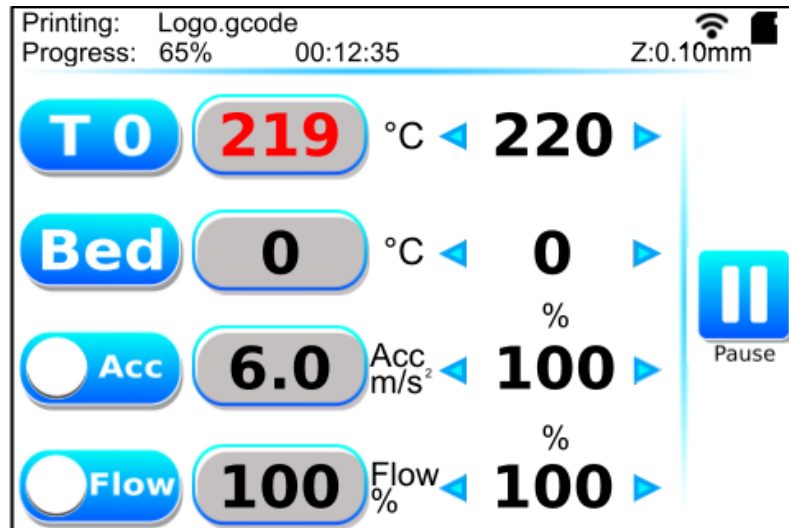
iop\_102030ForFinalCustomers\_V1-00.odt

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## IOP - 102030 SPEEDY BOARD - Setup

Do not tap “PAUSE” during the warming of the extrudes and bed, but only when the printer started to print.



All the printing parameters can be changed from the desktop menu: tap the arrows to change the set value, tap the “Acc” button to show the “Speed”, tap the “Flow” button to show the “Fan”.



IOP - 102030 SPEEDY BOARD - Setup

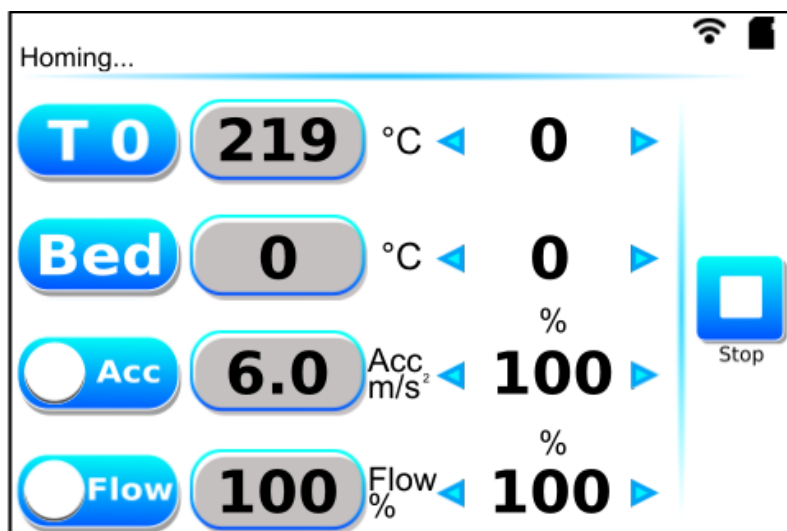
## PAUSE MENU

When the printer is printing, you can pause the printing job just tapping the “PAUSE” key.



## STOP & SAVE

If “STOP&PAUSE” is tapped, the printing job is stopped and saved. You can resume the saved printing job from menu “PREPARE”, “RESUME SAVED”.





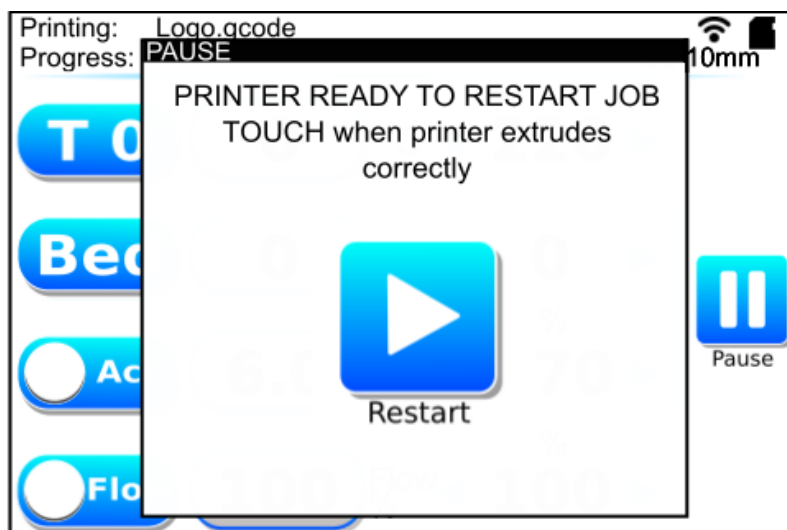
IOP - 102030 SPEEDY BOARD - Setup

### **RESTART:**

If tapped the printing job will restart.



For first the printer warm up the extrudes and bed.



Now the printer start to extrude slowly (this to be sure that the nozzle is not empty of material). Tap the display to restart the printing job.

### **CH FILAM:**

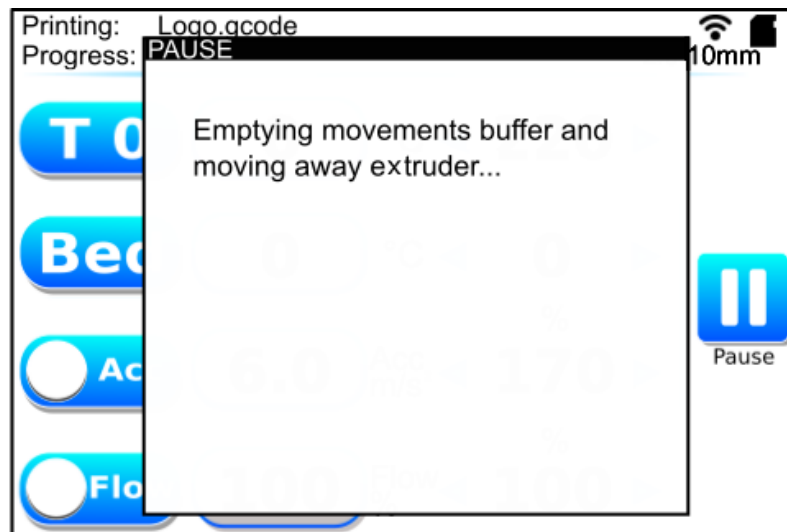
See page 14.

## SECURITY

### UPS

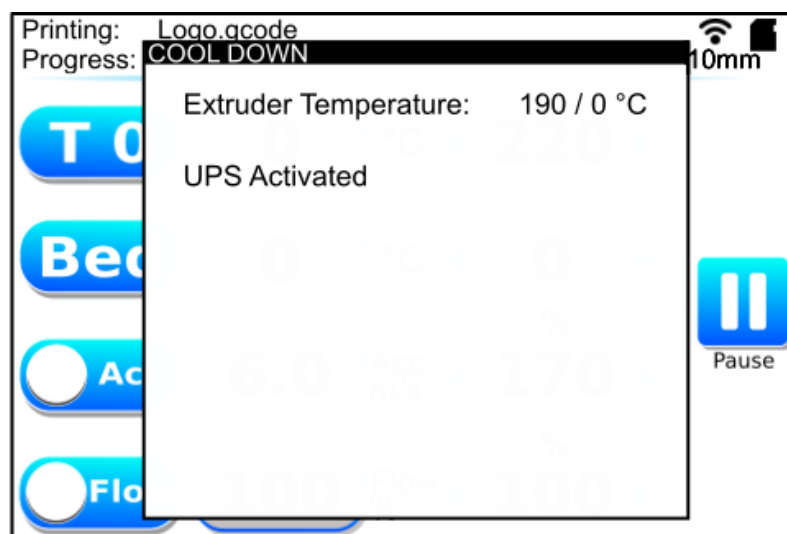
The UPS System work only if a correct battery is placed in the J68 connector. If the battery of the USP like system is present, when the power supply will go down during a print:

#### For the cartesian printer



The extruder will go in “PAUSE” position and the SPEEDY board save the printing job, then the printer will shut down.

#### For the delta printer



The extruder will go in “PAUSE” position and the SPEEDY board save the printing job, then the printer will perform the cool down (below 70°C), then the printer will shut down.



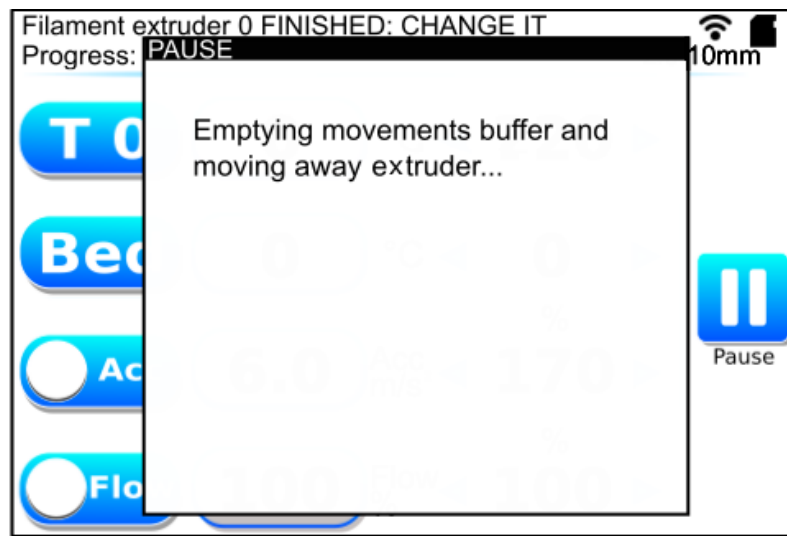
IOP - 102030 SPEEDY BOARD - Setup

**You can resume the printing job using the Resume key in the prepare menu.**

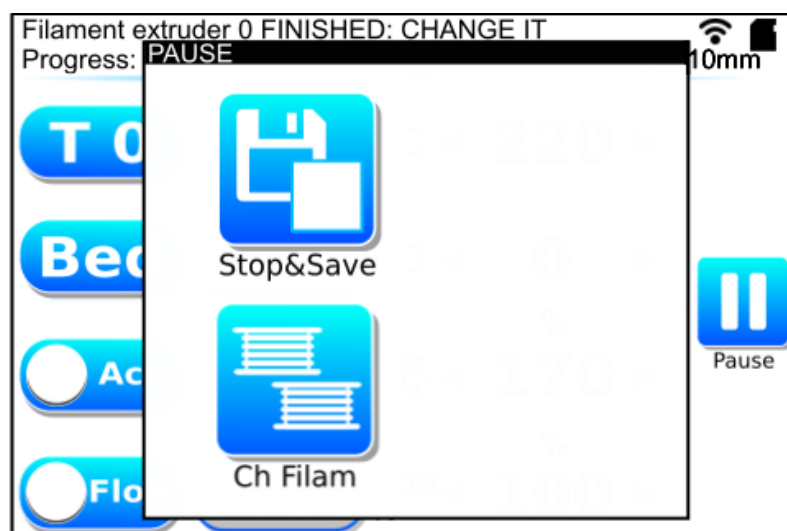
## **END FILAMENT**

If the printer has the sensor of end filament, when the filament end, the printer will do the following steps:

1. Pause with emptying buffer

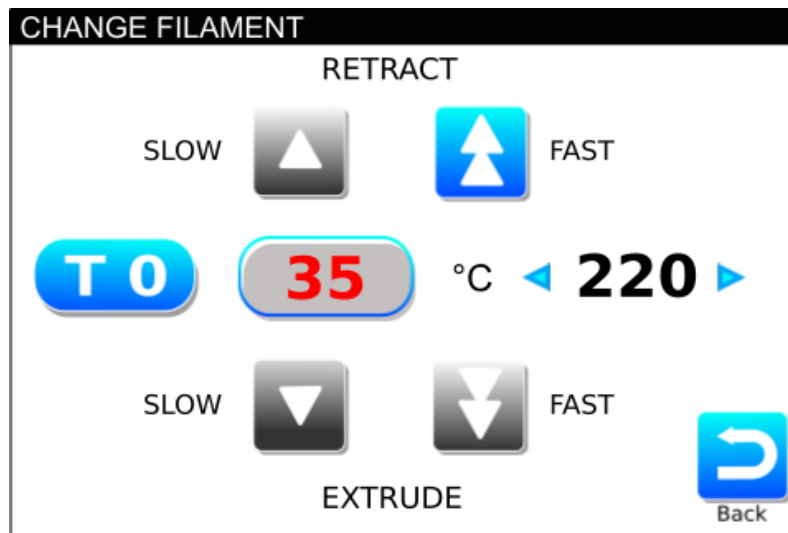


2. Pause position **without Restart key**

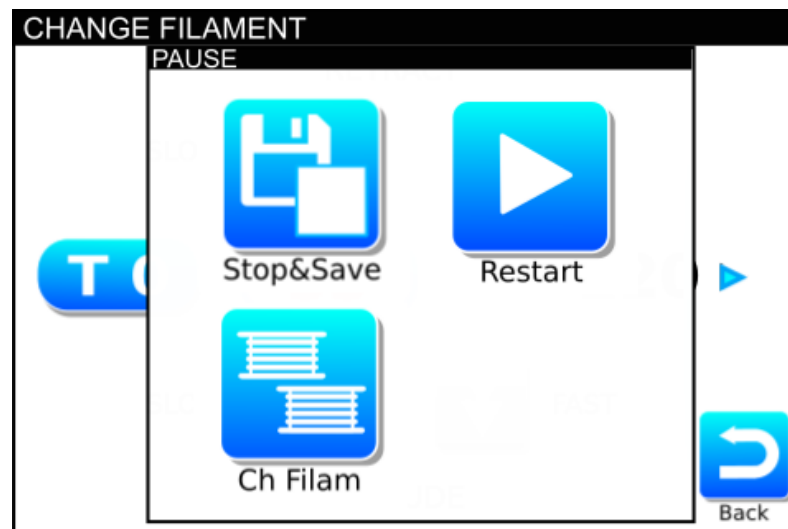


## IOP - 102030 SPEEDY BOARD - Setup

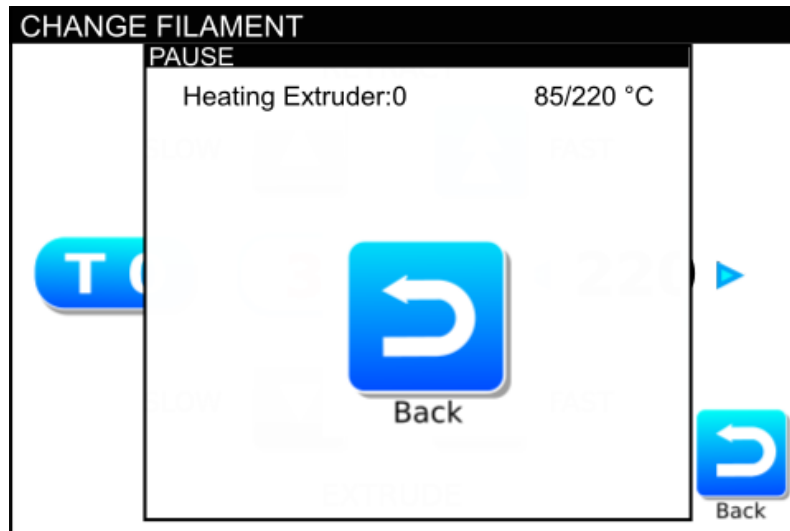
- To resume the printing job first tap Ch Filament key, and insert the new filament. See page 14.



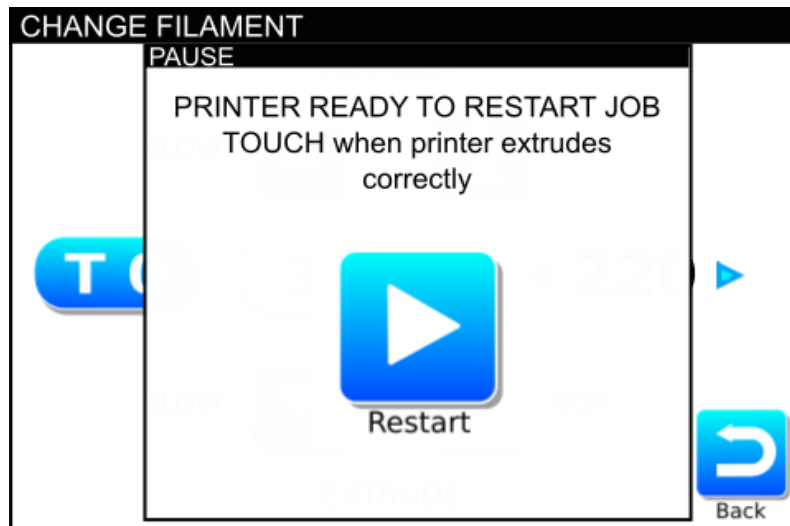
- Tap Back key and tap reappeared Restart key



5. For first the printer warm up the extrudes and bed.



6. Now the printer start to extrude slowly (this to be sure that the nozzle is not empty of material). Tap the display to restart the printing job.





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### **PREPARE MENU:**

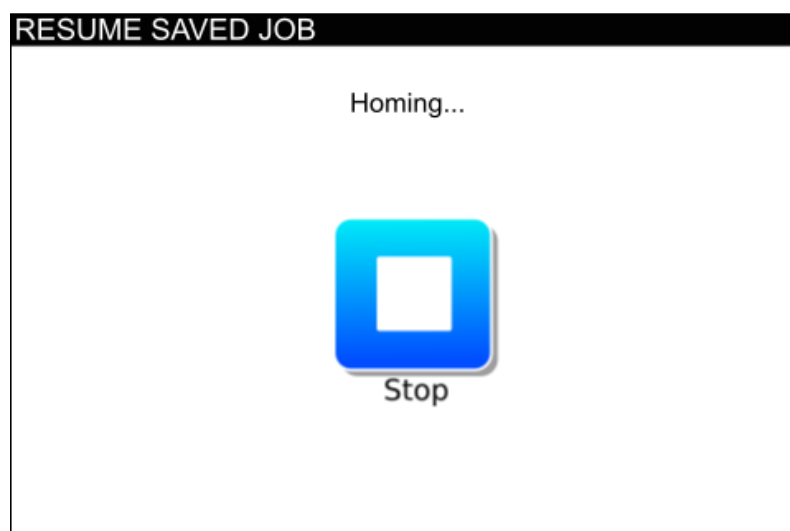
You can use the prepare menu when the printer is in stand by (not available during print)



### **RESUME:**

1. The RESUME key resume the last saved printing job. When tapped:

For first the print will make the home

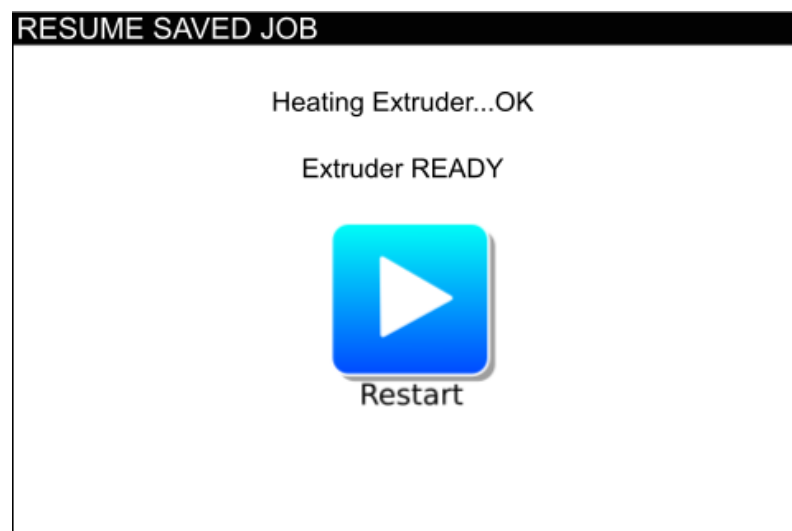




IOP - 102030 SPEEDY BOARD - Setup  
Then the printer warm up the temperatures



When temperatures have reached the target, the display show the following:



Now the printer start to extrude slowly (this to be sure that the nozzle is not empty of material). Tap the display to restart the printing job.



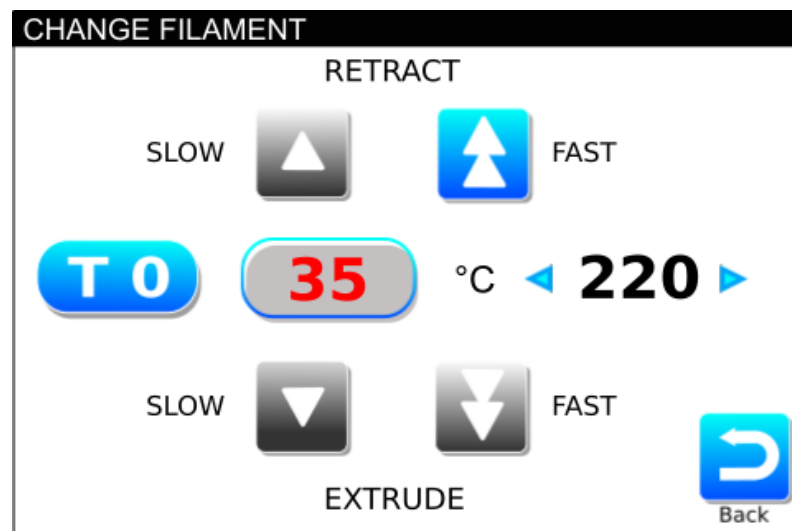
IOP - 102030 SPEEDY BOARD - Setup

### CH FILAM:

- The CH FILAM key is a command for change the filament. When tapped, the printer will warm up the extruder to the target temperature (you can change it):

- Down Arrows** control the **incoming filament**, one arrow = slow, Two arrows = fast. (the speed for fast is the max E speed, it can be set in the control>speeds menu. The speed for slow is the fast/10).

- Up Arrows** control the **outgoing filament**, one arrow = slow, Two arrows = fast. (the speed for fast is the max E speed of E, it can be set in the control>speeds menu. The speed for slow is the fast/10).



When the command is inactive the key is **grey**. The commands will be active when the temperature is around 10°C from the setted temperature. With one tap the command is activated, if tapped again it return inactive.

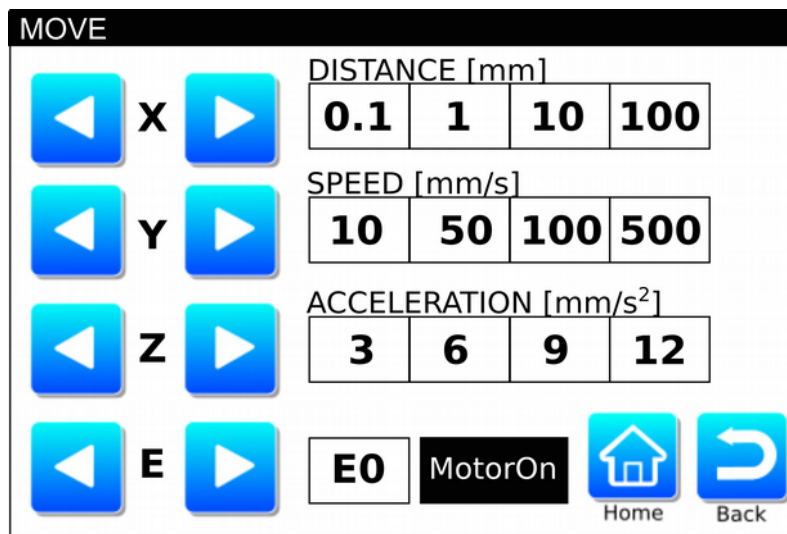
#### **Advice:**

When the filament is near to the extruder, use the SLOW key.

**MOVE:**

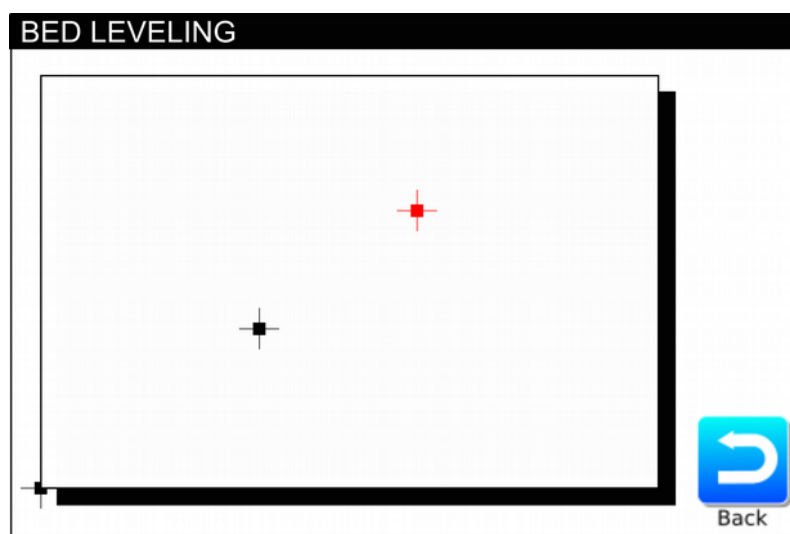
1. The MOVE key open another screen where you can control manually the movement and speed of the X, Y e Z and Extrusion.

The MOTOR ON/OFF key will **activate** or disable **the motors**.

**BED LEVEL:**

2. The BED LEVEL is a touch system assisted bed level:

Touch inside the area of the display, then the extruder will move at the desired location.





IOP - 102030 SPEEDY BOARD - Setup

## **CONTROL:**

This part is described in a different document (iop\_102030setup\_V1-05)

## **INFO:**

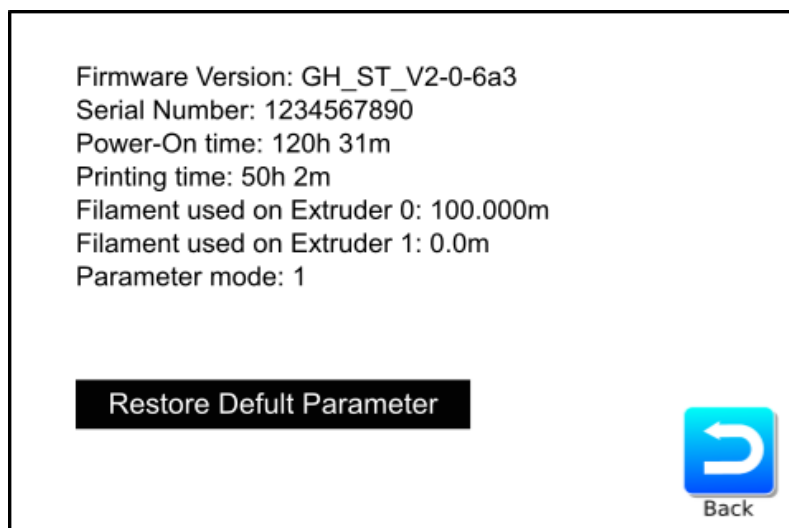
In the INFO menu there are some information about the printer:

- a. Firmware version
- b. Serial Number
- c. Power-On time
- d. Printing time
- e. Filament used on Extruder 0
- f. Filament used on Extruder 1
- g. Parameter mode

Tap anywhere on the SPLASH to enter the information section



**If you tap “Restore Default Parameter” key, all parameters return as factory set-up.**



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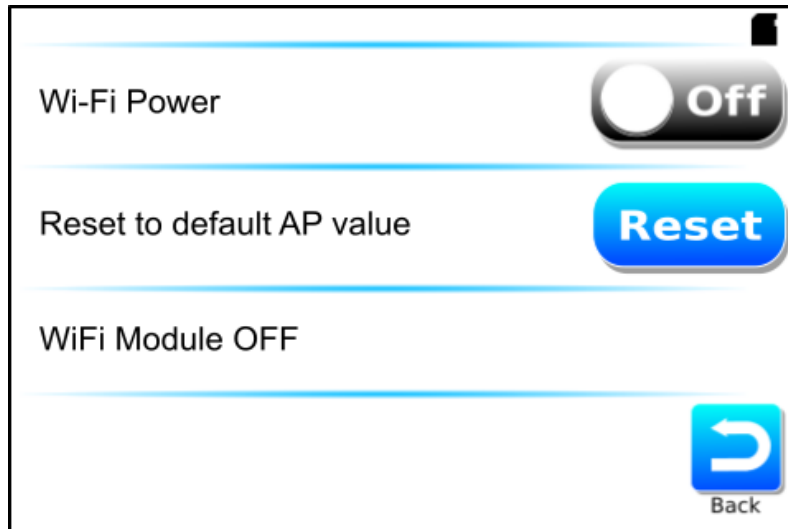


IOP - 102030 SPEEDY BOARD - Setup

### Wi-Fi

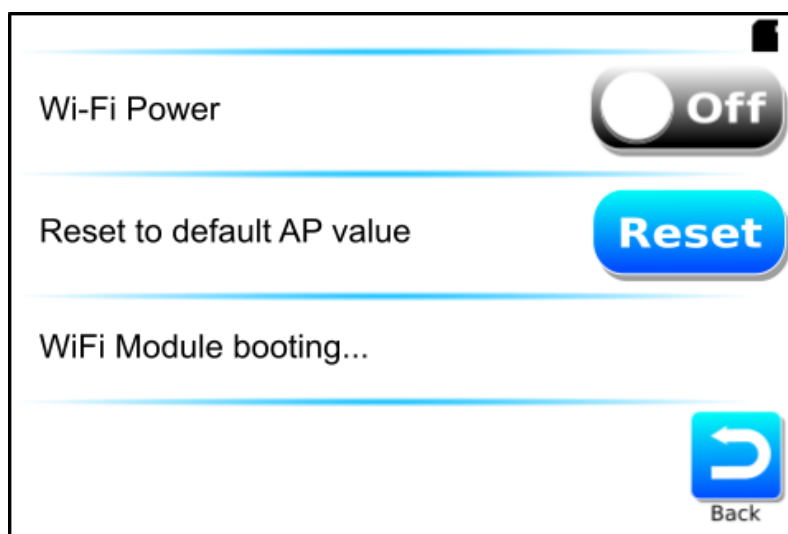
Wi-Fi version: V0-60-0

In Menu, tap on “Wi-Fi” key.



Tap “Off” key to start the Wi-Fi activation process.

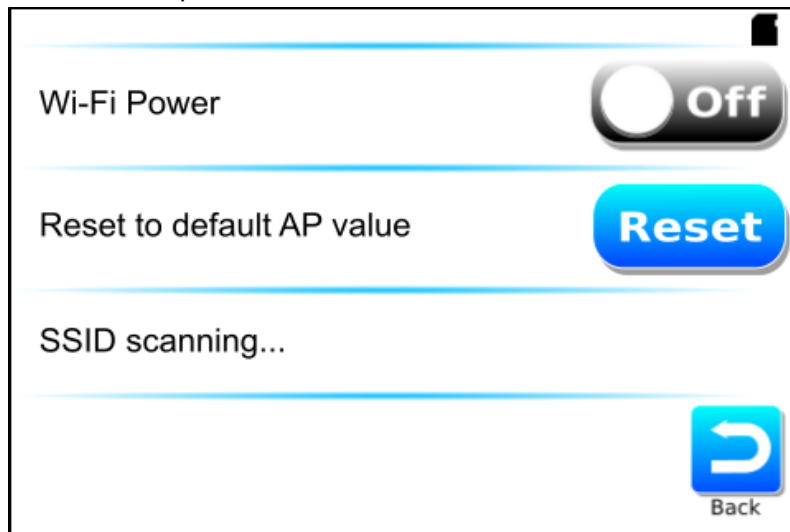
1



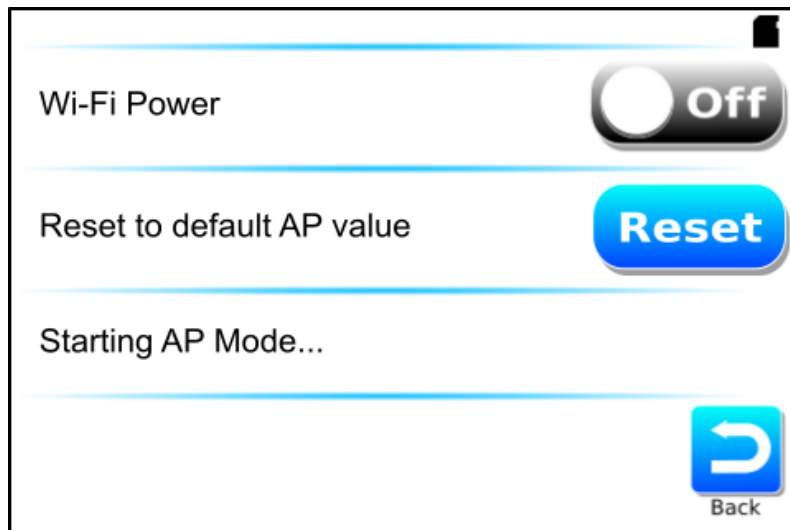


IOP - 102030 SPEEDY BOARD - Setup

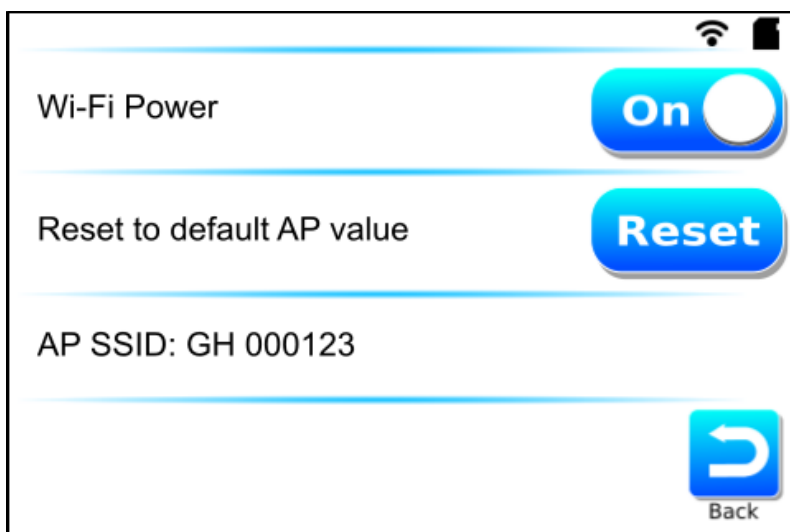
2



3



Wi-Fi enabled



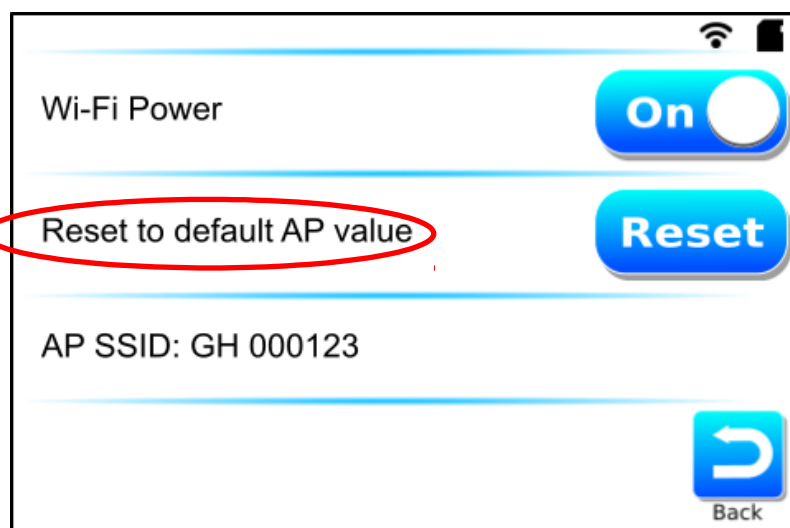


IOP - 102030 SPEEDY BOARD - Setup

## ACCESS POINT

### **CONNECT THE PRINTER TO YOUR DEVICE (I-phone, Android Phone, Tablet, PC, Mac book...)**

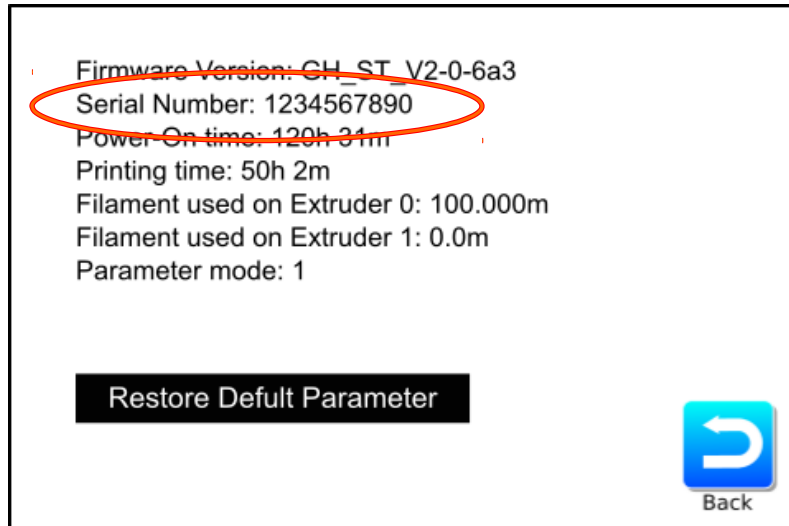
To connect your device to the printer, open the wireless Connection with the same SSID found in Wi-Fi screen on the touch screen display.



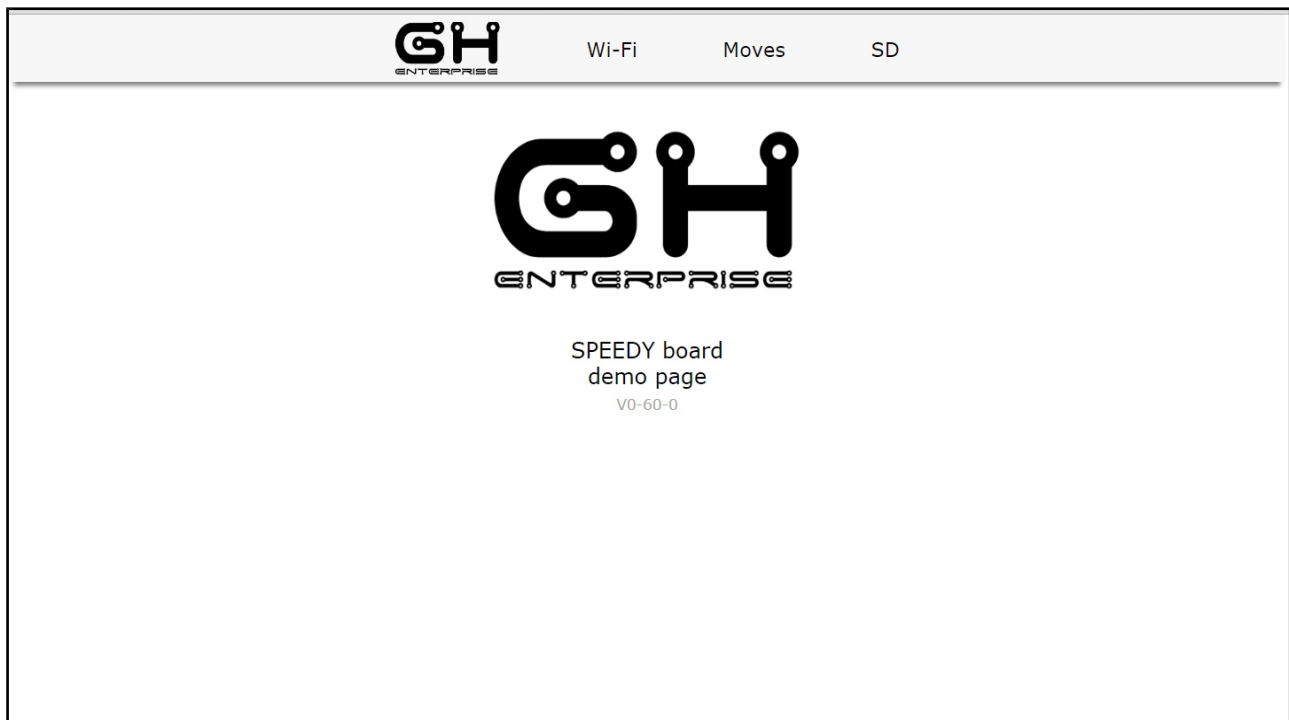


IOP - 102030 SPEEDY BOARD - Setup

The default password to connect to the printer is the Serial Number of the SPEEDY board. You can find it in the "INFO" menu.



When your device is connected to the SPEEDY board, the printer page will be automatically loaded:



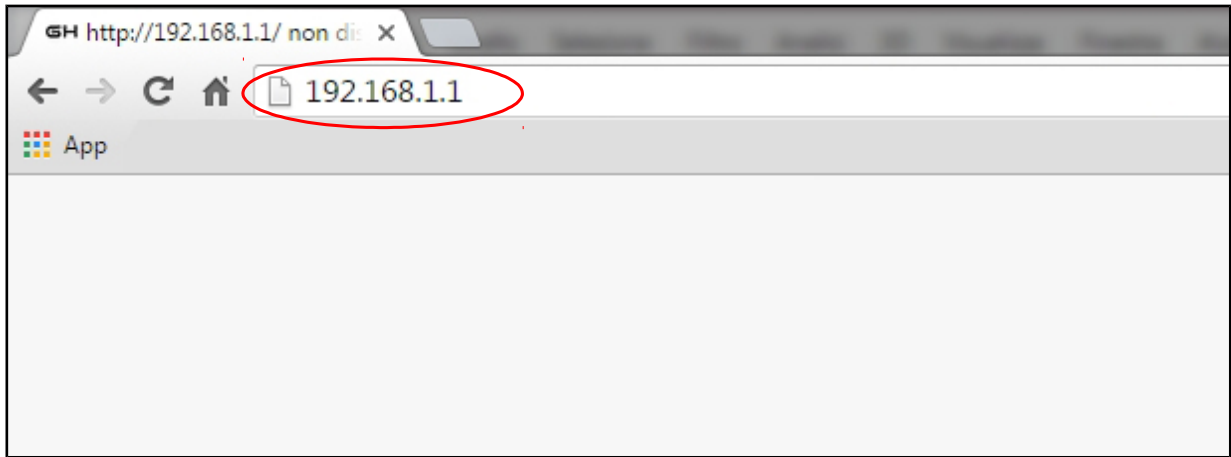


IOP - 102030 SPEEDY BOARD - Setup

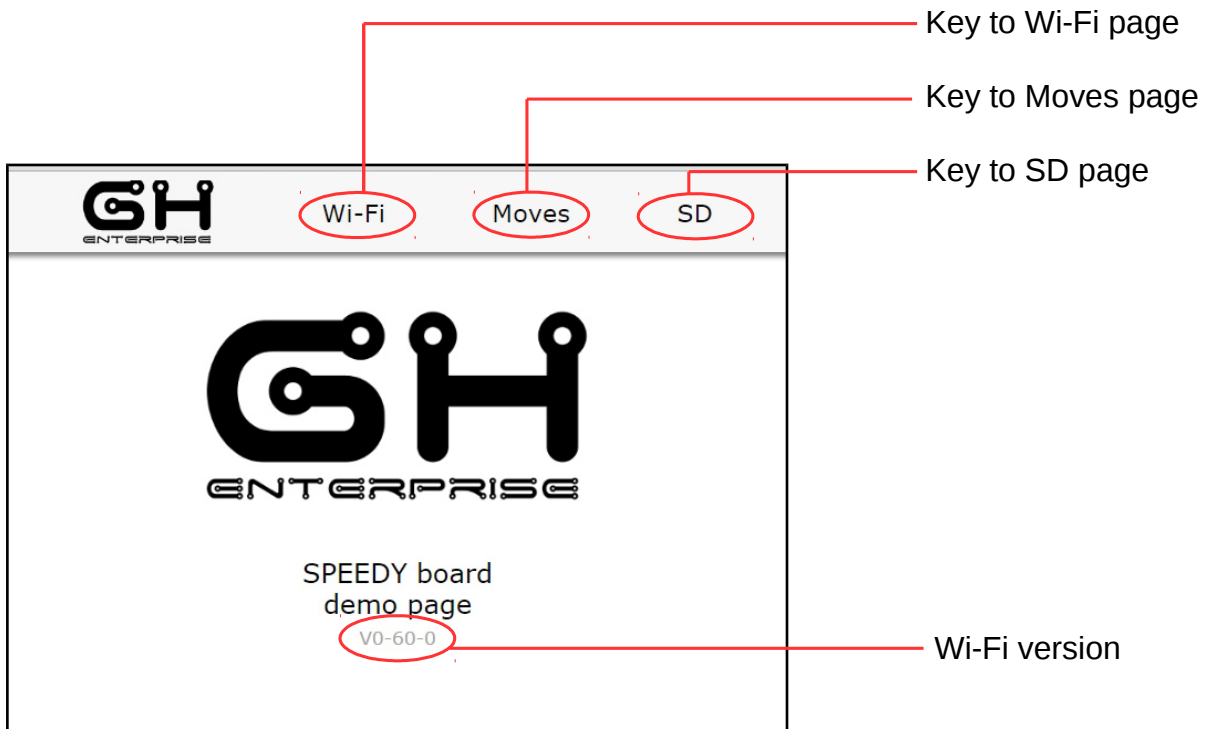
**ATTENTION**

**If the page doesn't open automatically, open your browser and digit in the search space:**

**192.168.1.1**



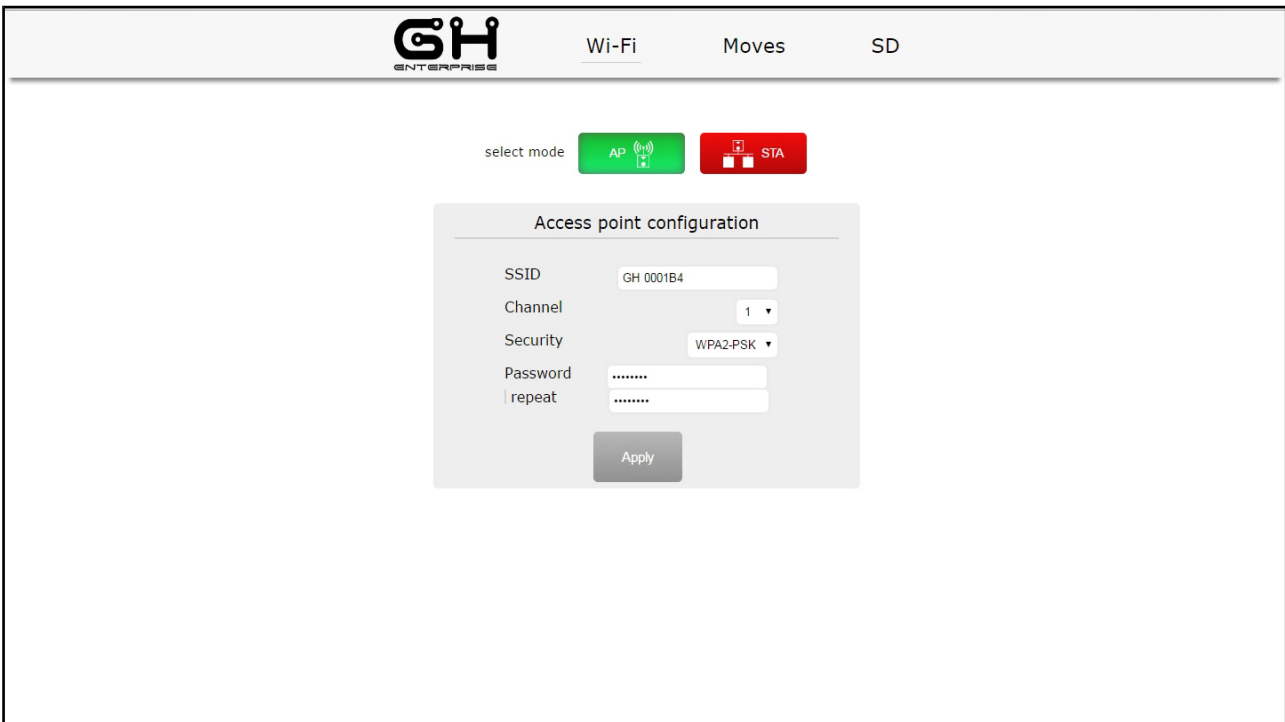
Tap "ENTER" or "SEARCH" to open the printer page.





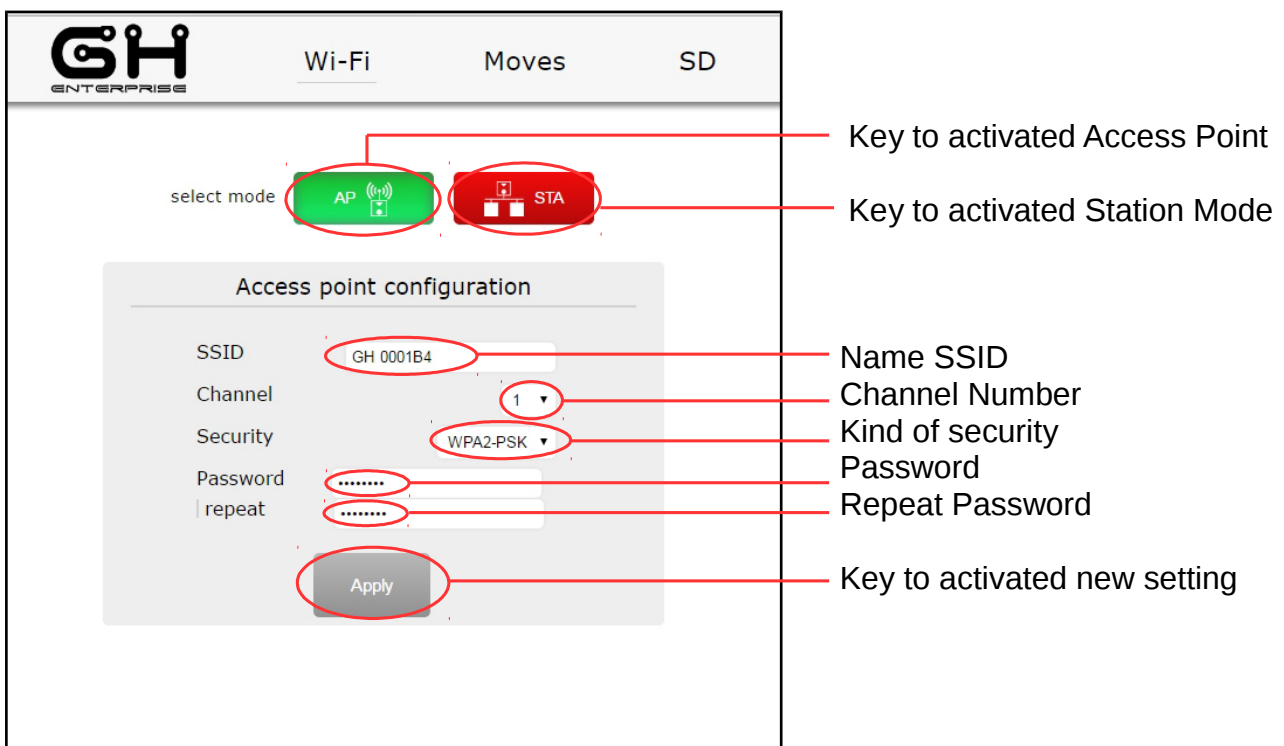
IOP - 102030 SPEEDY BOARD - Setup

**Wi-Fi page**



In this page you can configure Wi-Fi Access Point or Station Mode.

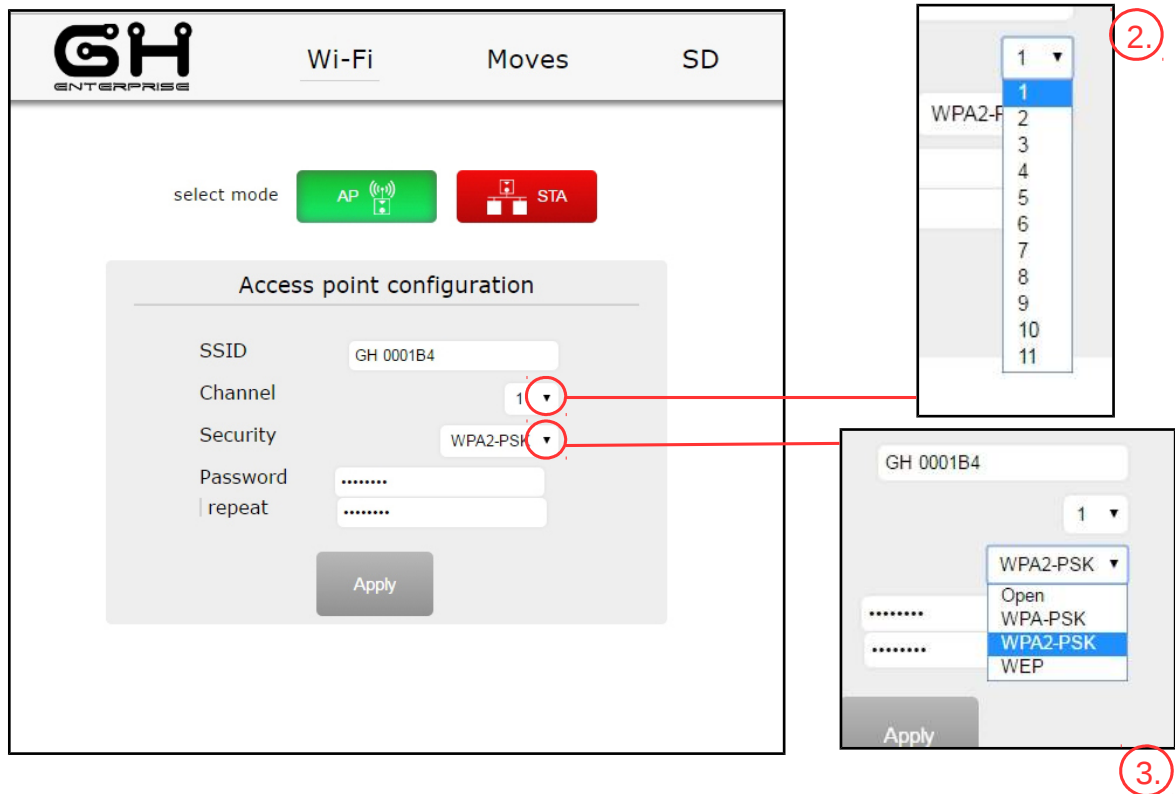
You can change SSID, Password, Channel, Security and with the Apply Key you can save changes, active once released and returned from the internet.





IOP - 102030 SPEEDY BOARD - Setup

## Change parameter procedure



1. **change SSID** – digit in SSID box new SSID name.
2. **change CHANNEL** – choose new number, tap on down arrow
3. **change SECURITY** – choose new type, tap on down arrow
4. **change PASSWORD** – digit new password in password box and repeat it in repeat box.
5. **tap Apply key**



IOP - 102030 SPEEDY BOARD - Setup

6. wait the end of the countdown...



until it appears



7. now see page 19 to reconnected manually with new parameter





IOP - 102030 SPEEDY BOARD - Setup

**STATION MODE PROCEDURE**

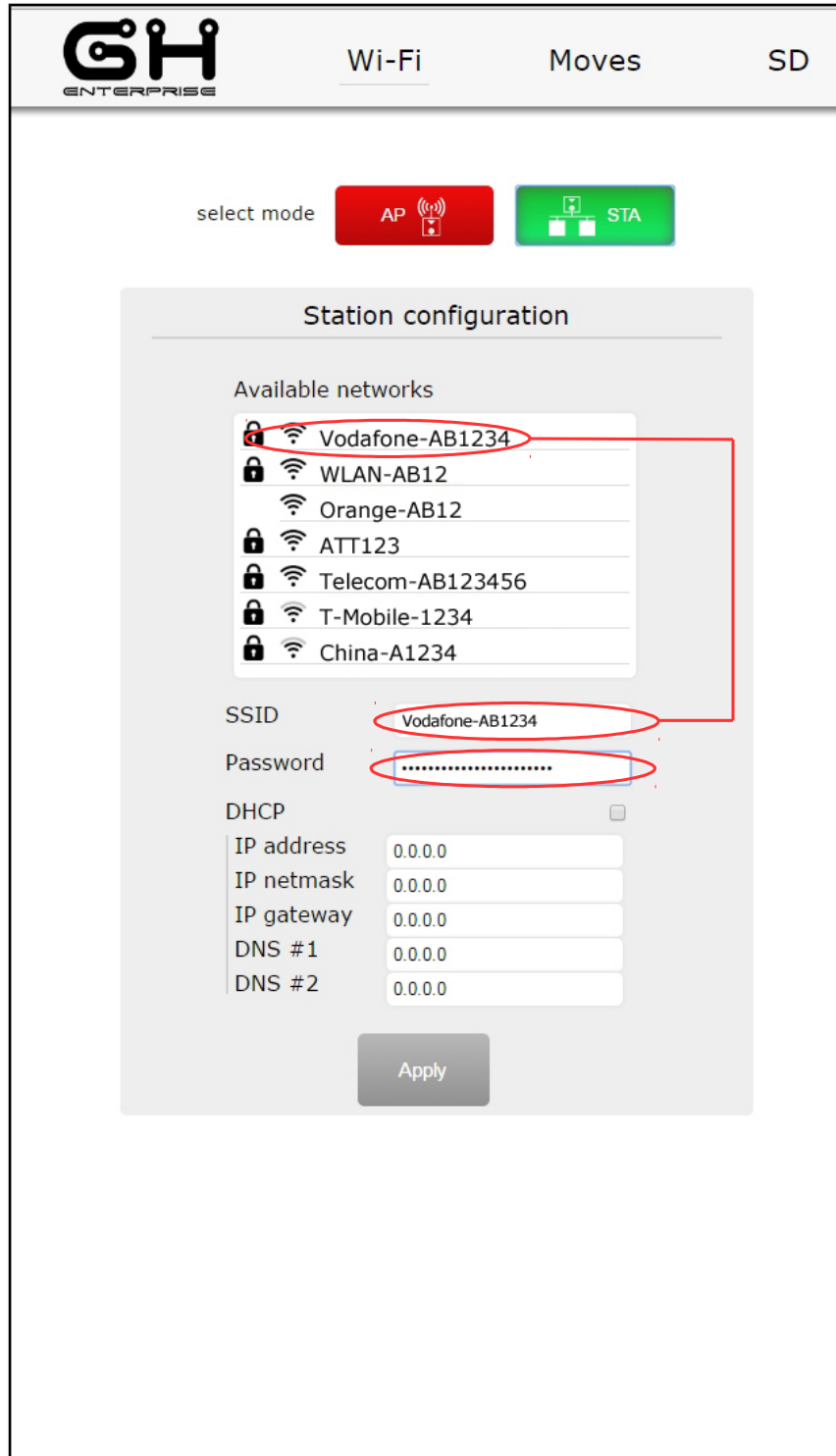
To the Wi-Fi page tap “STA” key for activate the Station Mode.

The screenshot shows the GH Enterprise Wi-Fi configuration page. At the top, there are tabs for 'Wi-Fi', 'Moves', and 'SD'. Below the tabs, there is a 'select mode' section with two buttons: 'AP' (Access Point) and 'STA' (Station Mode). The 'STA' button is highlighted with a red circle and labeled 'Key to activate Station Mode'. Below this is the 'Station configuration' section, which includes a list of 'Available networks' (Vodafone-AB1234, WLAN-AB12, Orange-AB12, ATT123, Telecom-AB123456, T-Mobile-1234, China-A1234), a text box for 'SSID', a text box for 'Password', and a 'DHCP' section with fields for 'IP address', 'IP netmask', 'IP gateway', 'DNS #1', and 'DNS #2'. The 'DHCP' section has a checkbox that is checked. At the bottom of the configuration section is an 'Apply' button. Red circles and lines highlight these elements, with labels on the right: 'Key to activate Access Point' (pointing to the AP button), 'Key to activate Station Mode' (pointing to the STA button), 'Area with Wi-Fi network to choose' (pointing to the list of available networks), 'Box for SSID, this place fills up automatically when chooses the network' (pointing to the SSID text box), 'Box for network password' (pointing to the Password text box), 'Set if network's DHCP is enabled' (pointing to the DHCP checkbox), 'Box to digit custom network configuration if DHCP is disabled' (pointing to the DHCP input fields), and 'Key to activated Station Mode' (pointing to the Apply button).



IOP - 102030 SPEEDY BOARD - Setup

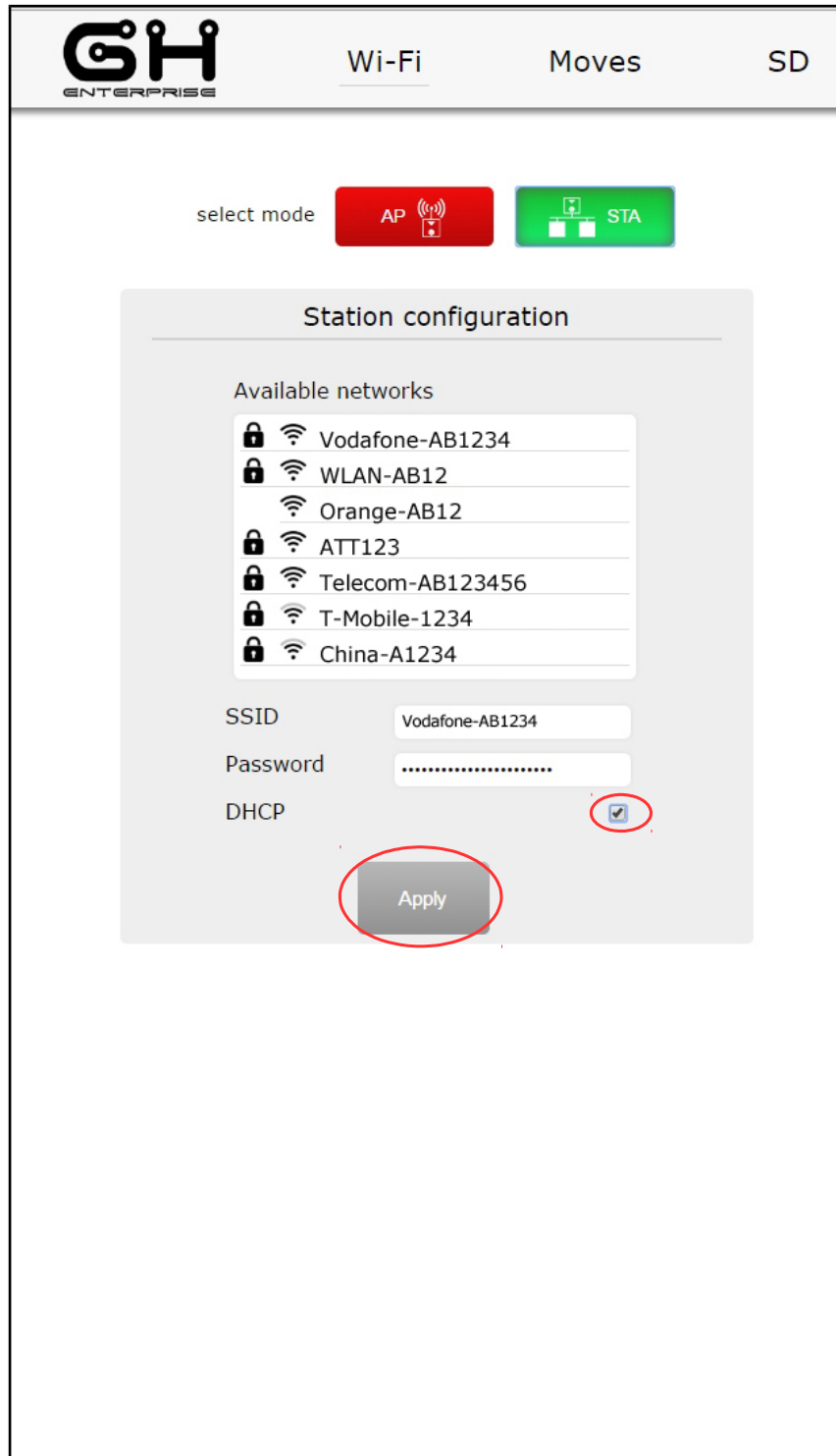
1. select the Wi-Fi network to connect, and write its password





IOP - 102030 SPEEDY BOARD - Setup

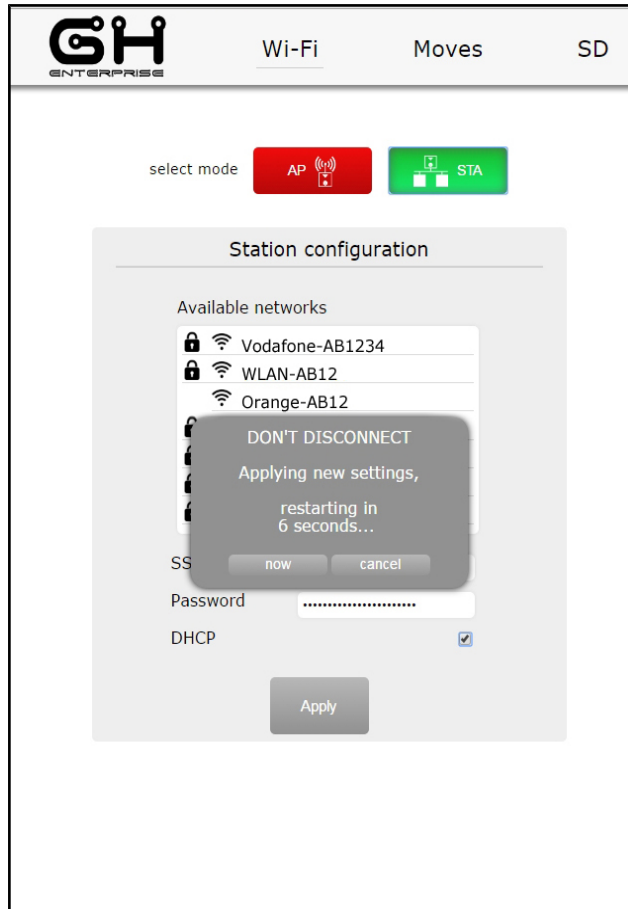
2. Select automatic DHCP or digit custom DHCP, and tap on Apply key





IOP - 102030 SPEEDY BOARD - Setup

3. wait the end of the countdown...



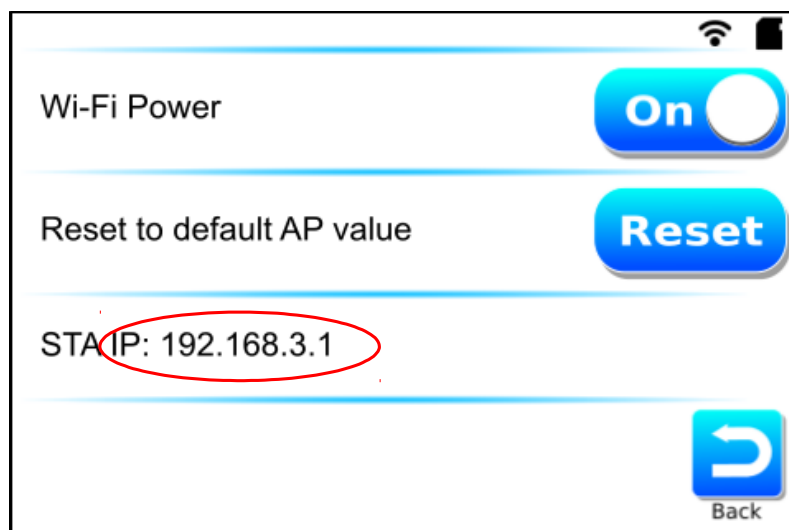
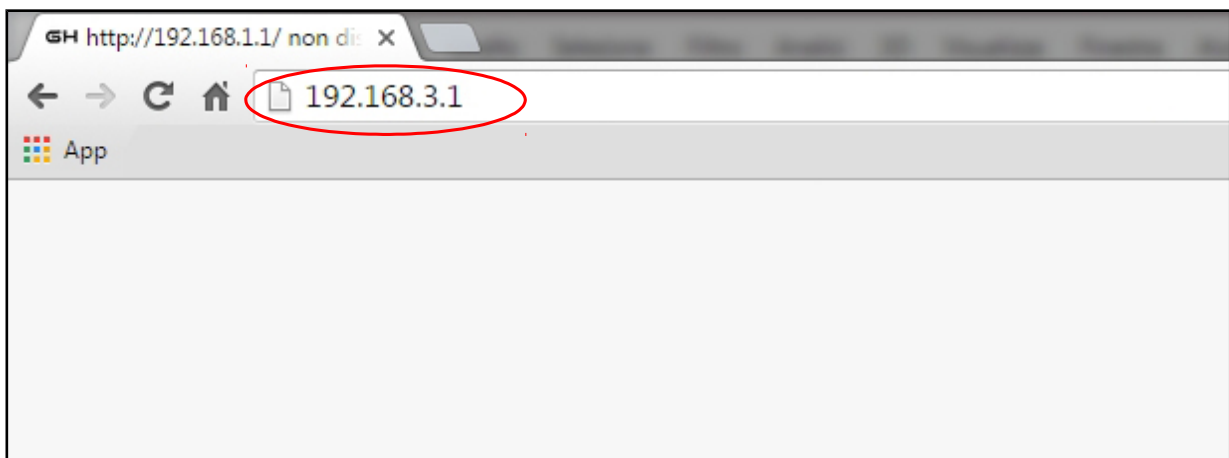
until it appears





## IOP - 102030 SPEEDY BOARD - Setup

4. close your browser
5. connect your device to same Wi-Fi SSID for the printer
6. open your browser
7. digit in search space the IP address present on the printer touch screen's Wi-Fi menu



the printer page will be automatically loaded



IOP - 102030 SPEEDY BOARD - Setup

**MOVE PAGE**

Wi-Fi
Moves
SD

ready	H0	Bed	Flow	Speed	Acc	Fan	Z pos	 detected
	0°	0°	%	mm/s	mm/s <sup>2</sup>		mm	
	30°	28°	100	200	9000	0	0.0	

MotorsON

●

XY

50mm/s

Z

10mm/s

E

10mm/s

100 X-

10 X-

1 X-

0.1 X-

0.1 X+

1 X+

10 X+

100 X+

100 Y-

10 Y-

1 Y-

0.1 Y-

0.1 Y+

1 Y+

10 Y+

100 Y+

100 Z-

10 Z-

1 Z-

0.1 Z-

0.1 Z+

1 Z+

10 Z+

100 Z+

Home XYZ

20 E-

10 E-

5 E-

2 E-

1 E-

1 E+

2 E+

5 E+

10 E+

20 E+

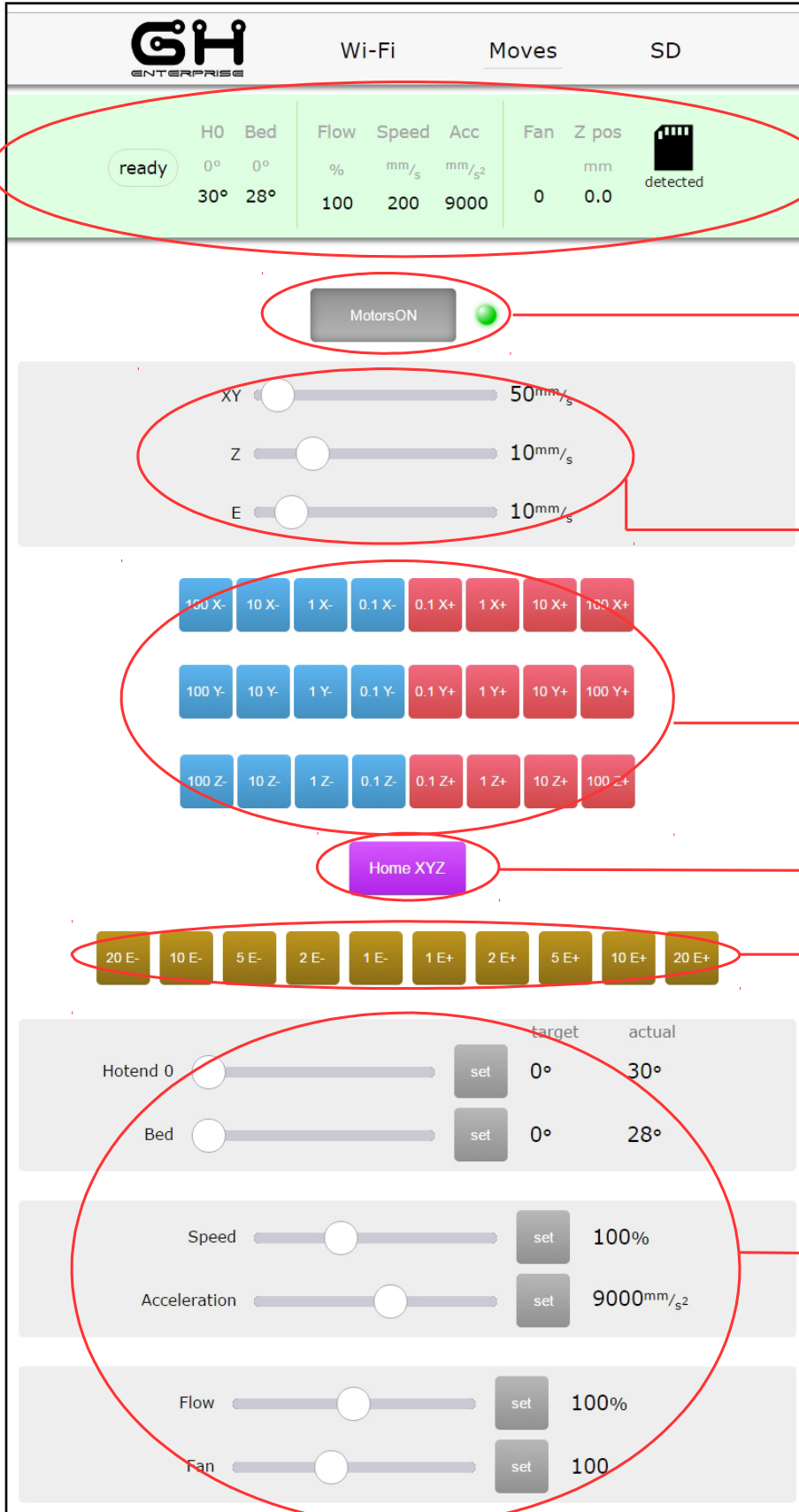
		target	actual
Hotend 0	<input type="range"/>	0°	30°
Bed	<input type="range"/>	0°	28°

Speed	<input type="range"/>	100%	
Acceleration	<input type="range"/>	9000mm/s <sup>2</sup>	

Flow	<input type="range"/>	100%	
Fan	<input type="range"/>	100	



IOP - 102030 SPEEDY BOARD - Setup



Status bar

Key to turn on or turn off the motors

Motors speed

Keys to move the axes

Key to Home

Key to extrude

Key to change the temperature, speed, acceleration, flow and fan.

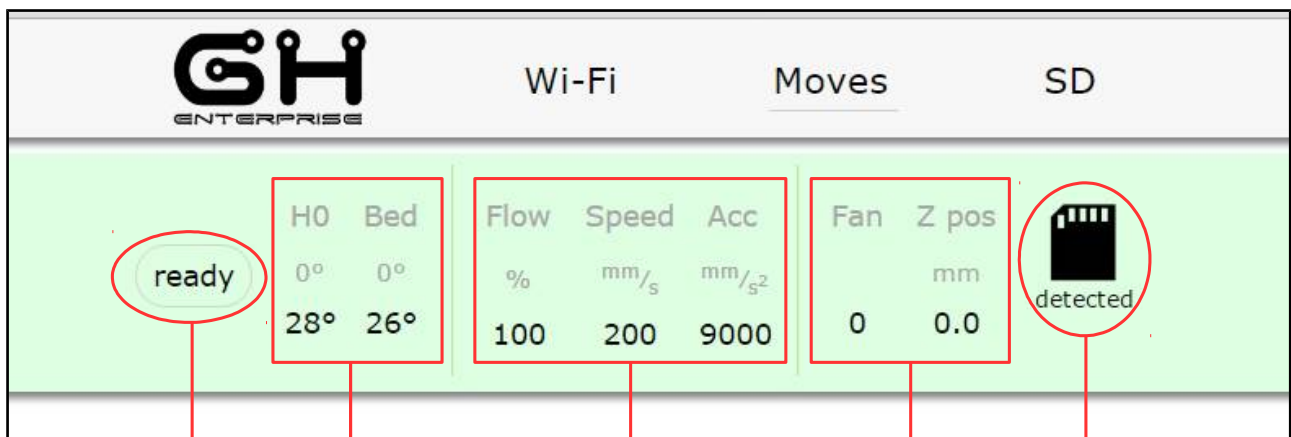
Tap on "Set" key to apply the new parameters.



IOP - 102030 SPEEDY BOARD - Setup

**STATUS BAR**

At the top of the SD Page and in Move Page, there is the Status bar, in this place it is indicated the printer status:



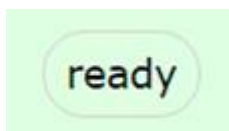
Temperature  
-grey number is a target temp.  
-black number is real temp.

Flow, Speed, Acc

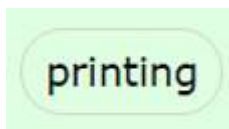
Fan, Z position

Icon indicating that the SD Card is present or not

Icon indicating the status of the printer



The printer is ready



The printer is printing



The printer is paused



The SD is insert in the printer

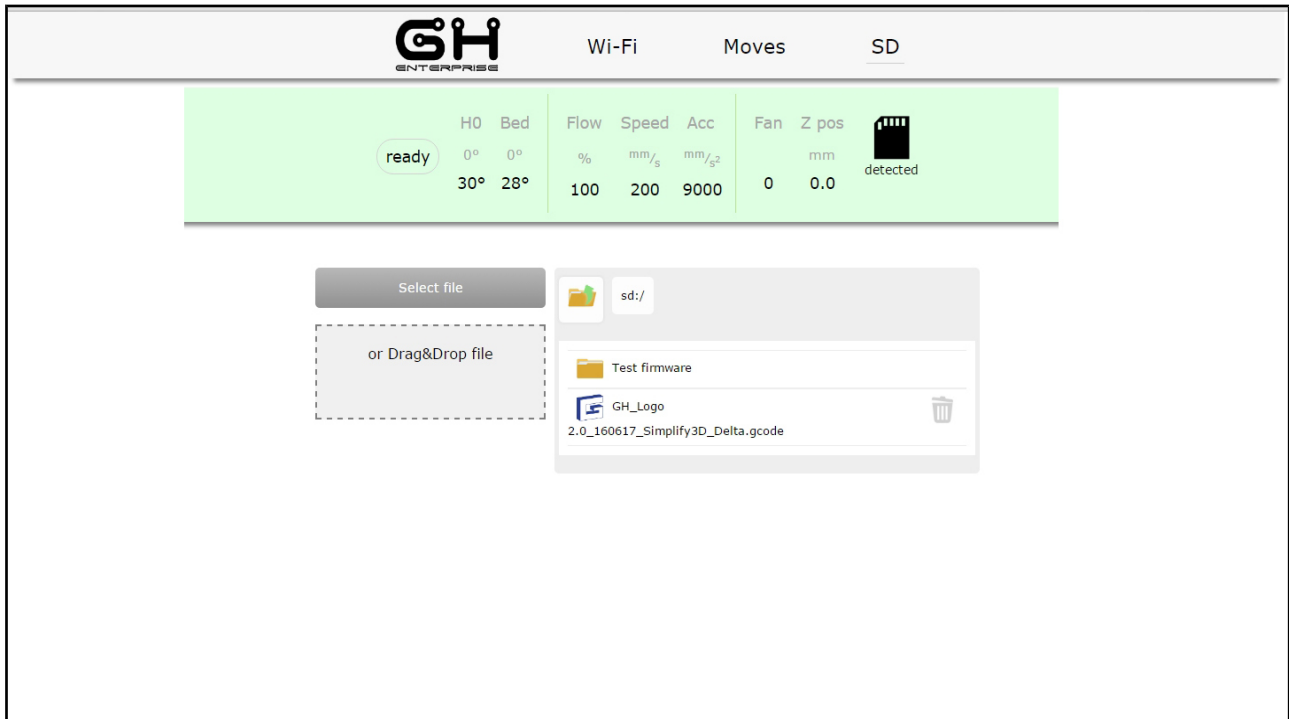


The SD is not insert in the print





## IOP - 102030 SPEEDY BOARD - Setup

**SD PAGE**

In SD page you can control the files saved in SD memory:

- You can **START A PRINTING JOB**;
- You can **UPLOAD A FILE**;
- You can **DELETE A FILE**.



iop\_102030ForFinalCustomers\_V1-00.odt

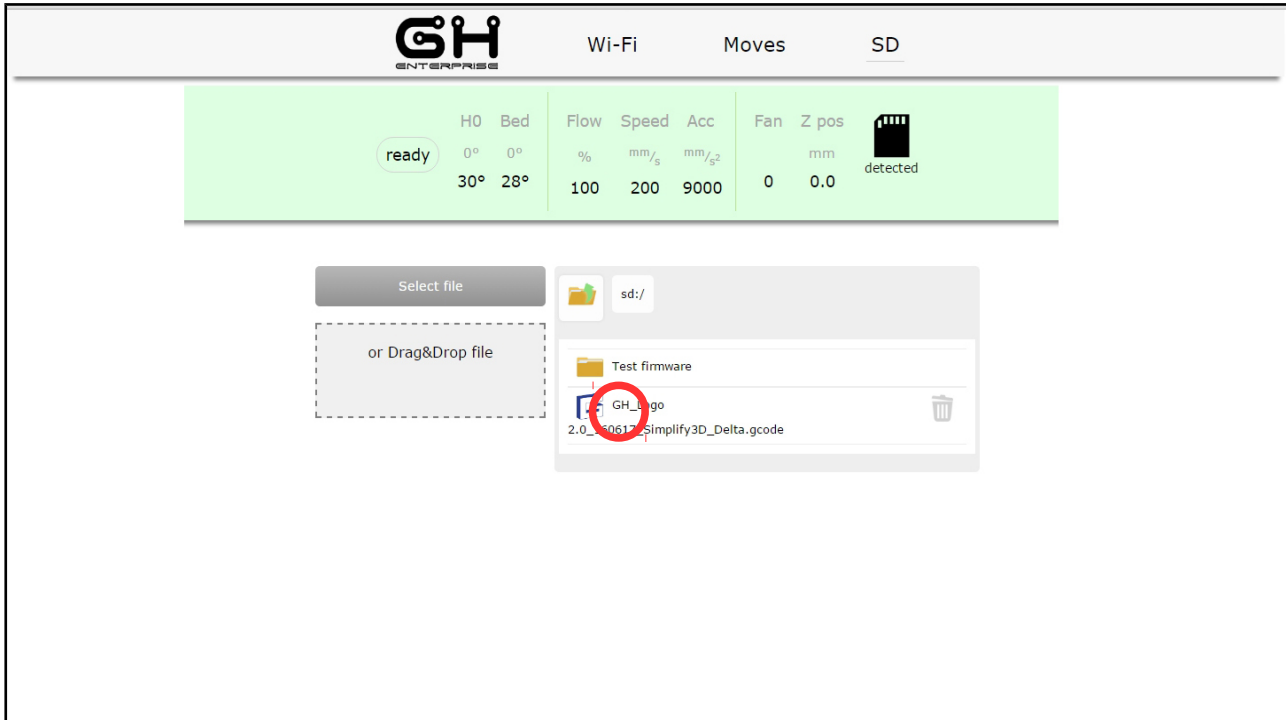
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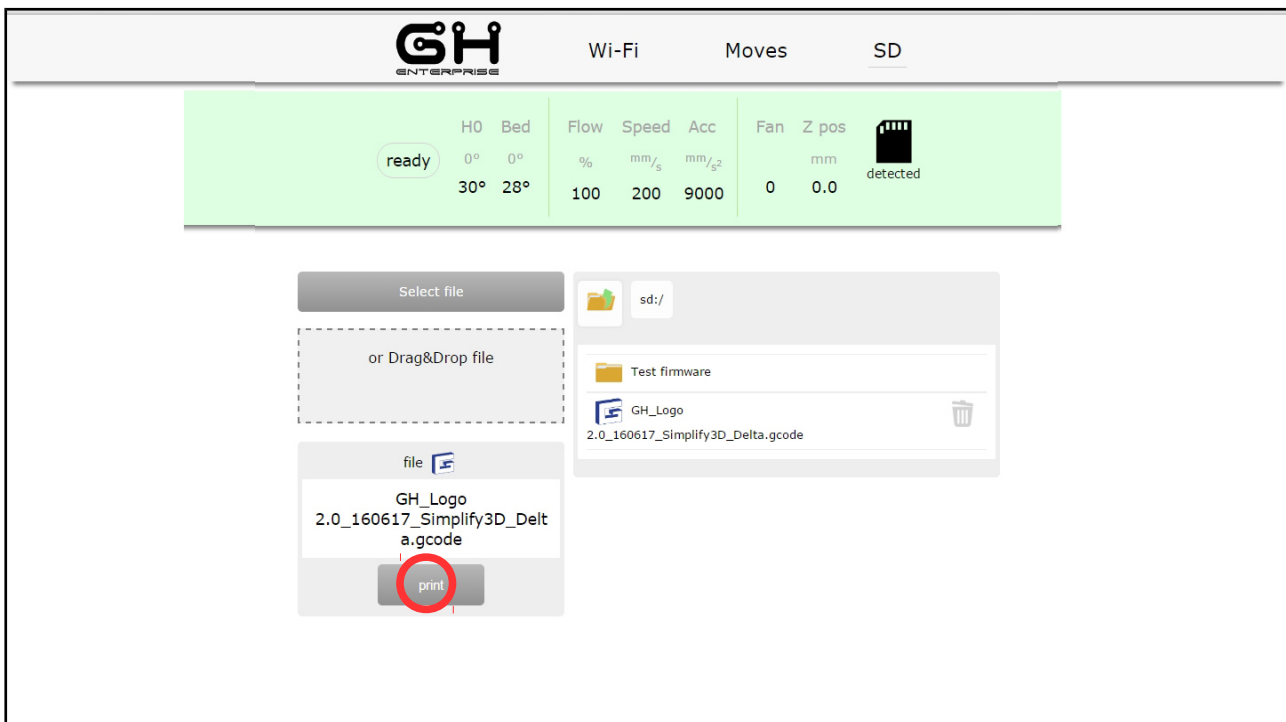
IOP - 102030 SPEEDY BOARD - Setup

## PRINTING PROCEDURE

### 1. Tap on the g code



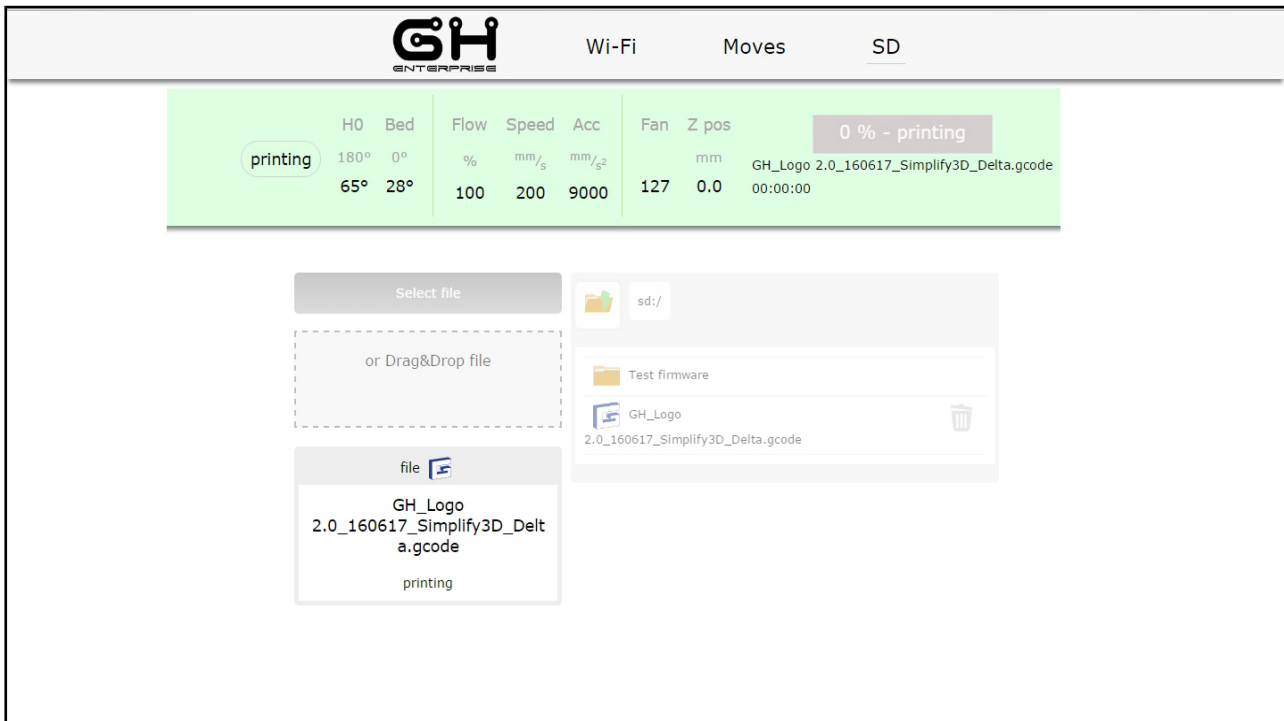
### 2. So appears the screen with a print key





IOP - 102030 SPEEDY BOARD - Setup

### 3. Tap on Print key to start printing



#### In printing status:

In SD Page:

- Can't upload or print a new g code file, so the SD part is locked
- Temperature target number on the status bar showing print temperature

In Move Page:

- The moving axes keys are locked
- Can use only slicing button to change print parameter

In Status Bar

- Instead of "ready", "printing" appears
- Instead of "SD" icon appears a **green bar** indicating the percentage of the printing



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Wi-Fi
Moves
SD

printing	H0	Bed	Flow	Speed	Acc	Fan	Z pos	34 % - printing
	180°	0°	%	mm/s	mm/s <sup>2</sup>	mm	mm	
	180°	30°	100	50	3000	255	1.8	GH_Logo 2.0_160617_Simplify3D_Delta.gcode 00:10:55

MotorsON

●

XY

50mm/s

Z

10mm/s

E

10mm/s

100 X-

10 X-

1 X-

0.1 X-

0.1 X+

1 X+

10 X+

100 X+

100 Y-

10 Y-

1 Y-

0.1 Y-

0.1 Y+

1 Y+

10 Y+

100 Y+

100 Z-

10 Z-

1 Z-

0.1 Z-

0.1 Z+

1 Z+

10 Z+

100 Z+

Home XYZ

20 E-

10 E-

5 E-

2 E-

1 E-

1 E+

2 E+

5 E+

10 E+

20 E+

	target	actual
<span>Hotend 0</span> <input style="width: 80%;" type="range"/> <div style="text-align: right;"> <div style="border: 1px solid gray; padding: 2px 5px; background-color: #ccc; margin-right: 5px;">set</div> <span>0°</span> </div> <div style="text-align: right;"> <span>30°</span> </div>		
<span>Bed</span> <input style="width: 80%;" type="range"/> <div style="text-align: right;"> <div style="border: 1px solid gray; padding: 2px 5px; background-color: #ccc; margin-right: 5px;">set</div> <span>0°</span> </div> <div style="text-align: right;"> <span>28°</span> </div>		

<span>Speed</span> <input style="width: 80%;" type="range"/> <div style="text-align: right;"> <div style="border: 1px solid gray; padding: 2px 5px; background-color: #ccc; margin-right: 5px;">set</div> <span>100%</span> </div>
<span>Acceleration</span> <input style="width: 80%;" type="range"/> <div style="text-align: right;"> <div style="border: 1px solid gray; padding: 2px 5px; background-color: #ccc; margin-right: 5px;">set</div> <span>9000mm/s<sup>2</sup></span> </div>

<span>Flow</span> <input style="width: 80%;" type="range"/> <div style="text-align: right;"> <div style="border: 1px solid gray; padding: 2px 5px; background-color: #ccc; margin-right: 5px;">set</div> <span>100%</span> </div>
<span>Fan</span> <input style="width: 80%;" type="range"/> <div style="text-align: right;"> <div style="border: 1px solid gray; padding: 2px 5px; background-color: #ccc; margin-right: 5px;">set</div> <span>100</span> </div>

iop\_102030ForFinalCustomers\_V1-00.odt

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## **ATTENTION**

### **You can't pause or stop the printing job from Wi-Fi**

If you pause the printing from the touch screen, in the status bar on Wi-Fi page the green bar change in a **yellow bar** and printing icon change in paused icon.

The screenshot shows the GH ENTERPRISE control interface on a Wi-Fi page. The interface has a top navigation bar with the GH logo and three tabs: 'Wi-Fi', 'Moves', and 'SD'. Below the navigation bar is a status bar with a green background. On the left, there is a 'paused' icon. The status bar displays various printing parameters:

H0	Bed	Flow	Speed	Acc	Fan	Z pos	Progress
180°	0°	%	mm/s	mm/s <sup>2</sup>		mm	25 % - paused
65°	28°	100	200	9000	127	0.0	GH_Logo 2.0_160617_Simplify3D_Delta.gcode 00:00:00

**For restart or starting new printing job you must use the touch screen**

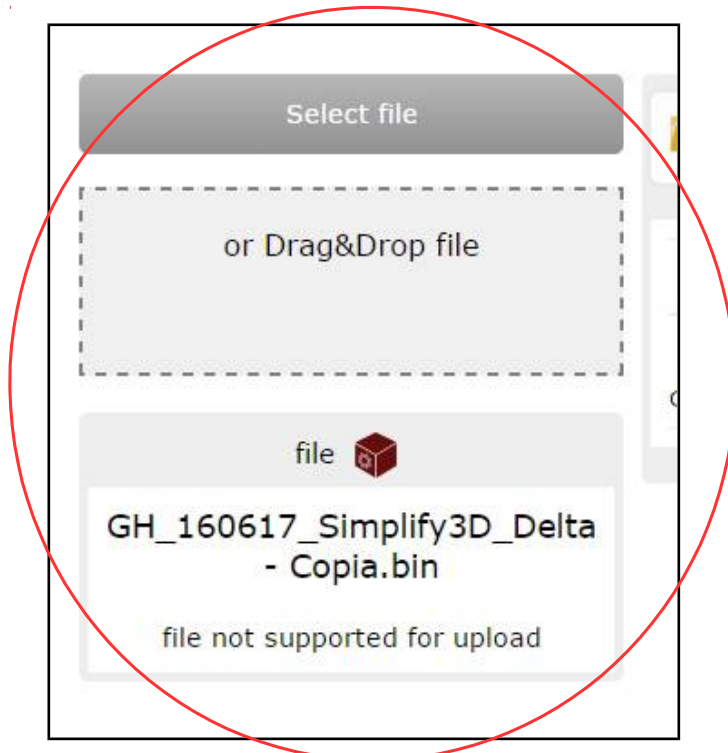


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**UPLOAD FILE**

You can upload a file via Wi-Fi which is then saved to the SD card

**ATTENTION**

**You can load only “.g code” file, other file types aren’t supported and this message appears.**



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In SD page you can upload gcode file with Select File key or with Drag & Drop, dragging file in grey area



1. Tap “Select file”, automatically open directory window to choose .gcode file in your device.
2. For using the drag&drop function, drag a .gcode file in the box, the file start loading automatically.

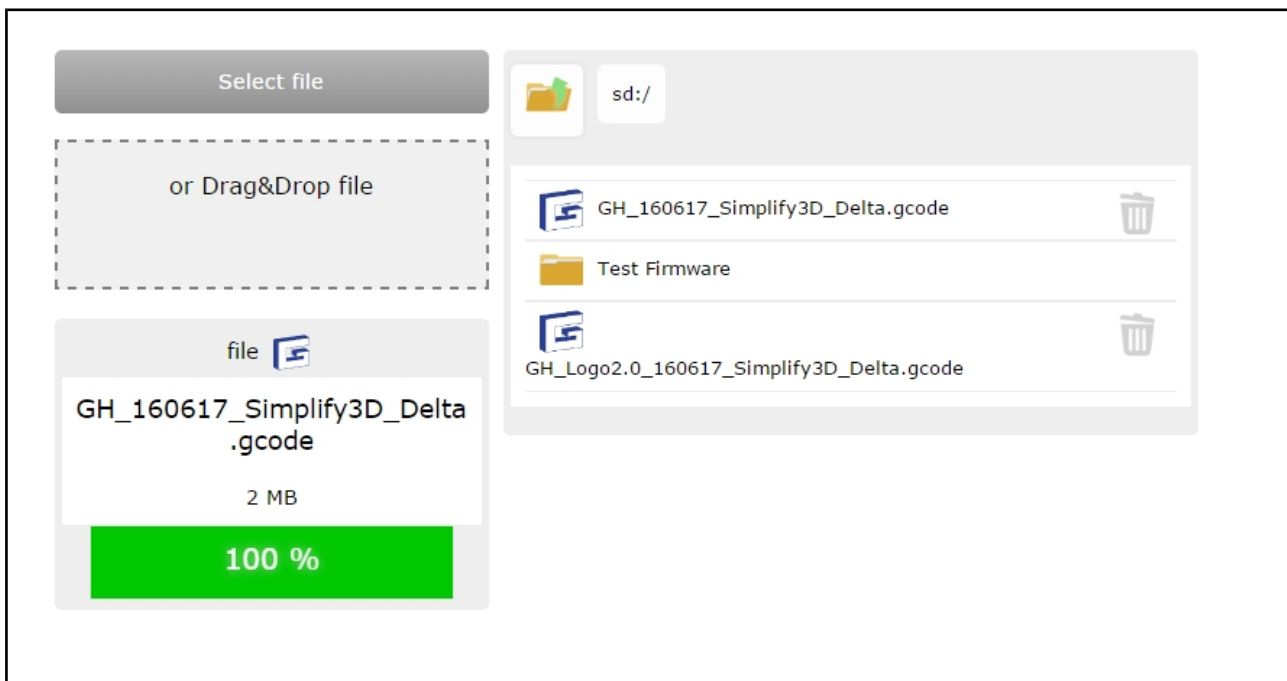


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In both cases, the upload automatically starts



You can stop uploading with “Cancel upload” key, but for delete file you must use delete key.



When the upload ends the file appears in SD's area.  
Now follow the printing sequence in page 35





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**DELETE FILE**

Tap “Bin” icon to delete file



Tap “Delete file” key to confirm the delete





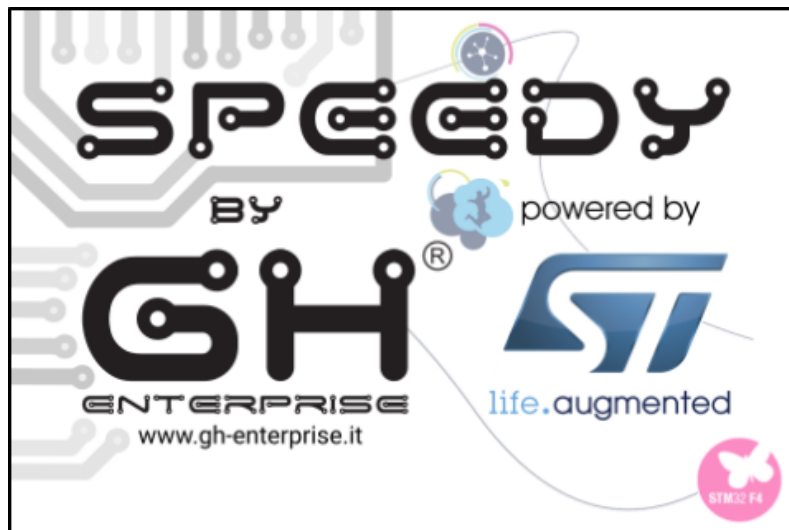
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## FAQ

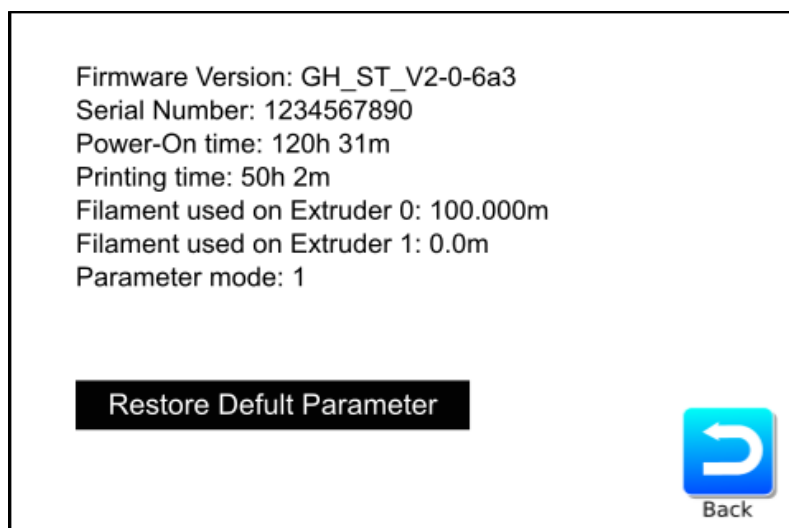
### Firmware

If the printer is working bad than usual, maybe due to a command given by a gcode, you can reset to the factory data settings.

In “Menu” tap on “Info” key



Tap anywhere on the SPLASH to enter the information section



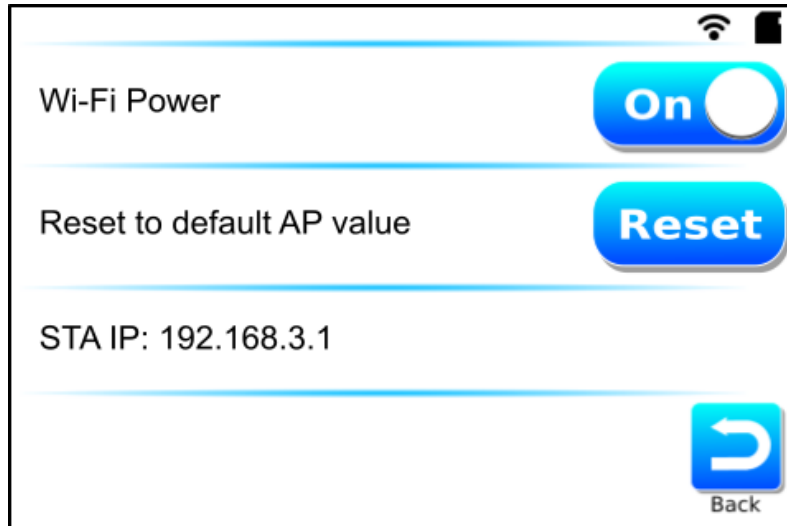
Tap on “Restore Default Parameter” key to return to factory data.

## ATTENTION

**If some parameter was changed, they will be restored as default.**

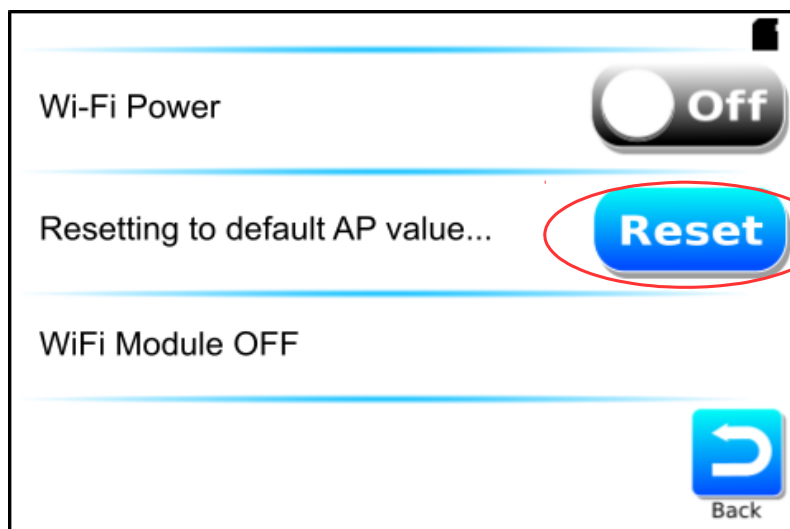
## Wi-Fi

To return to the default situation to solve any problem, such as the insertion of incorrect connection parameters or losing the password of the Wi-Fi connection, go to the menu and tap on Wi-Fi key.



For reset only the parameters and to return in Access point, tap on “Reset” key

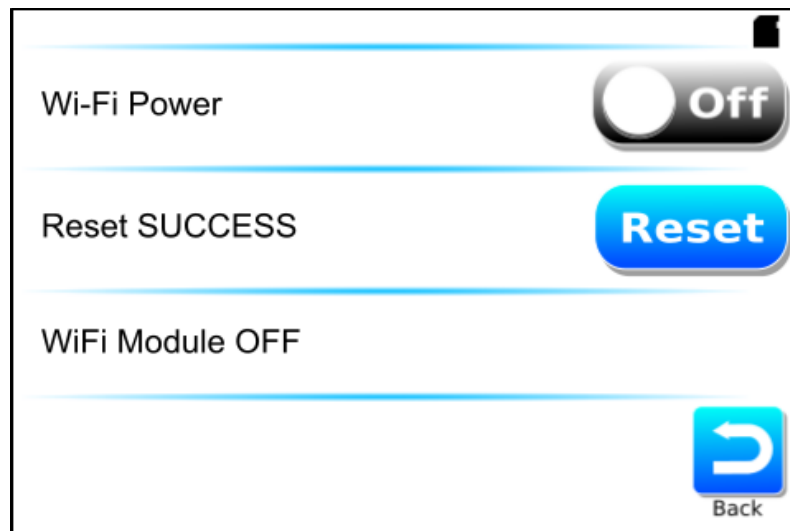
1





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2



The Wi-Fi is reset to factory data.  
Tap "Off" key to switch-on Wi-Fi.

### 1. Connection lost



Try to refresh the web page

This problem appears when you lose the connection to the printer

1. When change from access point to station mode
2. Connection Wi-Fi lose



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## **2.Change password in Access Point**

If you have problem to connect at your printer after you have changed Access Point's password, leaving the same SSID.

Maybe the problem is due by the Access configuration saved, so you need to delete this configuration in your device.

**To solve the problem you must go at your saved Wi-Fi networks, and delete the saved printer Wi-Fi configuration.**