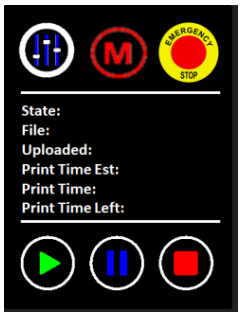
Setting up the Octo-Pendant

Please read this though once before you attempt to change the values on the setup screen. It will save you some time and aggravation in getting things setup. Once you have gotten this done. You will not likely need to make any changes for a long time.

Once you have unboxed your Octo-Pendant, you should be able to just plug it into any USB power source. It does not take a lot of power so a typical PC USB port is good. Something to note is that the USB connection is a serial port. If it is connected to the OctoPrint server, it can be mistaken as the Printer. It will respond to Octo-Print saying “hay, I’m not a printer.” You will see this in the terminal. So keep that in mind as you connect things up. You can change the USB cable to one that is power only and that will avoid this but I include a data cable in case you want to try do some programing and hack things up a bit. ☺

Note: You may have a small protective plastic sheet on the screen that can be removed.

Once powered on you should see the main status screen. This screen looks a lot like this:



The screen will have some text and dashes in a bright yellow font as well. This is normal.

Each screen is composed of a background image that text and touch regions are over laid on.

At the bottom of the screen you should see text that says "No File Loaded".
Touch this with your finger or the touch pen.

This will take you to the info screen. It’s not got anything interesting on it yet but if you get to that screen, you will know things are generally going to work. It should show 3 values
hostname, IP, and FW

The hostname is 2 things really for initial setup it will be the name of the WiFi network that you must connect to so that you can do the initial configuration. Once setup this is the name of the device as it would show up on the network and also if you are using MQTT, it will be the lead path for the messaging it sends out.

Using your phone or any PC with a Wi-Fi connection, connect to the new Wi-Fi Access point with a name that appears as the host name in the info screen. It will require a password to connect.

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Password: Password1 (this is just the default starting point; yes you can change this in the interface and you should change it.)

Note that if you do not use the WiFi connection for a few minutes, it will disconnect. You may have to reconnect.

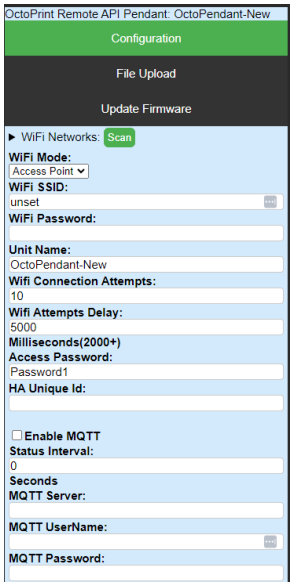
Once you have connected your phone or laptop to the devices WiFi signal, you can open up the configuration page of the device. This is done using a browser. Type in the following as the Address. http://192.168.4.1/config

You should get a prompt for credentials (Username and password).

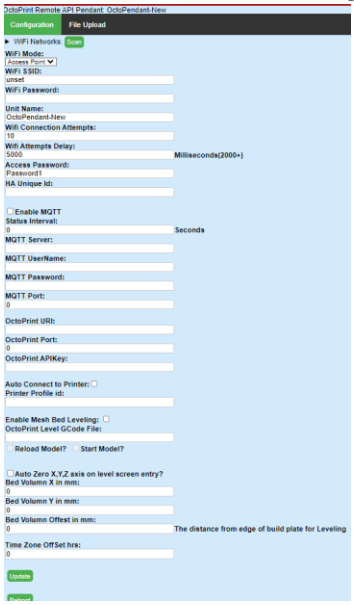
The username is “admin”

The default password is “Password1”

[On a phone the screen will look like this]



[On a PC the screen will look like this]



At the bottom of both screens, there is an update button and a reboot button.

This screen is where you setup your Octo-Pendant to connect to your local WiFi and your OctoPrint instance. **Please follow the below step by step settings to have the best results.**

1. At the top of the screen push the **[Scan]** button to get a list of WiFi networks that the device can connect to.

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2. **WiFi Mode**; Once the list returns from your scan, you can then change the selector for WiFi Mode to "**Station**".

3. **WiFi SSID**; Next select the proper name from the list for your WiFi network. Note that your OctoPrint instance must be reachable from this network. Click in the text area and a list should popup. You can also type in the SSID if you your network is hidden.

4. **WiFi Password;** for the network you selected above.

5. **Unit Name;** this can be left as is or adjusted to something you would like to use as the name. Don't include spaces or special characters other than the Under Score or Dash in the name and keep the name under 16 characters.

6. **WiFi Connection Attempts;** this can be left as default. If you have a very busy WiFi Router, you may need to increase this number. But lowering it below 10 is not likely to be useful.

7. **WiFi Attempts Delay;** this number should not be below 2000(2 seconds). It is the time that the unit will wait between attempting to connect to your WiFi Network.

8. **Access Password; t**his is the password used to connect to this configuration screen and the access point network when needed. Once you change this and update, it effectively changes the devices setup password for both the WiFi and web page.

9. **HA Unique Id;** this is used as a tag when setting up MQTT with Home Assistant. In most cases it should be the same as the Host Name.

10. **Enable MQTT;** if this is checked the settings below it for MQTT server connection will be used for reporting status to MQTT. Current build of the firmware just reports basic online status data. Future updates will also. For initial setup leave this unchecked.

11. **Status Interval;** this is the number of seconds between MQTT messages reporting online status. 30 seconds or more is a good place to start if you setup MQTT. For initial setup leave this at "0".

12. **MQTT Server;** this is the IP or FQDNS for your MQTT Server. For initial setup leave this blank.

13. **MQTT UserName;** this is the username needed for signing into your MQTT Server. For initial setup leave this blank.

14. **MQTT Password;** this is the username needed for signing into your MQTT Server. For initial setup leave this blank.

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15. **MQTT Port;** this is the port for your MQTT Server. For initial setup leave this as "0".

16. **OctoPrint URI;** this is the IP or FQDNS for your OctoPrint instance.

17. **OctoPrint Port;** this is the port on your OctoPrint instance that is used for direct access. This is normally port "5000". There is a known issue for ports that are setup through HAProxy. Most of this time this is port 80… So avoid using port 80. It will cause really slow response times from the touch screen. Essentially rendering the Octo-Pendant not very useful.

18. **OctoPrint APIKey;** this is a unique api key created for use with your Octo-Pendant device. You must setup the Application API key using OctoPrint. You can find reference to this process in the OctoPrint documentation. OctoPrint Application Keys Plugin

19. **Auto Connect to printer: [check box];** this is used to enable the Octo-Pendant feature where if your printer disconnects from OctoPrint. The Octo-Pendant device will send a command for it to connect. This can be helpful where you when power cycling your printer. For initial setup leave this unchecked. You may want to use this later once you get the hang of using the Octo-Pendant.

20. **Printer Profile id:** this is the name in the printer profiles of your OctoPrint instance you want the Octo-Pendant to issue the connect request for when the Auto connect to Printer Check box is checked. This is only important when you have the check box selected. Most of the time the correct value is "_default" but if you have created other printer profiles you should consult your OctoPrint instance printer profiles if you are not sure.
21. **Enable Mesh Bed Leveling: [checkbox];**this will allow the use of the OctoPrint Bed Visualizer PlugIn. You will need to create a gcode file that contains the contents of the setup script from the Bed Visualizer PlugIn. Load that to your Octoprint instance and then update the below setting with the name of that file. For initial setup leave this unchecked.

22. **OctoPrint Level GCode File;** the name of the gcode file for running the Bed Visualizer Plugin routine.

23. **Reload Model? And Start Model? [checkboxes];** this are used with the Mesh Bed Leveling feature. Reload model will ensure that once you run the mesh that the system will reload any current model you had already selected for print. Start Model will send a Print command to your printer if there the Model is reloaded once the mesh level process is complete. Allowing a single step mesh level and print process.

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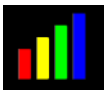
24. **Auto Zero XYZ acix on level screen entry?;** Checking this will cause the Octo-Pendant to call for a home of all 3 axis when you enter the leveling screen.  << this button.
25. **Bed Volume X in mm;** enter the X bed size for your printer. For example if you have an Ender 2 your X bed volume will be 240
26. **Bed Volume for Y in mm;** enter the Y bed size for your printer. For example if you have an Ender 2 your X bed volume will be 240
27. **Bed Volume Offset in mm;** this is the distance from the corners you would like to use as the corner points for doing a simple 4 corner manual bed leveling. A good value to start with here is 15 and adjust closer(lower) to the edge or father(higher) number to get the location as you desire.
28. **Time Zone OffSet hrs:** this is needed to support API communications. It should be set to the same time zone offset that your OctoPrint instance is. On the east coast of the US it is "-5".

Once you have entered the correct values you can hit the [Update] button. Most changes will not take effect until you reboot the Octo-Pendant. So once you have all of your changes in, push the [Reboot] button. This will cause the Octo-Pendant to restart in 5 seconds.

Important Notes:
If you change the Password, the system will ask you for the new password immediately on hitting the Update button.

Note that if you do not use the WiFi connection for a few minutes, it will disconnect. You may have to reconnect.

If you change the name of your device and reboot it, the wifi access point name will be the new name of the device.

If you do not update the WiFi mode to be Station, it will not attempt to connect to the configured WiFi SSID.

If you enter a bad SSID or Wifi Password, the device will take a long time to show the first screen and will change to running in Access point mode. It can be a little difficult to get connected to the access point to correct this issue. But if you are patient you can get it done. If you find you just can't get it done. The SSID and Password can also be set over the serial interface. See the GitHub wiki for details on how to do that.

If you set the Wifi Attempts delay to low it may have trouble connecting to high end WiFi Routers. It takes longer for these devices to decide what to do with the requests from small IOT devices. Not waiting for them to be ready for additional connection attempts likely will result in

the device being temporarily banned from the router.

Hope you enjoy the Octo-Pendant. I use mine on 6 serves daily. They save me a lot of walking and make it easy to use OctoPrint while performing Maintenance on the printers.
I am here to help. Please reach out if you have questions, need some help or if you have some suggestion on making the device even better.

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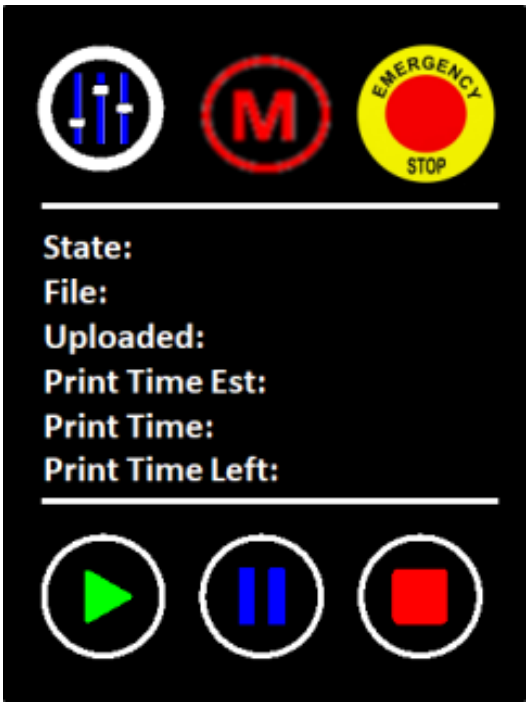
General Usage for screens

Home screen:



 Controls Menu
Navigates to the Controls Menu (see below).

 Motors off / Quick stop (gcode M410)
https://marlinfw.org/docs/gcode/M410.html

 Quick Stop gcode(M112 Full Shutdown)
https://marlinfw.org/docs/gcode/M112.html

State text from OctoPrint also error state on comm with printer
File loaded from OctoPrint (if any)
Approx. Total Print Time: from OctoPrint
Print Time: from OctoPrint
Print Time Left: from OctoPrint

Print, Pause, Cancel controls same functionality OctoPrint interface.

At the bottom of the screen there will be a message related to general status. If you push this area it will show you some diagnostic and network connection info. You can also reset/restart the device from here. See Network screen below.

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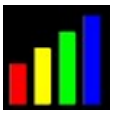
Control Menu:

Back to the main home screen.

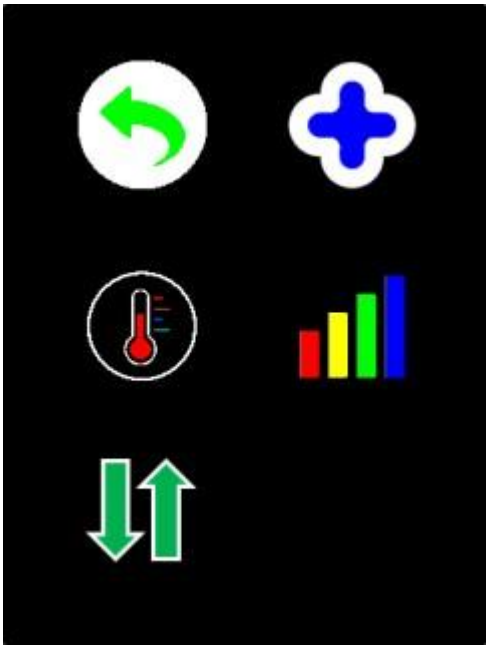
Moton control screen.

Temperature control screen.



Bed leveling screen

Filament change screen



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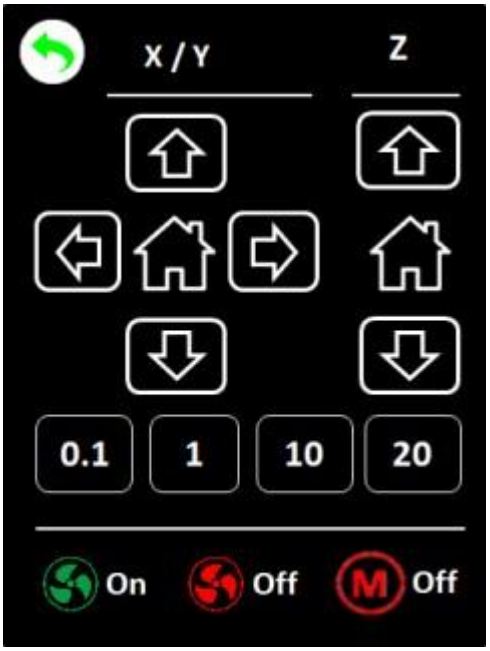
Motion Control Screen:



Standard Motion control for your printer.
Direction for Axis may be reversed. This currently can only be adjusted by updating the source code. Use arrow to prompt motion.

Numbers select the mm to move in the direction. Defaults to 10 mm.

Turns on part cooling fan to 100%

Turns off part cooling fan

M18 (gcode) Disable steppers

Home X and Y axis (G28 X0 Y0)

Home Z axis (G28 Z0)

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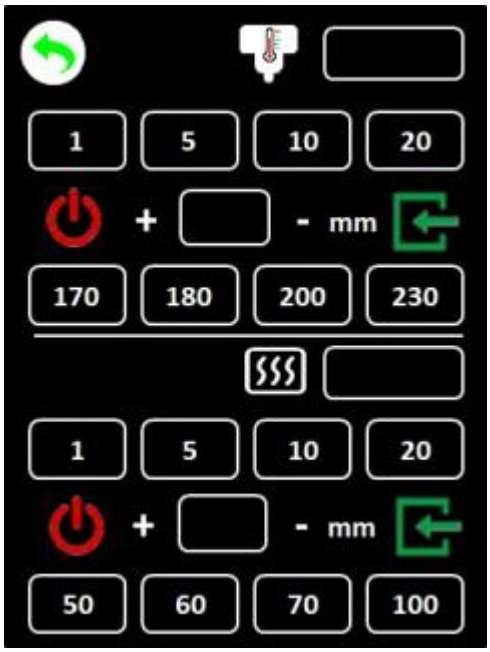
Temperature control Screen:



Top half of screen is for tool head T0. (Hotend).
Bottom half is for Bed temperature control.

Select a number box at the top of a section to allow for this value to be the increment to change the setting in the control value.

The center box is the control value.
Plus and minus to move the control value by selected increment.

will turn off the heater.

will turn on the heater at the control value.

Top right text boxes in section show actual value and set value.

Use large value buttons to select often used values for temp setting.

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Bed Level Screen:

Note setting in web interface may force a full home when entering this screen.

Manual Leveling:
Use temperature selection at the top of screen to quick set temperature for bed to heat to. Use blue bed icon to turn off heated bed.

Use donuts to send printer to corner locations for easy manual Leveling at these positions.

Top text area shows bed temp and set value.

Home button homes all axis on printer.

Bed Mesh:
Use with settings in Web interface to allow for semi-manual or full auto bed mesh(optional lower section). If Bed Mess leveling is enabled, the lower 2 buttons next to the Mesh Collection text will be visible.

Use the Left Running man icon to start a bed mesh, Use the right running man icon to start the loaded print after completing the bed mesh collection process.

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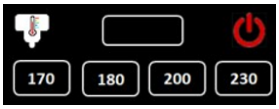
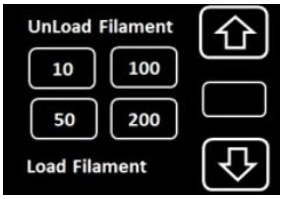
Filament control screen:

Use to change filament on our printer.

send Filament change code M600(gcode) to printer.
https://marlinfw.org/docs/gcode/M600.html



Use to control hot end temp. Select value to set temp of hotend. Select Red off button to turn off hotend.



Use these to control the extruder. Keep in mind that minimum temps for your extruder will be checked. Select a value for the mm to extrude or retract. Defaults to 400 mm