MOUNTING

As mentioned in the product description, the clip or the carabiner are not included. If you want to use the belt clip, the hole for the belt clip is already there at the HMI back cover. You will need to open the back cover . The back used M3 hex screw.

Open it up and screw in the belt clip screw. the philip side is on the inside of the cover.

The link below is directed to a liexpress product. You can use that as reference to find out which you need to get.

- Belt clip. Best use for 32mm strap below.
- Molle carabiner clip.

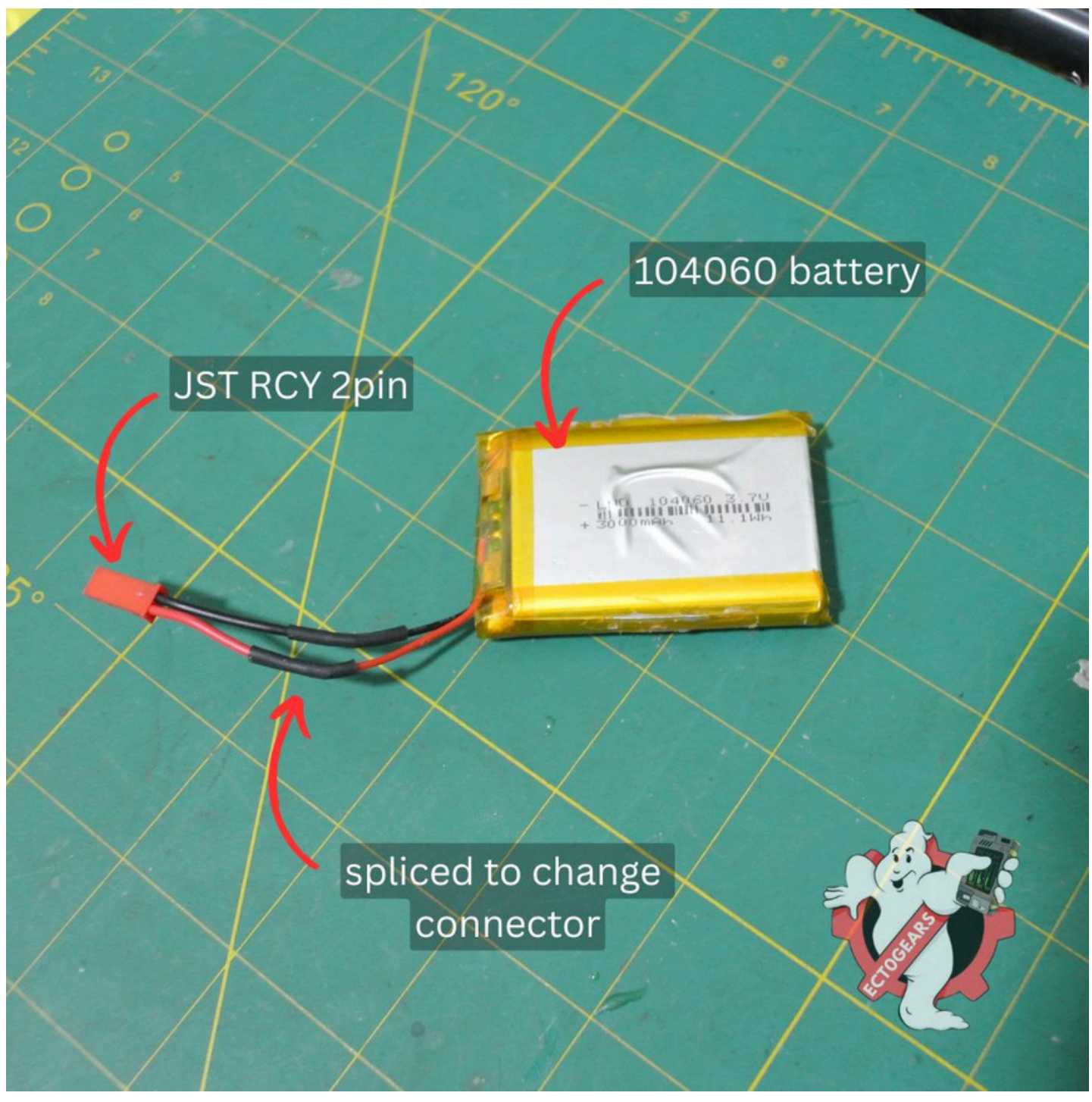
HMI BATTERY

The Hybrid Modular Interface device uses 104060 3.7v 3000mAh lithium polymer battery. Some sellers has option on which connector and most doesnt have one. HMI uses JST RCY cable that commonly used with RC toys. All you need to do is to change the battery wires connector to JST RCY connector. Any electronic shop / RC shop can do this for you.

- Battery type : 104060
- Battery voltage : 3.7v
- Battery charging voltage : 4.2v
- Battery capacity : 3000mAh
- Battery size : 40*60*10mm
- Battery connector : Change to JST RCY

You can get the battery here at Aliexpress or any electronic shop near you.

How do you mount the battery to the HMI ? Easy. Use a double sided tape or acrylic tape to stick the battery to the allocated space at the HMI cover inside.



HMI BATTERY

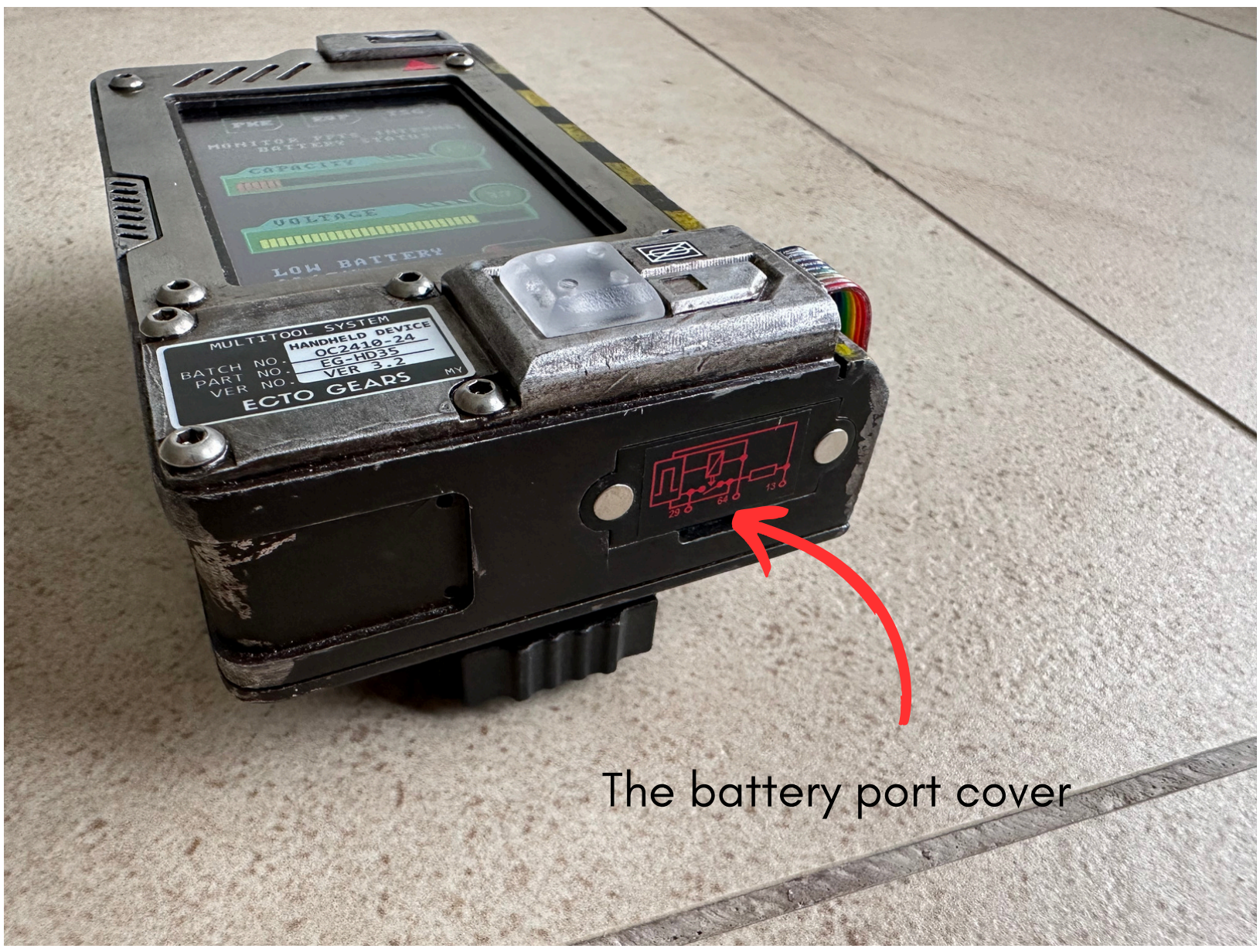
Charging is easy. There’s a small piece at the bottom that being held with magnets. Take it out and you can see there’s a Type-C port in the inside. Charge it like you charge your phone.

While charging, the screen is on and the internal battery monitor WILL show it as full. It’s not. This is because the battery monitor based the percentage on the current voltage it received. Maximum battery is 4.2v where USB is 5v. So, it WILL show the it as full. To know if the battery is full or not, remove the USB. It will update after a few seconds.

The HMI battery monitor is not as accurate as a smartphone. It’s a rough estimation based on the battery voltage, power consumption and the amount of samples it collected over time. But it’s good enough.

Q : Instead of using a battery, can i just power it straight with a powerbank ? I don’t want to install a battery. Im OK with have a wire to the device.
A : Sure ! Why not. As long the power bank has power, the screen will remain on. The power switch at the side is bypassed tho. Because the USB port is directly connected to the screen.

Q : What if i want to use both battery and power bank ? Let say if the power bank has ran empty, the HMI will switch to the internal battery.
A : That works too. The power bank will keep the internal battery full and power the screen directly. Do remove the empty power bank from the HMI after wards tho.



HYBRID MODULAR INTERFACE

NAVIGATION

This is the main screen. For standalone version, all the animations are precoded and on a loop. It will simulate state change every few minutes. For universal and ectogears, they will show the states from the SwitchBoard / Neutrona Board.

The labels for the versions are different too but the navigation remains the same

There's three tabs on top. These are the button to change screen category. Mainsreen category is DATA and will appear on a different screen. There's will only be three tabs on top but the category changed.

Swipe left and right to change to next or previous screens in the same category. Remember this isn't a smartphone. So swipe slowly across the screen.

Version Universal and Ectogears

NAVIGATION

This is the battery status screen. Standalone only have Internal battery monitor and other version has a secondary to monitor pack battery.

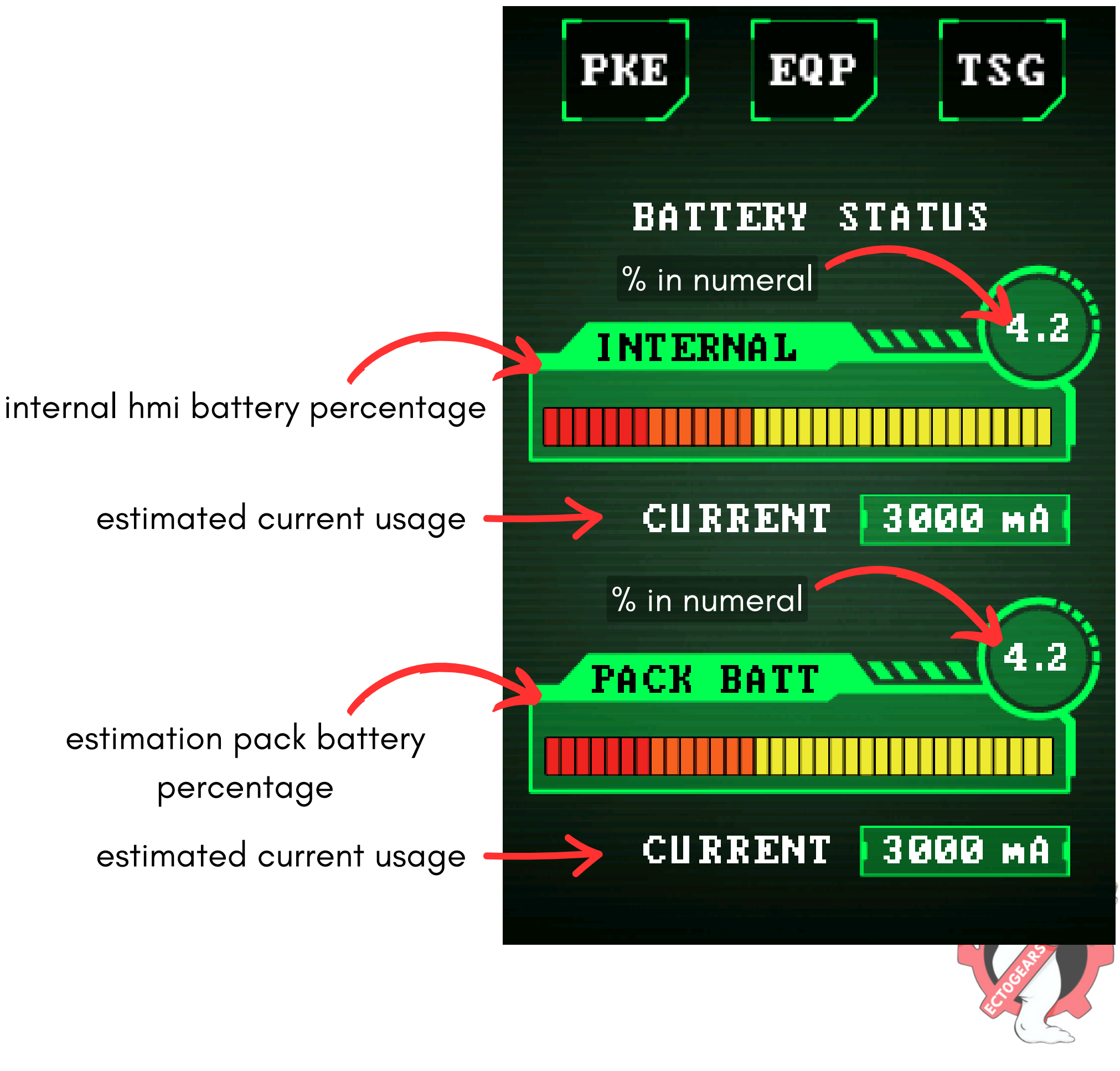
For the stand alone version , there's a Low Battery Alarm switch here. If enabled, when internal battery reaches 15%, it will show a low battery screen for 3 seconds . This will show every 5 minutes as long the battery below 15%.

Press the "Save Setting" button if you change the settings.

Please charge the battery full before use.

- Can you not add a battery and run it directly with USB cable ? YES
- When the battery is installed and USB cable hooked up, can it charge the internal battery ? YES
- How long the battery can last ? Estimated around 4 hours. This can varies depending on how often the device in “Active mode”. The device uses less power during screen sleep mode.
- Why the battery monitor not accurate ? It works by taking multiple samples over time. The more sample it gets, more accurate it gets.

Version Universal and Ectogears



NAVIGATION

This is the HMI device screen setting. This is where you can set the unit screen settings similar to how a smartphone display setting is.

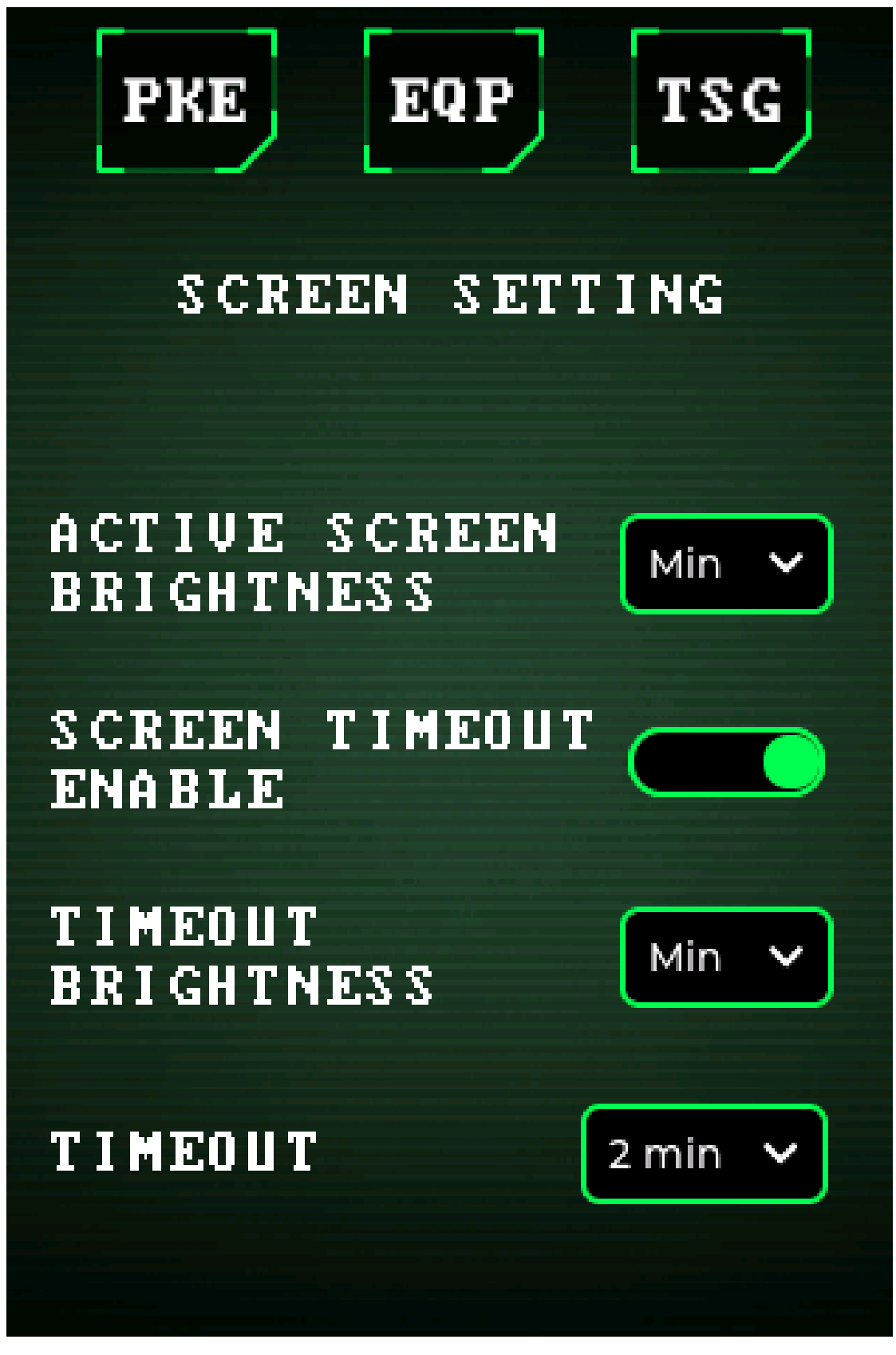
Active screen brightness : When there's any screen activity, this is the brightness it uses

Screen timeout enable : When enabled, during “timeout”, the screen will enter “Sleep Mode” where it change to a lower screen brightness,lower CPU usage , disable multiple running timers and lower comm usage to preserve battery power.

Timeout brightness : When it enter sleep mode, this is the screen brightness.

- Timeout : This is the elapsed time from the last screen activity to trigger the sleep mode. If you want to trigger sleep mode after 5 minutes, pick 5min.

Q : What if i don’t want to use timeout ?
A : Sure. But you will use more battery power tho.

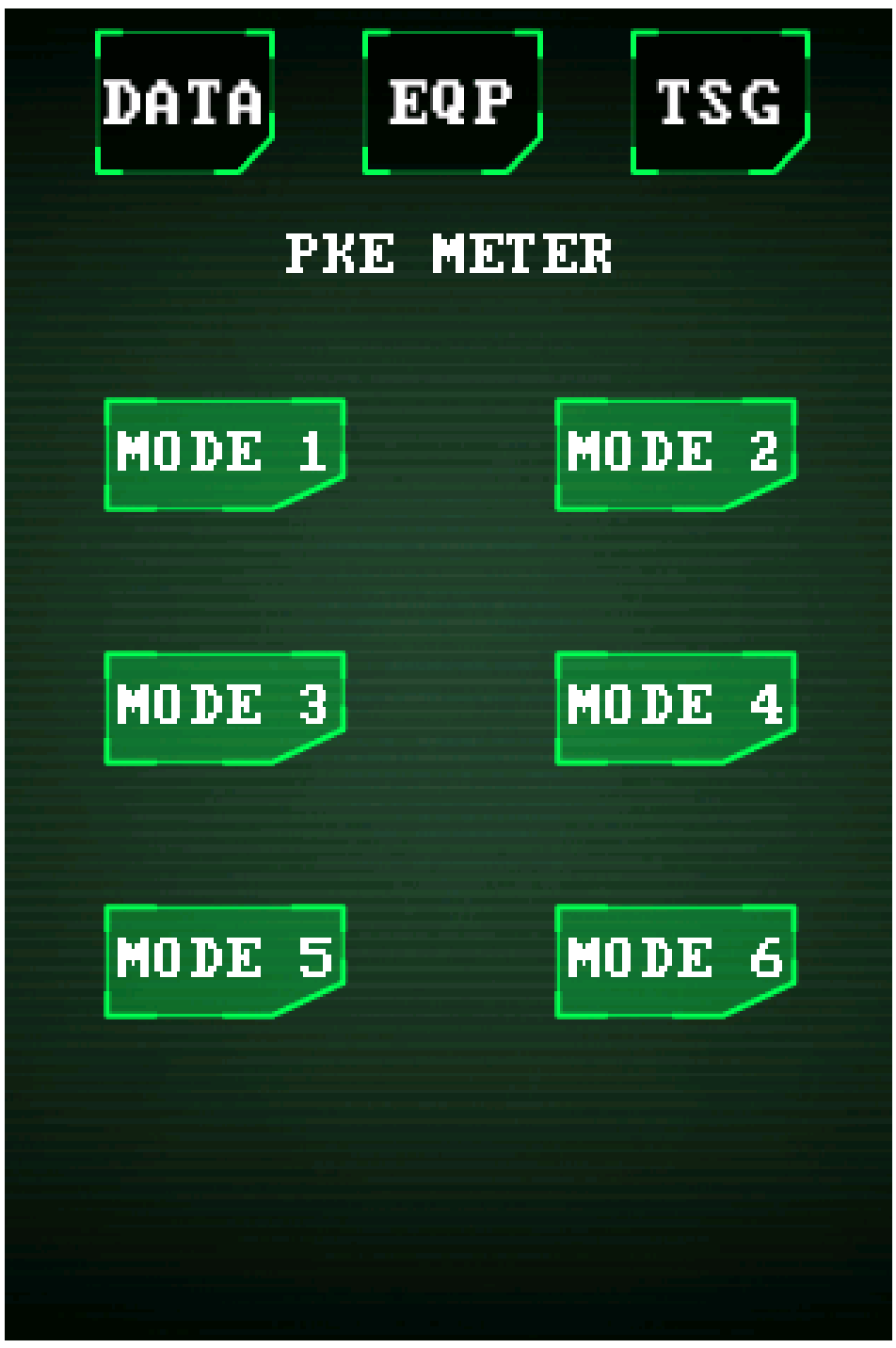


NAVIGATION

This is the PKE Meter menu. It has 6 buttons that corresponding to each PKE modes. Press the desired mode to enter the screen. On the right, is the PKE Mode 2. Every mode has a different visual screens. While in any of the PKE modes, to exit, simply swipe from left to right.

Q : What it can detect ?
A : Well, ghost ! nahh. Realistically, the HMI pick up EMF waves at 50-60hz and wi-fi signals.

Q : What are those two set of numbers ?
A : Those are the raw value detected by the HMI antenna. The visual graphs are filtered to get smoother visual.

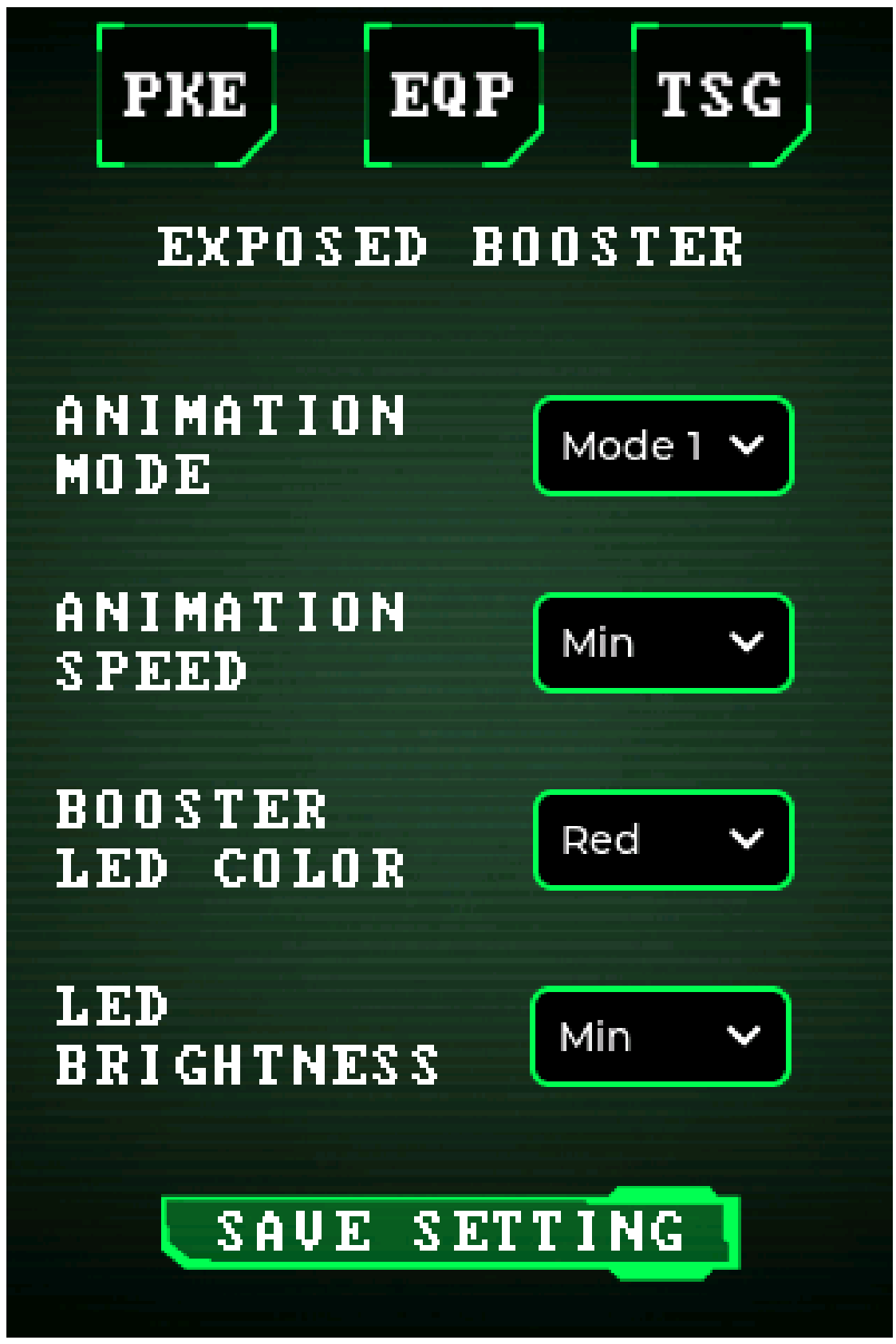


NAVIGATION

This is exclusively for Ectogears Version. There's multiple of the Device screens. For example in the left, this screen is to change settings for the Exposed booster on the proton pack. Whenever you selected a different options in the dropdown menu, the change is instant but only kept momentarily .

In order to keep the settings, press the "Save Setting" button at the bottom of the screen.

Q : But i need this version !
A : In order to all this to work, the HMI requires a EctoGears pack board and wand board. These options wont work on other boards.



NAVIGATION

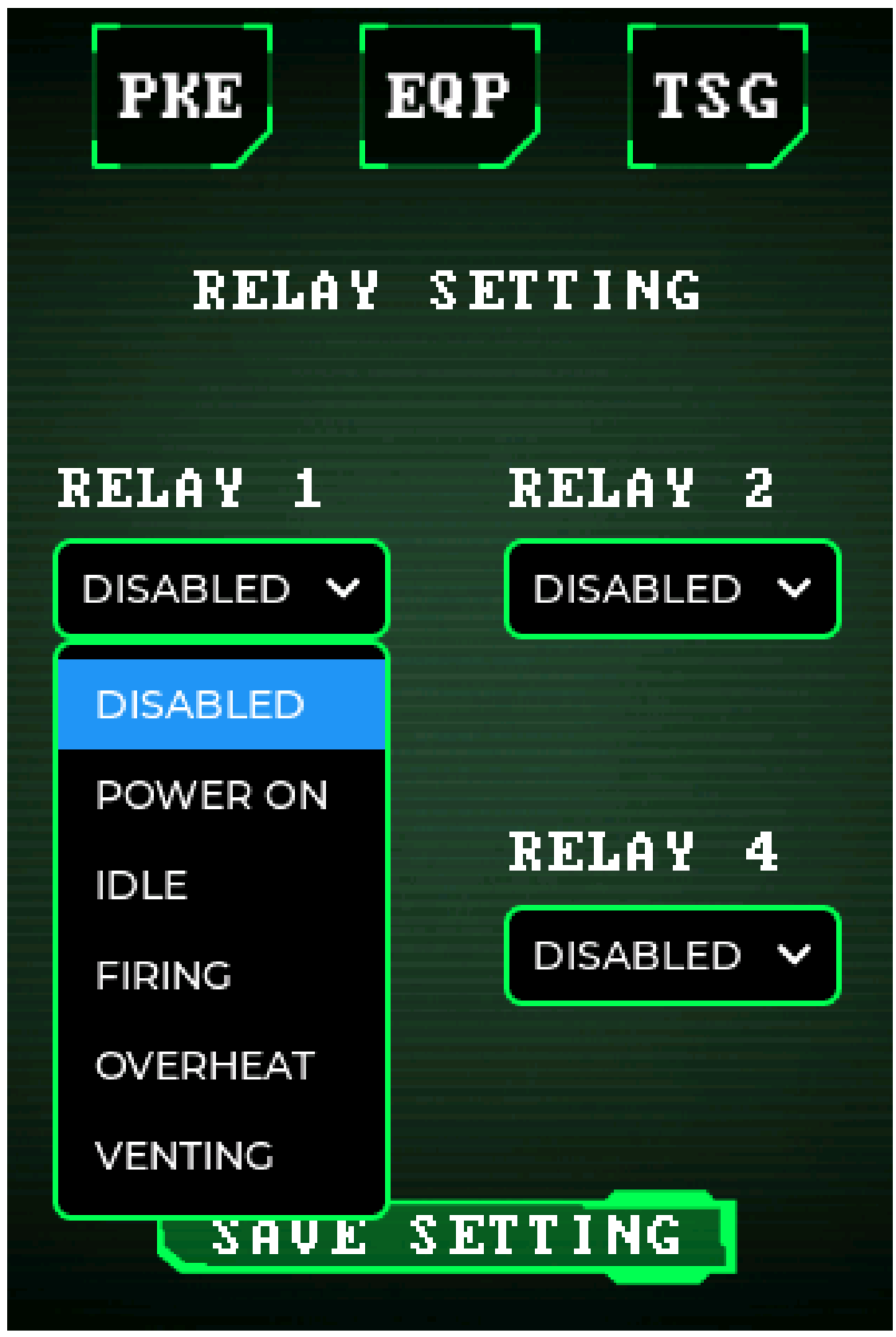
This is the Relay setting for both Universal and Ectogears version. HMI can control up to 4 relays. You can use only 1 or use all 4 channels. Relay activation is according to the pack state. Each relay can be assigned to one state.

Relay 1 has an extra state called "Power On". This means once the relay board received power, it will activate the Relay 1. This is useful to anyone who wanted to trigger something external when pack is turned on.

Press "Save Setting" to save the settings to the system memory.

Q : Can i not use the relay board ? I”m like the current relay control i have now.
A : Sure. why not. This is totally optional.

Q : Can i use the relay board together with my current electronic board relay ?
A : Sure. The relay board is separated system so you can use it to expand to more controllable relays.



NAVIGATION

This screen is the first screen of the Equipment category. The tab is called “EQP”. Swipe left or right to change to other equipment. You can scroll the screen up and down to read the description.

NAVIGATION

This is the menu for the Tobin Spirit Guide. There's multiple pages so you can swipe left/right to see more ghost menu. Press the ghost name to read the ghost details.

On the right is what you will see once you picked a ghost from the Tobin Spirit Guide menu. You can scroll up and down to read more of the description. To exit , press the Tobin Spirit Guide logo on the top left.

Q : Can you add more ghosts yourself ?
A : No. These are hardcodded into the screen.

NAVIGATION

This is two out of four warning screens . Standalone version will only have the internal battery low warning screen.

Venting : This warning screen will appear for 3 seconds when state is Venting.

Warning : This warning screen will appear for 3 seconds when battery is lower than 15%. Can be disabled.