PintSize Me LLC - Generator Interface Board v1.8+

Configure:

- GENPWR (red switch near the molex plug) – set ON if powering through the 8-wire molex cable, this is true if using the controller power from an Evolution2/Sync3 controller, or if you are using the injector. Set OFF if you are powering with the barrel plug, USB power on the Pi, PoE on the Pi, or powering through any other mechanism.
- BUCK (red switch near the fan power pins) – set ON if you are powering through the 8-wire molex cable or with the 5.5mm barrel plug. Set OFF if you are powering with USB power on the Pi, PoE on the Pi, or powering through any other mechanism.
- LEDs (black double switch near molex plug) – set this OFF if you want to use the 3 pins connected to the tri-color LED for other purposes.
- BTN (black double switch near molex plug) – set this OFF if you want to use the pin connected to the button for other purposes.
- W1 (v2.2+ HATs, located near GENPWR switch) – set this to off if you are not using 1-Wire temperature sensors.

Features:

- Onboard power converter to drop the 12v available at the generator to the 5v needed to power the Pi and HAT. There is also a rectifier after the barrel plug to prevent reversed connections.
- 8-pin molex connector to provide data connectivity with the generator controller, also can provide power with Evolution2/Sync3 controllers.
- 5.5mm barrel plug that can be used to power the Pi and HAT from the generator battery.
- Tri-color LED connected to GPIO23 (green), GPIO24 (red), and GPIO07 (blue) which line up with default outputs for ready, running, and alert when using “Genmon GPIO Outputs”. May be disconnected by setting the LEDS switch to OFF.
- 5 pin female header exposing RUN (GPIO27), TRANSFER (GPIO22), and STOP (GPIO17) when using “Genmon GPIO Inputs”, as well as ground and 3.3v.
- Momentary pushbutton connected to GPIO10, there is no built in function for this. May be disconnected by setting the BTN switch to OFF.
- Opening for a fan and power pins for the fan, this allows active cooling for use with a Raspberry Pi 4.
- V2.2+ HATs have an onboard DS18B20 1-wire temperature probe connected to GPIO04 and a 3-position screw terminal for external 1-Wire sensors.
- V2.2+ fan control via GPIO09, set to HIGH to turn the fan on and LOW to turn the fan off. Scripts to do this automatically are available. https://github.com/skipfire/genmon-addon

Installing the HAT:

- HAT installs:
  - Prepare the micro-SD card with Raspberry Pi OS
  - Heatsinks on the Pi CPU are recommended
  - Prepare the Pi with standoffs
  - Attach the HAT
  - Secure the top of the HAT
  - Install GenMon
  - Install the PintSizeFanService if you are using a fan on the HAT
- Preloaded installs: (full units or micro-SD)
  - Option 1: Connect a display, keyboard, and mouse, use the OS UI to configure the WiFi credentials.
  - Option 2: populate a wpa_supplicant.conf file with the details and place it into the root of the micro-SD card.

    - Username: “genmonpi”, password: “raspberry”, machine name: “genmon”. Change the password.
- All installs:
    - Set the switches for your needs, see the CONFIGURE section at the top of this document.
    - If powering by the battery, connect battery to barrel plug
    - Connect the Molex cable to the HAT and then to the controller