



Automation HAT Mini

PIM487

Automate your world with Automation HAT Mini! Monitor and control up to 24V systems and see their status on the gorgeous full-colour display.

Don't be fooled by its size... Automation HAT Mini packs a whole bunch of functionality in. It has a relay, 3x buffered inputs 3x outputs, and 3x analog inputs, all 24V-tolerant. Last but not least, it has a beautiful 0.96" full-colour IPS LCD to display the status of your systems.

Automation HAT Mini is perfect for home automation projects, giving your greenhouse intelligent sprinklers, for scheduling your fish feeding, or for controlling low-voltage lighting systems.

Features

- 0.96" colour LCD (160x80)
- 1 x 24V @ 2A relay (NC and NO terminals)
- 3 x 12-bit ADC @ 0-24V (ADS1015) ($\pm 2\%$ accuracy)
- 3 x 24V tolerant buffered inputs
- 3 x 24V tolerant sinking outputs
- 3.5mm screw terminals
- Pimoroni breakout-compatible pin header
- Mini HAT-format board
- **Fully-assembled (no soldering required)**
- Compatible with all 40-pin header Raspberry Pi models
- **Python library**
- Dimensions: 65x30x16.8mm

Automate your world!

All of the inputs and outputs, and the relay, on Automation HAT Mini are 24V-tolerant and many low-voltage systems in home devices (and also in cars) run on either 12V or 24V. Automation HAT Mini is a great way to monitor and control them.

Use the buffered inputs to sense the on/off state of your devices, or get more granularity with the analog inputs that measure the input voltage with 12-bit accuracy. The sinking outputs can sink a total of 500mA across the three channels. For higher-current loads, you can use the relay that can tolerate up to 2A at 24V, and take advantage of the normally-open or normally-closed sides to give the correct failover state.

We've added a female header on the underside of the board with the correct pinout for our Pimoroni breakout range. This opens up a whole host of nifty possibilities! Pop an **I2C Breakout Extender** into the header, and then you can easily pop in one of our

breakouts. No soldering necessary! Use an **LTR-559 Light and Proximity Sensor** to turn a device on automatically when it gets light or dark, or a **BME280 Temperature, Pressure, and Humidity Sensor** to trigger at a specific temperature or humidity threshold.

Software

As usual, we've made a super-simple to use **Python library** to take advantage of all of Automation HAT Mini's functions, with examples to get you started.

We've added support for the 0.96" LCD to our **Automation HAT library** so, when you run the installer, everything you need will be set up and installed. Nifty!

Our examples show you how to use all of the different functions on Automation HAT Mini and how to display their status on the LCD.

Notes

- Loads for the outputs should be switched on the ground side, i.e. 12/24V (from supply) -> load -> output terminal -> ground (from supply)
- The relay can tolerate up to 2A each and should be switched on the high side
- The sinking outputs can sink a maximum 500mA total across the 3 outputs, so if you use a single channel you can sink the whole 500mA across it.
- The accuracy of the ADC is $\pm 2\%$.
- **Do not use to switch mains voltages!**