Portenta Hat Carrier

Short Description

Prototype like a pro, add automation or raise the bar in robotics: Portenta Hat Carrier makes high performance easy for you

Overview

Portenta Hat Carrier is a reliable and robust carrier that **transforms [Portenta X8](#) into an industrial single board computer compatible with Raspberry Pi® Hats and cameras**. Ready for multiple industrial applications such as building automation and machine monitoring.

Compatible also with [Portenta H7](#) and [Portenta C33](#), Portenta Hat Carrier provides easy access to multiple peripherals – including CAN, Ethernet, microSD and USB – and further extends any Portenta application.

Great for prototyping and ready for scaling up, it extends the features found on a typical Raspberry Pi® Model B. Debug quickly with dedicated JTAG pins and keep heat manageable under intense workloads with a PWM fan connector. Control actuators or read analog sensors via the additional 16x analog I/Os. Add industrial machine vision solutions to any project by leveraging the onboard camera connector.

Key benefits include:
- Add Raspberry Pi® Hats to your Portenta projects
- Quickly access CAN, USB, Ethernet peripherals
- Leverage onboard MicroSD card to log data
- Enjoy simple debugging through the onboard JTAG pins
- Easily control actuators and read sensors via 16x analog I/Os
- Leveraging the onboard camera connector for machine vision
- Discover a great prototyping tool for scalable Portenta applications!

Portenta takes you from prototype to high-performance

Portenta Hat Carrier offers you a frictionless Linux prototyping experience and a faster, easier and more efficient tool to test your ideas, while also ensuring the capabilities and industrial-grade performances the Portenta range is known for. Reliable, accessible and open to infinite combinations with other components in the Arduino ecosystem and beyond, it's the carrier that will carry you away with its flexibility.

Make Raspberry Pi® as easy as pie

Bring the ease of use, accessibility and incredible support from the Arduino community to your next Raspberry Pi® project, with the carrier designed to help you connect to a variety of available Hats.

Arduino Iot Cloud

Integrating with Arduino's IoT Cloud is a simple and fast way to ensure secure communication for all of your connected Things.

TRY THE ARDUINO IOT CLOUD FOR FREE

Warranty

Product warranty information is available here.

Tech Specs

Connectors:
- High-density connectors compatible with Portenta products
- 1x USB-A female connector
- 1x Gigabit Ethernet connector (RJ45)
- 1x CAN with onboard transceiver
- 1x MIPI Camera connector
- 1x MicroSD card slot
- 1x PWM fan connector
- 40 pin header connector allowing compatibility with Raspberry Pi Hats
- 16 pin analog header connector

Interfaces:
- CAN
- UART

- SAI
- SPI
- I2C
- PWM

Debugging: Onboard JTAG pins

Power:
- From onboard screw terminal block allowing:
  - 7-32V power supply, powering both the carrier and the connected Portenta
  - 5V power supply
- From USB-C on Portenta
- From 5V on 40 pin header connector

Operating temperatures: -40° C to +85° C (-40° F to 185 °F)

Dimensions: 85 mm x 56 mm (3.35 in x 2.6 in)