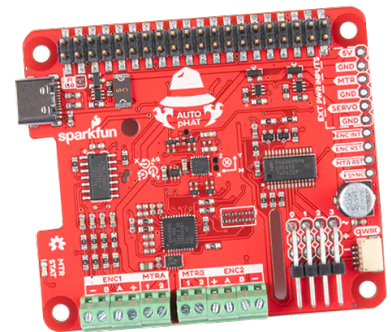# Auto pHAT for Raspberry Pi
ROB-16328

Product Overview
12-22-2021
For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

SparkFun ROB-16328 Auto pHAT for Raspberry Pi is an all in one package that focuses on adding robot functionality and support to single-board computers. This Auto pHAT can drive two small DC motors with or without encoders and up to four servo motors directly by means of an I^2C connection. The Auto pHAT for Raspberry Pi comes with a Qwiic connector for easy interfacing with the I^2C bus using the Qwiic system. This Auto pHAT comes with an onboard ATTINY84A that helps to support up to two motor encoders and provides more precise movement.

The Auto pHAT also incorporates an onboard ICM-20948 9DOF Inertial Measuring Unit (IMU) for sensing motion. This device enables the robot to access a 3-axis gyroscope and a 3-axis accelerometer, each with four selectable ranges, and a 3-axis magnetometer with ±4900µT FSR.

Features

- 4245 PSOC and 2-channel motor ports programmable using Qwiic library
- On board ATTINY84A supports up to two DC motor encoders
- 5v pass-through from RPi
- On board ICM-20948 9DOF IMU for motion sensing accessible via Qwiic library
- PWM control for up to four servos
- Qwiic connector for expansion to full SparkFun Qwiic ecosystem
- Designed for stacking, full header support and can use additional pHATs on top of it
- Uninhibited access to the RPi camera connector and display connector
- USB-C for powering 5V rail (Motors/Servos/backpowering Pi)
- External power inputs broken out to PTH headers

Applications

- Adds robotic functionality to single-board computers
- Motion sensing

Mouser Part Number

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To learn more, visit https://www.mouser.com/new/sparkfun/sparkfun-rob-16328-auto-phat/