DEV-16832 OpenLog Artemis

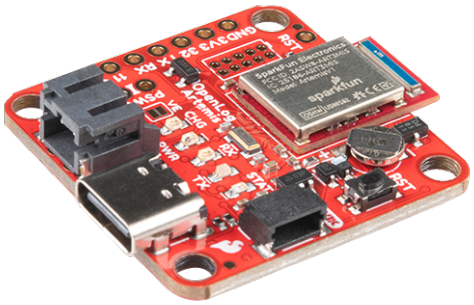
Open Source Data Logger

Product Overview

12-21-2021

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description



The DEV-16832 OpenLog Artemis is an open source data logger that comes preprogrammed to automatically log IMU, GPS, serial data, and various pressure, humidity, and distance sensors. The automatically detects, configures, and logs Qwiic sensors and is specifically designed for users who just need to capture a lot of data to a CSV. OpenLog Artemis can be configured to take readings at 500 times a second, or as slow as 1 reading every 24 hours.

The OpenLog Artemis uses the latest ICM-20948 from InvenSense capable of nearly 250Hz logging of all nine axes. The OpenLog Artemis is highly configurable over an easy to use serial interface. Simply plug in a USB-C cable and open a terminal at 115200bps. This data logger supports microSD cards formatted as FAT32 as well as the older FAT16 formats up to 32GB. The OpenLog Artemis can use any size microSD card and, as of firmware version 1.11, supports exFAT cards in addition to FAT32.

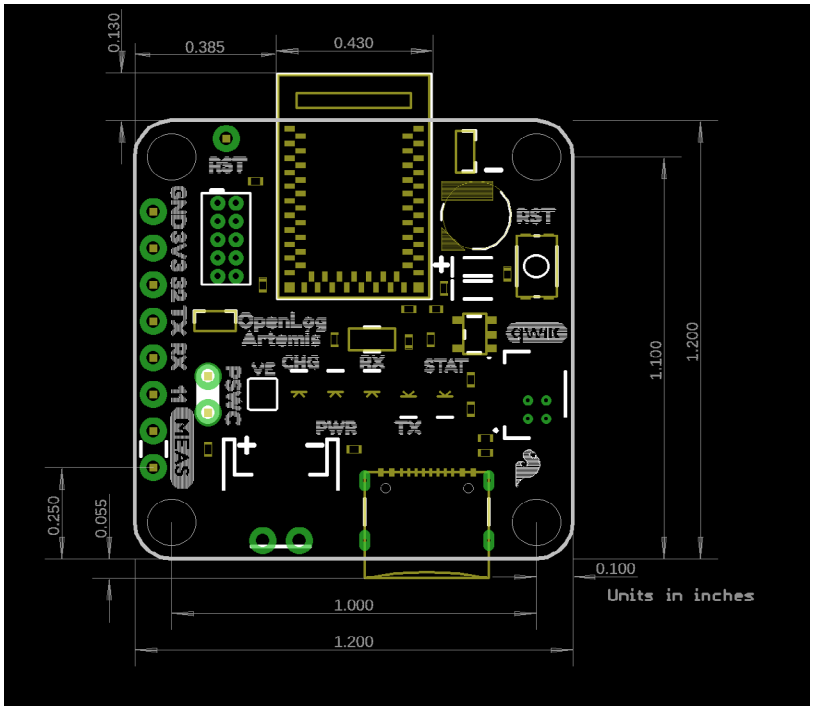
Features

- Artemis Module (Cortex-M4F based Apollo3 microcontroller):
  - Configurable via CH340E and Artemis Firmware upload GUI
- Operating voltage range:
  - 3.3V to 6.5V (via VIN with optional external power switch)
    - 5V with USB (via 5V or USB type C)
    - 3.6V to 4.2V with LiPo battery (via VBATT or 2-pin JST)
      - Built-in MCP73831 single cell LiPo charger
      - Minimum 450mA charge rate
    - 3.3V (via 3V3)
- Current consumption:
  - ~20mA (Run)
  - ~80µA (Sleep)
  - ~18µA (Deeps sleep - regulator shut down)

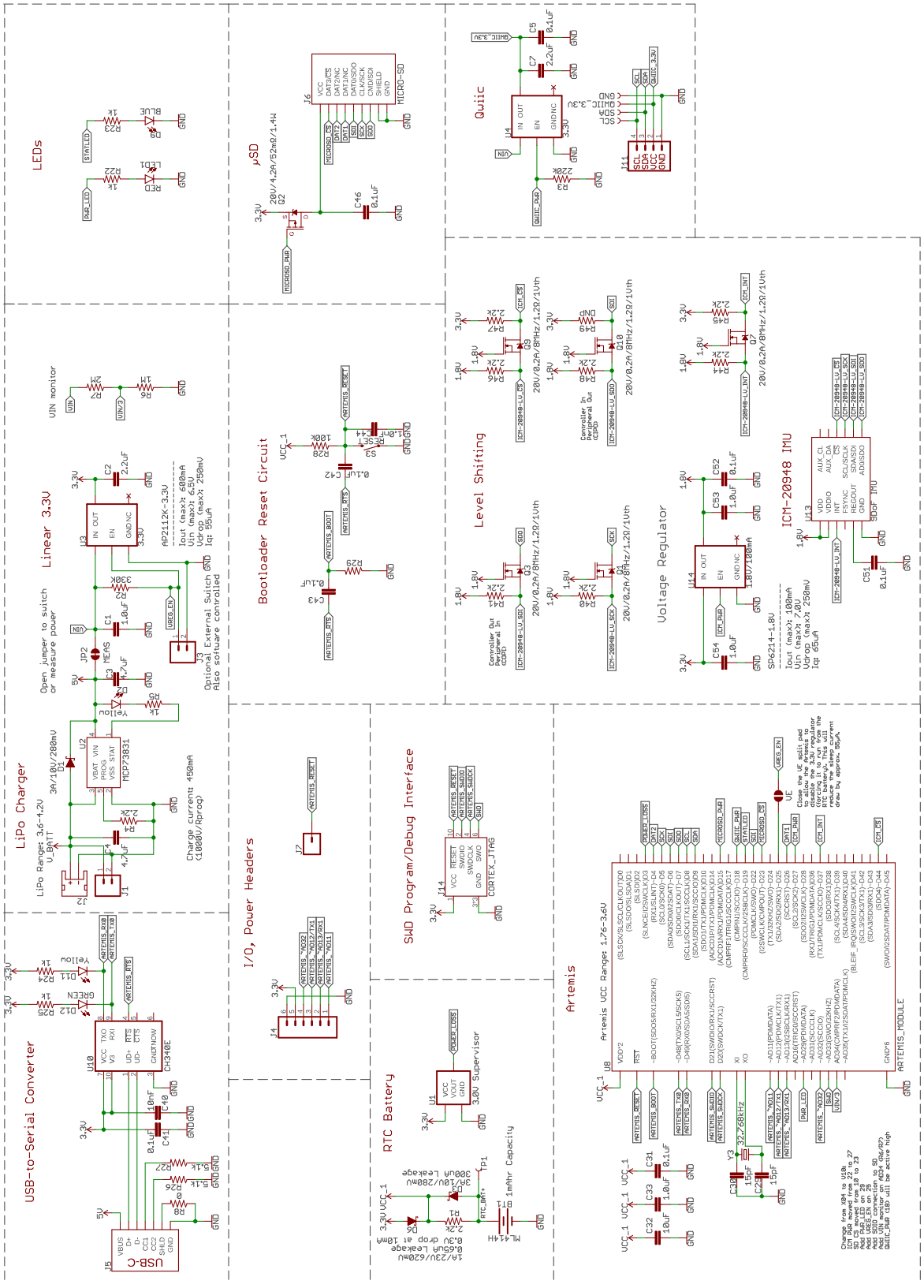
Features

- Ports:
  - 1x USB type C
  - 1x LiPo battery enabled
  - 1x Qwiic enabled I²C with power control
  - 1x SWD 2x5 header
  - 4x Analog-to-digital
    - 14-bit, up to 1900Hz, 2V maximum (3.3V compatible)
  - Serial:
  - Logging speeds up to 500000bps
  - 1x microSD socket:
    - Support for FAT32 and older FAT16 formats up to 32GB with power control
- RTC with 1mAhr battery backup
- 9-axis IMU logging up to 250Hz
  - ICM-20948 via SPI interface
- LEDs
  - Power
  - LiPo charge indicator
  - Serial Tx and Rx
  - Status

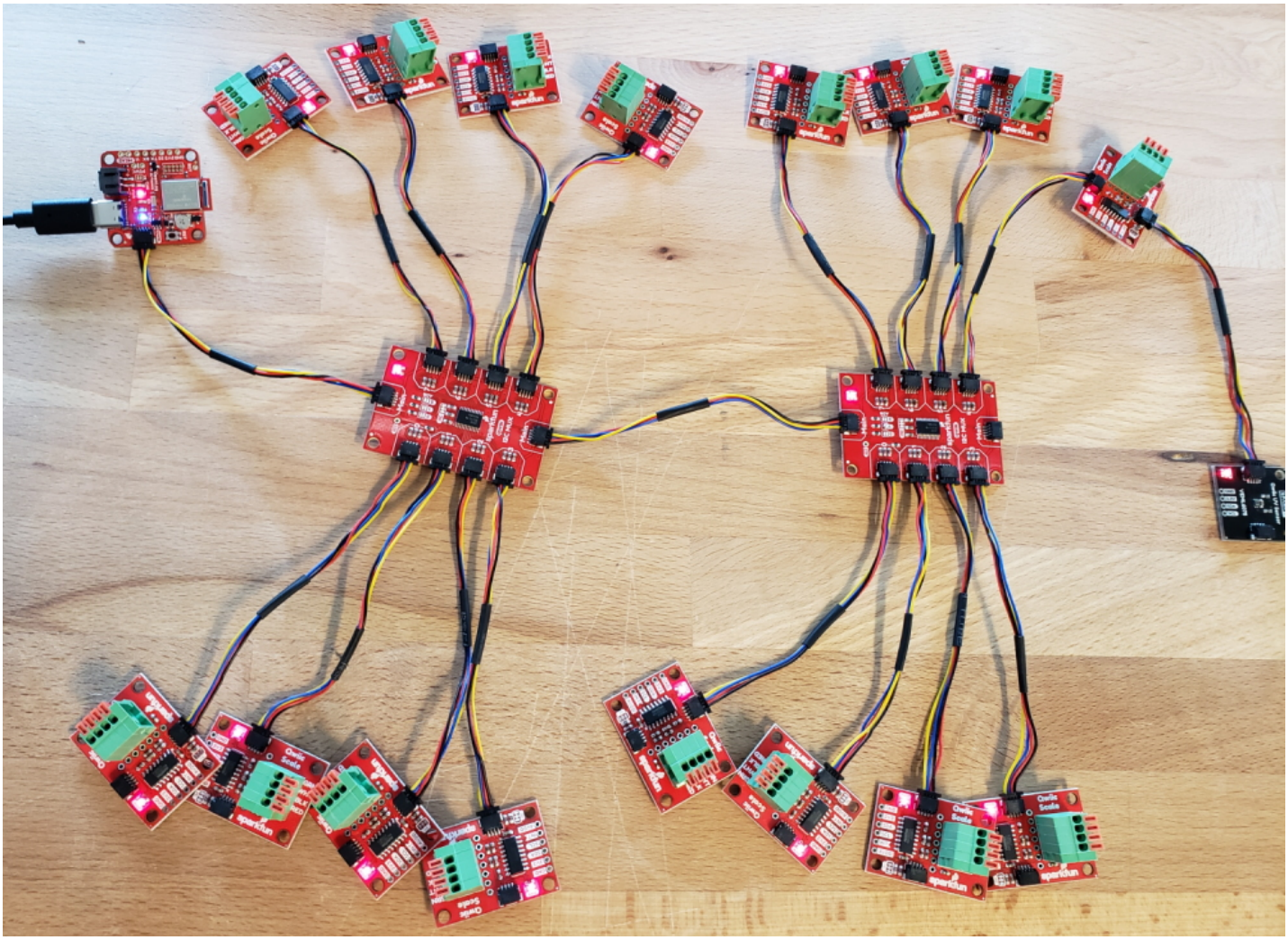
Board Dimensions



Schematic



View how a Data Logger is connected



Additional Resources

- Artemis Module Integration Guide Version: 1p0p3
- Designing with the Sparkfun Artemis
- Artemis Development with Arduino
- OpenLog Artemis Hookup Guide

Mouser Part Number

View Part

To learn more, visit https://www.mouser.com/new/sparkfun/sparkfun-dev-16832-openlog-artemis/