

General Description

The Mercury-G4 is a flight controller designed for small, manually-controlled quadcopters. It fits most frames that include 30×30mm (“full size”), and 20×20mm (“mini”) frames. It includes a STM32G4 microcontroller that can run flight controller firmware including BetaFlight, iNav, and Ardupilot. It doesn’t come with firmware pre-installed: This must be flashed and configured by the user.

Mercury contains exposed pads for soldering on its top side, a port to connect to an ESC on its bottom,

Specifications

- **Dimensions:** 38×38×6(height) mm
- **Weight:** 14 grams
- **Mounting screws:** 4×M3 (3mm diameter), in 20×20mm, and 30.5×30.5mm spacings
- **Inertial Measurement Unit (IMU):** TDK ICM-42065
- **Barometer (pressure altimeter):** Infineon DPS-368
- **MCU:** STM32G431, Cortex-M4. 170Mhz, 128Kb internal flash, 32kb RAM
- **Number of exposed UART ports:** 4
- **Number of exposed I²C buses:** 2
- **Control radio receiver:** Semtech SX1281. (Compatible with ELRS transmitters)
- **Flash storage:** 8Mb
- **On-screen display:** AT7456E
- **Power consumption:** 375µA

Connecting to an ESC

To connect to an Electronic Speed Controller (ESC), use either the ESC

Connecting an an ELRS radio controller

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Connecting digital video transmission systems

Mercury supports connecting to digital video transmissions systems, including DJI, HDZero, and Caddx. While these systems operate mostly independently of the flight controller, they can connect to Mercury using the following wires: 5V and Ground (to power the camera and transmitter), and any Uart Tx or Rx line (To receive information to populate the On-Screen Display (OSD)).

Pin Mappings

Mercury uses the following pin assignments:

PA0:

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