FC-001-AP(Pixhawk)

High-Reliability ArduPilot Flight Controller

User Manual

rev: 260319
Made in Taiwan

INTRODUCTION

The FC-001-AP H7 flight controller is powered by a high-performance Cortex-M7 core processor with an integrated Cortex-M3 coprocessor, delivering strong computing capability for advanced autonomous flight. It features a triple-redundant IMU system with dual ICM42688 sensors and a BMI088, complemented by dual MS5611 barometers and an onboard AK09918 compass for enhanced reliability and accuracy. Fully compatible with ArduPilot, the FC-001-AP supports multiple vehicle types and offers extensive connectivity with 14 PWM outputs, multiple MAVLink interfaces, dual GPS, CAN, and SD card logging, making it a versatile and dependable solution for complex mission requirements.

FEATURES

- High-performance STM32H757 dual-core processor (ARM Cortex-M7 + Cortex-M4) with STM32F103 coprocessor
- Triple redundant IMU system for enhanced reliability and accuracy
  - IMU1: ICM42688
  - IMU2: ICM42688
  - IMU3: BMI088
- Dual high-precision barometers MS5611
- One onboard compass AK09918
- Supports RC input signals: PPM, SBUS, DSM
- Triple power redundancy for enhanced fault tolerance
- Supports ArduPilot
- Compatible with multiple vehicle types: Fixed-wing, Multicopter, Helicopter, VTOL, Rover, Boat, Submarine
- Supports multiple modes such as Loiter, Altitude Hold, AUTO(With Waypoints), Guide mode, etc
- Supports Mission Planner ground control stations
- Built-in flight logging
- Supports companion computers such as NVIDIA, Raspberry Pi ，etc
- Supports OSD
- Supports SD Card
- PWM I/Os: 14
- Mavlink serial interface: 4
- Number of GPS supported: 2
- I2C interface: 2
- CAN interface: 2
- ADC interface: 1