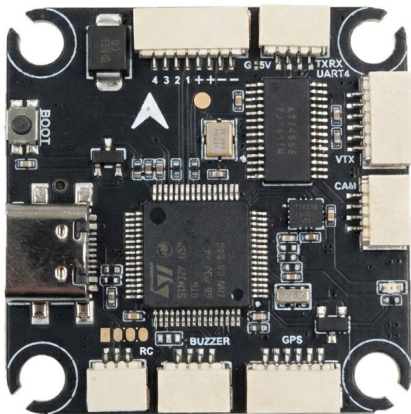
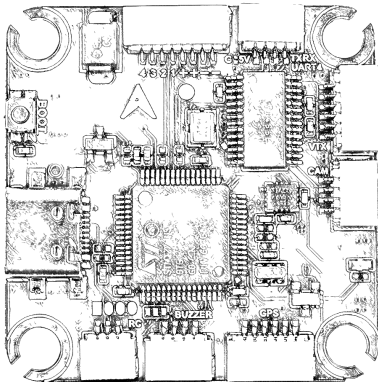


AF-F4 nano

User Guide



AF-F4 nano Overview



Compact STM32F405 flight controller with an ICM-42688-P IMU. The novaX hardware definition configures an SPL06 barometer, 8 motor/servo outputs, 1 LED output and 6 UARTs plus USB.

AF-F4 nano Specifications

• Basic Specifications

MCU	STM32F405
IMU	ICM-42688-P
Barometer	SPL06 (current novaX hardware definition)
Operating Voltage	9 – 25 V DC
Output Voltage	3.3V/1A · 5V/3A · 10V/3A
USB Input	USB Type-C (Firmware & Power)
PWM Output	8 motor/servo channels + 1 LED channel
Serial Ports	6 hardware UARTs + USB configured; verify connector pinout
Servo Output	2 Port
RC Input	PWM / PPM / S.Bus

AF-F4 nano Specifications

• Basic Specifications

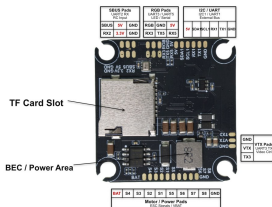
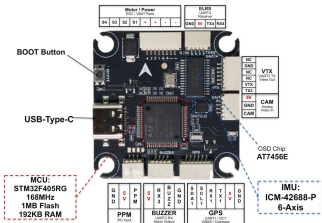
Size	39.4 × 39.4 mm
Mount Hole	30.5 × 30.5 mm / M4
Weight	9.3 g
Operating Temp	-20 ~ +70 °C
Supported F/W	novaX ArduPilot (released); Betaflight board configuration available

AF-F4 nano Pinout

• Pinout

AF-F4 nano

Connector & Component Map



AF-F4 nano Setup

1. **Mounting** — Align the board's forward direction with the vehicle nose on a vibration-damped mount; otherwise set `AHRS_ORIENTATION`. Mounting: 30.5 × 30.5 mm / M4.
2. **Power** — Supply power within the operating range and check polarity first. Operating voltage: 9 – 25 V DC.
3. **Peripherals** — Connect the receiver, GPS / compass and ESCs according to the pinout.
4. **Firmware** — Load this product's novaX ArduPilot image from the catalog Web Updater; never use another board's firmware.
5. **Setup** — In Mission Planner or similar, choose the frame, calibrate accelerometer, compass and radio, and set flight modes and failsafes.

AF-F4 nano Firmware

• Available Firmware

Type	Version	Date
ArduPilot (.apj package)	1.2.3	2026-07-11
Bootloader + App (merged HEX · DFU / SWD)	1.2.3	2026-07-11

Download files from the product page (QR).

AF-F4 nano Safety Notes

- Always remove propellers while wiring, configuring or updating firmware.
- Pull connectors by the housing, never by the wires.
- Beware of static discharge; do not operate in wet or dusty conditions.



<Detailed Manual>

novaX