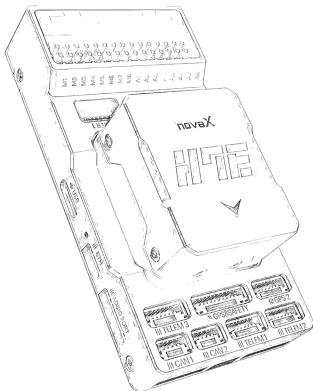


AF-H7E

User Guide



AF-H7E Overview



Modular STM32H753 flight controller on the Pixhawk FMUv6x architecture with three IMUs, an RM3100 compass, two ICP-20100 barometers, 8 FMU + 8 IOMCU outputs, 2 CAN ports and Ethernet.

AF-H7E Specifications

• Basic Specifications

MCU	STM32H753, ARM Cortex-M7, 480 MHz
RAM / Flash	1 MB / 2 MB
IMU	BMI088 (Accel/Gyro)
Secondary IMU	ICM-42688-P, ICM-20649
Magnetometer	RM3100
Barometer	2× ICP-20100
Operating Voltage	4.75 – 5.7 V (Rated 5 V)
USB Input	4.75 – 5.25 V
Servo Rail	0 – 9.9 V
PWM Output	8 FMU + 8 IOMCU channels
RC Input	S.Bus, PPM, DSM / Spektrum
RSSI Input	Analog / PWM

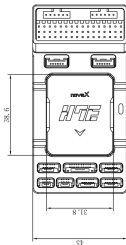
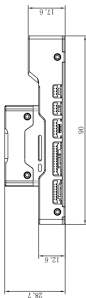
AF-H7E Specifications

• Basic Specifications

UART	7 peripheral serial interfaces + dedicated IOMCU link
I ² C	4 configured buses including internal sensors; 3 exposed on multifunction ports
CAN	2 Port
ADC	VBat/Current + Aux Analog Input
Size	45 × 90 × 29.2 mm
Mount Hole	Pixhawk FMUv6x Standard
Weight	99 g (Core 43g + Baseboard 56g)
Operating Temp	-20 ~ +85 °C
Supported F/W	novaX ArduPilot (Copter and Plane releases)
Ethernet	100 Mbps x 1 Port

AF-H7E Pinout

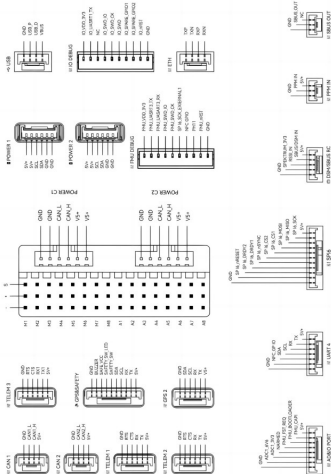
• Dimensions



AF-H7E Pinout

• Pinout

Interface Definition



AF-H7E Pinout

• Pinout Notes

I2C bus numbering on the multi-function ports: the GPS & Safety port carries I2C1, the GPS2 port carries I2C2, and the UART4 port carries I2C3.

AF-H7E Setup

1. **Mounting** — Align the board's forward direction with the vehicle nose on a vibration-damped mount; otherwise set `AHRS_ORIENTATION`. Mounting: Pixhawk FMUv6x Standard.
2. **Power** — Supply power within the operating range and check polarity first. Operating voltage: 4.75 – 5.7 V (Rated 5 V).
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-H7E Firmware

• Available Firmware

Type	Version	Date
ArduPilot Copter (.apj package)	1.3.0	2026-08-20
ArduPilot Copter - Bootloader + App (merged HEX / DFU / SWD)	1.3.0	2026-08-20
ArduPilot Plane (.apj package)	1.3.0	2026-08-20
ArduPilot Plane - Bootloader + App (merged HEX / DFU / SWD)	1.3.0	2026-08-20

Download files from the product page (QR).

AF-H7E 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.
- Supply the servo rail (0 – 9.9 V) from an external BEC.
- Copter and Plane share board ID 6202 — pick the image by file name.



<Detailed Manual>

novaX