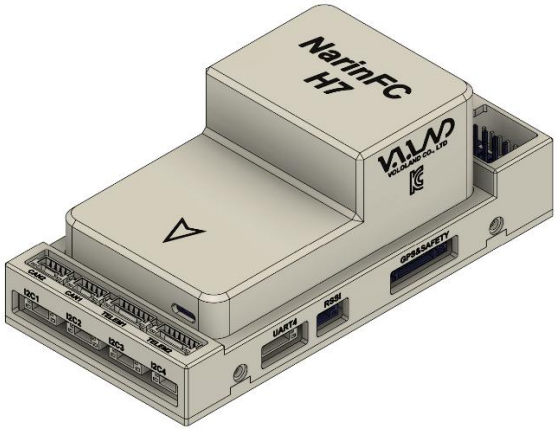
NarinFC H7

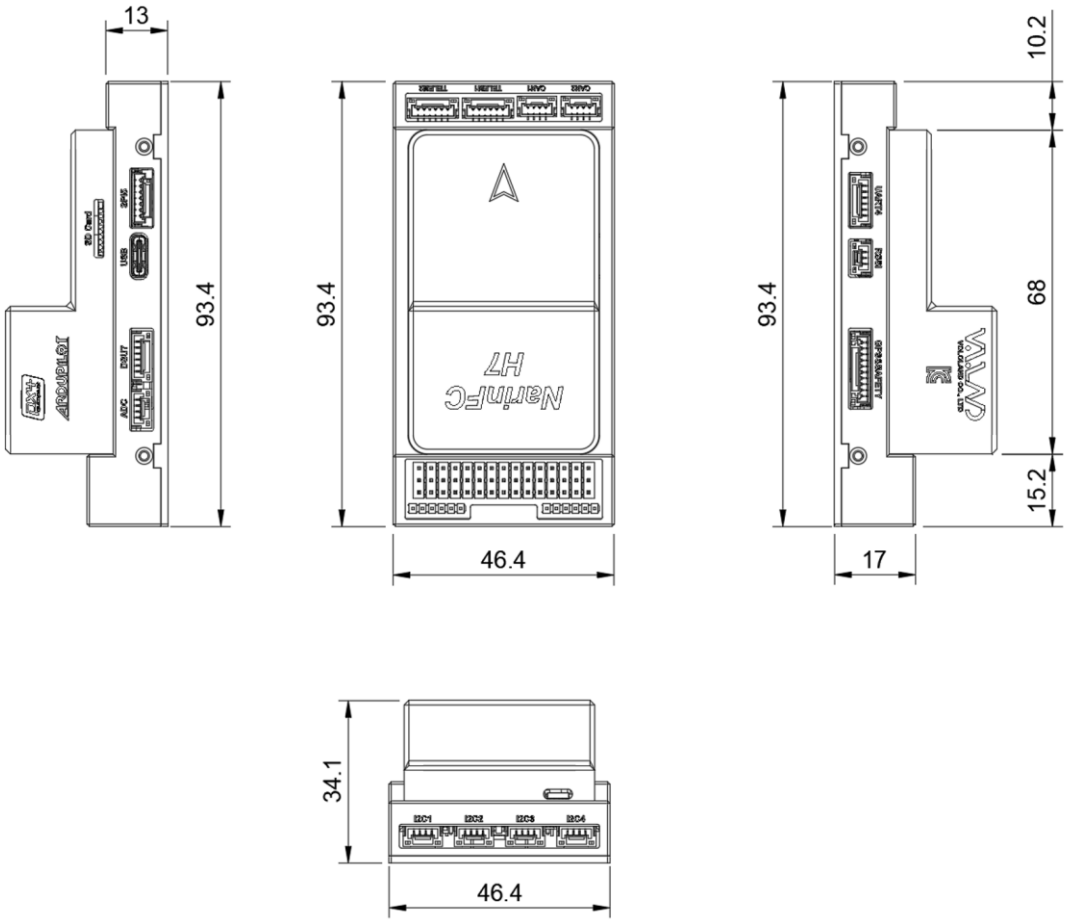
Manual



1. Basic Parameters

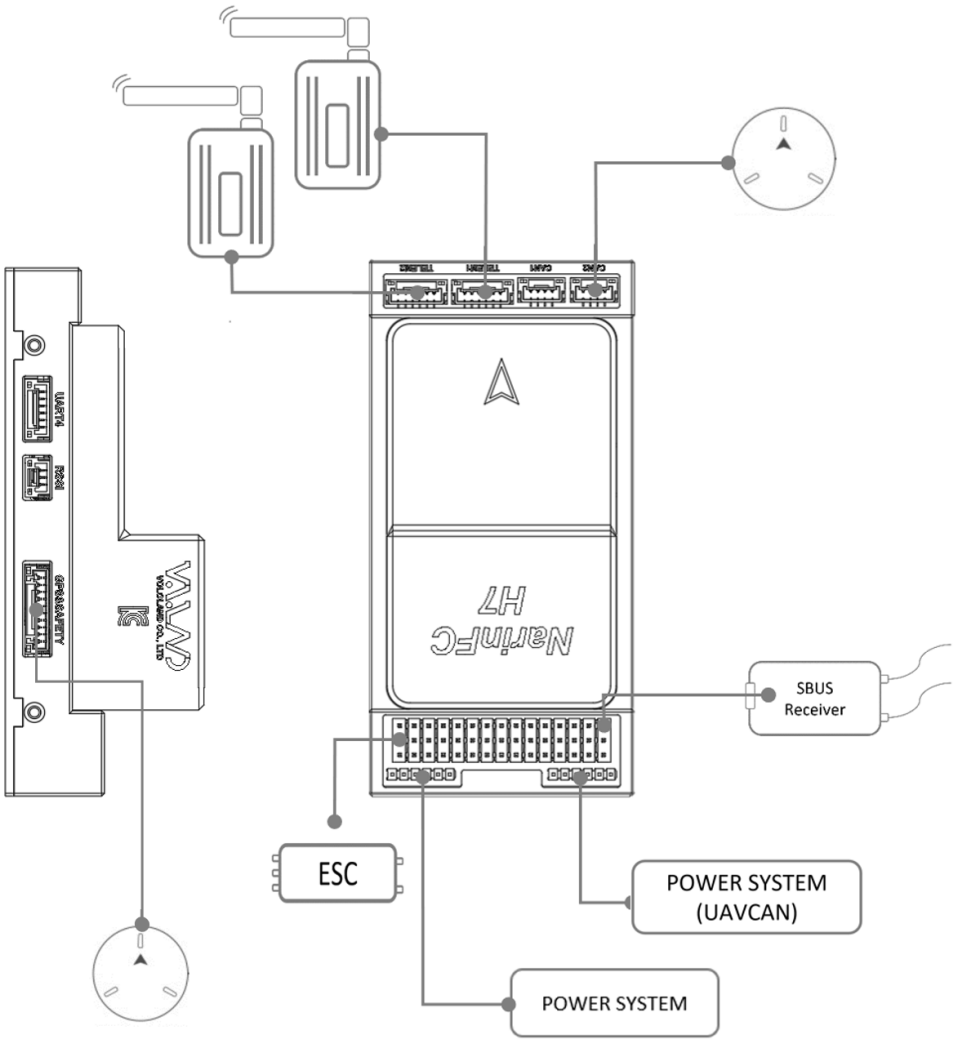
Main FMU Processor	• STM32H743
On-board sensors	• Accelerometer/Gyroscope: ADIS16470 • Accelerometer/Gyroscope: ICM-20649 • Accelerometer/Gyroscope: BMI088 • Magnetometer: RM3100 • Barometer: MS5611*2
Interfaces	• 14 PWM Output • Support multiple RC inputs (SBus / CPPM / DSM) • 2 GPS ports (GPS and UART4 ports) • 4 x I2C • 2 x CAN bus ports • 2 x Power ports • 2 x ADC ports • 1 x USB ports
Power System	• Power 4.3V ~ 5.4V • USB Input 4.75V ~ 5.25V
Weight	• 106g

2. Outline Dimensions



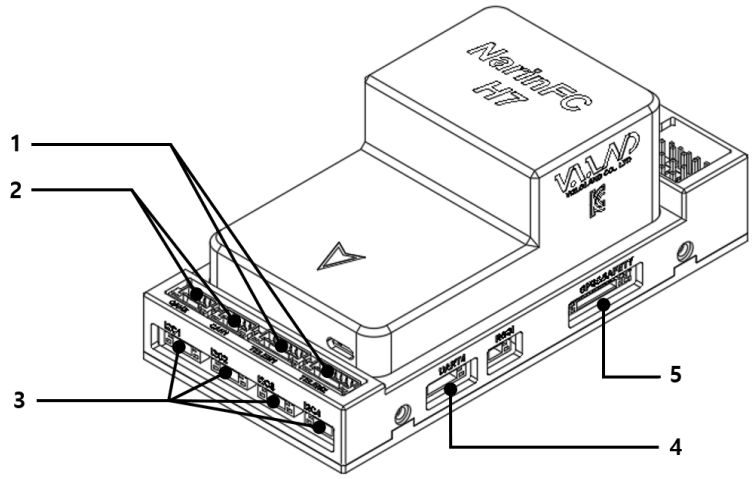
[Outline Dimensions]

3. Wire Diagram



[Wire Diagram]

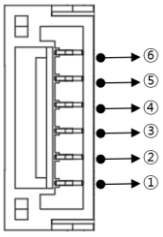
4. Port Diagram & Pin outs



[Port Diagram-A]

1. TELEM1, TELEM2 Port (JST GH 6P Connector)

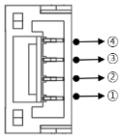
- Telemetry system can be connected.
- TELEM1 = SERIAL1(MAVLINK 2 Default), TELEM2 = SERIAL2(MAVLINK 2 Default)



①	5VDC
②	TELEM_TX
③	TELEM_RX
④	TELEM_CTS
⑤	TELEM_RTS
⑥	GND

2. CAN1, CAN2 Port (JST GH 4P Connector)

• Able to connect UAVCAN devices such as CAN GPS.



①	5VDC
②	CAN_H
③	CAN_L
④	GND

[CAN Pinout]

• Example of compatible GPS devices _ ARDUPILOT

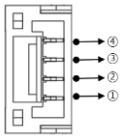
- NarinGPS-RTK
- CubePilot HERE 3/3+, HERE4, HEREPRO
- ARK RTK F9P
- CUAV Neo2 pro, Neo3 pro, Neo 3X, C-RTK2
- Holybro M8, M9, H-RTK F9P

• Example of compatible GPS devices _ PX4

- NarinGPS-RTK
- ARK GPS, ARK RTK GPS
- Cubepilot HERE3
- CUAV Neo2 pro, Neo3 pro, C-RTK2

3. I2C1, I2C2, I2C3, I2C4 Port (JST GH 4P Connector)

• Able to connect I2C device, such as External Compass.



①	5VDC
②	SCL
③	SDA
④	GND

• Example of a power module compatible with I2C connections

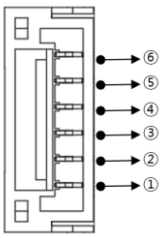
- Holybro PM08D (6P cable)

  (The product can connect I2C devices such as an external compass after separately disconnecting the I2C SCL and SDA cables.)

4. UART4 Port (JST GH 6P Connector)

• Able to connect a GPS with a pin map identical to the one shown below using a 6P connector.

• UART4 = GPS2 = SERIAL4

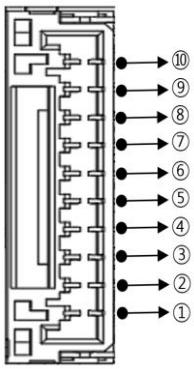


①	5VDC
②	UART4_TX
③	UART4_RX
④	I2C2_SCL
⑤	I2C2_SDA
⑥	GND

5. GPS & Safety Port (JST GH 10P Connector)

• It uses UART and can connect GPS include a safety switch

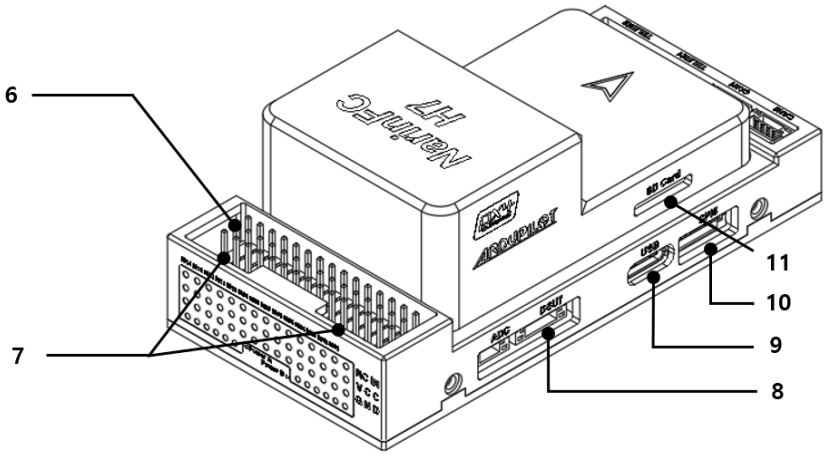
• GPS & Safety port = SERIAL3 = USART1



①	5VDC
②	GPS1_TX
③	GPS1_RX
④	GPS_SCL1
⑤	GPS_SDA1
⑥	SAFETY_SW
⑦	SAFETY_LED
⑧	SAFETY_VCC
⑨	BUZZER1
⑩	GND

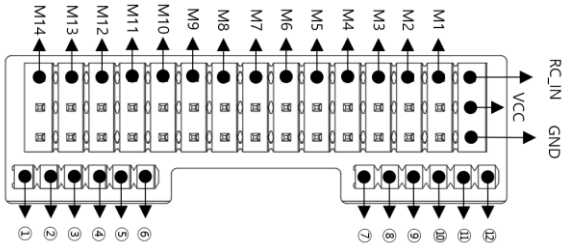
• Example of a compatible GPS device

- Holybro SKU12040 M10 Standard GPS (10P cable)
- CUAV Neo3 (10P cable)



[Port Diagram-B]

6. PWM Out(M1-M14)



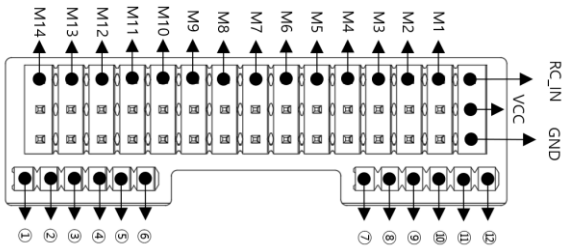
RC_IN	Remote control receiver
M1~M14	PWM OUT

- Connect the transmitter receiver using the PWM output and RC IN port.
- 2.54mm pitch Dupont connector

7. Power Input

• Connect the controller receiver to the PWM output and RC IN Port.

• 2mm pitch Dupont connector



①	VDD 5V 1	⑦	VDD 5V 2
②	VDD 5V 1	⑧	VDD 5V 2
③	BAT1_I_IN	⑨	CAN1_H
④	BAT1_V_IN	⑩	CAN1_L
⑤	GND	⑪	GND
⑥	GND	⑫	GND

• Example of a power module compatible with CAN connection _ ARDUPILOT

- CUAV DRONECAN power module
- Matek CAN-L4-BM DRONECAN PMU
- Pomegranate system power module

• Example of a power module compatible with CAN connection _ PX4

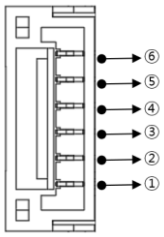
- Pomegranate system power module
- CUAV CAN PMU power module

• Example of a power module compatible with analog connections

- Holybro PM08

8. DEBUG Port (JST GH 6P Connector)

• Available for FMU Chip debugging.



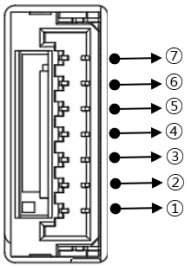
①	5VDC
②	DEBUG_TX
③	DEBUG_RX
④	SWDIO
⑤	SWCLK
⑥	GND

9. USB Port (USB C Type)

• Able to upload firmware by connecting to a PC through the USB port.

10. SPI Port (JST GH 7P Connector)

• Able to connect and use SPI devices.



①	5VDC
②	SPI5_SCK
③	SPI5_MISO
④	SPI5_MOSI
⑤	SPI5_CS1
⑥	SPI5_CS2
⑦	GND

11. SD CARD

• SD card for log storage.