Product Catalog

Holybro

Build Your Drone From Here

UAV Component Manufacturer

Autopilot Flight Controller

Development Drone Kit

GPS & RTK System

Telemetry Radio

Power Module

FPV

ESC

UAV Peripherals

Company Profile

Holybro is a company specializing in the research, development, and manufacture of essential electronic systems for unmanned vehicles. We focus on the best known open–source. and open hardware–based autopilots in the world, as well as GPS, telemetry radio, and much more.

Holybro products are utilized by various user groups such as hobbyist, commercial drone manufacturers, public and private aerospace research and development institutes, and militaries across the globe. Our mission is to innovate and manufacture high quality products to serve our customers across the world. Through the years, we have contributed and establish a close relationship with Dronecode, PX4, Ardupilot, Betaflight, INAV, NXP, Septentrio and more.

Our factory has ISO9001–2015 international quality system certification, and most products have obtained CE and FCC certification.

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AUTOPILOT FLIGHT CONTROLLER

Features

» High performance H7 Processor with clock speed up to 480 MHz

» Specially formulated material for optimal IMU vibration isolation

» Analog Device ADIS16470 Industrial IMU

» Modular: separated FMU and Base system

» Redundancy: 3x Temp Controlled IMU sensors & 2x Barometer

» Triple redundancy domains: Isolated sensor do mains with separate buses and power control

» Ethernet interface

» Pixhawk Autopilot Bus, FMUv6X, and Connector Standards.

» Fully Supported in PX4 & Ardupilot

Product URL

pixhawk® 6x pro

Inside the Pixhawk® 6X Pro , you can find an STM-based STM32H753, paired with sensor technology from Analog Device, Bosch®, and InvenSense®, giving you the flexibility and reliability for controlling any autonomous vehicle. It has triple redundancy: 3 temperature-controlled IMU sensors and 2 barometer sensors on separate buses.

Its modular form factor allows ultimate flexibility, user have the ability to use any baseboard design for the project's needs. Holybro has provided several different baseboards. You can use a baseboard from any manufacturer as long as it follows the Pixhawk Autopilot Bus standard.

Specification

FMU Processor	STM32H753 – Arm® Cortex®-M7 480MHz, 2MB memory, 1MB SRAM
IO Processor	STM32F103 – Arm® Cortex®-M3 72MHz, 64KB SRAM
Accel/Gyro	ADIS16470
	IIM-42652
	ICM-45686
Compass	BMM150
Barometer	1x BMP388
	1x ICP20100

Interface

PWM out	16 (8 From IO, 8 From FMU)
UART	6 (Telem1 & 2 & 3, GPS1 & 2, UART4)
I2C	2 Bus (1 standalone, 1 in GPS2 Port)
CAN	2 Bus
Debug	Pixhawk FMU Debug Full
	Pixhawk I/O Debug Full
Power input	2 Power Input Ports (Digital)
USB	2 (Type-C & 4P JST GH)
Ethernet	Supported (4P JST GH)
Others	SPI, AD & IO, SBUS Out
R/C Input	Dedicated R/C input for Spektrum / DSM and S.BUS, CPPM, analog / PWM RSSI

Electrical Data

Max Input Voltage	6V
USB Power Input	4.75~5.25V
Servo Rail Input	0-36V (Unpowered)
Current Ratings	Telem 1 Max output current limiter: 1.5A.
	All other port combined output current limiter: 1.5A

Mechanical Data

Operating Temp	-40 ~ 85°c
Dimension	38.8 * 31.8 * 30.1mm
Weight	48.6g

AUTOPILOT FLIGHT CONTROLLER

Features

» High performance H7 Processor with clock speed up to 480 MHz

» Modular: separated FMU and Base system

» Redundancy: 3x Temp Controlled IMU sensors & 2x Barometer

» Triple redundancy domains: Isolated sensor domains with separate buses and power control

» Ethernet interface

» Pixhawk Autopilot Bus, FMUv6X, and Connector Standards.

» Fully Supported in PX4 & Ardupilot

Product URL

Inside the Pixhawk® 6X, you can find an STM based STM32H753, paired with sensor technology from Bosch® and InvenSense®, giving you flexibility and reliability for controlling any autonomous vehicle. It has triple redundancy : 3 temperature-controlled IMU sensors and 2 barometer sensors on separate buses.

Its modular form factor allows ultimate flexibility due to the ability to use any baseboard design for the project's needs. Holybro has provided 3 different baseboards to choose from: the standard, mini, and CM4 baseboards. You can use baseboard by any manufacturer as long as it follows the Pixhawk Autopilot Bus standard.

Specification

FMU Processor	STM32H753 – Arm® Cortex®-M7 480MHz, 2MB memory, 1MB SRAM
IO Processor	STM32F103 – Arm® Cortex®-M3 72MHz, 64KB SRAM
Accel/Gyro	ICM-45686 x3
Compass	BMM150
Barometer	1x BMP388
	1x ICP20100

Interface

PWM out	16 (8 From IO, 8 From FMU)
UART	6 (Telem1 & 2 & 3, GPS1 & 2, UART4)
I2C	2 Bus (1 standalone, 1 in GPS2 Port)
CAN	2 Bus
Debug	Pixhawk FMU Debug Full
	Pixhawk I/O Debug Full
Power input	2 Power Input Ports (Digital)
USB	2 (Type-C & 4P JST GH)
Ethernet	Supported (4P JST GH)
Others	SPI, AD & IO, SBUS Out
R/C Input	Dedicated R/C input for Spektrum / DSM and S.BUS, CPPM, analog / PWM RSSI

Electrical Data

Max Input Voltage	6V
USB Power Input	4.75~5.25V
Servo Rail Input	0-36V (Unpowered)
Current Ratings	Telem 1 Max output current limiter: 1.5A.
	All other port combined output current limiter: 1.5A

Mechanical Data

Operating Temp	-40 ~ 85°c
Dimension	38.8 * 31.8 * 16.8mm
Weight	30.4g

PIXHAWK 6X INTERNAL STRUCTURE

Vibration Isolation System

IMU Board

Triple Redundancy Domains
All Sensor on Seperate Bus

Triple Redundant lMU
2X Barometer

FMU Board

Modular Design

Pixhawk Autopilot FMUv6X
Open Standard

Baseboard

Pixhawk Autopilot Bus
Standard

Pixhawk Jetson Baseboard

» Combines the power of Pixhawk & Jetson in a small form factor

» Fully compatible with Jetson Orin NX & Orin Nano

» Pixhawk Autopilot Bus (PAB) open source specification

» Jetson & Autopilot connected via UART, CAN, and Ethernet Switch

» 2x M.2 Key For WiFI/BT & NVMe SSD

nVIDIA

Product URL

4
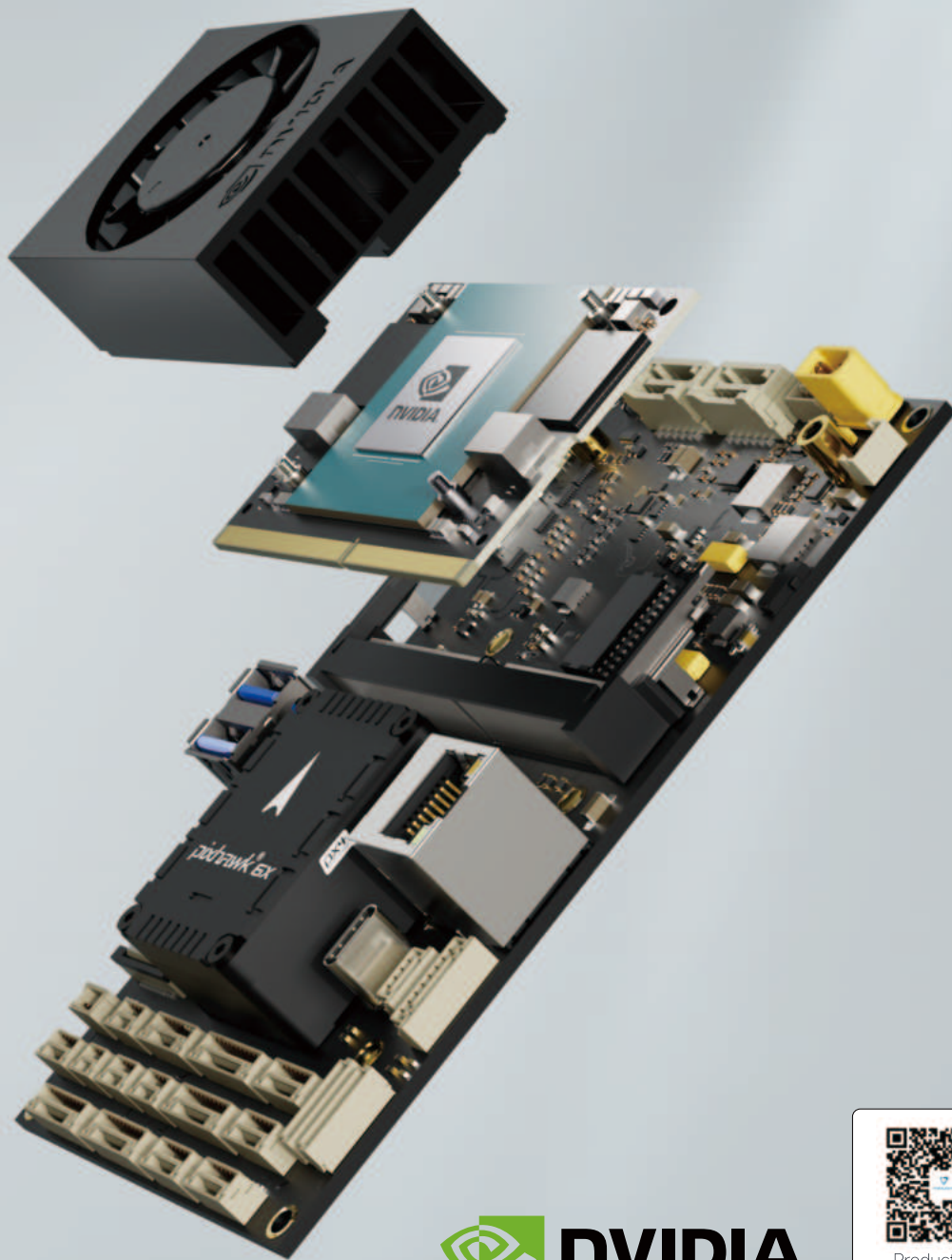
Pixhawk Raspberry Pi Baseboard

» Combines the power of Pixhawk & Raspberry Pi in a small form factor

» Aluminum case and fan for heat dissipation

» Pixhawk Autopilot Bus (PAB) open source specification

» Connected via UART & ethernet (optional)

» Compatible with Raspberry Pi CM4 or CM5 (once launched)

Product URL
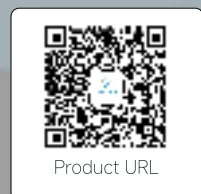
pixhawk® 6x

Pixhawk Autopilot Bus & Baseboard
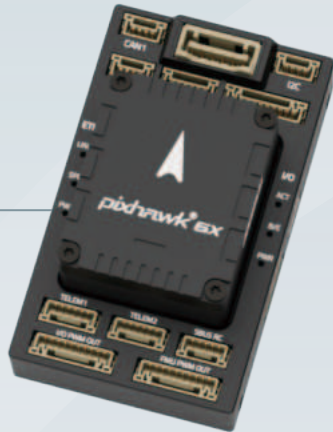
Mini Baseboard

RPI CM4 Baseboard
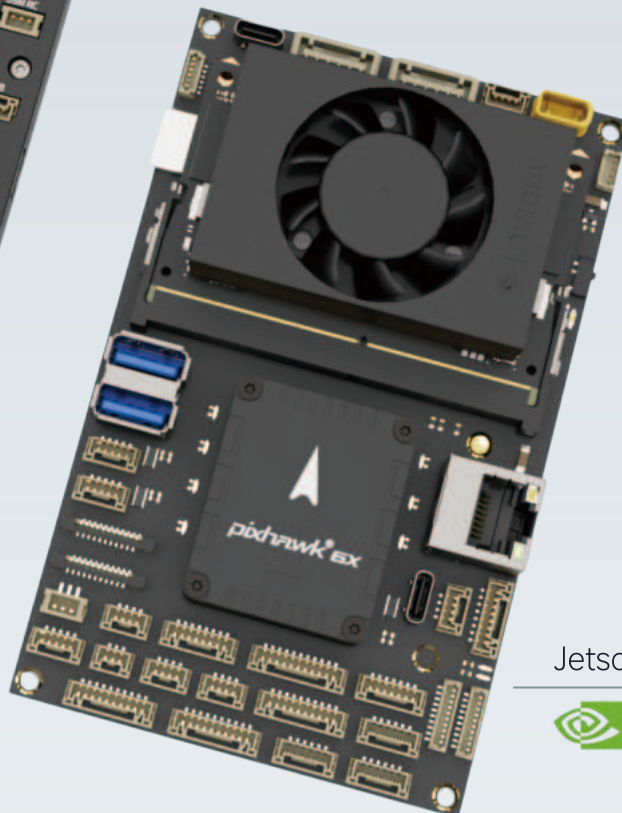
RaspberryPi

Standard Baseboard

Jetson Baseboard

NVIDIA.

AUTOPILOT FLIGHT CONTROLLER

Features

» High performance H7 Processor with clock speed up to 480 MHz

» New cost-effective design with low-profile form factor

» Redundant inertial measurement unit (IMU) from Bosch® & InvenSense®

» Integrated vibration isolation system

» IMUs are temperature-controlled by onboard heating resistors

» Follows Pixhawk FMUv6C & Connector Standard

» Fully Supported in PX4 & Ardupilot open source autopilot system

Product URL

pixhawk® 6c

The Pixhawk® 6C is the latest update to the successful family of Pixhawk® flight controllers, based on the Pixhawk® FMUv6C Open Standard and Connector Standard. The FMUv6C open standard includes high-performance, low-noise IMUs on board, designed to be cost effective while having IMU redundancy.

Inside the Pixhawk® 6C, you can find an STMicroelectronics®-based STM32H743, paired with sensor technology from Bosch® & InvenSense®, giving you flexibility and reliability for controlling any autonomous vehicle, suitable for both academic and commercial applications. Support by PX4 and Ardupilot open source.

Specification

FMU Processor	STM32H743 – Arm® Cortex®-M7 480MHz, 2MB memory, 1MB SRAM
IO Processor	STM32F103 – Arm® Cortex®-M3 72MHz, 64KB SRAM
Accel/Gyro	ICM-42688-P
	BMI055
Compass	IST8310
Barometer	MS5611

Interface

PWM out	16 (8 From IO, 8 From FMU)
UART	5 (Telem1&2&3, GPS1 & 2)
I2C	2 Bus (1 standalone, 1 in GPS2 Port)
CAN	2 Bus
Debug	Pixhawk FMU Debug Full
	Pixhawk I/O Debug Ful
Power input	2 Power Input Ports (Analog)
SBUS Output	Available
R/C Input	Dedicated R/C input for Spektrum / DSM and S.BUS, CPPM, analog / PWM RSSI

Electrical Data

Max Input Voltage	6V
USB Power Input	4.75~5.25V
Servo Rail Input	0-36V (Unpowered)
Current Ratings	Telem 1 Max output current limiter: 1.5A.
	All other port combined output current limiter: 1.5A

Mechanical Data

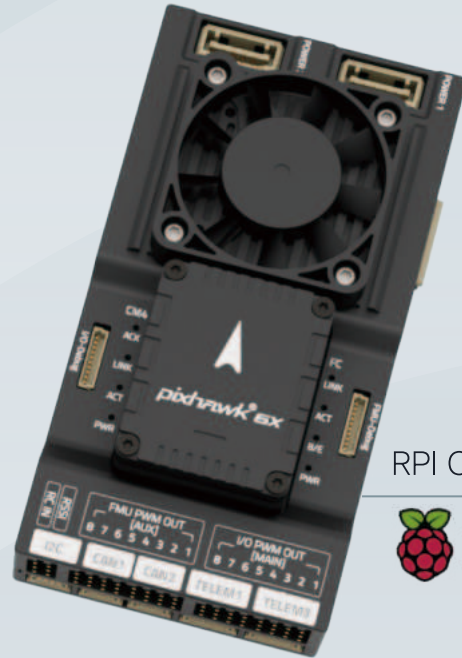|	
Operating Temp	-40 ~ 85°c
Dimension	84.8 * 44 * 12.4 mm
Weight	34.6g (Plastic) or 59.3g (Aluminum)

AUTOPILOT FLIGHT CONTROLLER

Features

» High performance H7 Processor with clock speed up to 480 MHz

» New cost-effective design in a even smaller form factor

» Redundant inertial measurement unit (IMU) from Bosch® & InvenSense®

» Integrated vibration isolation system

» Temperature-controlled IMU

» Follows Pixhawk FMUv6C & Connector Standard

» Fully Supported in PX4 & Ardupilot open source autopilot system

Product URL

pixhawk® 6C mini

The Pixhawk® 6C Mini is the latest update to the successful family of Pixhawk® flight controllers, based on the Pixhawk® FMUv6C Open Standard and Connector Standard. It shares the same STMH743 microprocessor and internal sensors as the Pixhawk 6C.

Compared to the standard Pixhawk 6C, this Mini version has a built-in PWM header, and some ports have been removed in order to fit this Mini form facto

Specification

FMU Processor	STM32H743 - Arm® Cortex®-M7 480MHz, 2MB memory, 1MB SRAM
IO Processor	STM32F103 - Arm® Cortex®-M3 72MHz, 64KB SRAM
Accel/Gyro	ICM-42688-P
	BMI055
Compass	IST8310
Barometer	MS5611

Interface

PWM out	16 (8 From IO, 8 From FMU)
UART	4 (Telem1, 2, GPS1 & 2)
I2C	2 Bus (1 standalone, 1 in GPS2 Port)
CAN	2 Bus
Debug	Pixhawk FMU Debug Mini
Power input	1 Power Input Ports (Analog)
R/C Input	Dedicated R/C input for Spektrum / DSM and S.BUS, CPPM, analog / PWM RSSI

Electrical Data

Max Input Voltage	6V
USB Power Input	4.75~5.25V
Servo Rail Input	0-36V (Unpowered)
Current Ratings	Telem 1 Max output current limiter: 1.5A.
	All other port combined output current limiter: 1.5A

Mechanical Data

Operating Temp	-40 ~ 85°c
Dimension	85.3 * 39 * 16.2 mm
Weight	39.2g

AUTOPILOT FLIGHT CONTROLLER

Features

» High performance H7 Processor with clock speed up to 480 MHz

» New cost-effective design with low-profile form factor

» Redundant inertial measurement unit (IMU) from Bosch® & InvenSense®

» Integrated vibration isolation system

» IMUs are temperature-controlled by onboard heating resistors

» Effortless baseboard customization

Product URL

pix32 v6

Pix32 v6 a variant of the Pixhawk 6C. It is comprised of a separate flight controller and carrier board which are connected by a 100 pin connector. This flight controller is perfect for people that is looking for a affordable and modular flight controller that can use a customized baseboard.

We have made the pix32 v6 base board schematics public. By using a customize baseboard, you can make sure that the physical size, pinouts and power distribution requirements match your vehicle perfectly, ensuring that you have all the connections you need and none of the expense and bulk of connectors you don't.

Specification

FMU Processor	STM32H743 – Arm® Cortex®-M7 480MHz, 2MB memory, 1MB SRAM
IO Processor	STM32F103 – Arm® Cortex®-M3 72MHz, 64KB SRAM
Accel/Gyro	ICM-42688-P
	BMI055
Compass	BMM150
Barometer	2x BMP388

Interface

PWM out	16 (8 From IO, 8 From FMU)
UART	5 (Telem1&2&3, GPS1 & 2)
I2C	2 Bus (1 standalone, 1 in GPS2 Port)
CAN	2 Bus
Debug	Pixhawk FMU Debug Mini
Power input	2 Power Input Ports (Analog)
SBUS Output	Available
R/C Input	Dedicated R/C input for Spektrum / DSM and S.BUS, CPPM, analog / PWM RSSI

Electrical Data

Max Input Voltage	6V
USB Power Input	4.75~5.25V
Servo Rail Input	0-36V (Unpowered)
Current Ratings	Telem 1 Max output current limiter: 1.5A.
	All other port combined output current limiter: 1.5A

Mechanical Data

Operating Temp	-40 ~ 85°c
Dimension	44.8 * 44.8 * 13.5mm
Weight	36g

PIX32 V6 BASEBOARDS

pix32 v6

Flight Controller

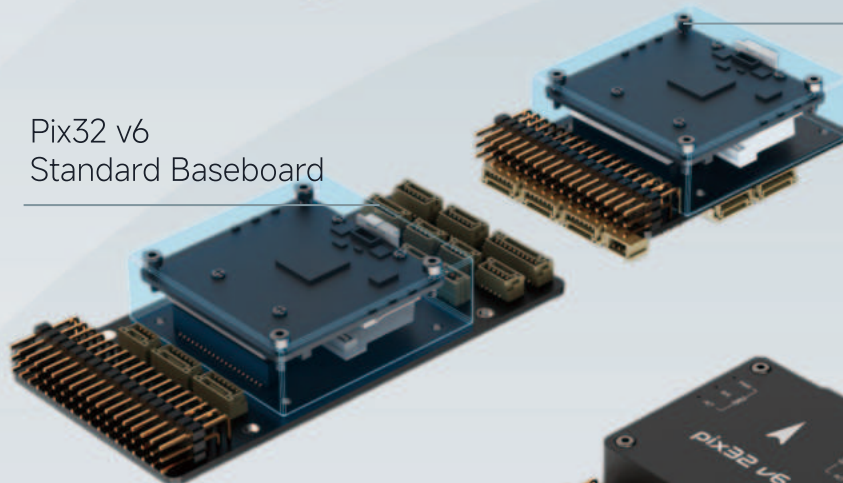Create Your Own Custom
Baseboard Design

Pix32 v6
Mini-Baseboard

Pix32 v6
Standard Baseboard

Using the reference design
file provided by Holybro, this
drastically minimize your
engineering R&D time

Your Own Custom Baseboard
Designed for Your Vehicle

Durandal

Durandal ®

Features

» High performance H7 Processor with clock speed up to 480 MHz

» Built-in Vibration isolation system to filter out high frequency vibration and reduce noise to ensure accurate readings

» IMUs are temperature-controlled by onboard heating resistors, allowing optimum working temperature of IMUs

» 2 power ports & 5 general purpose serial ports

» Two Power ports for redundancy

Product URL
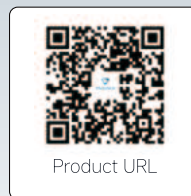
Durandal is a fight controller designed by Holybro utilizing the STM32H7 microcontroller series. it comes with built-in vibration isolation system and integrated lMU heater for sensors temperature control.

Specification

FMU Processor	STM32H743 - Arm® Cortex®-M7 480MHz, 2MB memory, 1MB SRAM
IO Processor	STM32F100/F103 32 Bit Arm® Cortex®
Accel/Gyro	ICM-20602
	BM1088
Compass	15T8310
Barometer	MS5611

Interfance

13 PWM outputs (8 from lO, 5 from FMU)
5 general purpose serial ports
3 12C ports
4 SPl buses
Up to 2 CAN Buses for dual CAN
Analog inputs for voltage / current of 2 batteries
6 dedicated PWM/Capture inputs on FMU
Dedicated R/C input for Spektrum/ DSM
Dedicated R/C input for CPPM and S.Bus
Dedicated S.Bus servo output and analog / PWM RSSI input
2 additional analog inputs

Electrical Data

Max Input Voltage	6V
USB Power Input	4.75~5.25V
Servo Rail Input	0-36V
Current Ratings	Telem 1 Max output current limiter: 1.5A.
	All other port combined output current limiter: 1.5A

Mechanical Data

Operating Temp	-40 ~ 85°c
Dimension	80 * 45 * 20.5mm
Weight	68.8g

Durandal

Durandal®

H7 Processor

High Performance IMU
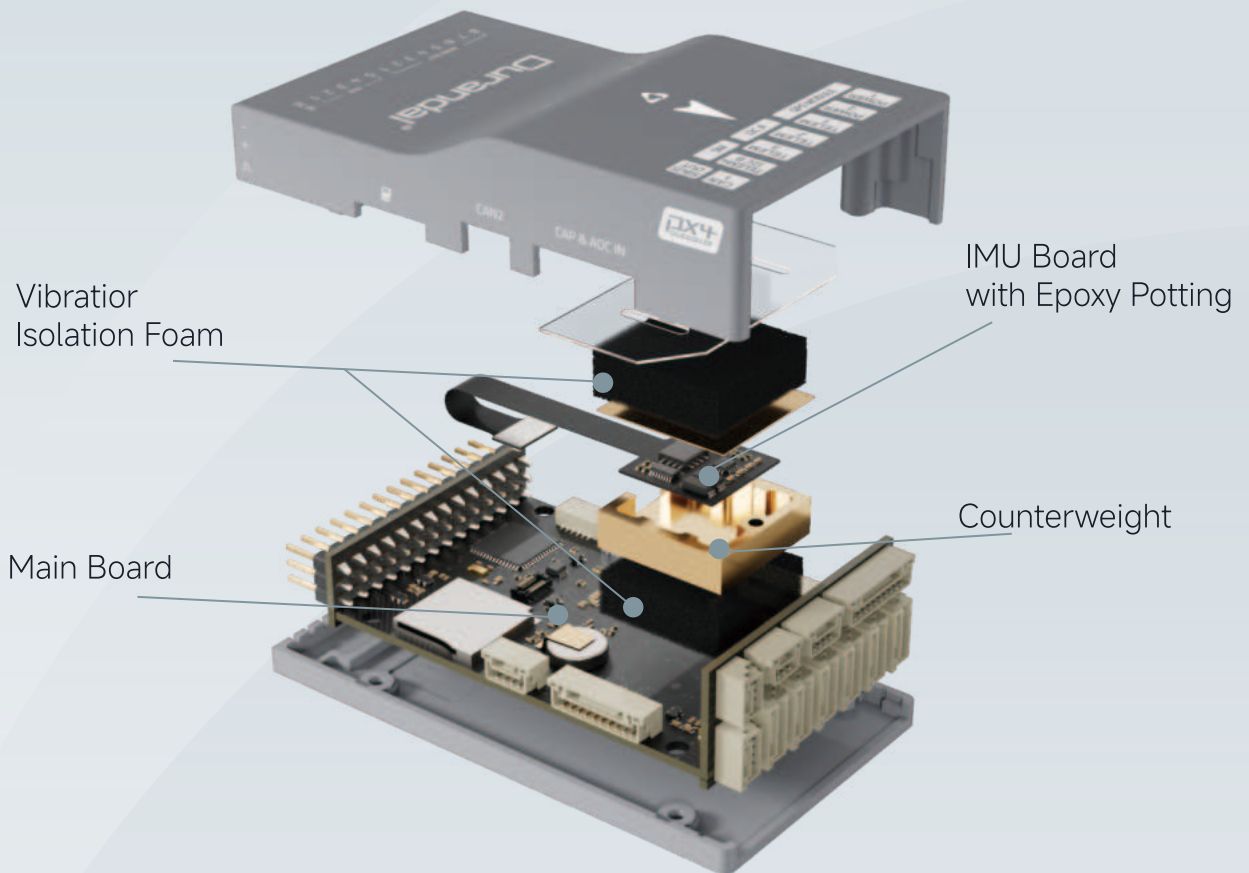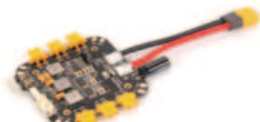
IMU Redundancy

Built-In Vibration Isolation

PX4 autopilot

ARDUPILOT

IMU Board
with Epoxy Potting

Vibratior
Isolation Foam

Counterweight

Main Board

POWER MODULE (DIGITAL)

PM02D

PM03D

PM06D

PM08D

Model	PM02D	PM03D	PM06D	PM08D
SKU	15011, 15013	15011, 15013	15020	15024
Input Voltage	LV: 2~6S HV: 2~12S	2~6S	2~14S	2~14S
PCB Cont./Burst Current Rating	60A/100A	60A/120A	70A/120A	200A/1000A
Max Current Sensing	LV: 164A / HV:327A	164A	327A	327A
Output Voltage	5.2V/3A Max	5.2V/3A Max 8V/12A 3A Selectable	5.2V/3A Max	5.2V/3A Max *2
Ports	XT60 6Pin Molex 2.0mm	XT60 6Pin Molex 2.0mm XT60 *4 (optional) 10 B+ Pads	XT60 6Pin Molex 2.0mm B+ Pads *4	6Pin Molex 2.0mm *2
Built-in Power Distribution	No	Yes	Yes	No
PWM Header	No	No	No	No
Dimensions	25 x 25 x10 mm	84 x 78 x 12 mm	35 x 35 x10 mm	101 x 45 x 26mm
Weight	20g	59g	24g	151g
Mounting Hole	N/A	45 x 45 mm	30.5 x 30.5 mm	79 x 38.1mm
Applicable Products	Pixhawk 5X & 6X	Pixhawk 5X & 6X	Pixhawk 5X & 6X	Pixhawk 5X & 6X

POWER MODULE (ANALOG)

PM02   PM06   PM07   PM08

Model	PM02 V3	PM06 V2	PM07	PM08
SKU	15010	15019	15008	15021
Input Voltage	2~12S	2~14S	2~14S	2~14S
PCB Cont./Burst Current Rating	60A/100A	70A/120A	90A/140A	200A/1000A
Max Current Sensing	120A	120A	120A	237.6A
Output Voltage	5.2V/3A Max	5.2V/3A Max	5.2V/3A Max *2	5.2V/3A Max
Ports	XT60 6Pin GHR 1.15mm	XT60 6Pin GHR 1.15mm B+ Pads *4	XT60 6Pin GHR 1.15mm *2 B+ Pads *4 PWM Header	6Pin GHR 1.15mm
Built-in Power Distribution	No	Yes	Yes	No
PWM Header	No	No	Yes	No
Dimensions	25 x 25 x10 mm	35 x 35 x10 mm	68 x 50 x 10 mm	101 x 45 x 26 mm
Weight	20g	24g	43.8g	151g
Mounting Hole	N/A	30.5 x 30.5 mm	45 x 45 mm	79 x 38.1mm
Applicable Products	Pixhawk 6C & 6C Mini, Pix32 V6 etc	Pixhawk 6C & 6C Mini, Pix32 V6 etc	Pixhawk 6C & 6C Mini, Pix32 V6 etc	Pixhawk 6C/6C Mini Pix32 V6 etc

High Precision GPS Systems (H-RTK Series)

Features

» Dual antennas allow Moving Baseline Yaw (GPS Heading) with just one module

» Can replace the traditional compass/magnetometer

» Perfect for system/environment with high magnetic interference

» Excellent RTK performance

H-RTK Unicore UM982

Unicore UM982

Application	Rover, Moving Baseline Rover, Base Station (Recommend using H-RTK F9P-Base as base station)
Compass	IST8310
GNSS	BDS B1I/B2I/B3LGPS L1C/A/L2P(Y)/L2C/L5, GLONASS L1/L2,Galileo E1/E5a/E5b,QZSS L1/L2/L5
Antennas Peak Gain (MAX)	2dBi
LNA Gain (typical)	33+2dB
Time-TO-First Fix	Cold start: ≤ 30s Hot start: ≤ 5s
RTK-SurveyIn-Time	≤5 minute @2.0mCEP
Data and Update Rate	20 Hz Positioning & Heading 20 Hz Raw Data observation
Port	Port 1: GH1.25 10-pin Port 2: USB Type-c Port 3: UART 2 (GH1.25 6pin)
Cable Length	GH 10P: 150mm GH 10P: 400mm GH 10P to 6P: 300mm
Antenna Connection Type	Board: SMA female Antenna: SMA male
Baud rate: (Adjustable)	230400 5Hz default
Working voltage	4.75V~5.25V
Current Consumption	~350mA
Dimensions	Board: 34.8*58.9*14.4mm Antenna Diameter: 27.5mm Antenna height: 59mm
Port Type	GHR-04V-S
Weight	37.9g(without antennas)

High Precision GPS Systems (H-RTK Series)

Features

» Advanced anti-jamming, anti-spoofing solutions with AIM+ technology & OSNMA

» Dual antenna support for moving baseline yaw (GPS Heading) with just one GPS module

» All-in-view satellite tracking: multi-constellation, multi-frequency (Supports L1/L2/E5)

» Best-in-class RTK performance

H-RTK mosaic-H

H-RTK mosaic-H

Product	Holybro H-RTK Mosaic-H
Application	Rover Moving Baseline Rover Base Station PPK
GNSS	GPS: L1, L2 Galileo: E1, E5b GLONASS: L1, L2 Beidou: B1, B2, B3 QZSS: L1C/A, L1C/B, L2 SBAS: Egnos, WAAS, GAGAN, MSAS, SDCM (L1)
RTK performance	Horizontal accuracy 0.6 cm + 0.5 ppm Vertical accuracy 1 cm + 1 ppm

Positioning accuracy

Mode	Horizontal	Vertical
Standalone	1.2m	1.9m
SBAS	0.6m	0.8m
DGNSS	0.4m	0.7m
RTK	0.6cm+0.5ppm	1.0cm+1ppm

GNSS attitude accuracy

Antenna separation	Heading	Pitch/Roll
1m	0.15°	0.25°
5m	0.03°	0.05°

Time-To-First Fix	Cold start: ≤ 45s Hot start: ≤ 20s Re-acquisition: 1 s
Latency	< 10 ms
Magnetometer (Compass)	IST8310
Antennas Peak Gain (MAX)	2dBi
LNA Gain	33±2dB
Time precision	xPPS out: 5 ns Event accuracy: < 20 ns
Data and Update Rate	Measurements only 100 Hz Standalone, SBAS, DGPS + attitude 50 Hz RTK + attitude 20 Hz
Port	Port 1: USB Type-c Port 2: UART1 (GH1.25 10pin) Port 3: UART2 (GH1.25 6pin)
Antenna Connection Type	Board: SMA female Antenna: SMA male

High Precision GPS Systems (H-RTK Series)

Features

H-RTK F9p Ultralight is an ultra-lightweight RTK GNSS module with

- » U-blox ZED-F9P GNSS module
- » Ultralight weight at 21.4 gram
- » Integrated helical antenna
- » IST8310 compass

H-RTK F9P Ultralight

H-RTK F9P Ultralight

GNSS module	u-blox ZED-F9P	
Compass	IST8310	
Weight	21.48	
Receiver type	■GPS L1C/A L2C ■Galileo E1 E5b ■GLONASS G2 G1 ■BDS B11B2I	
Sensitivity	Tracking	-163dBm
	Reacquisition	-147dBm
Time-To-First-Fix[1]	Cold Start	≤35 s
	Warm Start	20s
	Hot Start	1 s
Position accuracy[2]	Autonomous	2.0 m CEP
	DGNSS	0.5m CEP
	RTK	1cm+1ppm (Horizontal)[3]
Accuracy of time pulse signal	RMS	30ns
Velocity accuracy	GNSS	0.1 m/s
	D-GNSS	0.05 m/s
Operational limits[4]	Dynamics	≤4g
	Altitude	18000 m
	Velocity	515 m/s
Baud Rate	38400-230400 bps(Default 38400 bps)	
Max navigation update rate	10Hz (If you need a greater navigation update rate, please contact us)	

All satellites at ≥-130dBm
CEP,50%, 24 hours static, 2-130dBm,>8SVs
Based on 30km, the accuracy error increases by 1cm every 10km from the base station
Assuming Airborne < 4 g platform

High Precision GPS Systems (H-RTK Series)

DroneCAN H-RTK F9P - Rover

U-blox ZED-F9P high precision GNss module

STM32G473 processor

Ceramic Patch Antenna with 20dB LNA

BMM150 compass

DroneCAN Protocol

Ceramic Patch Antenna with 20dB LNA

Water Resistant

This model can be used on the rover (aircraft)

DroneCAN H-RTK F9P -Helical

U-blox ZED-F9P high precision GNss module

STM32G473 processor

Helical Antenna with 36dB LNA

BMM150 compass

DroneCAN Protocol

Antenna can either be attached to the module directly or connected via a SMA cable

UART2 port exposed, allowing YAW/Heading

This model can be used either on the rover (aircraft) or as a base station.

DroneCAN Benefit

CAN has been specifically designed to deliver robust and reliable connectivity over relatively large distances.

Wiring is less complicated as you can have a single bus for connecting all your DroneCAN peripherals.

Does not occupy any serial port of the flight controller, and different CAN devices can be connected to the same CAN bus via a CAN splitter board.

It allows users to configure and update the firmware of all CAN-connected devices centrally

High Precision GPS Systems (H-RTK Series)

H-RTK F9P - Rover Lite

Features

U-blox F9P Module

IST8310 compass

Ceramic Patch Antenna with 20dB LNA

Water Resistant

Tri-colored LED indicator

Integrated safety switch

Used on the rover (aircraft)

H-RTK F9P - Helical

Features

U-blox F9P Module

IST8310 compass

Helical Antenna with 36dB LNA

UART2 port exposed, allowing YAW/Heading

Tri-colored LED indicator

Integrated safety switch

Can be used either on the rover (aircraft) or as a base station

H-RTK F9P - Base

Features

U-blox F9P Module

IST8310 compass

Helical Antenna with 36dB LNA

Tri-colored LED indicator

Integrated safety switch

Used as a base station

The board is the same as number 2 above, but it is equipped with a high-gain antenna.

The search speed and positioning accuracy are the highest among the three models.

Standard Precision GPS Systems

M10 GPS Module

Features

Newest Ublox 10th Gen GNSS

Fast & Accurate Positioning

High-gain 25*25*4mm antenna

IST8310 Compass

Internal Buzzer, Safety switch

Ultra Bright UI RGB LED

M9N GPS Module

Features

Ublox M9N GNSS Receiver

Accurate Positioning

Fast Navigation Update Rate

IST8310 Compass

High-gain 25*25*4mm antenna

Internal Buzzer, Safety switch

Ultra Bright UI RGB LED

Micro M9N GPS

Features

Ublox M9N GNSS Receiver

Accurate Positioning

Fast Navigation Update Rate

IST8310 Compass

Small Form Factor

Micro M10 GPS

Features

Newest Ublox 10th Gen GNSS

Fast & Accurate Positioning

IST8310 Compass

Small Form Factor

Standard Precision GPS Systems

DroneCAN M9N

DroneCAN Benefit

CAN has been specifically designed to deliver robust and reliable connectivity over relatively large distances.

Wiring is less complicated as you can have a single bus for connecting all your DroneCAN peripherals.

It allows users to configure and update the firmware of all CAN-connected devices centrally

Does not occupy any serial port of the flight controller, and different CAN devices can be connected to the same CAN bus via a CAN splitter board.

DroneCAN M9N

GNSS Receiver	Ublox NEO M9N
Number of Concurrent GNSS	Up to 4 GNSS (GPS, Galileo, GLONASS, BeiDou)
Processor	STM32G4 (170MHz, 512K FLASH)
Compass	BMM150 or IST8310
Frequency Band	GPS: L1C/A GLONASS: L10F Beidou: B1I Galileo: E1B/C
GNSS Augmentation System	SBAS: WAAS, EGNOS, MSAS, QZSS
Navigation Update	5Hz Default(10Hz MAX)
Accuracy	2.5m
Speed Accuracy	0.05 m/s
Max # of Satellites	22+
Communication Protoco	DroneCAN @ 1 Mbit/s
Supports Autopilot FW	PX4, Ardupilot
Port Type	GHR-04V-S
Antenna	25 x 25 x 4 mm ceramic patch antenna
Power consumption	Less than 200mA @ 5V
Voltage	4.7-5.2V
Operating Temperature	-40 ~ 80°c
Size	Diameter: 54mm Thickness: 14.5mm
Weight	36g
Cable Length	26cm
Other Notes	- LNA MAX2659ELT+ RF Amplifier - Rechargeable Farah capacitance - Low noise 3.3V regulator

Telemetry Radio

Sik Telemetry Radio v3

Features

Open-source SIK firmware

Plug-n-play for Pixhawk Standard Flight Controller

Easiest way to connect your Autopilot and Ground Station

Interchangeable air and ground radio

Micro-USB port (Type-C Adapter Cable Included)

6-position JST-GH connector

Configurable through Mission Planner & APM Planner

Antenna   Freqency   LED Indicators

JST-GH 6Pine Port

Micro USB

Specification

100 mW maximum output power (adjustable) -117 dBm receive sensitivity

RP-SMA connector

2-way full-duplex communication through adaptive TDM UART interface

Transparent serial link

MAVLink protocol framing

Frequency Hopping Spread Spectrum (FHSS) Configurable duty cycle

Error correction corrects up to 25% of bit errors open-source SIK firmware

28 x 53 x 10.7mm (without antenna)

Electrical Data

Supply voltage: 5V DC (from USB or JST-GH)

Transmit current: 100 mA at 20dBm

Receive current: 25 mA

Serial interface: 3.3 V UART
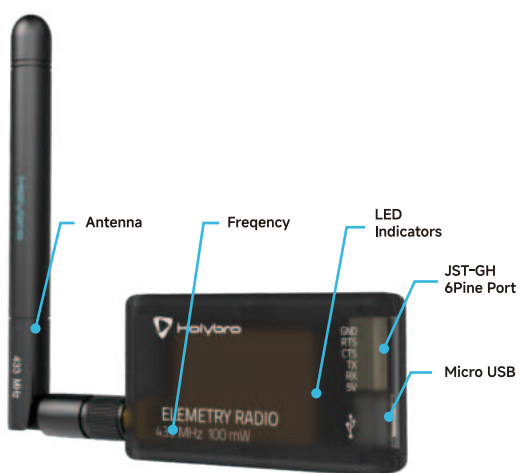
TELEMETRY RADIO

Microhard Radio

Features

Available in 902-928 MHz & 840-945 MHz

Support Point-to-Multipoint connection

Transmit Power 100mW to 1W (20-30dBm)

USB Type-C port, integrated USB to UART converter

6-position JST-GH connector, can be directly connected to the TELEM port on various flight controllers

High voltage BEC onboard, Support DC7~35V voltage supply

UART transmission LED indicator

Three-stage RSSI LED indicator

	Microhard P900	Microhard P840
Frequency Range	902 to 928 MHz	840 to 845 MHz
Transmit Power (Software Adjustable)	100mW to 1W (20-30dBm)	100mW to 1W (20-30dBm)
Link Rate	Up to 276 kbps	Up to 345 kbps
Serial Baud Rate	Up to 230.4kbps asynchronous	300 bps to 230 kbps
Max Range (Ideal Condition)	Up to 40 miles (60km)	Up to 60 miles (100 km)
Spreading Method	Frequency Hopping Spread Spectrum (FHSS)	Frequency Hopping/Fixed Frequency, GMSK, 2GFSK, 4GFSK, QPSK
Operating Modes	Mesh, Point-to-Point, Point-to-Multipoint, Store and Forward, Auto Routing, Self Healing, Packet Routing Modes	Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer
Input Voltage	DC7~35V	DC7~35V
	(4-position JST-GH)	(4-position JST-GH)
Power Consumption	Sleep < 1mA Idle 3.5mA Rx: 45mA to 98mA Tx : 1000mA to 1400mA	Sleep: < 1mA Idle: 20mA Rx: 45mA to 98mA Tx Peak: 2A
Weight	42g (without antenna) 69g (with antenna)	42g (without antenna) 69g (with antenna)
Error Detection	32 bits of CRC, ARQ	32 bits of CRC, ARQ

SENSORS

DroneCAN RM3100 Professional Grade Compass

This professional-grade RM3100 compass/magnetometer has impeccable signal-to-noise ratios, no drift, and precise magnetic field measurements. It can provide professional-grade heading accuracy and orientation calculations for your vehicle. With this compass, your vehicle can navigate through waypoints with little magnetic disturbance due to motor coils and metal parts. You can achieve the best result by placing this module far away from motor coils and other metal parts, getting rid of one of the largest points of failure on your unmanned vehicle.

Digital Air Speed Sensor - MS4525DO

The Holybro Digital Airspeed Sensor has a very low offset, a high resolution and, best of all, does not suffer from the noise induced by long cables and offsets in the ratio-metric output on other airspeed sensors. Supported on all Holybro Autopilot Flight Controller Boards with Ardupilot & PX4.

Digital Air Speed Sensor - MS5525DSO

The Holybro Digital Airspeed Sensor has a very low offset, a high resolution and, best of all, does not suffer from the noise induced by long cables and offsets in the ratio-metric output on other airspeed sensors. Supported on all Holybro Autopilot Flight Controller Boards with Ardupilot & PX4.

SENSORS

Remote ID

Holybro RemoteID Module is a low-cost, small-size, and light-weight module that broadcasts information about UAVs in flight through WiFi and Bluetooth. It supports both CAN and serial protocols. It is a FCC and CE-approved radio module.

The products run open-source firmware (ArduRemoteID) and provides a so-called standard Remote ID solution, primarily target drone manufacturers & system integrators.
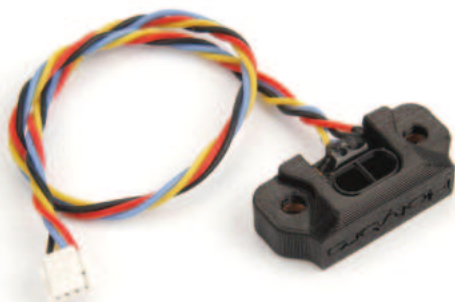
ST VL53L1X Lidar

The VL53L1X is a state-of-the-art, Time-of-Flight (ToF), laser-ranging sensor, enhancing the ST FlightSense™ product family. It is the fastest miniature ToF sensor on the market with accurate ranging up to 4 m and fast ranging frequency up to 50 Hz.
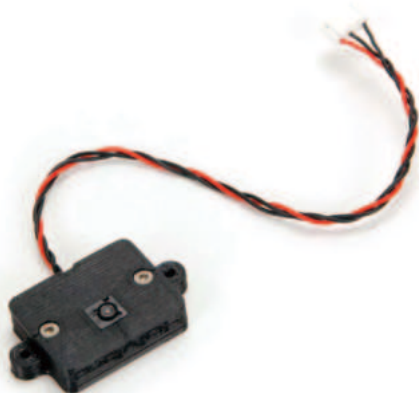
PMW3901 Optical Flow Sensor

The Holybro PMW3901 Optical Flow Sensor is a UART version of PMW3901 module with built in BEC. It comes pre-solder with 6pin JST GH connector made to connect right to TELEM ports on most flight controller. Compatible with PX4 (PX4 Guide) & Ardupilot (Data format same as discontinued product CX-OF).

DRONE DEVELOPMENT KIT

X650 Development Kit

Features

New Pixhawk 6C/Pixhawk 6X flight controller with M10 GPS and plug-and-play SiK telemetry radio

New frame design, the machine arms can be folded, the assembly time is the shortest (about 30 minutes), and no welding is required

Carbon fiber frame combined with CNC aluminum parts and nylon parts structure, easy and direct installation

Installation for companion computers such as Raspberry Pi and Nvidia Jetson Nano

Optional depth camera mount for Intel RealSense and Fabric Core

Includes

Pixhawk 6C/Pixhawk 6X flight controller

PM02 V3-12S /PM02D-12S power module

Power distribution board (XT60 battery plug and XT30 ESC and peripheral equipment plug)

M10 GPS module

SiK Telemetry Radio V3 433/915MHz

X650 Frame Kit

Pre-installed items:
    Motor - T-Motor MN4014 KV330 Motor (4 pieces) with XT30 plug
    ESC - Tekko32 F4 ESC 45A (4 pieces) with XT30 plug

Propeller 1555 (4 pieces)

PX4 Development Kit - X500v2

Features

All new Pixhawk 6C or Pixhawk 6X Flight Controller with M10 GPS and Plug & play SiK Telemetry Radio

New frame design with minimal assembly time (~30 minutes), No soldering required

Carbon Fiber frame with fiber-reinforced nylon connectors providing easy & straightforward installation

Power distribution board (PDB) with XT60 & XT30 plugs

Mount for companion computer such as Raspberry Pi & Nvidia Jetson Nano

Optional depth camera mount for Intel RealSense & Structure Core

Includes

X500 V2 Frame Kit

With Preinstalled Items:

Motors - Holybro 2216 KV920 Motor (4 pcs)

ESCs - BLHeli S ESC 20A (4 pcs)

1045 Propellers (6 pcs)

Power Distribution Board – XT60 plug for battery & XT30 plug for ESCs & peripherals

Note: Depth camera mount is sold separately

S500 v2 Development Kit

Features

Easy to assemble, no soldering required

Frame is made of mixture of carbon reinforced plastic and carbon rods

Pre-solder ESC and power module

Lower Cost

Includes

Pixhawk 6C Flight Controller (Plastic Case)

PM02 V3-12S Power Module

M10 GPS Module

SiK Telemetry Radio V3 433/915MHz

Frame is made of mixture of carbon reinforced plastic and carbon rods

Motors - Holybro 2216 KV920 Motor (4 pcs)

ESCs - BLHeli S ESC 20A (4 pcs)

1045 Propellers (4 pcs)

FPV FLIGHT CONTROLLER
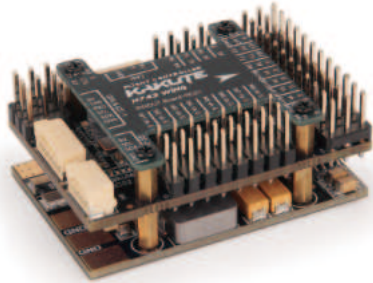
Kakute H743-Wing
SKU: 11063

Features

MCU –STM32H743, 480 MHz, 1MB RAM, 2MB Flash

IMU –IMU:ICM-42688P(SPI3)

Baro–BMP280(I2C4)

OSD–AT7456E(SPI2)

Blackbox: MicroSD card slot on SDMMC2

7x Uarts (1,2,3,5,6,7,8) with built-in inversion.

14x PWM outputs, 1x CAN, 5x ADC (Bat1/Curr1, Bat2/Curr2 and RSSI)

3x I2C(I2C1 and I2C2 for external devices, I2C4 for onboard sensors)

3x LEDs for FC STATUS (Blue, Red) and 3.3V indicator (Green)

USB/DFU Key Extender with USB Type-C

Dual Camera Inputs switch

3 On-board BEC output 5V, 6V/8V and 9V/12V

9V/12V ON/OFF Pit Switch

High-precision Current Sense (90A continuous, 220A peak)

Battery Voltage Sensor: 5K:25.5K (Scale 1800 in INAV,BATT VOLT_MULT 18.18 in ArduPilot)

Mounting: 25 x 25mm, M2 hole

Dimensions: 45x 30 x13.5 mm

Weight: 28g with USB extender

Features

MCU–STM32H743 32-bit processor running at 480 MHZ

IMU –MPU6000

Barometer–BMP280

OSD–AT7456E

Onboard Bluetooth chip–ESP32-C3

6x UARTs (1,2,3,4,6,7; UART2 is used for Bluetooth telemetry)

9x PWM Outputs (8 Motor Output, 1 LED)

2x JST-SH1.0 8pin ESC port (4in1 ESCs, x8/0ctocopter compatible)

1x JST-SH1.0 6pin VTX port (For HD System like Caddx Vista & Air Unit)

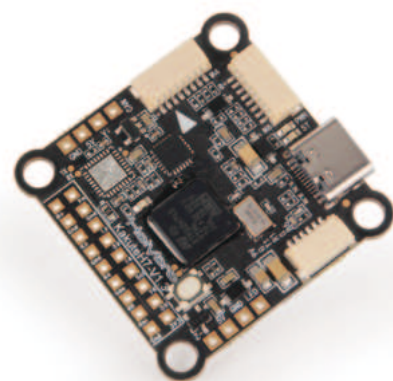Battery input voltage: 2S – 8S

BEC 5V 2A Cont.

BEC 9V 3A Cont

USB Type-C

Mounting–30.5 x 30.5mm/Φ4mm hole with Φ3mm Grommets

Dimension–35x35mm

Weight – 8g

Kakute H7 V1
SKU: 11065

FPV FLIGHT CONTROLLER

Kakute H7 V2

SKU: 11058

Features

MCU – STM32H743 32-bit processor running at 480 MHz

IMU – BMI270

Barometer – BMP280

OSD – AT7456E

Onboard Bluetooth chip – ESP32-C3

SpeedyBee IOS & Android App Compatible

VTX ON/OFF Pit Switch – Switch can be enable using USER1 in Betaflight Mode ta

Warning: Do not enable this pit switch if you are using DJI FPV Remote Controller

6x UARTs (1,2,3,4,6,7; UART2 is used for Bluetooth telemetry)

9x PWM Outputs (8 Motor Output, 1 LED)

Battery input voltage: 2S-8S

BEC 5V 2A

BEC 9V 3A

Mounting – 30.5 x 30.5mm/Φ4mm hole with Φ3mm Grommets

Dimension – 35x35mm

Weight – 8g

Support Betaflight, INAV, PX4, Ardupilot

Features

MCU – STM32H743 32-bit processor running at 480 MHz

IMU – BMI270

Barometer – BMP280

OSD – AT7456E

Onboard Flash: 128Mbits

VTX ON/OFF Pit Switch – Switch can be enable using USER1 in Betaflight Mode tab. Warning: Do not enable this pit switch if you are using DJI FPV Remote Controller

6x UARTs (1,2,3,4,6,7)

9x PWM Outputs (8 Motor Output, 1 LED)

Battery input voltage: 2S-6S BEC 5V 2A

Mounting – 20 x 20mm, Φ3.6mm hole with M3 & M2 Grommets
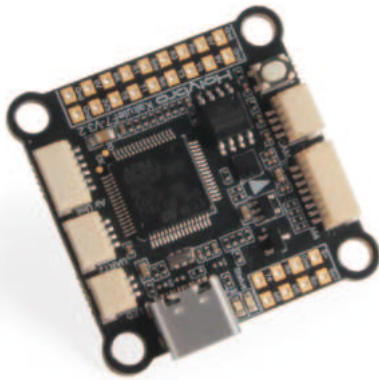
Dimension – 31x30x6mm

Weight – 5.5g

Support Betaflight, INAV, PX4, Ardupilot

Kakute H7 Mini

SKU: 11052

FPV FLIGHT CONTROLLER

Kakute F722
SKU:11069

Features

MCU: STM32F722 32-bit processor, 216MHz, 256Kbytes RAM, 512Kbytes Flash

IMU: ICM42688-P (SPI)

Barometer: BMP280

OSD: AT7456E

5x hardware UARTS (UART1,2,3,4,6)

7x PWM Outputs (6 Motor Output, 1 LED)

Onboard 16 Mbytes for Blackbox logging

Battery input voltage: 3S - 8S

BEC: 9V/3A, 5V/2A, 3.3V/0.2A

Connector

USB Type -C

Dimensions: 35x35mm

Mounting Holes: Standard 30.5 x 30.5

Weight: 8g

Features

MCU - STM32F405

IMU - MPU6000

Barometer - BMP280

OSD - AT7456E

5x UARTs (1,3,4,4,6,7)

128 Mbit Dataflash chip

Battery input voltage: 2S-8S

BEC 9V/3A - Optimized for DJI O3 Air unit

BEC 5V/2A

7x PWM Outputs (6 Motor Output, 1 LED)

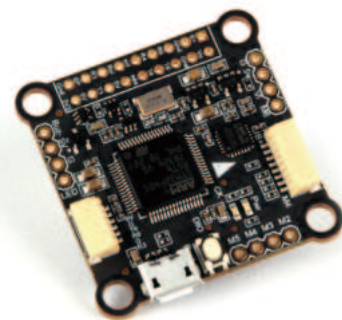Supports serial receivers (SBUS, iBus, Spektrum, Crossfire, ESLR).

Mounting - 30 x 30mm, Φ4mm hole with M3 Grommets

Dimension - 37x37mm

Weight - 7g

JST-SH1.0_8pin port (For 4in1 ESCs)

JST-SH1.0_6pin port (For DJI/Caddx HD System and other VTX)

Kakute F4 V2.4
SKU:11066

ESC

Tekko32 F4 4in1 50A ESC

SKU: 31102

Features

F4 MCU @ 150Mhz (compared to F3 @108Mhz & F0 @48Mhz)
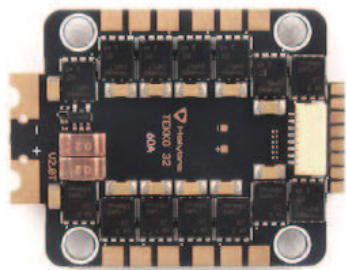
PWM Frequency: 16k to 96k

Continuous Current: 50A x4

Burst Current: 60A x4

Supports 4-6S battery

Dimensions: 48x37x6mm / Weight: 13.8g

Mounting holes: M4 30.5x30.5mm (M3 grommets included)

Tekko32 F4 4in1 60A ESC

SKU: 31156

Features

Fast F4 MCU @150MHz (compared to F3 @108MHz & FO @48MHz)
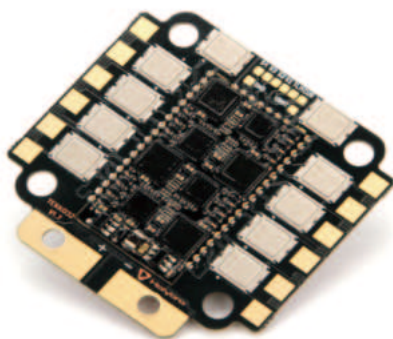
PWM Frequency: 16k to 96k

Continuous Current: 60A x4

Burst Current: 70A x4

Battery Supports: 4-6S

Mounting holes: M4 30.5x30.5mm (M3 grommets included)

Size: 48x37x6mm

Tekko32 F4 Metal 65A ESC

SKU: 31097

Features

New & faster F4 MCU @ 150Mhz, PWM Frequency: 16k to 96k

Metal-cased MOSFET for excellent heat dissipation

Massive on-board capacitance for noise filtering at 2068uf

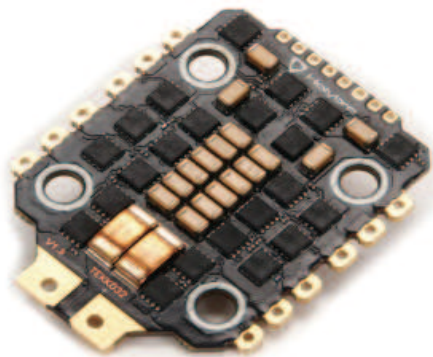3 oz copper PCB design to allow bigger current and better heat dissipation

Continuous Current: 65A x4, Burst Current: 75A x4

Supports 4-6S battery

Dimensions: 43 x 44mm / Weight: 15.8g

Mounting holes: M4 30.5x30.5mm (M3 grommets included)

ESC

Tekko32 F4 4in1 Mini 45A ESC
SKU: 31098

Features

F4 MCU with BLHELI32 firmware

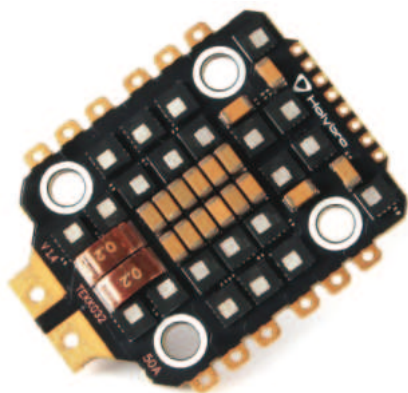Maximum PWM output upto 96K (default 48K)

PWM input, TLM supported

Supports oneshot / Multishot / Dshot PWM

Supports 3-6S lipo input

Mounting holes: 20x20mm (M2& M3 Rubber Gourmet Included)

Size: 30 x 39 mm

Tekko32 F4 4in1 Mini 50A ESC
SKU: 31155

Features

BLHeli_32 firmware

Burst Current: 60A x4

PWM Frequency: 16k to 96k

Supports MultiShot/OneShot/Proshot/PWM etc

Supports 4-6S lipo input

Mounting holes: 20x20mm (M2& M3 Rubber Gourmet included)

Size: 32 x 40 mm

Tekko32 F4 45A ESC
SKU: 31104

Features

F4 MCU with BLHELI32 firmware Dshot1200 up to 32kHz

PWM up to 48k

Small size & low weight

On-Board RGB LED

Build in Current sensor

2-6s LIPO input

Size: 17.3*34.3*4.5mm

Weight: 5.8g

FPV DRONE

Kopis X8 Cinelifter 5"
Kit – Cage

Kopis X8 Cinelifter 5″
Kit – Ducted

Feature

5" compact design with injection molded ducts

Perfect for indoor fiying near people and outdoor cursing

Easily Swappable duct to cage design (purchase separately)

Ducted design provides smooth flight & excellent flight efficiency

Caged design provided greater maneuverability, especially in winy situation

Kopis Cinematic X8 7" Kit

Feature

Made for 7" propeller

Camera platform shock absorption structure with 10 silicone damping balls

Spacing between top and bottom plates: 22mm

Camera platform elevation: 0 ~ 25 ° Adjustable

Wheelbase: 396mm

Weight: 1124g

Frame weight: 640g

Holybro

Facebook

Instagram

Linkedin

Website link： www.holybro.com

Sales Contact： sale01@holybro.com