PixPliot V6 Pro
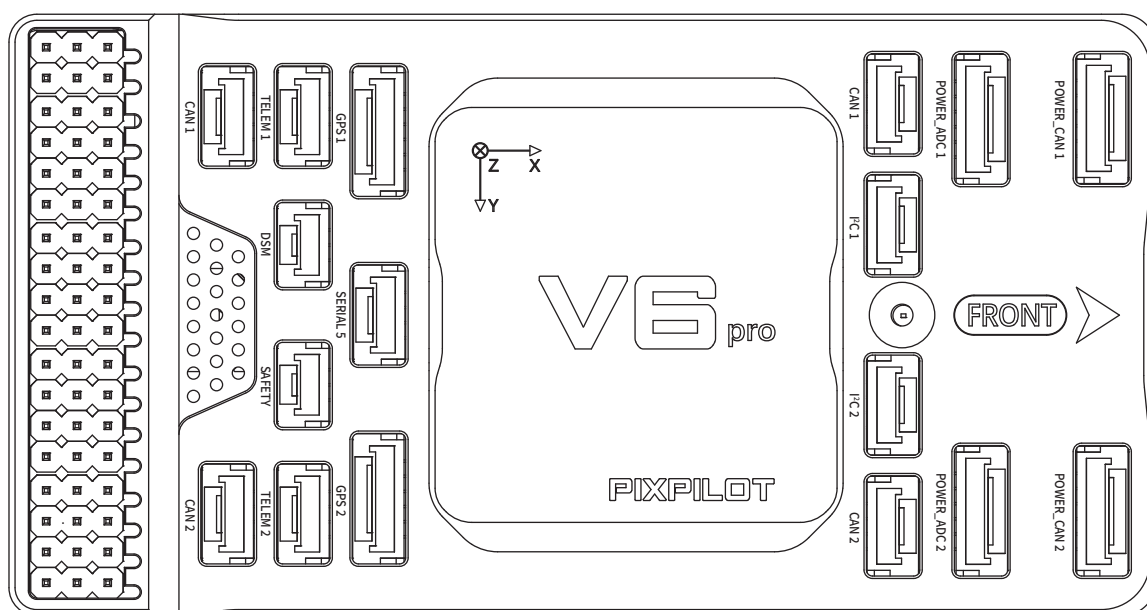
用户手册 V1

User Manual V1

2024.08

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PixPilot V6 Pro是一款性能稳定、高度灵活、叠层设计的专业级自动驾驶仪，搭载高性能STM32H743处理器，内置减振和温补系统，采用多组冗余设计，全方位保障无人机的飞行安全，提供丰富的接口方便布线安装，拥有丰富外设扩展，具有更好的稳定性和抗干扰性。

PixPilot V6 Pro is a professional-grade autopilot with stable performance, high flexibility and stacked design, equipped with high-performance STM32H743 processor, built-in vibration damping and temperature compensation system, multi-group redundancy design, all-around protection of UAV flight safety, provides rich interfaces for easy wiring and installation, and has a wealth of peripheral extensions for better stability and anti-interference.

01 主要特性 Main Characteristics

1、搭配多款行业应用挂载，能够满足复杂任务需求，赋能测绘、监测等领域。
With a variety of mounts to meet the needs of complex tasks, empowering surveying and mapping, monitoring and other fields.

2、同时支持两组PMU、GPS、罗盘、空速计、数传组成双冗余自动驾驶系统。
Simultaneously supports two PMU, GPS, compass, airspeed meter, and telemetry to form a dual redundant system.

3、优化减振系统，降低中频和高频振动，提升飞控姿态检测准确性。
Optimized vibration damping system reduces mid- and high-frequency vibration and improves the accuracy of attitude detection.

4、IMU采用3颗ICM-4系传感器冗余设计，更高测量灵敏度和更小的零偏误差。
The IMU uses a redundant design of 3 ICM-4 series sensors for higher measurement sensitivity and smaller zero bias error.

5、内置高精度温补系统，确保传感器恒温运行。
Built-in high-precision temperature compensation system ensures constant temperature operation of the sensors.

6、实时监控多路传感器数据，一旦出现故障立即执行冗余切换，提高飞行安全性。
Real-time monitoring of sensor data and redundant switching immediately in case of failure improve flight safety.

7、三组电源输入过压、低压保护，按优先级自动切换电源，提高电源系统可靠性。
Three sets of power input over-voltage and low-voltage protection, automatic switching of power supply according to priority, improving the reliability of the power supply system.
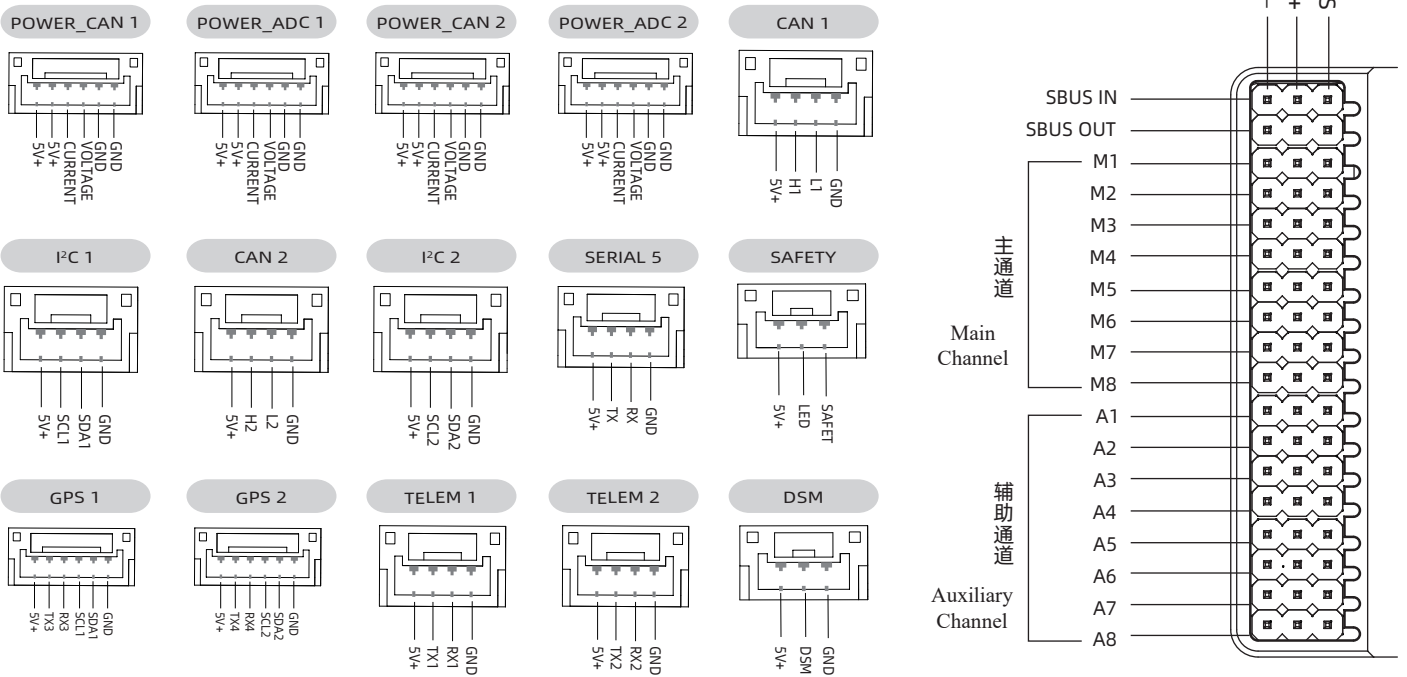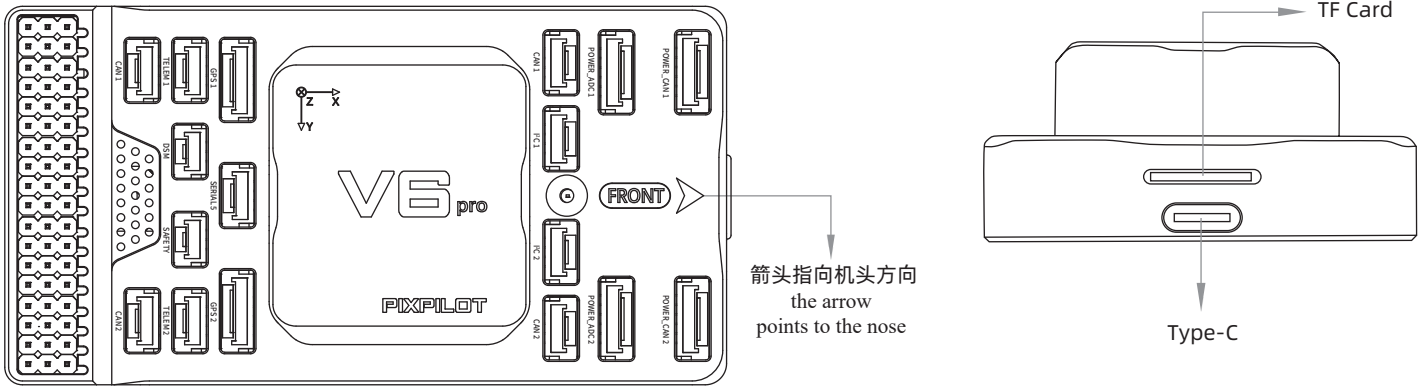
8、MFE机型推荐使用MFE稳定版固件，集成MFE机型PID参数和默认配置等常用参数。
MFE models are recommended to use MFE stable firmware, which integrates common parameters such as PID parameters and default configuration of MFE models.

02 技术参数 Technical Parameters

硬件配置 Hardware configuration		
主处理器 Main processor	STM32H743（32 Bit Arm Cortex-M7 480Mhz 2M Flash 1M RAM）	
协处理器 Coprocessor	STM32F103（32 Bit Arm Cortex-M3 72Mhz 64K Flash 20K RAM）	
传感器 Transducers	ICM-42688-P×2、ICM-40605×1（加速度&陀螺仪 acceleration & gyroscope） BMP388×2（气压计 barometer）	
基本参数 Basic parameters		
UART	5	I²C	2
CAN	2	PWM	8+8
SBUS-OUT	1	PPM/SBUS-IN	1
Power 1	2	Power 2	2
TF-卡槽 TF-Card Slot	1	Type-C	1
外壳材质 Shell material	CNC航空铝合金 CNC Aircraft Aluminum Alloy	工作温度 Operating Temp.	-10 ℃~55℃
尺寸 Size	94*49*23mm	重量 Weight	62g

03 接口示意图 Interface Schematic

V6pro PIXPILOT

FRONT

TF Card

Type-C

箭头指向机头方向
the arrow points to the nose

POWER_CAN 1 — 5V+ 5V+ CURRENT VOLTAGE GND

POWER_ADC 1 — 5V+ 5V+ CURRENT VOLTAGE GND

POWER_CAN 2 — 5V+ 5V+ CURRENT VOLTAGE GND

POWER_ADC 2 — 5V+ 5V+ CURRENT VOLTAGE GND

CAN 1 — 5V+ H1 L1 GND

I²C 1 — 5V+ SCL1 SDA1 GND

CAN 2 — 5V+ H2 L2 GND

I²C 2 — 5V+ SCL2 SDA2 GND

SERIAL 5 — 5V+ TX RX GND

SAFETY — 5V+ LED SAFET

GPS 1 — 5V+ TX3 RX3 SCL1 SDA1 GND

GPS 2 — 5V+ TX4 RX4 SCL2 SDA2 GND

TELEM 1 — 5V+ TX1 RX1 GND

TELEM 2 — 5V+ TX2 RX2 GND

DSM — 5V+ DSM GND

- + S

SBUS IN
SBUS OUT
M1
M2
M3
M4
M5
M6
M7
M8

主通道 Main Channel

A1
A2
A3
A4
A5
A6
A7
A8

辅助通道 Auxiliary Channel

04 PMU

5V+ 5V+ CURRENT VOLTAGE GND GND

电池端 Battery end

设备端 Equipment end

PMU

INPUT RED +

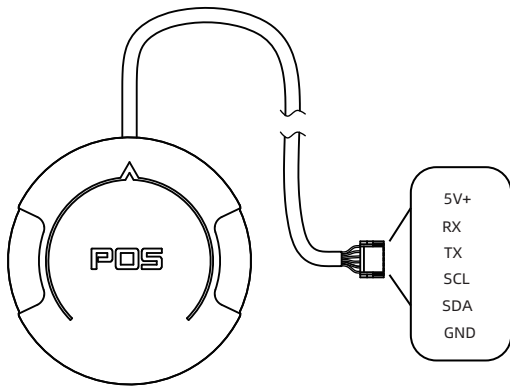OUTPUT + RED

电源方向 Power direction

工作电压 Operating voltage	12V-60V(3S-12S)	工作电流 Working current	0-80A
电压/电流精度 V/A accuracy	±0.1 V/±0.2 A	电压百分比 Voltage percentage	18
电压A/V比 Voltage A/V ratio	24	稳压输出 Regulated output	5.3V 5A
工作温度 Operating Temp.	-20℃~+100℃	接口 Interface	IN/OUT:AWG12 Power:SM06B-GHS-TB
尺寸 Size	模块 module:50x32x10mm 线 wire:220mm	重量 Weight	65g

05 POS

卫星接收器 Satellite Receiver	U-blox M8N	磁罗盘 Magnetic Compass	IST8310
通讯接口 CIPS interface	UART/I²C	定位精度 Positioning accuracy	2.5m
导航刷新率 Navigation Refresh	10Hz(max)	捕获速度 Capture Speed	冷启动 26s;热启动1S cold start 26s;hot start 1s
搜星数量 Number ofsearches	22+	追踪灵敏度 Trackig Sensitivity	-167dBM
磁罗盘精度 Compass Accuracy	±1°	磁罗盘分辨率 ComPass Resolution	0.3uT/LSB
工作电压 Operating Voltage	5V	工作温度 Operating Temp.	-10℃~70℃
尺寸 Size	60*60*17mm	重量 Weight	54g

5V+
RX
TX
SCL
SDA
GND

06 指示灯说明 Indicator Description

已解锁 Unlocked	● 绿灯常亮 Green always on	GPS 3D定位 GPS 3D positioning	未解锁 Not unlocked	● 黄灯慢闪 Yellow flashing slowly	飞控故障 Flight control failure
	● 蓝灯常亮 Blue always on	GPS 3D未定位 GPS not positioning		● 绿灯慢闪 Green flashing slowly	GPS 已固定 GPS fixed
				● 蓝灯慢闪 Blue flashing slowly	GPS 未定位 GPS not located

07 注意事项 Attention

1、请遵守当地法规，不要在禁飞区内飞行，确保飞行器飞行时远离人群及危险物品，切勿在饮酒，疲劳或精神不佳状况下进行任何飞行器操作。

Please observe local regulations, stay away from no-fly zones, stay away from crowds and dangerous objects, don't operate anything under the condition of drinking, fatigue or poor mental condition.

2、任何理由引起的直接、间接衍生性意外伤害造成的后果，厂家不承担任何责任。

The manufacturer is not responsible for the consequences of direct or indirect derivative accidental injuries caused for any reason whatsoever.

08 技术支持 Technical Support

①随时可查技术文档。　Available at any time to check the technical documentation.
网址（website）：https://doc.makeflyeasy.com
②加入技术交流群（QQ群：203822905），分享见解和经验，共同推动行业发展。
Join the technical exchanges（QQ group: 203822905）to share insights and experiences to advance the industry.

09 联系我们 Contact Us

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