X-CAM CATELOG

X-CAM 产品目录

软件配套业务

- 飞机端AI
- 地面端AI
- 地面端总控

Software-related Services

- Onboard AI System
- Ground-based AI System
- Ground Control Center

PCBA配套业务

- 无刷FOC云台
- 低成本空心板云台

PCBA-related Services

- Brushless FOC Gimbal
- Low-cost Coreless Motor Gimbal

业务范围
Business Scope

RC 类产品

- C10 双目2轴图传云台
- 2.4G / 5.8G 扫频器
- LCD-6 6s电池检测器
- 2.4G 无线头追

RC 类产品

- C10 Dual-cam 2 Axis FPV Gimbal
- 2.4G / 5.8G Scanner
- LCD-6 6S Battery Detector
- 2.4G Wireless Head Tracker

行业类产品

- B20 2.5k 黑光夜视3轴吊舱
- B35 4k 激光18倍变焦3轴吊舱
- AI算力模组系列
- VGS 末端制导系统
- 2.4G / 5.8G 无人机报警器
- 1080p 双路AI摄像头

Industrial-Grade Products

- B20 2.5k Black-Light Night Vision 3-Axis Gimbal
- B35 4K 18x Zoom with Laser 3-Axis Gimbal
- AI Computing Module Series
- VGS Terminal Guidance System
- 2.4G / 5.8G UAV Alarm System
- 1080p Dual-Channel Camera for AI

飞机端程序

- 多路摄像头读取和推流
- 多路视频画中画集成
- TF卡视频存储
- AI图像识别、跟踪等
- 激光测距模组

Onboard Program

- Synchronized Multi-camera Streaming
- Multi-source PIP Integration
- Onboard Flash Memory Recording
- Computer Vision Processing (AI Detection & Tracking)
- Laser Rangefinder Module Data Processing

地面端程序

- 天空端视频拉流
- 画面信息叠加重绘等
- 遥控器控制响应
- 数传显示及报警等
- AI图像识别、跟踪等
- 服务器数据回传及响应

Ground-based Program

- Camera Video Streaming
- OSD Rendering & Data Fusion
- Transmitter Data Processing
- Data-link Monitoring and Alert
- AI-based Image Recognition & Tracking
- Ground Server Communication Interface

地面端总控

- 中央服务器部署
- 分布式数据库部署
- 天空端、地面端数据链接入
- 中央控制系统开发
- AI大模型接入

Server Program

- Central Server Deployment
- Distributed Database Deployment
- UAV-GCS Data Link Interfacing
- Central Control System Development
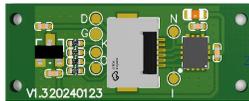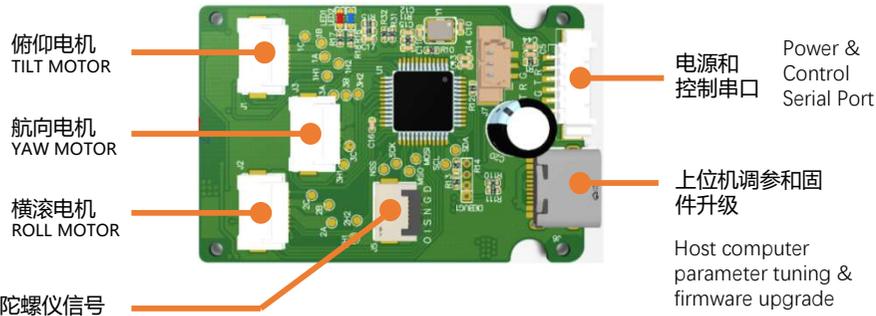- Large Language Model Interfacing

无刷FOC云台

- 1~3轴无刷云台控制PCBA
- 姿态解算精度0.02°
- 最大支持8G重力加速度
- 支持X_CAM、SBUS和CRSF协议
- 支持笛卡尔坐标输入和执行跟踪
- 工作温度 -20°C ~ 80°C

Brushless FOC Gimbal

- 1~3 Axis Brushless Gimbal Controller
- Attitude Resolution Accuracy 0.02°
- Max supported 8G acceleration
- Supports X_CAM、SBUS and CRSF Protocols
- Supports Cartesian Coordinate Input & Tracking Execution
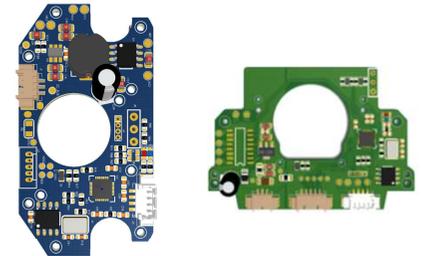- Operating Temperature: -20°C ~ 80°C

低成本空心板云台

- 1~3轴空心板云台控制PCBA
- 姿态解算精度0.1°
- 最大支持4G重力加速度
- 支持X_CAM、SBUS和CRSF协议
- 支持笛卡尔坐标输入和执行跟踪
- 工作温度 -20°C ~ 80°C

Low-cost Coreless Motor Gimbal

- 1~3 Axis Brushless Gimbal Controller
- Attitude Resolution Accuracy 0.1°
- Max supported 4G acceleration
- Supports X_CAM、SBUS and CRSF Protocols
- Supports Cartesian Coordinate Input & Tracking Execution
- Operating Temperature: -20°C ~ 80°C

俯仰电机
TILT MOTOR

航向电机
YAW MOTOR

横滚电机
ROLL MOTOR

陀螺仪信号

电源和
控制串口

Power &
Control
Serial Port

上位机调参和固
件升级

Host computer
parameter tuning &
firmware upgrade

陀螺仪PCBA

IMU PCBA

各种型号电机霍尔/磁编PCBA

Multi-Model Compatible Motor
Sensor PCB Assemblies

rk3588 AI Computing Module PCBA

- CPU: 4 * Cortex - A76 + 4 * Cortex - A55 B30 (2.2 GHz)
- GPU: ARM Mali-G610 MC4
- NPU: 6 TOPs (3 cores)
- USB x 2, UART x 3
- MIPI DSI x 1, MIPI CSI x 1, HDMI x 1
- 100M ETH x 2, TF x 1
- Size: 58 x 70 x 7 mm

rk3562 AI Computing Module PCBA

- CPU: 4 * Cortex - A53 (2.0 GHz)
- GPU: ARM G52 2EE
- NPU: 1 TOPS
- USB x 1, UART x 2
- MIPI DSI x 1, MIPI CSI x 1
- WIFI 2.4 / 5.8 G x 1
- 1000M ETH x 1
- Bluetooth x 1
- Size: 45 x 45 x 7 mm

rk3576 AI Computing Module PCBA

- CPU: 4 * Cortex - A72 + 4 * Cortex - A53 (2.2 GHz)
- GPU: ARM G52 MC3
- NPU: 6 TOPs (2 cores)
- USB x 2, UART x 4, SPI x 1, I2C x 1
- MIPI DSI x 1, HDMI x 1
- Size: 58 x 70 x 7 mm

X-CAM A3588 Computing Module

- SoC: RK3588 / 4+32G
- USB x 2, UART x 3
- MIPI DSI x 1, MIPI CSI x 1, HDMI x 1
- 100M ETH x 2, TF x 1
- Size: 74 x 60 x 30 mm
- Weight: 130g

X-CAM A3576 Computing Module

- SoC: RK3576 / 4 + 32G
- USB x 2, UART x 4, SPI x 1, I2C x 1
- MIPI DSI x 1, HDMI x 1
- 100M ETH x 2, TF x 1
- Size: 74 x 60 x 30 mm
- Weight: 130g

X-CAM B20 2.5k 黑光夜视3轴吊舱

- 感光传感：1/1.8 inch 5MP CMOS
- 低光照度：彩色 0.01Lux@F1.0；黑白 0.001Lux@F1.0
- 编码格式：H.265; H.264 2.5k 30fps
- 工作角度：俯仰 +- 90°；横滚 +- 45°；航向 +- 150°
- 输入电压：11 ~ 28 v / 2A（3 ~ 6s）
- 视频输出：100M 网口
- 云台控制：支持CRSF、SBUS 和 X-CAM 协议
- 工作温度：-30 ℃ ~ 75 ℃
- 云台尺寸：54.6 x 87 x 74.3 mm
- 云台重量：152 克

X-CAM B20 2.5k Black-Light Night Vision 3-Axis Gimbal

- Image Sensor: 1/1.8-inch 5MP CMOS
- Low-Light Performance: Color: 0.01Lux@F1.0 B&W: 0.001Lux@F1.0
- Video Encoding: H.265 / H.264 at 2.5K 30fps
- Gimbal Range: Pitch: ±90° Roll: ±45° Yaw: ±150°
- Power Input: 11 ~ 28 v / 2A（3 ~ 6s）
- Video Output: 100M Ethernet port
- Control Protocols: CRSF, SBUS, and X-CAM Protocol
- Operating temperature: -30 ℃ to 75 ℃
- Size: 54.6 x 87 x 74.3 mm
- Weight: 152 g

X-CAM B35 激光18倍变焦3轴吊舱

- 感光传感：1/2.8 inch 8MP CMOS
- 低光照度：彩色 0.05Lux@F1.2；黑白 0.005Lux@F1.2
- 激光测距：20 ~ 1000 米 / 1 ~ 10 Hz
- 发散角度：4 ~ 10 mrad
- 编码格式：H.265 / H.264 4k 30fps
- 工作角度：俯仰 +- 90°；横滚 +- 45°；航向 +- 150°
- 输入电压：11 ~ 28 v / 2A（3 ~ 6s）
- 视频输出：100M 网口 RTSP / RTMP 流协议
- 云台控制：支持CRSF、SBUS 和 X-CAM 协议
- 工作温度：-30 ℃ ~ 75 ℃
- 云台尺寸：82 x 136 x 125 mm
- 云台重量：384 克

X-CAM B35 4K 18x Zoom with Laser 3-Axis Gimbal

- Image Sensor: 1/2.8-inch 8MP CMOS
- Low-Light Performance: Color: 0.02Lux@F1.2 B&W: 0.005Lux@F1.2
- Laser Range: 20 ~ 1000 M with 1 ~ 10 Hz
- Angular divergence of laser: 4 ~ 10 mrad
- Video Encoding: H.265 / H.264 at 2.5K 30fps
- Gimbal Range: Pitch: ±90° Roll: ±45° Yaw: ±150°
- Power Input: 11 ~ 28 v / 2A（3 ~ 6s）
- Video Output: 100M Ethernet port with RTSP / RTMP live streaming
- Control Protocols: CRSF, SBUS, and X-CAM Protocol
- Operating temperature: -30 ℃ to 75 ℃
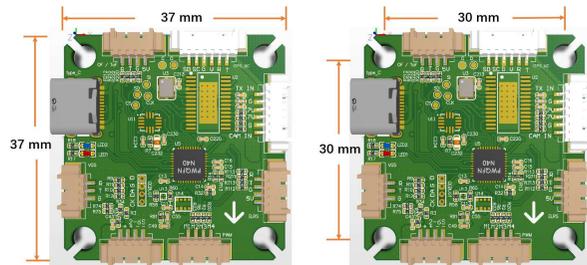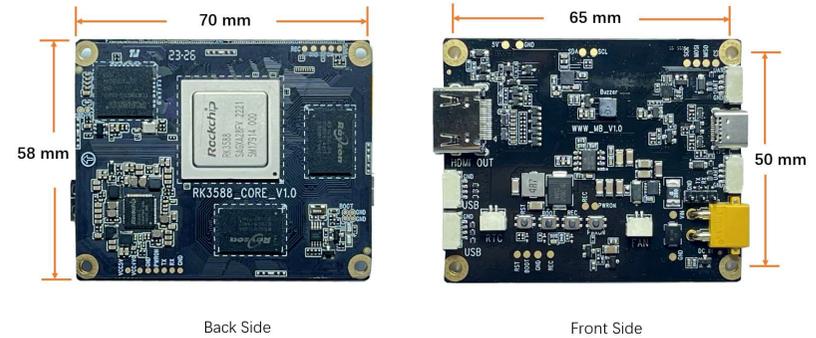- Size: 82 x 136 x 125 mm
- Weight: 384 g

X-CAM VGS AI末端制导系统

VGS系统由3部分组件组成，分别为一个单轴云台（含双路输出摄像头），一个AI算力板和一块飞控板，VGS提供2种锁定方式：

  1. 手动锁定：由飞手把待锁定目标飞入画面中的瞄准十字中心后手动锁定

  2. 自动锁定：VGS会自动识别目标（200米内各类车辆、人或坦克）并自动锁定

一旦启动锁定后系统会自动执行跟踪任务，此时飞机由VGS系统接管，会一直跟踪目标飞行，支持曲线跟踪和掉头跟踪，直至完成制导，期间也可手动取消跟踪

VGS系统有2路独立的视频流，一路为cvbs信号，直接输出给飞手眼镜端供飞行使用，另外一路为UVC信号，输出给AI算力板进行计算，这2路信号之前不会互相影响，所以能保证即使AI算力板损坏或程序出错也不会影响飞手眼镜端的图像显示

70 mm

65 mm

58 mm

50 mm

Back Side

Front Side

37 mm

30 mm

37 mm

30 mm

X-CAM VGS AI Terminal Guidance System

The VGS system is composed of three components: a single-axis gimbal (with dual-output camera), an AI computing board, and a flight control board. VGS provides two locking modes:

  1. Manual Locking: The pilot manually locks the target after flying it into the crosshair center in the display.

  2. Automatic Locking: VGS automatically detects and locks onto a target (vehicles, people, or tanks within 200 meters).

Once locked, the system automatically performs tracking. At this point, the aircraft is controlled by the VGS system, which will continue tracking the target, supporting both curved and turnaround tracking, until the guidance is complete. The tracking can also be manually canceled during this period.

The VGS system provides two independent video streams: one is a CVBS signal directly output to the pilot's goggles for flight operation, and the other is a UVC signal sent to the AI computing board for processing. These two video signals do not interfere with each other, ensuring that even if the AI computing board malfunctions or the software crashes, it will not affect the video display in the pilot's goggles.

单轴云台+双路镜头
Single-axis gimbal with
dual-output camera

AI算力板
AI computing board

飞控板
Flight control board

2.4 / 5.8G 无人机报警器

- 可探测2.4G和5.8G双频段的信号
- 提供2种报警方式：蜂鸣器鸣叫报警 和 静音报警（震动）
- 可自由设定报警的阈值范围
- 小体积，大容量电池续航可达10小时以上

探测距离取决于发射功率，即发射功率越强则探测距离越远，以1w的发射功率为例，空旷环境的探测距离为450米左右，城市环境的探测距离为150米左右

2.4 / 5.8G Drone Detector Alarm

- Capable of detecting dual-band signals in the 2.4G and 5.8G frequency ranges
- Supports two alarm modes: buzzer alarm and silent alarm (vibration)
- Alarm threshold range can be freely configured
- Compact size with a high-capacity battery, offering over 10 hours of continuous operation

Detection range depends on the transmission power — the higher the power, the longer the detection range. For example, with a 1W transmitter, the detection range is approximately 450 meters in open environments and around 150 meters in urban environments.

1080p 双路AI摄像头

- 可同时输出双路视频信号，分别为 CVBS 和 UVC
- 1/3 英寸 CMOS 200W 像素 1080p
- 3.5mm 焦段镜头
- 小体积 20 x 20 mm

双路视频信号输出非常适用于需要AI计算的应用，CVBS信号可直接供给飞手使用，而UVC视频可以输出给AI算力板进行计算，2路视频信号互不影响，即使AI程序出错或发生闪退情况也不会影响飞手的操控画面

1080p Dual-Channel Camera

- Simultaneous dual video signal output: CVBS and UVC
- 1/3-inch CMOS sensor, 2MP resolution, 1080p
- 3.5mm focal length lens
- Compact size: 20 x 20 mm

Dual video signal output is ideal for AI computing applications. The CVBS signal can be directly used by the pilot, while the UVC video stream is output to the AI computing board for processing. The two video streams operate independently, ensuring that even if the AI program crashes or malfunctions, the pilot's view remains unaffected.

RC类产品 RC Products

X-CAM 2.4 / 5.8G 扫频器

- 可探测2.4G和5.8G双频段的信号
- 5.8G为全频段探测（包括非民用频点）
- 小体积，大容量电池续航可达10小时以上

X-CAM 2.4 / 5.8G Scanner

- Dual-Band Signal Detection: Scans both 2.4GHz and 5.8GHz frequency ranges.
- Full-Spectrum 5.8G Coverage: Detects all channels, including non-civilian frequencies (e.g., military/government bands).
- Compact Design with Extended Battery Life

X-CAM LCD-6 电池检测器

- 支持 2~6S 电池电压及内阻检测
- 支持存储电压及低电压报警
- 超大断码液晶显示屏，强阳光下清晰可见

X-CAM LCD-6 Battery Detector

- Supports 2-6S battery voltage & internal resistance detection
- Features voltage storage memory and low-voltage alarm
- Ultra-large segmented LCD display – clearly visible in direct sunlight

X-CAM C10 双目2轴图传云台

- 前摄像头1080p 视场角100°
- 后摄像头 480p 视场角 65°
- 图传距离500米，选配中继可达3公里
- 手机端APP可切换前后摄像头画面
- 俯仰和航向轴PPM控制转动，俯仰 +- 45°，航向轴 +- 75°

X-CAM C10 Dual-cam 2 Axis FPV Gimbal

- Front Camera: 1080p resolution, 100° FOV (Field of View)
- Rear Camera: 480p resolution, 65° FOV
- 500m range (standard), extendable to 3km with optional relay module
- Smartphone APP for real-time camera switching (front/rear views)
- 2-Axis PPM Control (Pitch & Yaw), Pitch: ±45°, Yaw: ±75°

X-CAM 2.4G 自适应无线头追

- 无任何连接线约束，可轻松自由使用
- 内置高容量电池，续航时间可达10小时
- 固件可升级，可扩展新功能

X-CAM 2.4G Wireless Head Tracker

- Truly wireless design – No cables for complete freedom of movement
- Built-in high-capacity battery – Up to 10 hours of continuous operation
- Firmware upgradeable – Supports future feature expansions