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R1000 RTK

焕然一新，行业级应用无人机

A new look, industry - level application of unmanned aerial vehicles

全向避障 | 网络RTK | 便携折叠设计 | 50分钟续航 | 10km图传

All Obstacle Avoidance | Network RTK | Foldable Design | 50-mins Flight Duration | 10km Video Transmission

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► 功能概述

Function Overviewm

R1000 RTK

采用全新模块化快拆结构，四轴折叠机臂设计；支持双磁罗盘互为备份，采用动力信号冗余设计，保障飞行安全。GNSS+网格RTK双冗余系统，带来厘米级定位精度的同时支持全向避障，让作业安全更进一步。R1000 RTK拥有50分钟长续航飞行时间，最大载重可负载5kg。

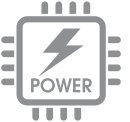
It adopts a new modular quick-release structure and a four-axis folding arm design; supports dual magnetic compasses for mutual backup, and adopts a power signal redundancy design to ensure flight safety. The GNSS+grid RTK dual redundancy system brings centimeter-level positioning accuracy and supports all directional obstacle avoidance, which further improves operational safety. 50 minutes flight time and 5kgs payloads for R1000 RTK version .



全向避障
All Obstacle Avoidance



网络RTK
Network RTK



智能电源管理
Intelligent Power Management



50分钟续航
50-min Max Flight Time



10公里图传
10 km Max Transmission



IP54防护等级
IP54 Rating



4K 30帧视频
4K 30Fps Video



最大负载5kg
5kg Max Load



功能介绍

Function Introduce

全向避障

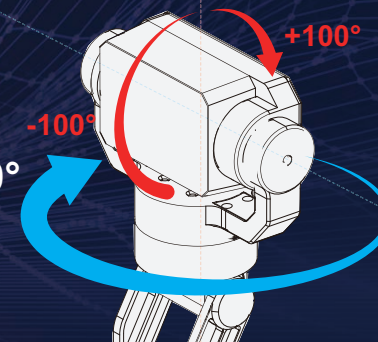
R1000可感知飞行前方15米处障碍物，日常作业时可有效降低常见障碍物带来的安全风险。主动感知避障功能可全天候工作。

All Directional Obstacle Avoidance

R1000 can sense obstacles 15 meters in front of the flight, and can effectively reduce the safety risks caused by common obstacles during daily operations. Active sensing obstacle avoidance function can work around the clock.



360°全向避障



航向跟随激光雷达转动范围



网络RTK

搭载网络RTK模块, 实现厘米级定位

集成全新RTK模块，
拥有强大的抗磁干扰能力与精准定位能力，
提供实时厘米级定位数据。

Network RTK

Equipped with a networked RTK module, so that it can achieve a centimeter-scale positioning.

Integrated new RTK module, with strong anti-magnetic interference capability and precise positioning capability, providing real-time centimeter-level positioning data.

功能介绍

Function Introduce

便携折叠机身

机臂采用四轴垂直型结构设计，结构紧凑牢固。折叠之后整机呈现桶状，迅速启动作业，为工作人员减少装箱的难度节省组装的时间，对运输工具的要求也大大的降低。

Foldable Design

The arm adopts a four-axis vertical structure design, which is compact and firm. After folding, the whole machine is in a barrel shape, and reducing the difficulty of packing and saving assembly time for the staff, and greatly reducing the requirements for transportation.



IP54防护等级

机身采用封闭式防水设计，拥用IP54三防能力，具备工业级防水、防尘、防腐蚀能力。



防水/industrial-grade Waterproof

Ip54 Protection Level

The body adopts a closed waterproof design, with IP54 three-proof capability, with industrial-grade waterproof, dustproof, and corrosion-proof capabilities.



防尘/Dustproof



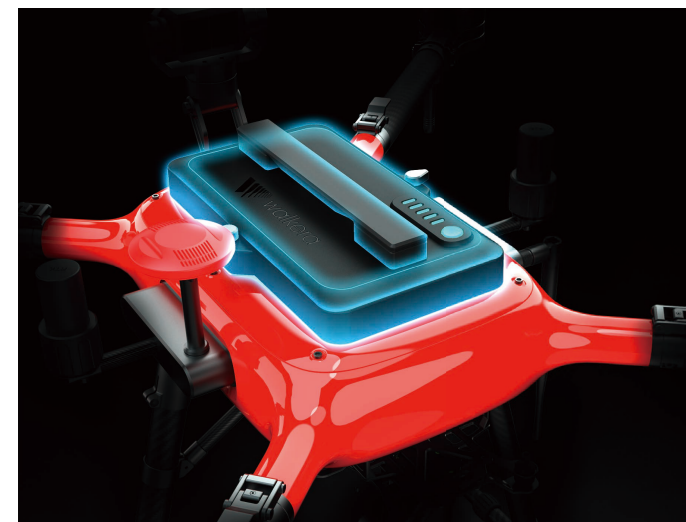
防腐蚀能力/ Corrosion-proof Capabilities

智能飞行电池

智能电池的容量达14000mAh，进一步提升和保障飞行作业的流畅性，支持低电压自动返航。最大连续飞行时间长达50分钟（空载状态，海平面无风状态下悬停飞行）。

Intelligent Flight Battery

The smart battery has a capacity of 14000mAh, which further enhances and guarantees the fluency of flight operations, and supports low-voltage automatic return. The maximum continuous flight time is up to 50 minutes (no-load state, hovering flight under no wind at sea level).



10公里图传

支持2.4/5.8 GHz 双频通信远距离传输系统，最大图传距离可达10km。在作业过程中自动实时切换至最佳信道，复杂环境下依然能有效抵抗干扰。支持LTE 备份链路，进一步提高了图传可靠性。

10km Image Transmission

TSupport 2.4/5.8 GHz dual-frequency communication long-distance transmission system, the maximum image transmission distance can reach 10km. Automatically switch to the best channel in real time during operation, and it can still effectively resist interference in complex environments. Support LTE backup link, further improve the reliability of image transmission.



行业应用专用软件

针对行业应用的特殊需求，我们开发专用R1100专用的APP，简化操作，轻松作业。（打点定位、智能伴飞、精准复拍、航点飞行）

Industry-specific Software

In response to the special needs of industry applications, we developed a dedicated R1100 dedicated APP to simplify operations and ease operations. (Dot positioning, intelligent flight accompaniment, accurate re-shooting, waypoint flight)



► 可挂载配件

Mountable Parts

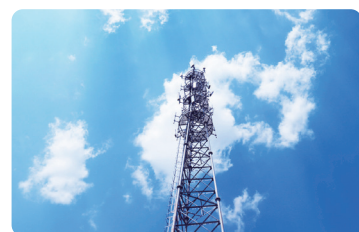


30倍4K光学变焦相机

4K 30fps高清录制，超远距离监控，细节一览无遗。让电力通信设施巡检、交通巡逻，桥梁检测等任务变得更加安全和高效。

30X 4K Optical Zoom Camera

4K 30fps high-definition recording, super long-distance monitoring, details at a glance. Make power communication facilities inspections, traffic patrols, bridge inspections and other tasks safer and more efficient.



通信设施巡检
Communication Facility Inspection



交通巡逻
Traffic Patrols



桥梁检测
Bridge Inspection

多光谱相机(定制版)

广泛应用在农业、林业、种植业等等，通过后期技术合成处理，为农业灾害评估提供准确信息。

Multispectral Camera (Customized Version)

It is widely used in agriculture, forestry, plantation, etc., through post-synthesis of technology to provide accurate information for agricultural disaster assessment.



农业 Agriculture



林业 Forestry



种植业 Plantation

35倍微光夜视相机

适用于夜间光线微弱的环境，获得高清晰度、低噪点的图像，广泛应用于军警安防领域。

35X Low Light Level Night Vision Camera

It is suitable for low-light environments at night to obtain high-resolution, low-noise images, and is widely used in military and police security collars.



双光相机

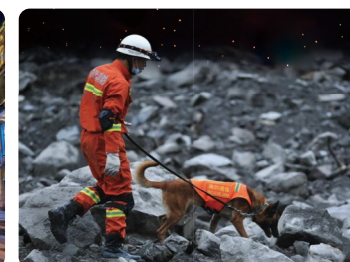
集成高清可见光和红外热成像模块，红外线热成像相机具有穿透能力强、探测距离远、可识别隐藏目标、温度检测及昼夜可视等优势。基于图像与温度算法，能在不利气候环境下，识别目标。

Dual-lens Camera

Integrating high-definition visible light and infrared thermal imaging modules, infrared thermal imaging cameras have the advantages of strong penetration, long detection distance, identification of hidden targets, temperature detection and day and night visibility. Based on image and temperature algorithms, it can identify targets in unfavorable climate environments.



夜视相机效果/Night Vision Camera Effect



夜晚搜救 /Night rescue



红外线热成像 /Infrared Thermal Imaging

▶ 行业应用可搭载平台

Industry Applications Can Be Equipped With Platforms

无人机搭载设备通用接口
Universal Interface For Drones

快拆通用接口
Quickly assemble universal interface

目前适配通用接口设备：
1、喊话器 2、抛投器 3、探照灯

Currently adapted to general interface equipment:
1. Megaphone 2. Projector 3. Searchlight



喊话器
应用消防救援，警用侦察

Megaphone
Application fire rescue, police reconnaissance.



警用侦察 / Police Reconnaissance



多功能气体分析仪(定制版)
应用环境检测，消防救援

Multi-purpose Gas Analyzer (Custom Edition)
Application fire rescue, Environment Detection.



环境检测 / Environment Detection



抛投器
应用消防救援，物资投送

Thrower
Applicated in fire rescuing and delivery of aiding materials.



物资投送 / Material delivery



探照灯
应用消防救援，警用侦察

Searchlight
Application fire rescue, police reconnaissance.



消防救援 / Fire Rescue



技术参数

Technical Paramete

飞行器	
对称电机轴距:	1050mm 外形尺寸: 830mm x830mm x503mm(展开时) 500 mm x455 mm x503mm(折叠后)
电机:	KV值: 180rpm/V
电调:	持续电流: 80A(散热条件良好)
桨叶规格:	直径*螺距: 24x7.9 inch
标准起飞重量:	7.5 kg (含电池)
最大起飞重量:	16 kg(海平面附近)
最大上升速度:	5 m/s
最大下降速度:	3 m/s
最大水平飞行速度:	定位模式: 5-12m/s可调(无风环境) 巡航模式: 5-15m/s可调(无风环境) 姿态模式: 15m/s(无风环境)
最大可倾斜角度:	定位模式: 40° 巡航模式: 40° 姿态模式: 40°
最大旋转角速度:	200°/s
最大可承受风速:	8 m/s
最大飞行时间:	50分钟 (空载)
最大飞行海拔高度:	5000m
推荐工作环境温度:	0°C至+40°C
悬停精度:	启用RTK: 垂直: ±10cm 水平: ±5cm 未启用RTK: 垂直: ±0.5 m 水平: ±0.1 m

全向实时避障

障碍物感知范围:	0.1m-40m @90%反射率(100Klux) 0.1m-13.5m @10%反射率(100Klux)
FOV:	水平3°
测量频率:	50 Hz

下视定高

速度测量范围:	飞行速度<18km/h (高度2 m, 光照充足)
高度测量范围:	≤ 12 m
精确悬停范围:	±0.1m
测量频率:	100Hz

网络RTK

使用频段:	GPS: L1 /L2/L5 GLONASS:F1/F2 BeiDou: B1/B2/B3 Galileo:E1/E5 0.2度/1m基线
定向精度:	水平: 1cm+1ppm
定位精度:	垂直: 2cm+1ppm 1ppm: 每增加1km,精度变差1mm。
定位更新率:	1Hz, 2Hz, 5Hz, 10Hz和20Hz
冷启动:	<45s
热启动:	<10s
重捕获:	<1s
初始化可靠性:	>99.9%
差分数据传输格式:	RTCM 2.X/3.X
数据链路:	4G
通信距离:	不限距离(有4G网络信号)
工作环境温度:	0°C至45°C

相机参数

影像传感器:	1/2.3英寸SONY IMX117 CMOS
镜头像素:	1200万
ISO范围:	100-3200(视频)/100-1600(照片)
录制分辨率:	4K 30fps
拍照分辨率:	3840x2160
焦距:	6.7-134.5mm
对焦时间:	2秒
变焦倍率:	30倍光学变焦
变倍速度:	大约2.0秒
水平视角:	59.8°-3.0°(广角-望远)
近摄距:	大于5000mm(广角-望远)
视频存储最大码流:	64Mbps
压缩标准:	H.264/H.265
支持文件存储格式:	JPG/MP4
支持存储卡类型:	Micro-SD卡, 最大支持128G, 传输速度为Class10及以上或达到UHS-1评级的Micro SD卡

云台参数

尺寸:	136*98*139mm
重量:	452g
输入电压:	12V
稳定系统:	3轴 (俯仰, 横滚, 偏航)
角度控制精度:	静态: ±0.008°; 动态: ±0.02°; 防抖: ±0.008°
可控转动范围:	俯仰: -110°至+60°; 水平: ±150°; 横滚: ±10°
最大控制转速:	俯仰: 30°/s°; 水平: 30°/s;横滚: 直接控角度

遥控器参数

工作频率:	2.4G/5.8G
最大信号有效距离:	6km(开阔无遮挡, 无电磁干扰)
显示设备:	7.86英寸屏幕,分辨率2048*1536, 亮度2000cd/m ² Android系统, 系统内存4G RAM+16G ROM
支持存储卡类型:	最大支持64GB容量的Micro SD卡
工作电压:	7.4V
电池:	7.4V 9000mAh LiPo 2S
推荐工作环境温度:	-10°C至40°C
充电环境温度:	5°C至40°C

图传

工作频率:	5725MHz至5850MHz 2400MHz至2483.5MHz
最大图传距离:	6KM (开阔无遮挡, 无电磁干扰)
调制方式:	OFDM和MIMO
视频编码:	H.264
清晰度:	1080p30向下兼容

飞行辅助电池

容量:	14000mAh
电压:	45.6V
电池类型:	LiHV 12S
放电倍率:	10C

Aircraft

Symmetrical motor wheelbase:1050mm Outline size: 830mm x830mm x503mm (Arm extended, blade folded) 500 mm x455 mm x503mm((Arm folding)) motor: KV value: 180rpm/V Electric regulation: continuous current: 80A (good heat dissipation condition) Blade specification: diameter * pitch :24x7.9 inch Standard takeoff weight:7.5 kg (Including battery) Maximum takeoff weight: 16 kg (sea level) Maximum rising speed: 5 m/s Maximum descent speed:: 3 m/s Maximum horizontal flight speed: Positioning mode: 5-12m / S (windless environment) Cruise mode: 5-15m/s (windless environment) Attitude mode: 15m / S (windless environment) Maximum pitch angle: Positioning mode: 40° Cruise mode: 40° Attitude mode: 40° Maximum rotation speed: pitch axis:200 ° / s Maximum allowable wind speed:8 m / S Maximum flight time: 50 minutes Maximum flight altitude: 5000m Recommended working environment temperature: 0 °C to + 405 °C Hover accuracy With RTK : vertical: ± 10cm horizontal: ± 5cm Without RTK : vertical: ± 0.5 m horizontal: ± 0.1 m
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All Directional Obstacle Avoidance

Obstacle perception range: 0.1m-40m @90% reflectivity (100Klux) 0.1m-13.5m @10% reflectance (100Klux)
FOV: Horizontal 3°
Measuring frequency: 50 Hz

Downward View With Fixed Height Module

Speed measurement range: flying speed <18km/h (height 2 m, sufficient light)
Height measurement range: ≤ 12 m
Accurate hovering range: ±0.1m
Measuring frequency: 100Hz

Networ RTK

Use frequency band:GPS: L1 /L2/L5 GLONASS:F1/F2 BeiDou: B1/B2/B3 Galileo:E1/E5 Orientation accuracy: 0.2 degree/1m baseline
positioning accuracy: Level: 1cm+1ppm Vertical: 2cm+1ppm 1ppm: For every increase of 1km, the accuracy will deteriorate by 1mm.

Positioning update rate: 1Hz, 2Hz, 5Hz, 10Hz and 20Hz
Cold start: <45s
Hot start: <10s
Recapture: <1s
Initialization reliability: >99.9%
Differential data transmission format: RTCM 2.X/3.X
Data link: 4G
Communication distance: unlimited distance (with 4G network signal)
Working environment temperature: 0°C to 45°C

Camera

Image sensor: 1/2.3inch SONY IMX117 CMOS Lens Pixel: 1200 Million ISO range: 100-3200(video)/100-1600(photo) Video resolution: 4K 30fps Photo resolution: 3840x2160 Focal length: 6.7-134.5mm Focus time: 7~8 seconds Zoom magnification: 30 X optical zoom Doubling speed:: about 2.0 seconds Horizontal perspective: 59.8°-3.0°(wide angle-telescope) Close range: more than 5000mm(wide angle-telescope) Max. Video bit stream:64Mbps Compression standard: H.264/H.265 Supporting file storage format: JPG/MP4 Support memory card type:Micro-SD card, Max. support :128G, transmission speed of Class10 or above or up to UHS-1 rating Micro SD card

Gimbal

Input voltage:12V Size: 136*98*139mm Weight:452g Stabilization system: 3 axes (pitch, roll, yaw) Accuracy of angle control: static: ±0.008°; dynamic: ±0.02°; anti-shake: ±0.008° Controllable Rotation Range: Pitch: -110°to+60°; Horizontal: ±150°; Roll: ±10°; Max. control speed: pitch: 30°/s°; horizontal: 30°/s°; roll: direct control angle
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Remote Control

Working frequency band: 2.4G/5.8G from 2400MHZ to 2483.5MHZ Max. transmission distance: 6KM(Open, No Occlusion, No Electromagnetic Interference)
Display device: 7.86inch screen, Resalution:2048*1536, Brightness 2000cd/m ² , Android system, system Memory 4G RAM+16G ROM

weight: 1200g Working voltage: 7.4V Built in battery: 7.4V 9000mAh LiPo 2S Memory card type supported: Micro SD card with a maximum capacity of 64GB Working environment temperature: from -10 °C to 40 °C, Charging environment temperature: from 5 °C to 40 °C
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Image Transmission

Working frequency band: from 5725MHz to 5850MH From 2400MHz to 2483.5MHz Image transmission distance: 6KM (Open, No Occlusion, No Electromagnetic Interference)
Modulation mode: from OFDM to MIMO Video coding: H.264 Clarity: 1080p 30 downward compatibility

Intelligent Flight Battery

Voltage: 45.6V Capacity: 14000mAh Discharge rate: 10C Battery type: LiHV 12S
