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R1000 RTK

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

All Obstacle Avoidance | Network RTK | Foldable Design | 54-mins Flight Duration | 12km Video Transmission

*In order to continuously improve user satisfaction, the product will continue to be upgraded,
The actual product and promotional materials may be different, please refer to the final actual product.*

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R1000 RTK

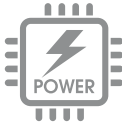
It adopts a new modular quick-release structure and a four-axis folding arm design; supports dual magnetic compasses for mutual backup to ensure flight safety. The GNSS+grid RTK dual redundancy system brings centimeter-level positioning accuracy and supports all directional obstacle avoidance, which further improves operational safety. 54minutes flight time and 8kgs payloads for R1000 RTK version .



All Obstacle Avoidance



Network RTK



Intelligent Power Management



54-min Max Flight Time



12 km Max Transmission



IP54 Rating



4K 30Fps Video



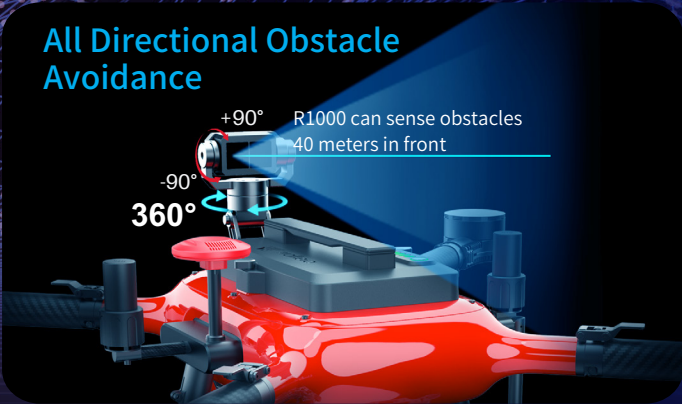
8kg Max Load



■ Function Introduce

All Directional Obstacle Avoidance

R1000 can sense obstacles 40 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.



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.



■ Function Introduce

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 Protection Level

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



Industrial-grade Waterproof



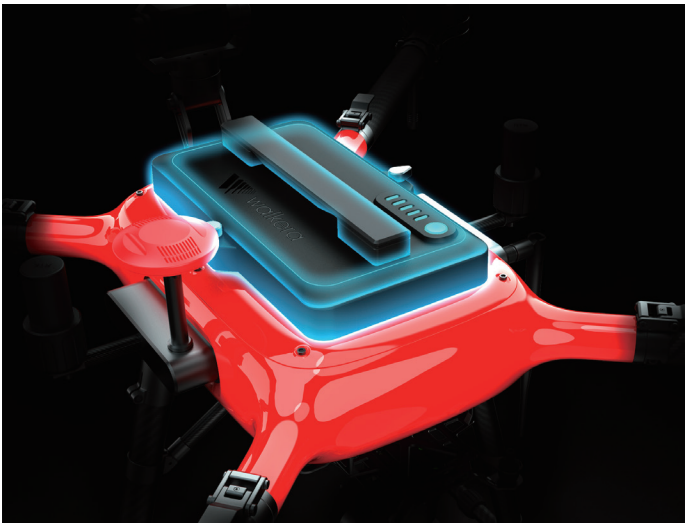
Corrosion-proof Capabilities



Dustproof

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 54 minutes (no-load state, hovering flight under no wind at sea level).



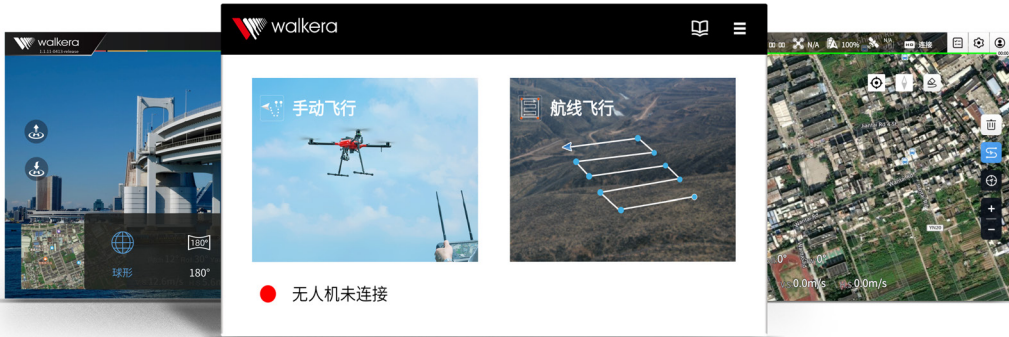
12km Image Transmission

Adopts 2.4G long-distance transmission system, which can transmit the maximum map distance up to 12KM. advanced SDR technology and super protocol stack,the image is clearer, the delay is lower, Strong anti-interference ability, stable and reliable transmission.



Industry-specific Software

In response to the special needs of industry applications, we developed a dedicated R1000 dedicated APP to simplify operations and ease operations. (Dot positioning, intelligent flight accompaniment, accuratere-shooting, waypoint flight)



Mountable Parts



The dual 4K HD 3-lens camera

The WK20T dual 4K ultra HD three-lens camera integrates visible light fixed focus wide-angle camera,visible light zoom camera, thermal imaging camera and laser range finder in one, supported by advanced intelligent algorithms, bringing unprecedented sensing and imaging capabilities to industry-level UAVs. Use with Walkera industrial drones to bring a new experience to all-weather operations. Support point temperature measurement, area temperature measurement, and high temperature alarm can visually display different temperature ranges, helping you quickly and accurately locate the target object. Support real-time target recognition, target location and target tracking functions.



Thermal image camera sensor 640x512



160 times hybrid optical zoom



Laser range 1200m



Visible light and thermal imaging linkage zoom



Smart night view enhancement



IP44 protection class



Support point temperature measurement, area temperature measurement and high temperature alarm



Visible light and thermal imaging dual-display



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.



Communication Facility Inspection



Traffic Patrols



Bridge Inspection

■ Industry Applications Can Be Equipped With Platforms

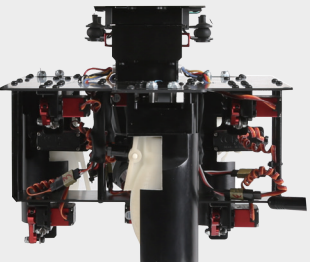
**Multi-purpose Gas Analyzer
(Custom Edition)**
Application Environment
Detection.



Water intake apparatus
Application of environmental
water quality testing



Airborne catapult
Fire rescue application



Megaphone
Application police reconnaissance.



Thrower
Applied delivery of aiding
materials.



Searchlight
Application police reconnaissance.



■ Traffic control platform

Traffic enforcement drones fully automated airport
5G remote control system + AI identification

Walkera vehicle UAV automatic airport can achieve automatic/mobile accurate takeoff and landing, automatic cruise, timed cruise, accurate shooting, AI intelligent recognition, mobile tracking; Support video real-time return, automatic charging/power change, meet the UAV high frequency, continuity, normal inspection, automatic unattended operation.



Data analysis

This screenshot displays the '数据导出列表' (Data Export List) from the Walkera traffic control platform. It is a table with multiple columns containing vehicle identification numbers, timestamps, and other data points. The table is organized into a grid with a header row and several data rows.

序号	车牌号	车型	品牌	颜色	抓拍时间	抓拍地点	抓拍高度	抓拍角度	抓拍方向
1	PC0202020202020202	普通轿车	大众	白色	2022-02-10 13:56:40	2022-02-10 13:56:40	0	0°	0°
2	PC0202020202020202	普通轿车	大众	白色	2022-02-10 13:56:40	2022-02-10 13:56:40	0	0°	0°
1	PC0202020202020202	普通轿车	大众	白色	2022-02-10 13:56:40	2022-02-10 13:56:40	0	0°	0°
2	PC0202020202020202	普通轿车	大众	白色	2022-02-10 13:56:40	2022-02-10 13:56:40	0	0°	0°
1	PC0202020202020202	普通轿车	大众	白色	2022-02-10 13:56:40	2022-02-10 13:56:40	0	0°	0°
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2	PC0202020202020202	普通轿车	大众	白色	2022-02-10 13:56:40	2022-02-10 13:56:40	0	0°	0°

Data outcome list



AI Recognition (License Plate recognition)



■ R1000(5G) used for AI Navigation beacon inspection project

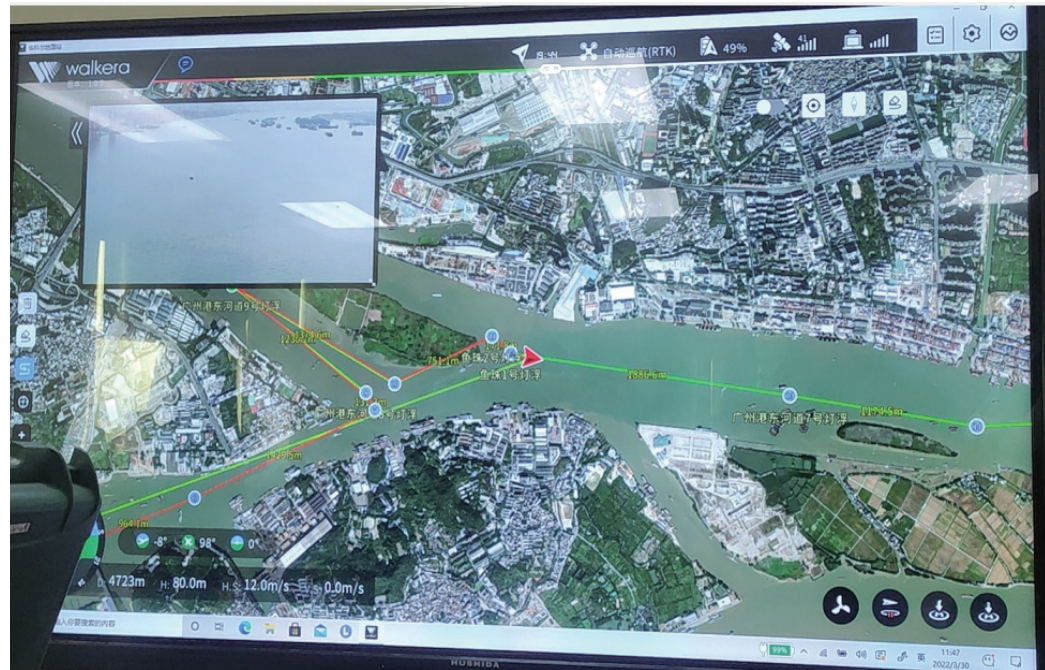
Walkera assist the Greater Bay Area UAV navigation beacon inspection platform

In April 2022, the Greater Bay Area UAV navigation beacon inspection platform project under the "land, sea, air and space" system jointly created by Walkera and Guangzhou Navigation Support Center passed acceptance smoothly, marking a new stage of UAV navigation beacon inspection in Guangzhou Navigation Support Center.

With the continuous progress of UAV technology and the gradual release of low-altitude airspace management, the feasibility of applying UAV to navigation and sea support has been greatly improved, bringing new ideas and paths for China's maritime navigation protection department to achieve the trinity cruise goal of "air, sea and land". The Greater Bay Area UAV navigation beacon inspection platform under the "land, sea, air and space" system of Guangzhou Navigation Beacon Office came into being under this background.



Multiple Mission Planner



Intelligent AI recognition



Real-time monitoring & command scheduling



■ Application scenario (Case)



Guangzhou Public Security Bureau



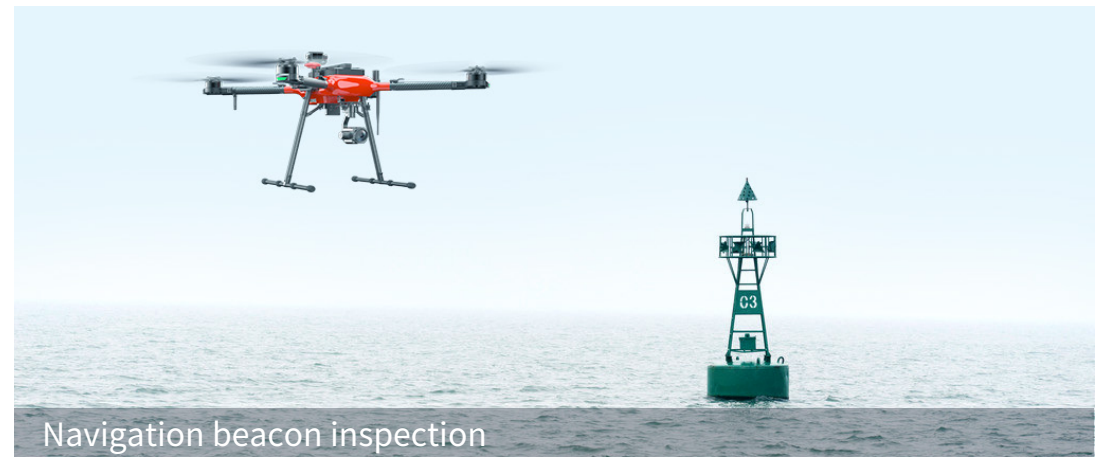
Traffic inspection



Border inspection in Yunnan



Ministry of Public Security police equipment online platform(012)



Navigation beacon inspection



Oil pipeline inspection



Smart City

■ Technical parameter

Aircraft	
Symmetrical motor wheelbase	1047mm
Outline size	1140mm x1140mm x531mm (Arm extended, blade folded) 514 mm x439 mm x469mmarm 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	7.8kg (including battery)
Maximum takeoff weight	15.8 kg (sea level)
Maximum rising speed	5 m/s
Maximum descent speed	3 m/s
Maximum horizontal flight speed	Gps mode: 5m/s(windless environment) cruise mode:3-20m/s(windless environment) attitude mode: 25m/s (windless environment)
Maximum pitch angle	positioning mode: 40° Cruise mode: 40° Attitude mode: 40°
Maximum rotation speed	Pitch axis:100 ° / s
Maximum allowable wind speed	17m / s
Maximum flight time	54minutes (no load)
Maximum flight altitude	5000m
Recommended working environment temperature	0 °C to + 45 °C
Hover accuracy	with rtk : vertical: ± 10cm horizontal: ± 5cm Without rtk : vertical: ± 0.5 m horizontal: ± 0.1 m

Laser radar obstacle avoidance system

Obstacle sensing range	0.5m-40m @90% reflectivity (100Klux) 0.5m-13.5m @10% reflectance (100Klux)
FOV	Horizontal 3°
Measuring frequency	50 Hz
Yaw	360°
Picth	±90°
Detection distance	≤ 40 m

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 Pixe	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 contro	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

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

Remote control WKRC - H12

Model	WKRC - H12
Operating frequency	2400MHz to 2483MHz
Maximum communication distance	12KM (open withoutshelter, no electromagnetic interference)
Display equipment	5.5-inch 1920*1080 1000NITS highlight screen
Charging interface	Type-c
Battery	3.7V 10000mAh LiPo 1S
Endurance time	8~24 hours
Operating temperature	-10°C to 40°C
Charging ambient temperature	5°C to 40°C
Weight	600g
Size	190 * 152 * 94 mm

Intelligent Flight Battery

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