SPECIFICATION

	**BaseAuto**
Base Dimension	1660x1620x1300 mm (when closed); 3200x1620x1300 mm (when open)
Base Weight	650 kg
UAV Option	DJI M300RTK or others (available upon request)
Work Mode	automated battery replacement, automated battery charging
Battery Replacement Time	<1 min
Operation Interval	3 min
Work Hours	daytime / nighttime
Electrical Devices	robot hand, battery station, precise landing control system, airport cabin door, temperature controller, smoke transducer
Robot Hand	repetitive positioning accuracy control down to ±0.05 mm
Battery Station	accommodates max. 4 groups of battery
Temperature Controller	self-control, automated power off in case of ultrahigh temperature
Smoke Transducer	automated power off in case of fire accident
Landing Control	±5 cm, by GNSS positioning plus millimeter-wave radar detection
Base Coverage	typical 15 km radius
Failure-free Operation	10000+ times
Data Communication	broadband/OPGW/4G/5G
Power Supply	220V DC
Power Consumption	average 500 W; max. 1700 W
Safety Protection	undervoltage/overload/short circuit protection
Operating Temperature	-20 ~ 50 ˚C
Ingress Protection	IP 54
Wind Resistance	beaudfort scale 7
	**Environitor**
Monitoring Purpose	wind speed, wind direction, rainfall, temperature, humidity, air pressure, etc.
Device Dimension	1800 x 300 x 400 mm
Device Weight	50 kg
CCTV Monitoring	1080 P
Radio Signal Detection	360°, radius 2 km (this module as an option)
Network Interface	RJ 45
Power Supply	24V DC
Power Consumption	50 W
Ingress Protection	IP 66

Configuration	**Desktop** 	**Server** 
Monitor	double or triple screen display	/
Operating System	Windows 10	Windows Server 2008 or above
CPU	Intel Core i5 or above	8-core & 16-thread or above
HDD	1 TB or above	2 TB or above
SSD	256 GB or above	
RAM	16 GB or above	
Graphic Card	discrete, NVIDIA 8 GB or above	

Note: all information above is subject to change without any prior notice.

PAYLOADS

vari-focal camera

double-light camera

infrared imager

megaphone

searchlight

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SOUTH SURVEYING & MAPPING TECHNOLOGY CO., LTD.

Add: South Geo-information Industrial Park, No.39 Si Cheng Rd, Guangzhou, China
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UAV Automation & Parking System FlyAuto 01

Farewell Pilots! 100% Unmanned.

Automated Flight Operation.

Automated Battery Replacement.

Automated Battery Charging.

24x7 Realtime Monitoring.

"Lack of professional UAV pilots for aerial jobs? Wanna check site conditions realtime but stay indoors? Hard to arrange timely missions in case of emergency? Expect to make decisions and send commands in no time? Such are common headaches to the organizations that demand UAV applications in the way of 100% unmanned operation. Now this new technology, FlyAuto 01, could be an ideal solution to all those industries looking for full automation and well interprets what flexibility and efficiency really mean to a variety of applications." said Chris Wang, a senior sales manager specializing in UAV products and services for years.

SKYSOLUTIONS

(V. 2021JUN)

APPLICATIONS

environmental
forestry
urban
land
zone
aquatic
rescue
traffic
agriculture
utilities
police
mining

Typical Reference 1, MINING ENGIEERING

Mining companies could use drones with a direction connection to aerial data and new levels of insight, replacing manual inspections in the most hazardous areas while drastically reducing the time and manpower required. This methodology might help much with security and surveillance, terrain mapping, stockpile volume calculation, reconciliation process, etc.

Typical Reference 2, PETROCHEMICAL ENGINEERING

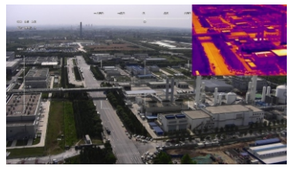
Petrochemical industry might rely on drones with specified detector payloads checking polluted air conditions instead of physically moving inside the potentially hazardous areas. This solution enjoys flexibility, efficiency and safety, as staff just need to stay indoors reviewing critical information and mission reports in front of the LED screen.

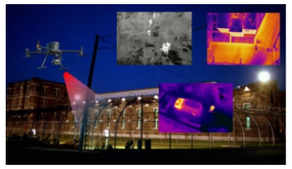
Typical Reference 3, WATER RESOURCES MONITORING

Aerial data capture could vividly present any pollution sources and illegal operations realtime. Waterworks authorities might see it as a turnkey solution, because conventional manual monitoring of water bodies consists of several disadvantages including heavy workload and costs, low accuracy and excess time in measurements, inevitable communication delay and life-threatening risks, etc.

Typical Reference 4, RESTRICTED WORKPLACE SECURITY

Manual supervision of secret-involved personnel and materials is labor-intensive yet quite limited. Instead, the mid-air perspectives could effectively fix those blind spots. The vari-focal lens and infrared imager installed onto the UAV would enable the management to easily have a birdview finding out where troubles are and make immediate responses.





Typical Reference 5, POLICE PATROL

It might best fit jails and prisons where surveillance is needed at a high frequency. The authorities could go through every single detail from the aerial view, which collaborates with the limited CCTV cameras and reduces certain workload. Moreover, the automated tracking and night vision tracing would help police to shortly lock suspects or misdemeanors.

Typical Reference 6, POWER GRID INSPECTION

Growing number of utility grid operators have been deploying UAVs to fulfil dangerous inspection missions and contribute for increasing of entire cost performance. However, utility companies are simply not adept at teaming up their own pilots. For safety reasons, human intervention should be reduced as much as possible, so UAV automation would vividly demonstrate significant and measurable values.

COMPONENTS

UAV (different payloads to meet diverse needs, and drone models available upon request)

AI-unit (helps to control automated flight, automated photography/videography, automated precise landing, etc.)

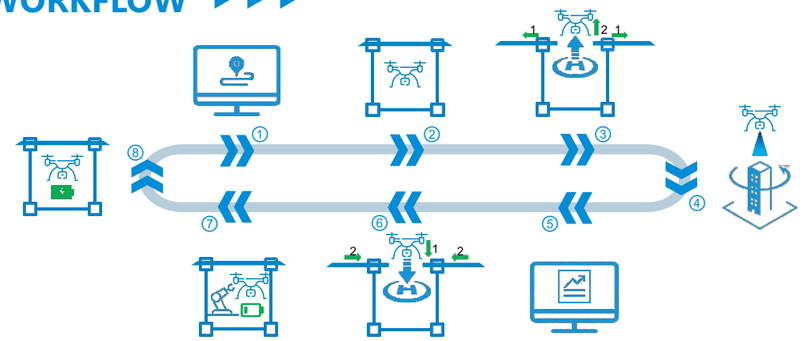
SkyView (functions include base management, UAV management, map management, skyway management, flight control, operation command, business routine, data analysis, weather monitoring, etc.)

BaseAuto (includes UAV base, robot hand, recharge station, power supply system, telecom system, internal CCTV, etc.)

environor (monitors the environment conditions via thermometer, humidometer, anemometer, rain/snow sensor, radio signal detector, telecom repeater, CCTV, etc.)

client's hardware (includes exclusive server, LED screen in control center)

WORKFLOW



① Control center sends programmed/instant commands via software platform SkyView.
② BaseAuto receives the command and starts self-check, then UAV gets ready to take off from base.
③ Doors open automatically, and UAV starts its FlyAuto mission.
④ Doors close accordingly, and UAV captures aerial information.
⑤ Control center collects live data and inspection report would be generated automatically.
⑥ Mission completed. Doors open again, and UAV automatically returns home with precise landing.
⑦ Doors close again. Then robot hand automatically takes out the used battery and installed with a charged one.
⑧ The used battery recharges automatically, and UAV (installed with charged batteries) gets ready for the next mission.

FAIL-SAFE

Pre-flight Checks
– weather conditions, UAV battery, and BaseAuto modules like doors, robot hand, landing control unit, etc.

All-direction Obstacle Avoidance
– left/right/up/down/forward/backward 6 directions

Bad-weather Reaction
– forbidden to take off in case of raining or strong wind; auto return home in case of sudden changes to bad weather

Power Protection
– forbidden to take off in case of BaseAuto out of electricity; UPS stands by to guarantee safe landing; auto return or emergency landing activated when short of battery power

GPS Signal Loss Protection
– precise positioning guaranteed by GNSS-inertial data integrity; auto descent and hovering when there's no GPS signal

SensorFail Protection
– auto return activated in case of any sensor malfunction

Disconnection Protection
– auto return activated in case of radio datalink disconnection

Emergency Landing Point
– alternatives available in case of sudden rain, abnormal substances near BaseAuto or precise landing system malfunction

Anti-theft Alarm
– immediate messaging enabled to report to control center in case of BaseAuto displacement and abnormal cabin door open