

## UAV

## ATPL606

### Features

- Flight speed 0~15M/S;
- Maximum take-off weight 20Kg;
- Standard load 5Kg, maximum load 8Kg;
- The maximum flight altitude can reach 5000 meters;
- Navigation satellite: GPS:L1+L2(20HZ), BeiDou:B1+B2(20HZ), GLONASS:L1+L2(20HZ)5b+QSZZ;
- Appearance size 1620mm×1410mm×500mm;
- Wheelbase 1500mm;
- Support PPK and RTK modes to work at the same time;
- The highest landing accuracy can reach: level  $\leq \pm 0.2\text{m}$ , elevation  $\leq \pm 0.2\text{m}$ ;
- Built-in "black box" to record flight data;
- GPS hovering accuracy: Vertical:  $\pm 0.5\text{ m}$ , Horizontal:  $\pm 1.5\text{ m}$ ;
- Wind resistance:  $\leq 12\text{m/s}$ ;
- Working temperature:  $-20\sim 45^{\circ}\text{C}$ ;
- Standard battery life:  $\geq 65\text{min}$  (2KG);  $\geq 50\text{min}$  (5KG);  $\geq 40\text{min}$  (7KG);
- Remote control transmission distance up to 15 kilometers;
- Can take off at an altitude of 4km with a load of 2kg
- Battery: 6S 22.8V 32000mAh\*2 lithium-ion battery;

### Application

- Aerial photography
- Power Line Patrol
- Geological survey
- Fast shipping

### Description

ATPL 606 six-rotor UAV, stable flight attitude, high safety, pure motor power, low vibration, low noise, no pollution; carbon fiber integrated pasting body, good aerodynamics, high strength, light weight; carbon fiber arm, The aluminum parts are quickly connected and disassembled, which is stable and fast; no tools are needed, and the deployment time of the whole set of equipment is about 3 minutes; dual battery redundant design, the total battery capacity is  $\geq 50000\text{mAh}$ .

ATPL 606 six-rotor drone with a maximum flight time of 90 minutes. It comes with a digital control integrated remote control with a screen. The remote control can share data with the computer through WIFI; the signal transmission distance of the remote control can reach up to 15 kilometers.

ATPL 606 six-rotor UAV, industrial standard structure, safe and convenient interface, can quickly replace different load equipment as needed; it can be adapted to lidar and dual-lens tilting head. Having experienced the test of thousands of square kilometers of cadastral survey projects, it has been continuously improved and optimized to truly meet the needs of the project. It is a rare and good helper for high-precision aerial surveys.



## 1. Flight control system

1. Industrial-grade hardware, stable and reliable;
2. The performance of the processor is as high as 1027 DMIPS, powerful and efficient;
3. \*3 redundant IMU redundant design, seamless data switching;
4. \*15 PWM outputs, 2 CAN interfaces, 4 UART interfaces;
5. \*GPS hovering accuracy: Vertical:  $\pm 0.5$  m, Horizontal:  $\pm 1.5$  m;
6. \*RTK hovering accuracy: vertical:  $\pm 0.1$  m, horizontal:  $\pm 0.1$  m;
7. \*Built-in "black box" to record flight data;
8. \*Support millimeter wave radar obstacle avoidance;
9. \*Working temperature -20~85°C, suitable for various environments;
10. \*Comprehensive protection mechanism, support low battery, automatic return when the remote control is disconnected and the ground station is disconnected, to ensure flight safety;
11. \*Support front view FPV camera;

## 2. Ground station control software

1. Automatically generate tasks with one key, smart and fast;
2. Support ground imitation flight and safe operation;
3. Support electronic fence;
4. Check and confirm take-off, improve take-off preparations, and prevent sloppy operations;
5. Support continuous flight after breakpoint, worry-free operation in large area;
6. Support pointing flight, no worries in emergencies;
7. One-click support for multi-load platforms;
8. Intelligent area and strip task planning;
9. Support pod video access;
10. Flight log record playback;
11. Complicated task planning, importing range files, one-click production;
12. Support RTK positioning mode;
13. Safe voltage return, double-stage low voltage return function;
14. Attitude protection, two-stage attitude safety protection;
15. Link break protection, support link break return and mission priority to continue option execution;
16. Remote control power failure protection, the computer ground station can control the aircraft;
17. The ground station at the remote control end + the ground station at the computer end are interoperable and can work independently;

## 3. Flight system

1. Take-off and landing mode: vertical take-off and landing;
2. Cruising speed: 6m/s (21.6km/h), maximum speed 16m/s (57.6km/h);
3. Maximum take-off weight: 22kg;

4. Standard load: 5kg;
5. Maximum load: 8kg;
6. Ceiling: 5000m;
7. Dimensions: 1620mm×1410mm×500mm;
8. Wheelbase: 1500mm;
9. Navigation satellites: GPS: L1+L2, BeiDou: B1+B2, GLONASS: L1+L2;
10. PPK post-difference + RTK; (dual antenna RTK + PPK post-difference system is required)
11. Dual RTK antenna direction locking; (Dual antenna RTK+PPK rear differential system is required)
12. Landing accuracy: horizontal  $\leq \pm 0.2\text{m}$ , elevation  $\leq \pm 0.2\text{m}$ ; (requires optional dual antenna RTK+PPK post-difference system)
13. Wind resistance: 12m/s;
14. Working temperature: -20~45°C;
15. Standard battery life:  $\geq 65\text{min}$  (2KG);  $\geq 50\text{min}$  (5KG);  $\geq 40\text{min}$  (7KG);
16. Maximum battery life: 90min;
17. Take-off and landing site: 6\*6m;
18. Battery: 6S 22.8V 32000mAh\*2 lithium-ion battery;
19. Disassembly method: tool-free;
20. Arm way: detachable arm;
21. Blade: carbon fiber straight blade;
22. Hovering accuracy: Vertical:  $\pm 0.1\text{ m}$ ; Horizontal:  $\pm 0.1\text{ m}$ . (Dual-antenna RTK+PPK post-difference system is required);

## 4. Application field

UAVs belong to the high-tech and cutting-edge technology industry. With the development of technology, UAVs are not only used for military and police purposes such as border patrol, emergency response, and maritime surveillance, but also in various industries in the field of people's livelihood. They are subdivided in the following The field has great commercial value. (1) Meteorology: The rigorous and scientific workflow of drones solves the problem of supercooled water freezing during shadow operations. Equipped with a complete system of bomb racks, catalytic flame strips, and excitation control devices, it can accurately collect stable, reliable, and complete meteorological data at different altitudes to meet the professional needs of the meteorological industry for weather prediction and shadow operations. (2) Surveying and mapping: through the low-altitude UAV surveying and mapping measurement remote sensing system, use global positioning, geographic information, and engineering surveying technologies to perform multi-resolution, multi-scale, multi-time-space and multi-type three-dimensional descriptions. Provide accurate data support for scientific decision-making and land resource management in terms of land consolidation monitoring, farmland water conservancy construction, and infrastructure settings. (3) Electric power: The hybrid vertical take-off and landing fixed-wing UAV is equipped with dual optical pods to obtain image data of power transmission channels, helping the power industry to avoid dangers, improve inspection quality and work efficiency, and complete inspection tasks quickly and accurately. (4) Transportation: As the core and hot spot of innovation in the technology industry, unmanned aerial vehicles can quickly and accurately understand

the on-site situation, assist the transportation industry to improve road transportation and operation monitoring capabilities, improve industry collaborative law enforcement capabilities, and strengthen government service management efficiency. (5) Water conservancy: UAVs

With modern scientific means, a real-time, thorough and comprehensive water conservancy perception system is formed to improve work efficiency and enhance overall operation and supervision capabilities.

(6) Environmental protection: UAV remote sensing system quickly finds out the status quo of ecological environment and protection management according to customer needs, realizes fast, accurate and efficient collection of multi-dimensional data, and plays an important role in environmental monitoring, supervision and emergency response. (7) Smart city: UAV remote sensing technology can obtain surface information in a short period of time, realize comprehensive perception and rapid extraction of image information for various elements within the city, provide accurate data support for scientific decision-making in urban development, and assist Define smart cities and sort out the context of urban development.

	Name	Quantity
1	Body (including flight control/data transmission/GPS*2/front camera/transformer/load board)	1
2	Arm (including motor and ESC)	6
3	Paddle	6
4	RC12 remote control (including charger, serial cable)	1
5	Propeller quick release accessories	1
6	Arm quick release accessories	1
7	Digital display	1
8	Anemometer	1
9	UP600 Charger	1
10	Certificate	1
11	User manual	1
12	Battery explosion-proof box	1
13	Power battery, 6S 32000mAh	2
14	Matching screws/nuts	4
15	Aluminum box	1