Autel EVO II PRO

Autel Robotics EVO II PRO RTK V3 Instruction Manual

Model: EVO II PRO | Brand: Autel

1. Introduction

The Autel Robotics EVO II PRO RTK V3 is an advanced unmanned aerial vehicle (UAV) designed for precision applications requiring high accuracy and robust performance. Featuring real-time centimeter-level positioning, a high-resolution 6K HDR camera, and extended transmission capabilities, this drone is suitable for professional tasks such as mapping, photogrammetry, and various inspection operations.

2. What's in the Box

The EVO II Pro RTK V3 bundle includes the following components:

- EVO II Pro RTK V3 Aircraft (x1)
- V3 Smart Controller (x1)
- Flight Battery (x3)
- Propeller (x4 pairs)
- Gimbal Cover (x1)
- Battery Charger & Power Cable (x1)
- Car Charger (x1)
- Multi-Charger (x1)
- RC Charger (x1)
- RC Charging Cable (x1)
- Spare Control Stick (x1 pair)
- RC Protective Case (x1)
- RC Lanyard (x1)
- Extended Port Cover (x1)
- Protector Case (x1)



Figure 2.1: All components included in the Autel EVO II Pro RTK V3 bundle.

3. Setup

3.1 Battery Charging

Ensure all batteries (flight batteries and controller battery) are fully charged before operation. The multi-charger allows charging up to four flight batteries simultaneously. The controller can be charged via its dedicated charger and USB-C cable. A car charger is also provided for convenience.

3.2 Propeller Installation

Carefully install the propellers onto the drone's motors. Ensure they are securely fastened to prevent detachment during flight. Refer to the drone's markings for correct propeller placement (e.g., clockwise/counter-clockwise rotation).

3.3 Pre-Flight Security Check

Before each flight, perform a pre-flight security check. Verify that the flight battery is securely installed and that all propellers are correctly attached. The drone's system will also prompt for these checks on the controller display.

4. Operating the Drone

4.1 Flight Controls

The V3 Smart Controller provides intuitive control over the drone. Familiarize yourself with the joystick functions for altitude, rotation, and directional movement. The controller also features a threaded hole for mounting on a tripod for stable operation, and a strap for hands-free use.



Figure 4.1: Autel Smart Controller V3 features, including 7.9-inch HD touch screen, wide temperature range, 2000 Nits brightness, SkyLink 2.0, anti-interference, 3rd party app flexibility, and IP43 resistance.

4.2 Camera Operation

The EVO II Pro RTK V3 is equipped with a S-ony 1" 6K/30fps HDR camera, providing high-quality visual data. It also integrates an infrared camera for thermal imaging, useful for various inspection and search applications. The

controller allows seamless switching between normal and infrared camera views.



Figure 4.2: EVO II Pro RTK V3 camera details, highlighting 1" CMOS, F2.8-F11 aperture, 6K/30FPS video, ultra-sensitive algorithm, 16X digital zoom, 3X lossless zoom, and optimized software image processing.

4.3 RTK Positioning and Mission Planning

The integrated RTK module provides real-time centimeter-level positioning accuracy, supporting both RTK base station and RTK network for stable and accurate data acquisition. The drone supports advanced mission planning features including Waypoint Task, Rectangle Task, Polygon Task, and Oblique Photography. For repeatable data acquisition, the drone can replicate previous shooting positions and camera movements.



Figure 4.3: Centimeter-Level Positioning of EVO II Pro RTK V3, showing horizontal accuracy of 1cm + 1ppm and vertical accuracy of 1.5cm + 1ppm, with no Ground Control Points (GCP) required and 3rd party Base Station Support.



Figure 4.4: Mission Execution with Advanced Intelligence, demonstrating Waypoint, Rectangular, and Polygon mission types, along with 360° PTZ camera capabilities.

4.4 Video Transmission

The Autel SkyLink 2.0 system provides a 15km transmission distance with 2.7K transmission quality, operating on 2.4GHz, 5.8GHz, and 900MHz frequencies.



Figure 4.5: Autel SkyLink 2.0 Video Transmission, detailing 15km transmission distance, 2.7K transmission quality, and 2.4GHz/5.8GHz/900MHz transmission frequency.

5. Maintenance

To ensure optimal performance and longevity of your Autel EVO II PRO RTK V3, regular maintenance is recommended:

- Keep the drone and all accessories clean and free from dust and debris.
- Store batteries in a cool, dry place and follow recommended charging practices to prolong their lifespan.
- Inspect propellers for any damage before each flight and replace if necessary.
- Ensure the gimbal and camera lens are clean and free of smudges.

6. Troubleshooting

6.1 Flight Stability Issues

If experiencing unexpected drone behavior, such as ascending without input or automated flights not starting, ensure all firmware updates are completed. Outdated firmware can sometimes lead to operational inconsistencies.

6.2 Autel Mapper Software Requirements

For optimal experience with “Autel Mapper” software, ensure your computer meets the following minimum configuration requirements:

- Operating System: Windows 10 64-bit or Windows 11 64-bit.
- Graphics Processor: N.VIDIA graphics card with a computing power of 3.0 or higher.
- Graphics Card Driver Version: 471.11 or later.

7. Specifications

Feature	Specification
Brand	Autel
Model Name	EVO II PRO
Video Capture Resolution	6K
Connectivity Technology	USB
Battery Capacity	5000 Milliamp Hours
Control Type	Remote Control
Maximum Range	9.32 Miles (15 KM)
Material	Plastic
Item Weight	21.4 pounds
Product Dimensions	21"L x 5.5"W x 17.8"H
Optical Sensor Technology	CMOS

8. Applications

The Autel EVO II Pro RTK is a versatile UAS suitable for a wide range of professional applications, including:

- Mapping and Photogrammetry
- Powerline Inspection
- Search and Rescue operations
- Law Enforcement support
- Traffic Supervision
- Environmental Protection monitoring

- Urban Planning
- Creation of surfaces, point clouds, and orthoimages with Carlson PhotoCapture
- Feature extraction and CAD plans with Carlson Point Cloud

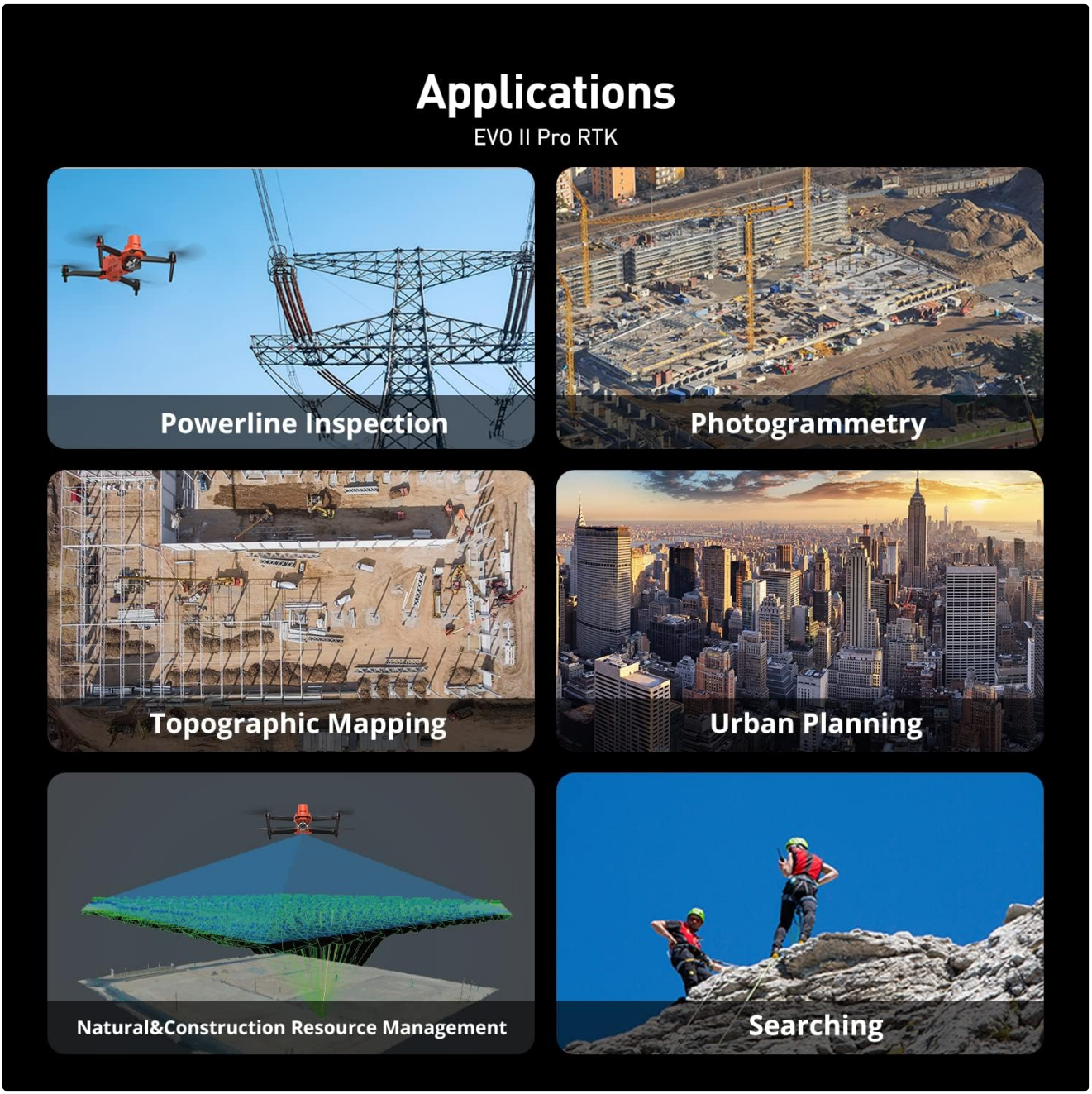


Figure 8.1: Diverse applications of the Autel EVO II Pro RTK.

9. Warranty and Support

All Autel Robotics UAVs offered include a FULL USA WARRANTY. For technical support or assistance with your Autel EVO II Pro RTK V3, please reach out to autelofficial@outlook.com.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question