Potensic PTD 1

User Manual

V02. 25. 12

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Table Of Contents

1. Disclaimer and Precautions

1.1 Disclaimer

Please read the PTD 1「User Manual」thoroughly before using this product to fully understand the detailed usage instructions. By using this product, you agree to all terms and conditions associated with it.

This product is not intended for use by children. Store the product out of children's reach when it's not in use.

Do not disassemble or modify components. Unauthorized alterations resulting in product failure will be the user's responsibility.

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Visit **https://www.potensic.com** for the latest information.

1.2 Safety and Precautions

Keep Away from Moisture

This product is not waterproof. Avoid contact with water, oil, or high-humidity environments to prevent malfunctions or damage caused by moisture affecting internal components.

Keep Away from Heat Sources

This product is composed of metal, plastic, and electronic components. Keep it away from heat sources and avoid prolonged exposure to high temperatures to prevent malfunction, casing deformation, or damage.

Battery Health

This product contains a built-in 3.6V lithium battery that does not require replacement. Use only FCC/CE-certified USB chargers to charge the remote controller battery. To maintain optimal battery health, recharge every 3 months to maintain cell activity.

2. Reading Guide

2.1 Symbol Legend

⊘ • **Prohibited**   ☼ • **Operation & Usage Tips**

⚠ • **Important Notes**   ▤ • **Terminology and Reference Information**

2.2 Usage Recommendations

1. We recommend watching the tutorial videos and reviewing the 「**Quick Start Guide**」prior to reading the 「**User Manual**」.
2. When reading the 「**User Manual**」, always begin with the **Disclaimer and Precautions** section.

3. Product Overview

» 3.1 Introduction

The PTD 1 remote control utilizes PixSync 4.0 digital video transmission technology, achieving up to a 10 km communication range and 1080p HD video transmission under ideal conditions. The remote controller features an integrated design with a built-in 5.5-inch 1920×1080p touchscreen, GNSS positioning, screen recording functionality, and Wi-Fi connectivity. It can connect directly to compatible drones, enabling control and configuration of the drone through function buttons and the App. After shooting, the SmartTransfer function can be enabled, allowing the drone to connect directly to the Potensic Eve App on mobile devices via Wi-Fi (without connecting to the remote controller), enabling one-click download of photos and videos from the drone to the mobile device.

The remote controller has a built-in speaker, comes with 32GB of storage space, and supports microSD card storage expansion. Captured media can be saved to the remote controller's internal storage or microSD card for easy transfer to computers and other devices. It is equipped with a high-capacity lithium battery that provides up to approximately 3 hours of continuous operation.[1]

» 3.2 Remote Controller Component Names
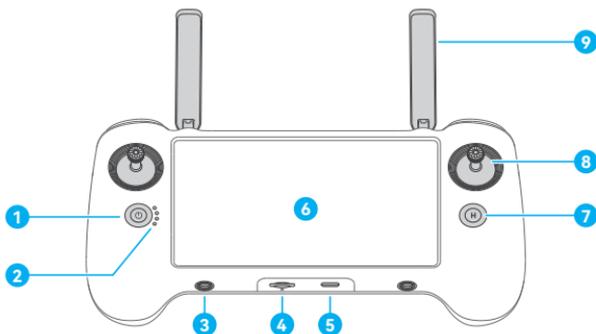
1. Power Button

Press once to check battery level; press and hold for 2s to power on/off.
Press and hold the power button for 10s to force a shutdown.

2. Power Indicator

Displays battery level or status.

3. 1/4 Nut Mounting Slot

For attaching straps. (Sold separately)

4. Micro SD Card Slot

Can insert micro SD card.

5. USB-C Port

For charging or connecting to a computer.

6. Touchscreen Display

Operate by tapping the screen. (Avoid exposure to water to prevent screen damage)

7. Return to Home (RTH) Button

Press and hold to initiate RTH; press once to cancel. Press once to pause autonomous flight.

8. Control Sticks

Controls the drone's flight. The control stick operation mode can be configured in the Potensic Eve App > Settings > Control > Remote Controller Settings > Stick Mode page

9. Foldable Dual Antenna

Transmits drone control and video transmission wireless signals.
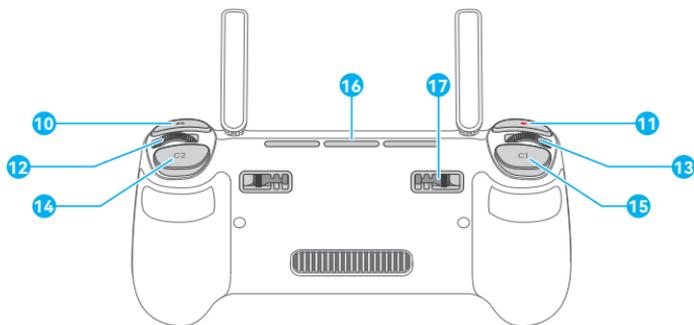
10. Photo Button

Press once to take a photo. In video mode, press once to switch back to photo mode.

11. Video Button

Press once to start/stop video recording. In photo mode, press once to switch back to video mode.

12. Right Dial

Controls digital zoom level.

13. Left Dial

Adjusts gimbal pitch angle.

14. Customizable C2 Button

Single press: Default speed mode toggle (Video Mode/Normal Mode/Sport Mode)
Double press: Default Cruise Control (Enable/Disable/Update)
C2 + Left Dial: Default white balance adjustment
C2 + Right Dial: Default EV adjustment

Can be set to other functions in the Potensic Eve App > Settings > Control > Remote Controller Settings > Button Customization page.

16. Cooling Holes

15. Customizable C1 Button

Single press: Default gimbal angle toggle (0°/-90°)
Double press: Default camera mode toggle (Manual Mode/Auto Mode)
C1 + Left Dial: Default shutter speed adjustment

Can be customized in Potensic Eve App > Settings > Control > Remote Controller Settings > Button Customization.

17. Control Stick Storage Slot
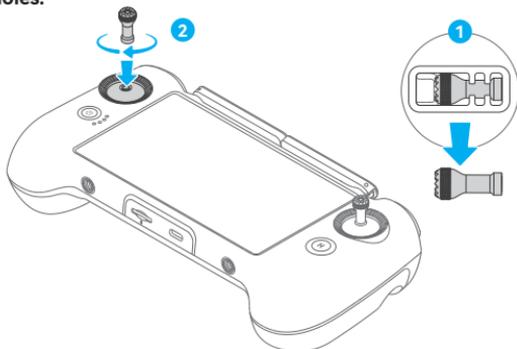
For storing control sticks.

4. First-Time Use

≫ 4.1 Drone Preparation

1. For first-time users, scan the QR code to watch tutorial videos.

2. Remove the control sticks and screw them clockwise into the remote controller's stick mounting holes.
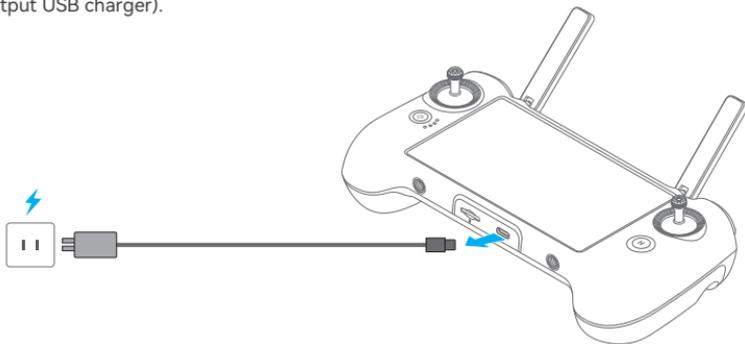

3. Unfold the antennas.
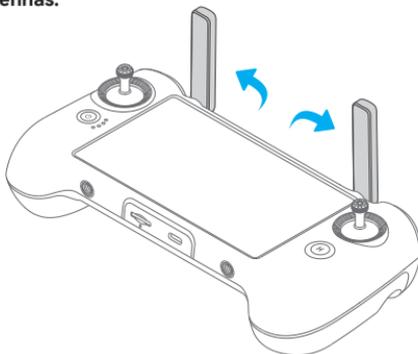
》 4.2 Charging/Power On/Off

Charging

Connect the remote controller's USB-C charging port to a USB charger with AC power supply. The fastest charging time to reach 90% is approximately 1 hour 25 minutes (when using a 9V/3A output USB charger).

- It is recommended to recharge every 3 months to maintain battery cell activity.
  - This product does not come with a USB charger. Users should use FCC/CE-compliant chargers. To enable fast charging functionality, ensure your charger supports the Power Delivery (PD) 2.0 or later fast charging protocols.
  - Please use a USB-C to USB-C cable that is either original or supports the PD fast charging protocol with a current of 3A or higher. Using incompatible charging cables may result in failure to charge or damage to the battery.

Power On/Off

Press the power button once to display the current battery level via the indicator lights.

Press and hold the power button for 2 seconds to power the remote controller on/off.

4.3 Remote Controller Activation

The remote controller must be activated before its first use. An internet connection is required for activation. Ensure good network connectivity, press and hold the power button for 2 seconds to power on the remote controller, then follow on-screen instructions to complete activation.

- If activation fails, check network connection. Retry activation after ensuring a stable network connection. If issues persist, contact customer support.

5. Remote Controller Functions

5.1 Remote Controller Indicator Lights

As shown in the diagram, the remote controller has 4 LED lights that indicate battery level and status.

LED 4
LED 3
LED 2
LED 1

Indicates steady illumination

Indicates blinking

Indicates off
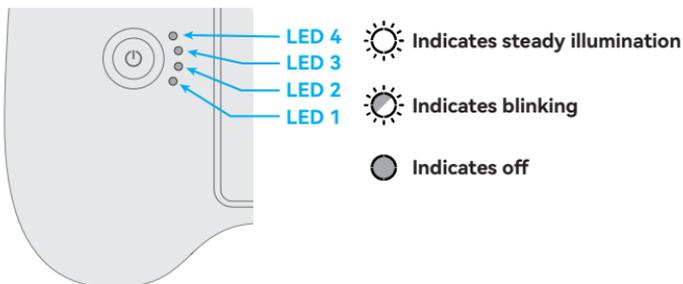
Charging Indicators

LED 1	LED 2	LED 3	LED 4	Current battery leve
☀	⚫	⚫	⚫	0% ~ 25%
☀	☀	⚫	⚫	25% ~ 50%
☀	☀	☀	⚫	50% ~ 75%
☀	☀	☀	☀	75% ~ 99%
☀	☀	☀	☀	99% ~ 100%

Battery level indicators (during use)

LED 1	LED 2	LED 3	LED 4	Current battery level
☼	○	○	○	0% ~ 10%
☼	○	○	○	10% ~ 25%
☼	☼	○	○	25% ~ 50%
☼	☼	☼	○	50% ~ 75%
☼	☼	☼	☼	75% ~ 100%

Status indicators (shown via LED 1 color)

Status	LED 1	
Connected	☼	Solid green
Not connected	☼	Solid blue
Pairing	☼	Rapid blinking blue
Updating	☼	Blinking yellow
Critically low battery	●	Solid red
Remote controller calibration	☼	Solid white

» 5.2 Remote Controller Audio Alerts

The remote controller produces corresponding audio alerts depending on its status or mode. Common alerts are listed below:
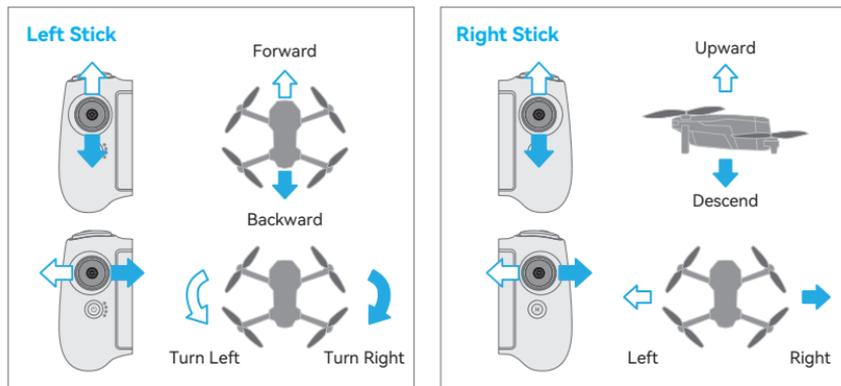
Status	Alert Type
Press any button briefly	Single "beep"
Power off	Two "beep beep" sounds
Attitude mode	Four "beep beep beep beep" sounds
Remote controller activates a function (e.g., RTH)	Two "beep beep" sounds
Remote controller terminates a function (e.g., cancels RTH)	Single "beep"
During RTH flight	Two "beep beep" sounds (repeating)
During landing	Single "beep" (repeating)
Low battery	Slow triple "beep..beep..beep.." (repeating)

☼ • To mute continuous RTH alerts during return, briefly press the power button to stop the current RTH beeping.
  • When enabled in Potensic Eve App > Settings > Safety > Return > Silent Return, the remote controller will beep only twice ("beep beep") upon RTH activation without continuous alerts.
  • If the remote controller's battery is low and the drone hasn't landed, it will emit slow continuous beeps. Briefly press the power button to mute them.
  • The remote controller auto-powers off after 5 minutes of inactivity with warning beeps. Press the power button to stop the beeps.
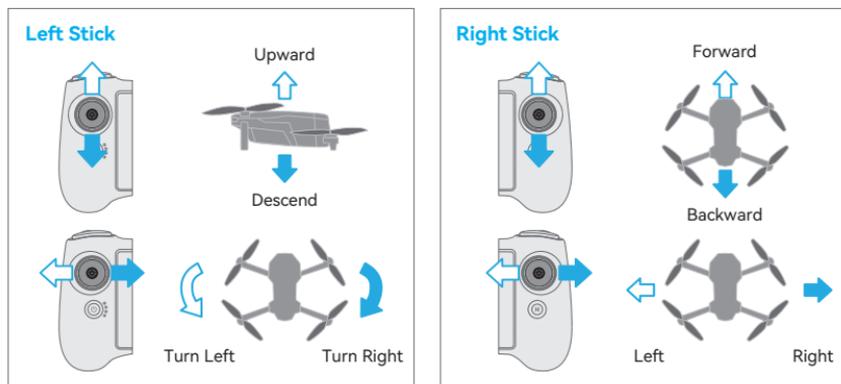
≫ 5.3 Remote Controller Stick Modes

Configure stick control modes in the **Potensic Eve App > Settings > Control > Remote Controller Settings > Control Stick Mode**, including Mode 1 (Right Hand Throttle), Mode 2 (Left Hand Throttle), and Custom, as shown below.

Mode 1 (Right Hand Throttle)

Left Stick

Forward
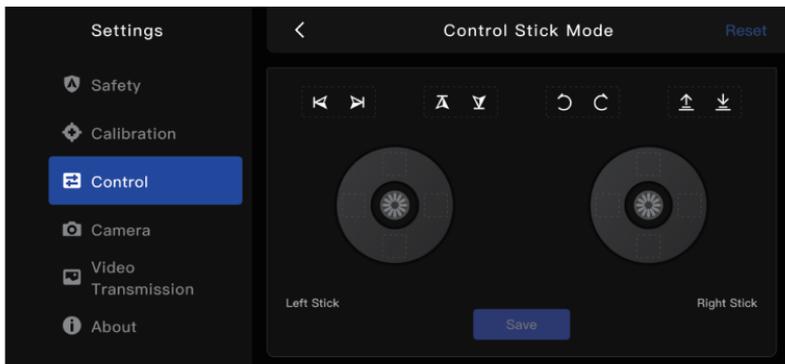
Backward

Turn Left   Turn Right

Right Stick

Upward

Descend

Left   Right

Mode 2 (Left Hand Throttle)

Left Stick

Upward

Descend

Turn Left   Turn Right

Right Stick

Forward

Backward

Left   Right

Custom

Users can customize stick control modes to suit their specific needs, with support for stick direction inversion.

💡 • The default factory setting is Mode 2 (Left Hand Throttle).


≫ 5.4 Remote Controller Calibration

When Calibration is Required

1. Calibrate when the drone automatically drifts in one direction without stick input.
2. Calibrate when the drone automatically rotates continuously in one direction.
3. Calibrate when stick sensitivity behaves abnormally.

Calibration Steps

1. Power on the remote controller and navigate to the calibration interface via the Potensic Eve App > Settings > Calibration > Remote Controller Calibration.
2. Before tapping "Start Calibration", ensure the control sticks are centered and do not operate the remote controller.
3. After tapping "Start Calibration", follow the on-screen instructions to move the control sticks in every direction until the display reaches 100%. At the same time, rotate both the left and right dials back and forth to their maximum extent.
4. The remote controller calibration is complete when "Calibration Successful" is displayed on the Potensic Eve App interface.
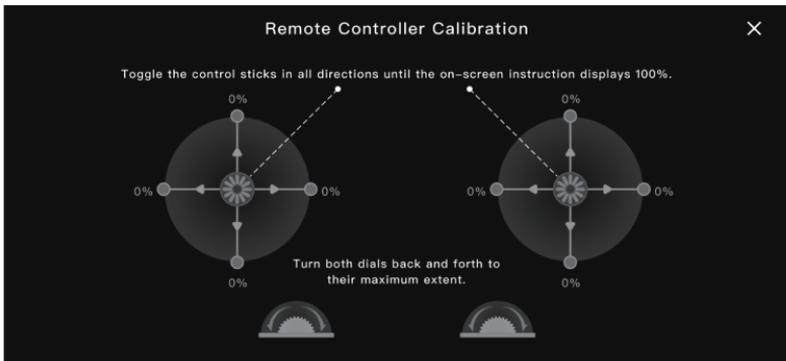
≫ 5.5 Remote Controller Pairing

If the PTD 1 remote controller and drone are purchased as a set, they come pre-paired from the factory and can be used immediately after power-on activation. If the remote controller or drone is replaced for any reason, they must be paired again before use.

Pairing Steps:

1. Power on the remote controller and navigate to the pairing interface via the Potensic Eve App > Settings > Calibration > Re-pair the Drone.
2. Press and hold the power button to power on the drone. Then, quickly double-press the drone's power button - the tail LED will flash green rapidly, indicating that the drone has entered pairing mode.
3. During pairing, the LED 1 on the remote controller will flash blue. A single beep indicates successful pairing. The battery indicator will switch from flashing blue to solid green, and the Potensic Eve App will display "Pairing Successful!".

⚠ • During pairing, keep the remote controller and drone within 1 m of each other and ensure there is no 2.4G interference in the surrounding area.

   • If pairing fails, please check for possible sources of interference, whether other drones are also in pairing mode, if the remote controller is too far from the drone or if there are obstructions, and retry after addressing these issues.

   • Do not move or operate the remote controller and drone during pairing.

≫ 5.6 Emergency Propeller Stop Mid-Flight

In critical situations requiring the immediate shutdown of the drone during flight, use the Emergency Propeller Stop Mid-Flight feature. Emergency Propeller Stop Mid-Flight will cause the drone to free-fall to the ground, potentially resulting in crash damage. Use with extreme caution.

Operation Method: This feature is disabled by default. To enable it, navigate to the Potensic Eve App > Settings > Safety > Advanced Safety Settings > Emergency Propeller Stop Mid-Flight. Once enabled, press and hold both the C2 and RTH buttons simultaneously for 2 seconds in emergencies to immediately stop motor rotation. Ensure the area below the drone is completely clear before activation.
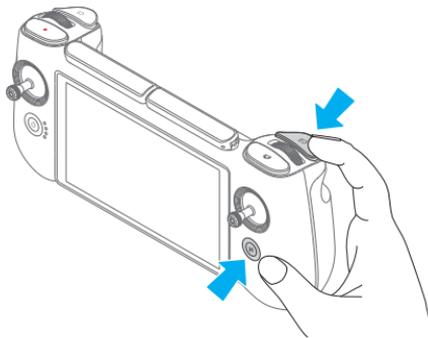
⚠ • This feature is designed for emergencies like loss of control - stopping motors instantly reduces risk of injury from propellers or prevent damage to surrounding property. The drone may be severely damaged upon impact. Exercise utmost caution when using this feature.

≫ 5.7 Antenna Angle and Video Transmission Guide

Adjust the remote controller's antenna angle based on the drone's altitude and distance to maintain optimal communication.

|	
During flight, always keep the antenna plane facing the drone's direction to maintain optimal video transmission quality and maximize flight range.	When the drone flies directly overhead at a high altitude, communication quality will deteriorate significantly due to poor antenna angle. Lower the altitude or fly horizontally to position the drone within the antenna's optimal coverage area.
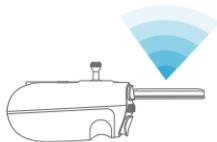
⚠ • Avoid using other 2.4G devices during flight to prevent interference with the controller's communication.

 • During flight, ensure proper antenna alignment using either the map or attitude indicator in the bottom-left corner of the Potensic Eve App flight interface. When both the drone icon 🔺 and remote controller icon 🟢 turn green, it indicates that the remote controller and drone are properly aligned.

 • The remote controller antenna can rotate within a 0-90° range of motion, and can also unfold/fold from 0-90°. Do not exceed these limits.

» 5.8 Touchscreen Display Introduction

5.8.1 Home Screen
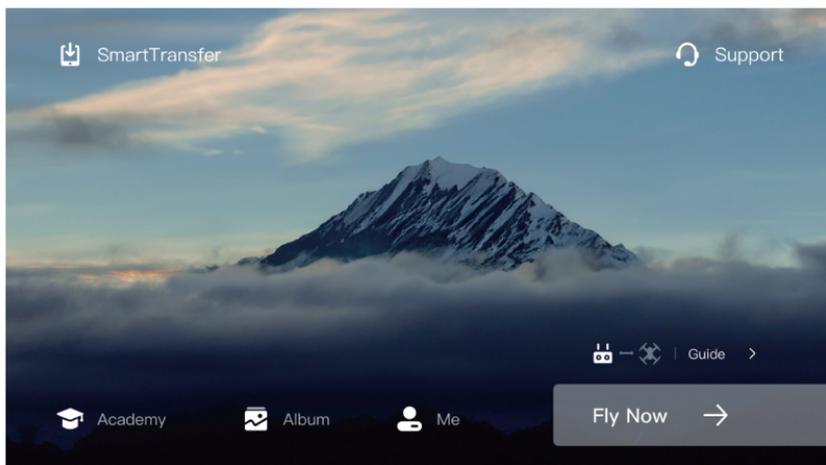
SmartTransfer

SmartTransfer feature for high-speed downloading of photos and videos from the drone to mobile devices. (Available exclusively through the mobile device App)

Academy

View user manuals, tutorial videos and FAQs.

Album

View drone album and local album. Screenshots and screen recordings can be viewed in Local Album > Screen Recordings.

Me

View personal information and flight data.

Use Find My Drone feature.

Access online customer service, online stores and community updates.

Other settings such as changing storage location, clearing cache, logout, account deletion, etc.

Fly Now

Tap to access the flight interface.

Guide

Display the current connection status and view connection methods between remote controller and drone.
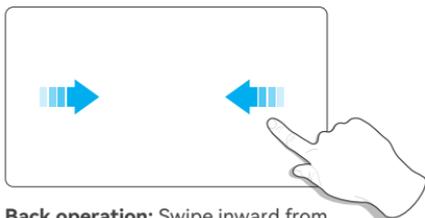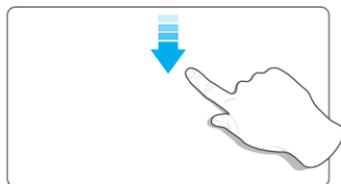
Support

Get after-sales service and support.

-ᄋ�- • Potensic Eve App functions are detailed in Academy > User Manual.
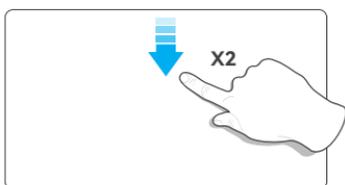
5.8.2 Gesture Operations

Back operation: Swipe inward from left/right edge of screen.

Open status bar: While in the Potensic Eve App interface, swipe down from the top edge of the screen. The status bar displays the time and date, network connection status, remote controller battery level, etc.
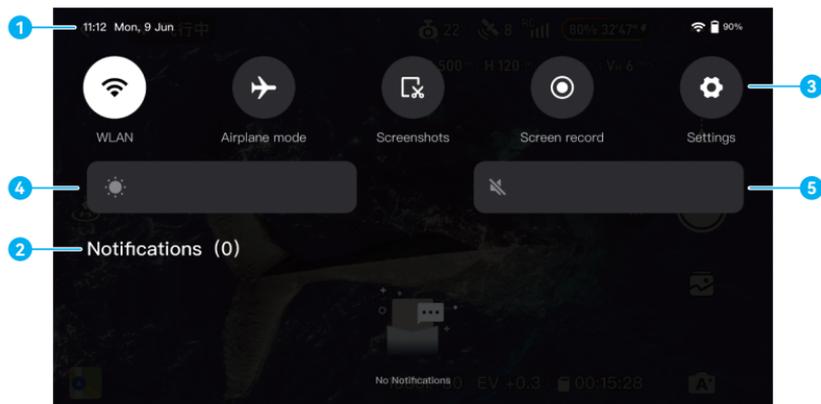
Open quick panel: When in the Potensic Eve App interface, swipe down twice continuously from the top edge of the screen.
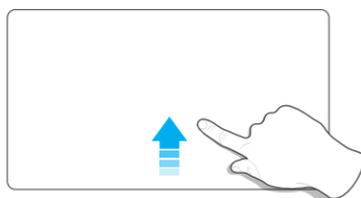
Return to Potensic Eve App: Swipe up from the bottom of the screen.

5.8.2 Quick Panel

1. Status Bar

Displays time and date, network connection status, remote controller battery level, etc.

2. Notification Bar

Displays system notifications.

3. Shortcuts

🛜 Tap to turn Wi-Fi on/off. Press and hold to select or set up the Wi-Fi network.

✈ Flight Mode. Turning on this mode will disable the Wi-Fi function.

⬛ Screenshot. Tap to capture the current screen.

⊙ Screen Recording. Tap to start/stop screen recording.

⚙ System Settings. Tap to enter system settings menu. Configure network settings, remote controller compass calibration, etc., and view storage, Regulatory Certification, etc.

4. Screen Brightness Adjustment

Drag the slider to adjust screen brightness.

5. Volume Adjustment

Drag the slider to adjust volume.

» 5.9 Remote Controller Compass Calibration

When operating the remote controller in environments with strong interference or magnetic fields, compass calibration may be required. Follow system prompts for calibration, or manually calibrate by following these steps:

1. Power on the remote controller and open the quick panel.
2. Tap ⚙ to enter the system settings, then select Remote Controller Compass Calibration.
3. Follow on-screen animation instructions to complete calibration.
4. Calibration is successful when the message **"Calibration successful. Exiting…"** is displayed.
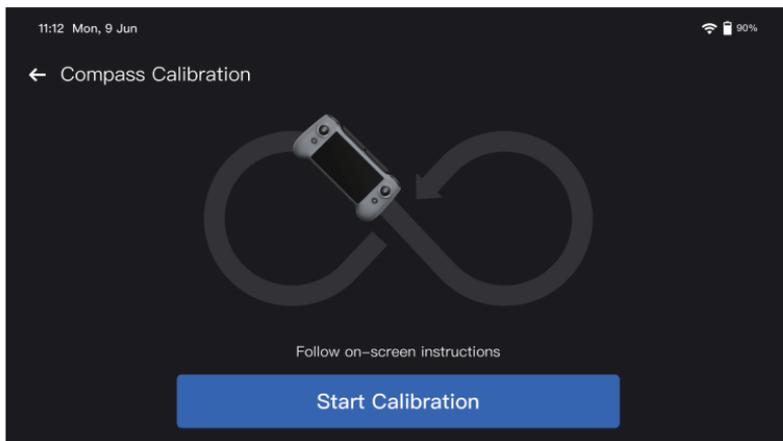
6. Appendix

PTD 1 Remote Controller	
Model	DSRC24A
Battery Type	18650 Lithium-ion Battery
Battery Capacity	23.04Wh (3.6V, 3200 mAh×2)
Maximum Operation Time [1]	3 hours
Charging Port	USB-C
Operating Temperature	0℃~40℃
Charging Temperature	5℃~40℃
Charging Time	1 hour 25 minutes (fast charge to 90%)
Charging Method	Supports up to 9V/3A fast charging
Screen Brightness	700 nits
Screen Resolution	1920×1080
Screen Size	5.5 inches
Screen Refresh Rate	60 Hz
Screen Touch Points	Multi-touch
Internal Storage [2]	32GB (supports microSD card expansion)
Supported Memory Card	Micro SD card (minimum requirement: C10 or U1)
Dimensions	Without sticks: 225.4×111.6×52.7 mm With sticks: 225.4×111.6×68.8 mm
Weight	Approx. 450g

Video Transmission / Wi-Fi	
Video Transmission Solution	PixSync 4.0
Video Transmission Frequency [3]	2.4000 – 2.4835 GHz
Video Transmission Power (EIRP)	FCC: <24 dBm, CE/SRRC: <20 dBm
Video Transmission Specification	1080p@30 fps
Video Transmission Latency [4]	120 ms
Maximum Video Transmission Bitrate [5]	6 Mbps
Maximum Video Transmission Range [6]	10 km
Video Transmission Antenna	Dual antenna
Wi-Fi Protocol	802.11 a/b/g/n/ac
Wi-Fi Frequency [3]	2.4000 – 2.4835 GHz, 5.725 – 5.850 GHz
Wi-Fi Transmission Power (EIRP)	2.4 GHz: <17 dBm (FCC/CE/SRRC) 5 GHz: <13 dBm (FCC/CE/SRRC)
Wi-Fi Maximum Download Speed	Wi-Fi 5, 5GHz mode: 25MB/s
Wi-Fi Antenna	Single antenna

[1] Measured under the following conditions: ambient temperature of approximately 25°C, PTD 1 screen brightness adjusted to 80%, connected to an ATOM 2 series drone for normal flight with 1080p/60fps video recording enabled, continuously used until 0% battery remains. For reference only.

[2] Actual available storage is approximately 23 GB.

[3] Available frequency bands vary by country/region. For details, please refer to local laws and regulations.

[4] This data is based on laboratory testing. Actual performance may vary depending on usage scenarios.

[5] The maximum average video transmission bitrate is 5 Mbps, with peak values reaching up to 6 Mbps. Actual performance may vary depending on environmental factors such as interference and distance.

[6] The maximum communication range was measured in an open outdoor environment at 120 m altitude in Normal mode with the remote controller antenna properly oriented toward drone (one-way non-return flight). During actual flights, please monitor the RTH prompts in the Potensic Eve App.

Support
Country/Region:
United States Continental (Excluding Puerto Rico, Guam, Saipan, and the Virgin Islands)
Tel: +1 833 549 7772
Service Time:
Sat-Mon 7:00 - 22:00 (EST/EDT)
Tue-Fri 9:00 - 18:00 (EST/EDT)

For any questions or suggestions regarding this manual, please contact us at:
support@potensic.com.

FCC Compliance Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.

– Increase the separation between the equipment and receiver.

– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

– Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

RF Exposure Information

The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA).

These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue. The highest SAR value reported under this standard during product certification for use when properly worn on the body.

These requirements set a SAR limit of 4 W/kg averaged over ten gram of tissue. The highest SAR value reported under this standard during product certification for use when properly worn on the limbs.

IC Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) L' appareil ne doit pas produire de brouillage;

(2) L' appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d' en compromettre le fonctionnement.

ISED Radio Frequency Exposure Statement:

The device has been evaluated to meet general RF exposure requirements. The device can be used in mobile exposure conditions. The min separation distance is 20 cm.

ISED Déclaration d'exposition aux radiofréquences:

L'appareil a été évalué pour répondre aux exigences générales en matière d'exposition aux RF. L'appareil peut être utilisé dans des conditions d'exposition mobiles. La distance de séparation minimale est de 20 cm.

For Canada: The frequency stability of all transmission frequencies of U-NII-1, U-NII-3 meets the requirements of RSS-Gen Issue 5, Section 6.11, and the manufacturer states that their transmissions remain within the U-NII-1, U-NII-3 bands.

Pour le Canada : La stabilité de fréquence de toutes les fréquences de transmission U-NII-1, U-NII-3 répond aux exigences de la norme CNR-Gen, édition 5, section 6.11, et le fabricant déclare que leurs transmissions restent dans les bandes U-NII-1, U-NII-3.

EU Conformity Statement:

CE This product and – if applicable – the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the RED Directive 2014/53/EU, the RoHS Directive 2011/65/EU and Amendment (EU)2015/863.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

2023/1542/EU (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

EU Compliance Notice

EU Compliance Statement: Shenzhen Potensic Intelligent Co., Ltd. declares that the device PTD 1 complies with the essential requirements and other relevant provisions of Directive 2014/53/EU.

The EU Declaration of Conformity (DoC) is available for download on our official website: https://www.potensic.com/downloads.html

(Go to the Download Center, select "PTD 1", and download the EU Declaration of Conformity from the PTD 1 DoC file list.)

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