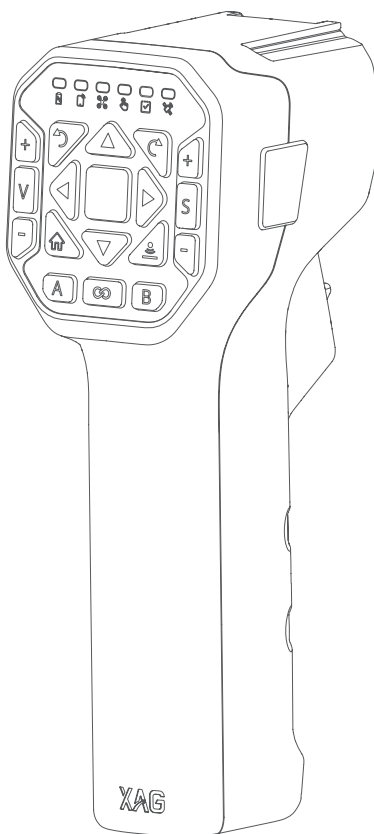


ACS2 Control Stick

User Manual

Version AU V1.0 **EN**



To Users

Dear user, thank you for choosing XAG products.

For safety reasons and the best experience possible, XAG recommends that you read through the Module Assembly & Maintenance Manual and Disclaimer in this document before attempting to use the P-Series Agricultural UAVs.

Contact Us

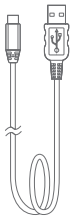
If you have any questions about this document, please contact our Technical Support via email:
info@xa.com

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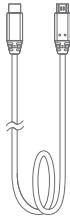
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List of Items

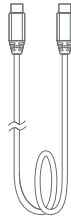
Please carefully check if the product contains all the items listed below and your dealer if there are any missing items.



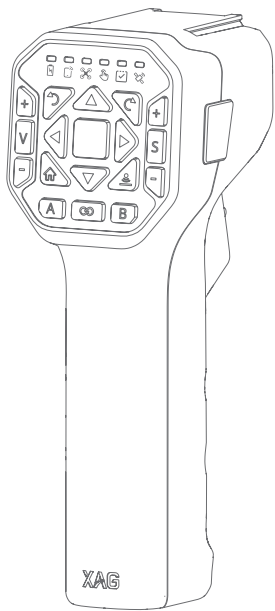
USB To Type-C
Cable
x 1



Micro USB To Type-C
Cable
x 1



Type-C To Type-C
Cable
x 1

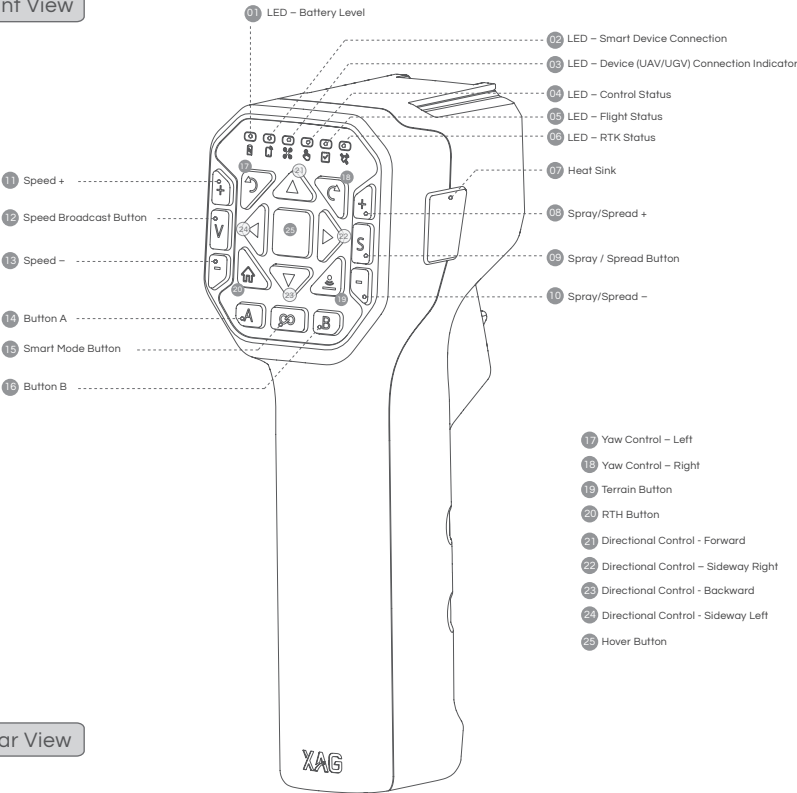


ControlStick (Body)
x 1

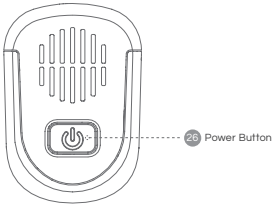
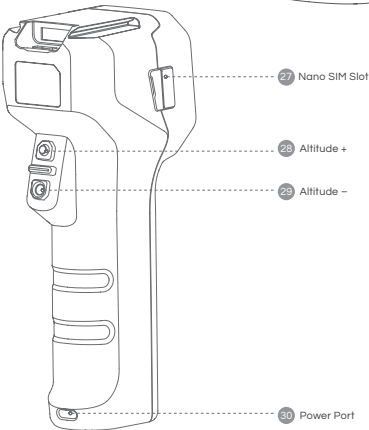
Remote Controller Overview

The main structural components of the ACS2 Remote Controller are as follow.

Front View



Rear View



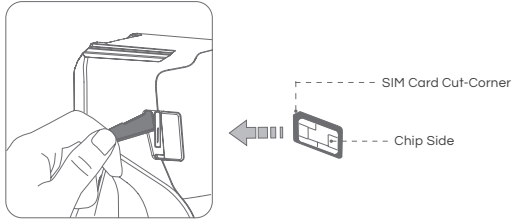
Bottom View

01	LED – Battery Level	Indicates the Battery Level of the Remote Controller
02	LED – Smart Device Connection	Indicates whether the remote controller is connected to Smart Device
03	LED – Device (UAV/UGV) Connection Indicator	Indicates whether the remote controller is linked to the UAV/UGV
04	LED – Control Status	Indicates the Flight mode of the Device (Manual / Autonomous)
05	LED – Flight Status	Indicates the Flight mode of the Device (Autonomous / Manual)
06	LED – RTK Status	Indicates the RTK Status of the Remote Controller
07	Heat Sink	Used to dissipate heat from internal Components
08	Spray/Spread +	Increase the rate of Spray / Spread
09	Spray / Spread Button	Press to Enable / Disable Spray or Spread
10	Spray/Spread –	Decrease the rate of Spray / Spread
11	Speed +	Increase Speed
12	Speed Broadcast Button	Press to broadcast the current Speed
13	Speed –	Decrease Speed
14	Button A	Records Point A of the Operation route
15	Smart Mode Button	Used to enable Advanced Functions Please refer to Operating Handbook for Advance Function
16	Button B	Records Point B of the Operation route
17	Yaw Control – Left	Rotate Device CCW (Counter-Clockwise)
18	Yaw Control – Right	Rotate Device CW (Clockwise)
19	Terrain Button	UAV: Used to Broadcast and Turn ON/OFF Terrain Following
20	RTH Button	UAV: Press and Hold this RTH button to initiate Return to Home (RTH) UGV: Double Press this RTH Button to Enable/Disable Follow-me Mode
21	Directional Control – Forward	
22	Directional Control – Sideway Right	
23	Directional Control – Backward	
24	Directional Control – Sideway Left	
25	Hover Button	Press to Hover or Enter Autonomous Operation
26	Power Button	Used to turn the remote controller ON / OFF
27	Nano SIM Slot	Provides Cellular connection
28	Altitude +	Increase Altitude
29	Altitude –	Decrease Altitude
30	Power Port	Connects to a power source to charge the Remote Controller

Using the Remote Controller

Inserting SIM Card

1. Before inserting the nano-SIM Card, please ensure the remote controller is turn OFF
2. Gently unplug the rubber plug on the left of the Remote Controller
3. Insert the nano-SIM card in as the direction shown in the figure
4. Close and Secure the Rubber Plug

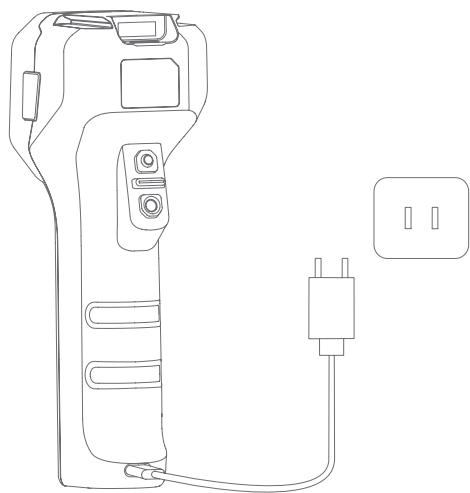


Warning

ACS2 uses a nano-SIM. Damages caused by the use of other specifications of SIM will be beared by user

Charging the Remote Controller

Uses a Type-C USB Cable to connect the Charging Adapter and the Remote Controller Power Port. The Battery Level and the mode of charging is indicated by the Battery Level Indicator



Charging Mode

Indicator		Description
Quick flash		Quick Charging
Slow flash		Standard Charging

Battery Level

Indicator		Description
Green		60% - 100%
Yellow		30% - 60%
Red		< 30%

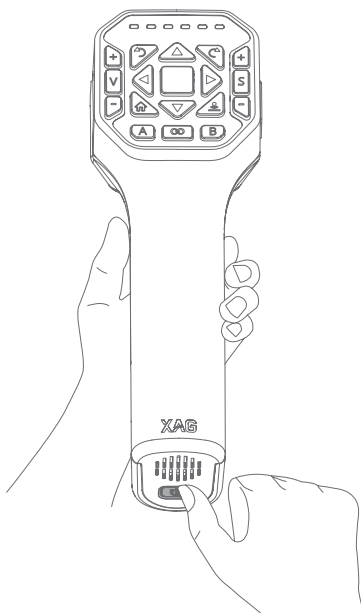
Turning the Remote Controller ON/OFF

TURN ON

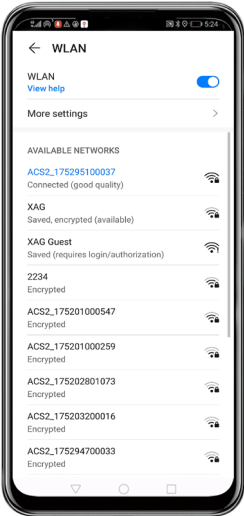
1. Press and Hold the Power Button until all the indicators flash simultaneously
2. Release and then Press and Hold the Power Button again until a Broadcast is heard from the Remote Controller

TURN OFF

1. Press and Hold the Power Button until all the indicators flash simultaneously
2. Release and then Press and Hold the Power Button again until all indicators are off



Connecting to Remote Controller



STEP 1 - Open your Wi-Fi Settings on your Smart Phone / Tablet

STEP 2 - Refresh and Connect to the Hotspot of the ACS2 Remote Controller

- Default Hotspot Name: ACS2_XXX
- Default Password: 20070401



STEP 3 - Open the XAG App, and confirms your Smart Phone / Tablet is connected to the ACS2

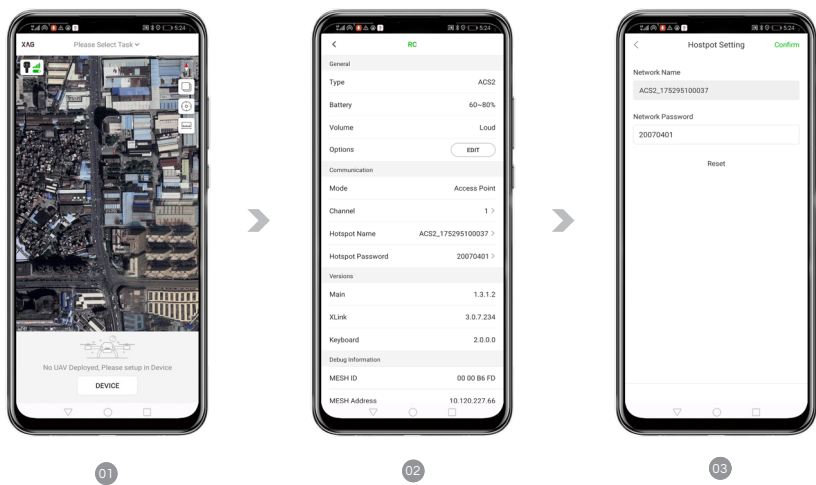
[](The Icon turns green)

IMPORTANT

Please keep the Smart Phone / Tablet at a minimal distance of 20cm away from the ACS2 Remote Controller to prevent signal interference

Hotspot Settings

- STEP 1 - Open XAG APP and tap on the Icon [] to open Remote Controller Module Page
- STEP 2 - Select Hotspot Setting
- STEP 3 - Edit and save the new Settings



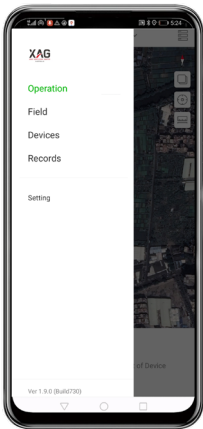
Firmware Update

The Avatar



01

- STEP 1 - Open XAG APP and tap on the Avatar to Open the Menus
- STEP 2 - Tap on "Devices"
- STEP 3 - Tap on the Device to expand the Menu
- STEP 4 - Tap on the [↑] for Firmware Update page



02



03

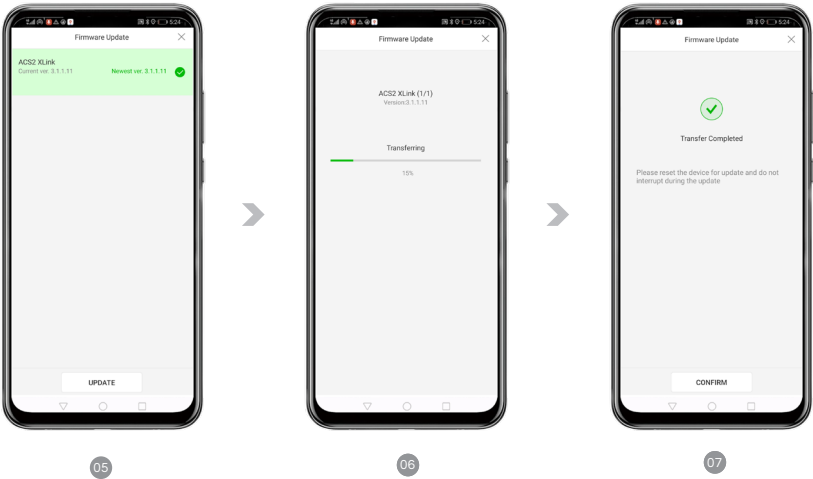


04

STEP 5 - Tap & Select the Available Firmware and select “UPDATE”

STEP 6 - Firmware will be automatically downloaded and transferred to the Remote Controller

STEP 7 - Once the transferred is completed, Instruction will be provided to restart the Remote Controller



 IMPORTANT

- During the Firmware update progress, do not power off the device or disconnect the Remote Controller from the Smart Device
- If there is a notification that transfer failed, please restart the update procedure
- When the Remote Controller is being updated from the APP, please ensure there are sufficient data and cellular connectivity

Remote Controller Status Indicator Description

Indicator - Battle Level

When the ACS2 Remote Controller is ON, Battery Level can be observed by its Indicator Colour

Indicator		Description
Green		60% - 100%
Yellow		30% - 60%
Red		10% - 30%
Red (Flashing)		< 10%

When the ACS2 Remote Controller is OFF, Battery Level can be observed by pressing the Power button once

No. of Indicator		Battery Level
1 Green light		<5%
2 Green light		5% - 20%
3 Green light		20%-40%
4 Green light		40%-60%
5 Green light		60%-80%
6 Green light		80%-100%

Indicator - Smart Device Connection

Indicator		Status
Green		Smart Device Connected
OFF		Smart Device Not Connected

Indicator - Smart Device Connection

Indicator		Status
Green		Device (UAV/UGV) Connected
OFF		Device (UAV/UGV) Not Connected

Indicator - Control Status

Indicator		Status
Green		Manual Mode
OFF		Autonomous Mode / No Device

Indicator - Flight Status

Indicator		Status
Green		Autonomous Mode
OFF		Manual Mode / No Device

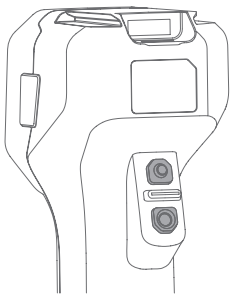
Indicator - RTK Status

Indicator		Status
Green (Flashing)		Float
Green		RTK
Yellow		RTK Module Standby Mode
Red		Abnormal Module
OFF		RC has no RTK Module

Controls

UAV

TAKE-OFF / LAND



TAKE-OFF:

Press and Hold both Altitude Control Buttons for 3 Seconds, the UAV will automatically take off to a height of 2.5 meters and hover

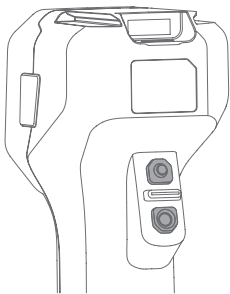
 IMPORTANT

If any of the button is released within 3 seconds, the command will be cancelled

LAND:

Press and Hold both Altitude Control Buttons to command the UAV to land

Altitude Control



↑ Ascent:

Press & Hold the Altitude + Button

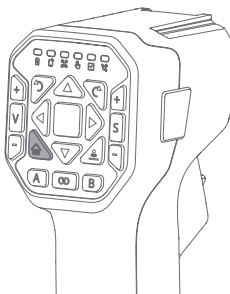
↓ Descent:

Press & Hold the Altitude - Button

 IMPORTANT

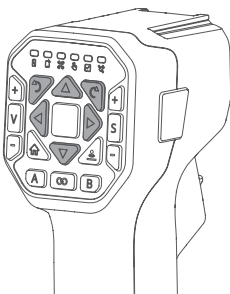
The safety distance of the UAV is 2 meters above ground; UAV will not be able to descent once it reaches the height of 2 meters above ground

Return to Home (RTH)



- Press and Hold the RTH Button to command the UAV to return to Take-off-Point

Motion Control



Move the UAV Forward



Move the UAV Backward



Move the UAV Sideway to the Left



Move the UAV Sideway to the Right

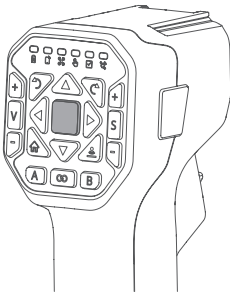


Rotate the UAV Counter-Clockwise (CCW)



Rotate the UAV Clockwise (CW)

Hover / Switch Mode



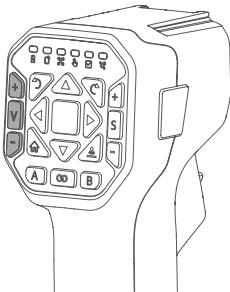
Hover:

Press the Hover Button to command the UAV to Hover

Switch Mode:

Press and Hold the Hover Button to switch Mode. The ACS2 Remote Controller will exit Manual Control and enter Autonomous Mode, the Controller will also broadcast Autonomous Mode

Speed Control



Broadcast:

Press the Speed Broadcast Button once to broadcast the current Speed

Increase Rate:

Press the Speed + Button to increase the Flight Speed by 0.5m/s

Decrease Rate:

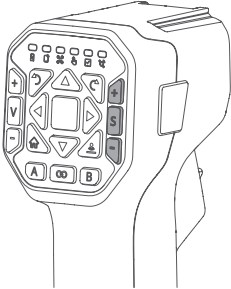
Press the Speed - Button to decrease the Flight Speed by 0.5m/s



IMPORTANT

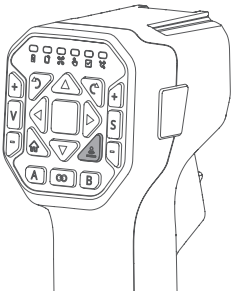
The Maximum Flight speed of the UAV with Obstacle detection is 0.5m – 6.0m/s

Spray / Spread Control



- Enable/Disable: Press the Spray/Spread Button to turn on/off the Spraying / Spreading
- Increase Rate: Press the Spray/Spread + Button to Increase the Dosage Rate of Spray/ Spread
- Decrease Rate: Press the Spray/Spread + Button to decrease the Dosage Rate of Spray/ Spread

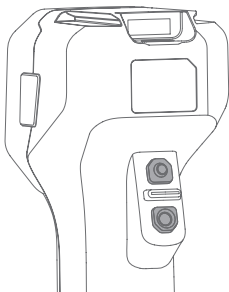
Terrain Button



- Broadcast: Press the Terrain Button Once to broadcast the current Mode (GPS Height / Terrain Follow)
- Switch Mode: Press the Terrain Button Twice to switch between GPS Height and Terrain Follow

UGV

Unlock / Unpark



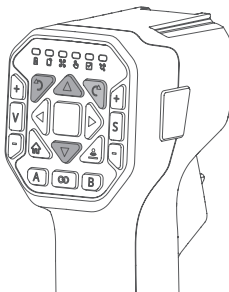
Unlock: Press and Hold both Altitude Control Buttons for 3 Seconds to Unlock the Vehicle

Unpark: After unlocking the vehicle in Manual Mode, Press and Hold the Altitude - Button for 1.5 Seconds to deactivate Parking



Vehicles with deactivated parking can be moved freely by pushing or pulling

Motion Control



Press to drive the Vehicle Forward



Press to drive the Vehicle Backward

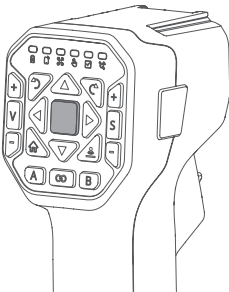


Rotate the Vehicle Counter-Clockwise (CCW)



Rotate the Vehicle Clockwise (CW)

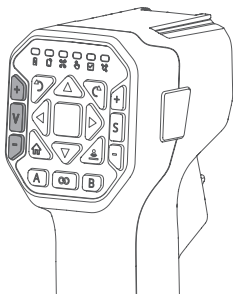
Control Mode



Autonomous: Press and Hold the Hover Button to enter Autonomous Mode

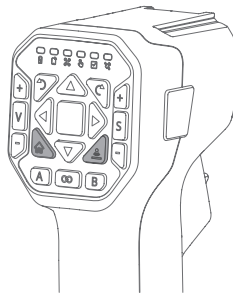
Manual: Press any Motion Control button to exit Autonomous Mode for Manual Control

Speed Control



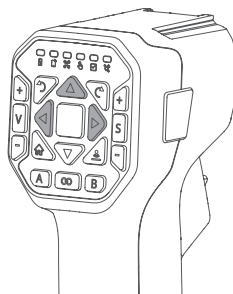
- Broadcast:** Press the Speed Broadcast Button once to broadcast the current Speed Gear
- Gear 1: 0.4m/s
Gear 2: 0.8m/s
Gear 3: 1.2m/s
- Increase Rate:** Press the Speed + Button to increase the Gear by 1 (0.4m/s)
- Decrease Rate:** Press the Speed - Button to decrease the Gear by 1 (0.4m/s)

Smart Mode



- Follow-me Mode:** Double Press the [] RTH Button to Enter/Exit Mode
- Custom Mode:** Double Press the [] Terrain Button to Enter/Exit Mode

Cruise Control



-  Press and Hold the Forward Button until the Voice Broadcast, the vehicle then will enter cruise control driving the vehicle forward
-  Press the Left/Right Button to move the vehicle back to its lane in the event of deviation
-  Press any of the Yaw Control Button to exit Cruise Control

Technical Specifications

Model	ACS2
Dimensions	76mm×60mm×177mm
Operating frequency	2.4GHz/5.8GHz
Transmitting power	23dbm
Mobile phone operating system supported	Android
Built-in battery capacity	5000mAh/37Wh
Ambient temperature for charging	5°C to 45°C
Max. signal range (no interference/obstruction)	800m
Charging voltage/current	5V/2A, 9V/1.5A, 12V/1.5A
Mesh network	Supported
Voice broadcast	Supported
Operating temperature	-20°C to 60°C
Protection grade	IP54

Disclaimer

1. Please read this document carefully before using this product. This Disclaimer has an important impact on the safe use of the product and your legitimate rights and interests. The use of the product shall be deemed as you have known, understood, acknowledged, and accepted all terms and contents of this document.
2. This product is not a toy, and is not suitable for people under the age of 18. Please keep this product away from the reach of children, and be very careful when operating in the presence of children.
3. Please install and use this product as guided by the "Product Manual/Operation Manual". Do not modify or disassemble the product without authorization. All losses caused by the user's unauthorized modification or disassembly of this product shall be borne by the user, while XAG does not assume any corresponding legal responsibility.
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Warning

Users are required to read the complete "Product Manual" and be familiar with the product operations before using the product. Otherwise, it may cause serious injury to yourself or others, or cause product damage and property loss. Strong safety awareness is required to operate this product. Do not use the parts that are not provided or suggested by XAG. Please strictly follow the instructions of XAG to install and use the product.

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