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Payload®

XL-V4 Drone Lighting Payload

Product Specifications

- **Product Name:** Drone Lighting Payload XL-V4
- **Model**: GA-XL-V4
- **Version:** V1.0.0

Product Information

The Drone Lighting Payload XL-V4 is a high-quality drone payload designed for providing lighting solutions in various scenarios. This product offers functional features, structural parameters, and easy installation and disassembling processes for user convenience.

Product Usage Instructions

Introduction

Before using the Drone Lighting Payload XL-V4, it is recommended to read the user manual thoroughly to understand the quick installation and disassembly procedures, main functions, usage steps, APP control interface introduction, and product upgrade methods.

Safety Instructions

When operating the drone, adhere to the following safety instructions:

- **DANGER:** Operate the drone in suitable flight conditions and maintain a safe distance from no-drone zones.
- **Warning:** Transport, use, and store the drone and its components appropriately.

Follow the manual instructions during installation and do not dismantle components privately.
- **Notice:** Handle the PTZ camera lens carefully, adhere to the operation steps without reversing the sequence, and ensure compliance with local laws and regulations before flight.

About the Manual

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Foreword

General

This document provides detailed information about the product, including functional features, structural parameters, installation and disassembling, and use guidance.

Model

GA-XL-V4

Intended Audience

The end user who purchases this product

Reading Guide

Chapter	Name	Main content
1	Introduction	Describes the functional features and application scenarios of the product.
2	Instructions	It is recommended to read this chapter before use to understand information such as the quick installation and disassembly of the product, the usage steps of the main functions, the introduction of the APP control interface, and the product upgrade methods.

Safety Instructions

The following signal words might appear in the manual.

Signal Words	Description
DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
Warning	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
Notice	Indicates a potential risk which, if not avoided, could result in property damage, reductions in performance, or unpredictable results.
TIPS	Provides methods to help you solve a problem or save time.
Description	Provides additional information as a supplement to the text.

Important Safeguards and Warnings

The following description is the correct application method of the drone. Read the

manual carefully before use to prevent danger and property loss. Strictly conform to the manual during use and keep it properly after reading.

DANGER

- Operate the drone in an environment that meets flight conditions, and keep away from a no-drone zone.
- After unlocking, operators must keep at least 5 m away from the aircraft to prevent personal injury.

Warning

- Transport, use, and store the drone and all its components in a suitable environment.
- Strictly conform to the operation flows described in the manual when dismantling and installing the drone. Do not dismantle other components privately.

Notice

- Do not touch the lens of the PTZ camera directly. Use a hair dryer to remove the dust or dirt from the lens surface.
- Strictly conform to the operation steps described in the manual without reversing the sequence.
- Get to know local laws and regulations before using the aircraft. Apply to local authorities for flight permission if necessary.
- Make sure that the device module has been properly installed before enabling the power of the remote controller and aircraft. Otherwise, it will lead to damage or the unusability of the internal module.

Flight Environment

Warning

When flying the drone, make sure to:

- Do not enter the no-drone zone.
- Keep the view wide open and unobstructed.
- Do not fly the drone in rainy, snowy, or thunder weather.

- Do not fly the drone in a narrow and small space.
- Do not fly the drone right above the crowd.
- Keep the drone away from high-voltage power lines.
- Keep away from the no-drone zone.
- Keep the view wide open and unobstructed; make sure that the drone is flying in the field of view.
- Do not fly the aircraft in rainy, snowy, or thunder weather.
- Do not fly the drone in a narrow and small space.
- To prevent personal injury, do not fly right above the crowd.
- Keep at least 10 m away from the high-voltage power line.

Operating Environment

- Do not aim the PTZ at strong light (such as lamplight and sunlight) for focusing.
- Transport, use, and store the drone under the allowed humidity and temperature conditions.
- Prevent any liquid from flowing into the drone.
- Do not block the ventilation opening near the drone.
- Do not press, vibrate, or soak the drone during transportation, storage, and installation.
- Pack the drone with packaging materials provided by its manufacturer or materials of the same quality before transporting it.

Operation and Maintenance Requirements

- Do not dismantle the drone by yourself.
- Do not touch the CCD or CMOS sensor directly; use a hair dryer to remove dust or dirt from the lens surface.
- Use a soft, dry cloth or a clean, soft cloth dipped in a little mild detergent to clean the drone.
- Do not touch or wipe the lens surface directly.
- Use the accessories provided by the manufacturer, and entrust professionals to install and maintain the drone.
- Avoid laser beam radiation to the surface when using a laser beam device.

- Do not provide two or more power supply modes for the drone.
- Multiple aircraft are allowed to fly in the same area at the same time, and the number of aircraft depends on the current wireless environment.
- Make sure that there are no obstructions above the drone during flight.

Important Statements

- The physical product shall prevail, while this User Manual is for reference only.
- The User's Manual, software, and firmware are updated in real time by the product. The update is subject to change without prior notice.
- Any loss caused by not following the instructions in this manual shall be borne by the user.
- This document may contain technical errors, non-conformities with the operations of the product, or typographic errors. The company reserves all the rights for the final explanation.
- The GUIs in this document may be slightly different from the actual GUIs, which shall prevail.
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Introduction

- As a drone lighting device, this product is tailored to meet the demands of industries such as firefighting and rescue, emergency management, and drone inspections, thus enhancing the coverage of drone application scenarios.
- This product is primarily intended for use with the X900 series drones. It is controlled and triggered by settings configured through a handheld ground control station software.

Appearance

Figure 1-1 Drone lighting device

Features

- The lighting payload features an upper-mounted configuration and supports both solid on and strobe modes. It employs high-efficiency optics, delivering a total luminous flux of 12,000 lumens, with an illuminance of 20 lux at a distance of 100 meters, enabling clear inspection of every area.
- The lighting gimbal is designed to interoperate with the GA4T gimbal, ensuring that illumination extends precisely where it’s needed, facilitating unobstructed nighttime inspections.
- The strobe mode is adjustable to provide a strong visual alert to ground personnel.
- Equipped with a self-regulating cooling fan with a maximum rotational speed of 13,000 RPM, it effectively dissipates heat, maintaining the stability and reliability of the system.
- With an IP55 rating for water and dust resistance, it is capable of operating effectively in adverse conditions such as rain, providing reliable lighting support for users.

Instructions

Installing and Dismantling Payload

Installing Payload

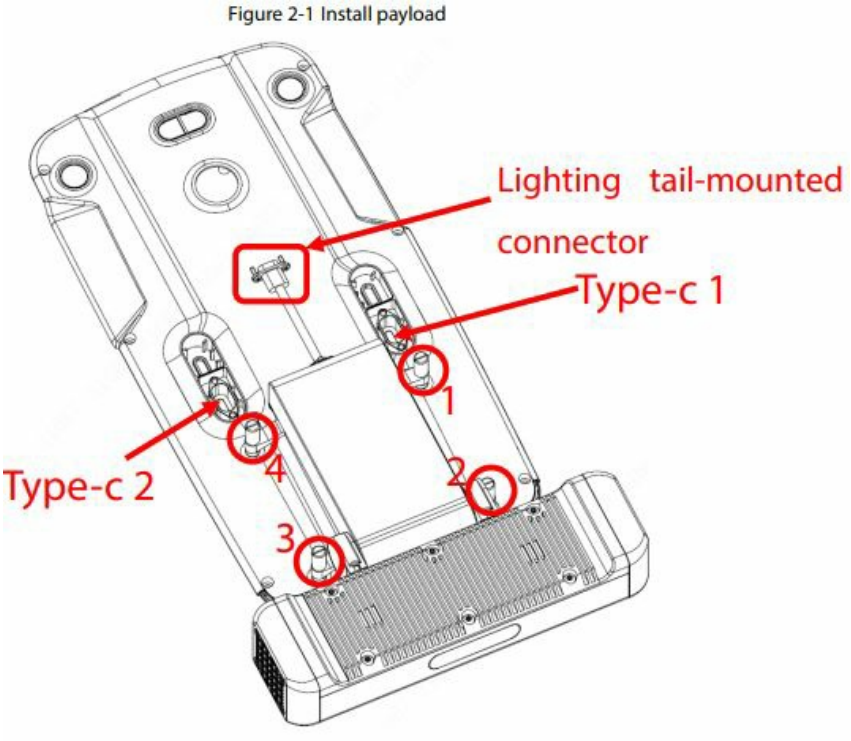
- Mount the lighting payload above the aircraft’s nose by tightening the four captive screws to the locked position, as shown in the image below: 1, 2, 3, 4.
- Insert the tail-mounted Type-C connector into the corresponding port on the drone, as

illustrated in the image below: Type-C 1, Type-C 2.

Description

- The tail-mounted connector can be freely plugged into either the Type-C 1 or Type-C 2 port.
- When operating in dock mode, ensure that the Type-C connector is secured with the screws provided in the accessory bag and that the captive screws are tightened using a screwdriver.

Figure 2-1 Install payload



Dismantling Payload

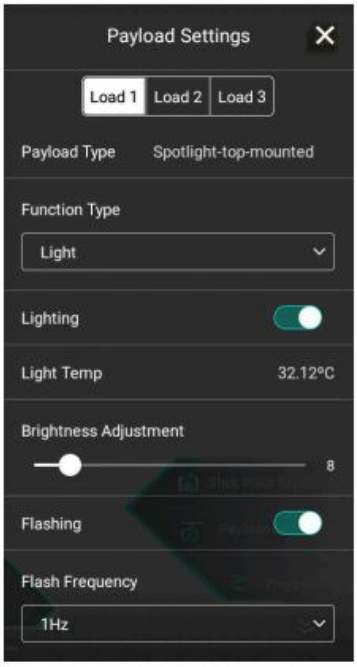
As shown in the image above, rotate the four captive screws until they are disengaged from the airframe to complete the removal process.

Payload Operations

- **Step 1:** After the payload is installed, turn on the power of the drone and the remote control. After the device is booted up, go to the Payload Settings menu on the remote controller app to review the configurations related to the payload functions. Refer to the indicated position in the diagram:

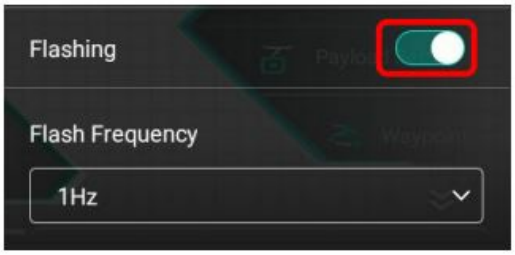
Figure 2-2 Payload settings menu

- **Step 2:** Select Load 1 and turn on the lighting switch to turn on the light. Slide the brightness bar to adjust the brightness of the lighting.



- **Step 3** For the strobe function, turn on the strobe switch (Flashing); the light will blink at the set frequency (1Hz to 5Hz) at this time.

Figure 2-4 Enable the strobe switch (Flashing)



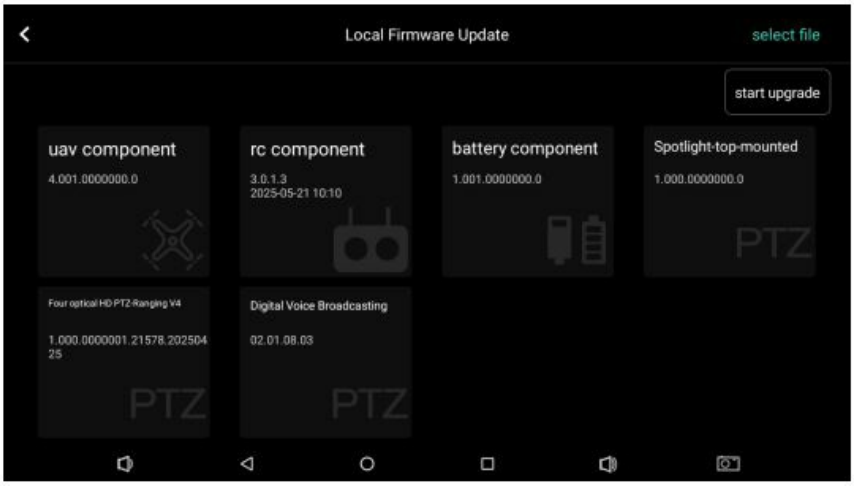
Description

- The lighting system is equipped with automatic temperature control capabilities. If the temperature exceeds 50°C, the active cooling fan will automatically turn on.
- When the temperature exceeds 90°C, the current brightness will automatically reduce by 25% to protect the lifespan of the LED.

Local Firmware Update

- **Step 1:** Place the upgrade firmware in the SD card root directory, and insert it into the SD card slot of the remote controller.
- **Step 2:** Connect the aircraft and the remote controller through the Type-C cable.
- **Step 3:** Select Settings > General Settings > Version Management > Local Firmware Update.
- **Step:4** Tap Select file on the top right corner, er and a dialog box for selecting the upgrade file will appear. Tap the file you wish to upgrade.
- **Step 5:** Once the file is parsed successfully, it shows that the device is upgradeable. Tap Start Upgrade to update the PTZ firmware version.

Figure 2-5 Local firmware upgrade



Note: After a successful upgrade, it is necessary to restart the drone before importing the new module upgrade.

FAQ

What should I do if my drone encounters an issue during operation?

If you encounter any operational issues with the Drone Lighting Payload XL-V4, refer to the troubleshooting section in the user manual or contact our customer support for assistance.

Documents / Resources

	Payload XL-V4 Drone Lighting Payload [pdf] User Manual XL-V4 Drone Lighting Payload, XL-V4, Drone Lighting Payload, Lighting Payload, Payload

References

- User Manual

Drone Lighting Payload, Lighting Payload, Payload, XL-V4, XL-V4 Drone Lighting Payload

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