# **AstroFly Robotics FAQ Structure**

## **External FAQs**

These articles address common customer questions regarding product features, installation, troubleshooting, and warranty/support information.

### **Category 1: Product Features**

**Subcategory:** General Features & Capabilities

1. **What are the key features of the AstroGuard X1?** *The AstroGuard X1 offers AI-powered surveillance, a 4K optical camera, LiDAR, infrared sensors, extended battery life, and seamless enterprise integration.* [Detailed Documentation: /docs/astroguard-x1/features]
2. **How does the AstroInspect Z2 enhance industrial inspections?** *It uses 8K imaging, thermal sensors, LiDAR mapping, and on-board AI to detect structural defects and optimize maintenance.* [Detailed Documentation: /docs/astroinspect-z2/features]
3. **What payload capacities do the drones support?** *Payload capacities vary by model, from 2 kg on the AstroGuard X1 to 5 kg on the AstroCargo D3.* [Detailed Documentation: /docs/astro-cargo-d3/specs]
4. **Can the drones operate in harsh weather conditions?** *Yes, all models are engineered for challenging environments (IP67/IP68 rated) with specified operating temperature ranges.* [Detailed Documentation: /docs/weather-and-operating-conditions]
5. **How does on-board AI improve drone performance?** *AI enhances real-time threat detection, adaptive navigation, and predictive maintenance across our product lineup.* [Detailed Documentation: /docs/ai-and-analytics]
6. **What sensor technologies are integrated across these drones?** *Our drones include optical/thermal cameras, LiDAR, multispectral sensors, ultrasonic sensors, and GNSS modules.* [Detailed Documentation: /docs/sensor-suite]
7. **What are the battery life and recharge times?** *Battery life ranges from 35 to 50 minutes, with rapid recharge cycles of 60 to 75 minutes depending on the model.* [Detailed Documentation: /docs/battery-specifications]
8. **How do the drones integrate with enterprise systems?** *They provide secure RESTful APIs, WebSocket streams, and cloud connectivity for seamless integration.* [Detailed Documentation: /docs/integration-overview]
9. **What safety features are included?** *Features include geo-fencing, obstacle avoidance, failsafe protocols, and redundant power systems.* [Detailed Documentation: /docs/safety-features]
10. **Are firmware updates delivered over-the-air?** *Yes, all models support OTA firmware and software updates via our control dashboard.* [Detailed Documentation: /docs/firmware-updates]
11. **How is real-time data processed on board?** *Our drones incorporate on-board analytics and machine learning for immediate decision-making.* [Detailed Documentation: /docs/realtime-data-processing]
12. **What is the communication range for these drones?** *Ranges vary from 8 km to 15 km line-of-sight, extendable with network relays.* [Detailed Documentation: /docs/communication-range]
13. **How does geo-fencing enhance safety?** *Geo-fencing allows pre-set operational boundaries, ensuring drones operate only within authorized zones.* [Detailed Documentation: /docs/geo-fencing]
14. **What customization options are available for industry-specific needs?** *Our modular design supports add-on sensors and payloads, customizable via our SDK.* [Detailed Documentation: /docs/customization-options]
15. **Do the drones support real-time video streaming?** *Yes, all models provide live video streaming and telemetry for remote monitoring.* [Detailed Documentation: /docs/real-time-video]

### **Category 2: Installation & Setup**

**Subcategory:** Hardware & Software Configuration

1. **How do I install the drone's hardware components?** *Follow the installation guide provided with your unit for assembling sensors, battery modules, and payload attachments.* [Installation Guide: /docs/installation/hardware]
2. **What is the process for the initial software setup?** *Download and install the latest firmware via our control dashboard, then complete the guided setup wizard.* [Setup Wizard: /docs/installation/software]
3. **How do I connect the drone to my network?** *Use the onboard Wi-Fi/4G/5G module; detailed connectivity steps are provided in the network setup guide.* [Connectivity Guide: /docs/installation/connectivity]
4. **What pre-flight checks should be performed?** *Run the automated pre-flight checklist to verify sensor calibration, battery levels, and system connectivity.* [Pre-Flight Checklist: /docs/installation/preflight]
5. **How do I configure the control dashboard?** *Customize settings such as flight plans, API integrations, and geo-fencing through our web-based dashboard.* [Dashboard Configuration: /docs/dashboard-configuration]
6. **How is the mobile app installed and linked?** *Download the mobile app from your platform's app store and follow the pairing instructions provided in the guide.* [Mobile App Setup: /docs/installation/mobile-app]
7. **What are the charging procedures and power requirements?** *Refer to the power management guide for charging protocols and recommended power sources.* [Power Management: /docs/battery-management]
8. **How do I secure the payload bay on the AstroCargo D3?** *Ensure the locking mechanism is properly engaged; refer to the cargo bay setup guide for detailed instructions.* [Cargo Bay Guide: /docs/astrocargo-d3/cargo-bay]
9. **What environmental factors should be considered during installation?** *Review the environmental operating conditions such as temperature, humidity, and wind requirements before deployment.* [Environmental Requirements: /docs/environmental-conditions]
10. **Are there step-by-step installation guides available?** *Yes, detailed guides for each product are available on our support portal.* [Support Portal: /support]
11. **How do I calibrate sensors during the setup process?** *Access the sensor calibration tool from the control dashboard and follow the on-screen instructions.* [Sensor Calibration: /docs/sensor-calibration]
12. **What integration steps are required for enterprise systems?** *Configure API endpoints and data mapping as described in the integration documentation.* [Integration Documentation: /docs/integration]
13. **How do I set up geo-fencing parameters?** *Define operational boundaries using the dashboard’s geo-fencing tool with step-by-step instructions.* [Geo-Fencing Setup: /docs/geo-fencing/setup]
14. **What troubleshooting documentation is available during installation?** *Refer to the installation troubleshooting guide for common issues and solutions.* [Installation Troubleshooting: /docs/installation/troubleshooting]
15. **How often should installation procedures be reviewed?** *We recommend reviewing installation and configuration settings at least quarterly or after any firmware update.* [Best Practices: /docs/installation/best-practices]

### **Category 3: Troubleshooting**

**Subcategory:** Common Issues & Resolutions

1. **What should I do if the drone fails to connect to the network?** *Restart the drone and control system, verify network settings, and consult the connectivity troubleshooting guide.* [Troubleshooting Connectivity: /docs/troubleshooting/connectivity]
2. **How can I diagnose sensor malfunctions during flight?** *Access the sensor log files via the dashboard and run a manual recalibration if needed.* [Sensor Troubleshooting: /docs/troubleshooting/sensors]
3. **What are common issues with battery performance?** *Check battery health in diagnostics, ensure proper payload limits, and refer to the battery troubleshooting guide.* [Battery Guide: /docs/troubleshooting/battery]
4. **How do I resolve firmware update failures?** *Ensure a stable internet connection and retry the update; see the firmware update troubleshooting guide.* [Firmware Update Guide: /docs/troubleshooting/firmware]
5. **What steps should be taken for communication failures?** *Verify signal strength, restart communication modules, and check for interference issues.* [Communication Issues: /docs/troubleshooting/communication]
6. **How do I manually recalibrate the sensors?** *Follow the step-by-step sensor calibration procedure available in the troubleshooting guide.* [Manual Calibration: /docs/troubleshooting/calibration]
7. **What if the drone loses GPS signal mid-flight?** *Activate the return-to-home function and check for local interference; consult the GPS troubleshooting guide.* [GPS Troubleshooting: /docs/troubleshooting/gps]
8. **How do I handle inconsistent sensor data?** *Review the diagnostic logs and recalibrate sensors; further details are in the troubleshooting documentation.* [Data Inconsistencies: /docs/troubleshooting/data]
9. **What should be done if the mobile app is unresponsive?** *Restart the app, ensure it’s updated, and check the network connection on your device.* [Mobile App Troubleshooting: /docs/troubleshooting/mobile]
10. **How to address failure in obstacle avoidance systems?** *Perform a full system check and recalibration of sensors; see the obstacle avoidance troubleshooting guide.* [Obstacle Avoidance: /docs/troubleshooting/obstacles]
11. **What if live video streaming fails during a flight?** *Check the network connection, restart the streaming module, and verify the dashboard settings.* [Live Video Issues: /docs/troubleshooting/video]
12. **How do I resolve integration API errors?** *Review API configuration settings, verify credentials, and refer to our API troubleshooting guide.* [API Troubleshooting: /docs/troubleshooting/api]
13. **What steps should be taken for rapid battery drain?** *Inspect payload weight, check battery health diagnostics, and consult the power management troubleshooting guide.* [Rapid Battery Drain: /docs/troubleshooting/power]
14. **How can I resolve software glitches?** *Restart the control system, check for updates, and review error logs for guidance.* [Software Glitches: /docs/troubleshooting/software]
15. **Where can I find a comprehensive troubleshooting guide for my product?** *Access our complete troubleshooting library through the support portal for product-specific guides.* [Troubleshooting Library: /support/troubleshooting]

### **Category 4: Warranty & Support Information**

**Subcategory:** Product Registration, Claims & Service

1. **What is the warranty period for AstroFly drones?** *Warranty periods vary by model; typically, a one-year warranty is provided from the date of purchase.* [Warranty Details: /docs/warranty]
2. **What does the warranty cover?** *The warranty covers manufacturing defects, firmware issues, and hardware malfunctions (excluding accidental damage).* [Warranty Coverage: /docs/warranty/coverage]
3. **How do I register my product for warranty?** *Register your product via our online portal by entering your product details and purchase information.* [Product Registration: /docs/warranty/register]
4. **What is the process for filing a warranty claim?** *Submit a warranty claim through the support portal with detailed information on the issue and supporting documents.* [Warranty Claims: /docs/warranty/claims]
5. **How do I contact technical support?** *Reach our support team via phone, email, or live chat from the support portal.* [Contact Support: /support/contact]
6. **What are the support hours for customer service?** *Customer support is available Monday–Friday, 8 AM–6 PM (local time).* [Support Hours: /docs/support/hours]
7. **Is on-site support available?** *On-site support is offered for installation and troubleshooting on a case-by-case basis.* [On-Site Support: /docs/support/on-site]
8. **How can I access the online support portal?** *Visit our support website to access live chat, FAQs, and detailed product documentation.* [Online Support Portal: /support]
9. **What is the escalation process for unresolved issues?** *Unresolved issues are escalated to our technical management team as per our escalation policy.* [Escalation Process: /docs/support/escalation]
10. **Are software updates covered under warranty?** *Yes, OTA software updates and firmware enhancements are provided free of charge during the warranty period.* [Software Updates: /docs/warranty/software]
11. **How do I obtain a service history report for my drone?** *Service history can be accessed via the control dashboard under the maintenance logs section.* [Service History: /docs/support/service-history]
12. **What are the terms for warranty renewal?** *Warranty renewal options are available at purchase or via our extended warranty program.* [Extended Warranty: /docs/warranty/renewal]
13. **How are accidental damages handled under warranty?** *Accidental damages are not covered under the standard warranty but can be addressed through our repair services.* [Repair Services: /docs/support/repairs]
14. **Can I purchase extended warranty options?** *Yes, extended warranties are available for purchase during or after the initial warranty period.* [Extended Warranty Options: /docs/warranty/options]
15. **Where can I find detailed warranty documentation?** *Complete warranty and support documentation is available on our support portal.* [Warranty Documentation: /docs/warranty/full]