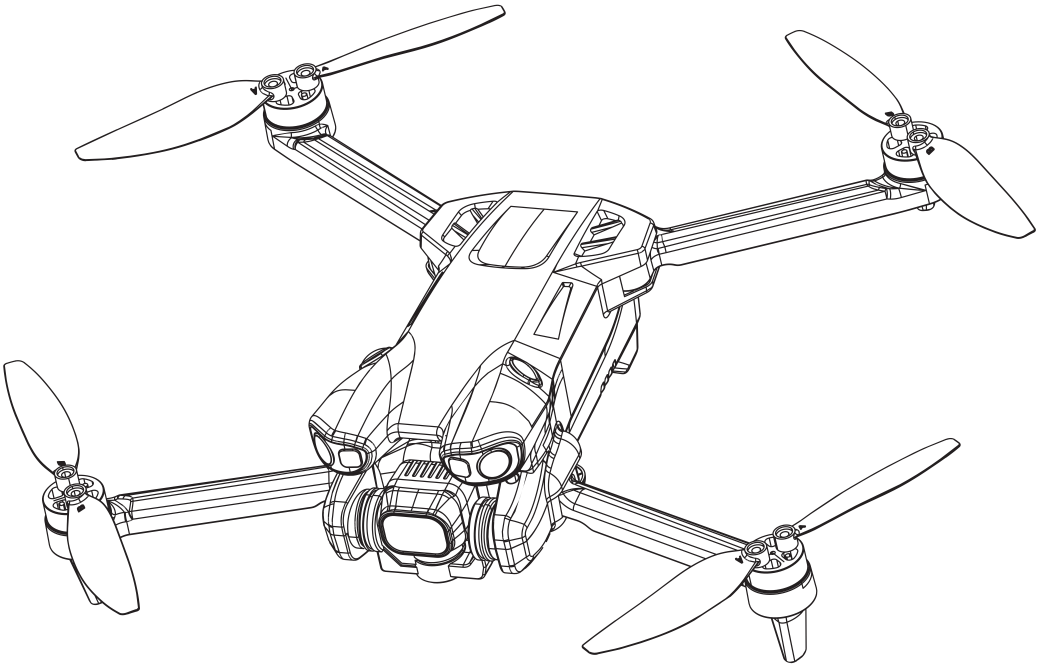
GT50 Quadcopter

Product Brochure



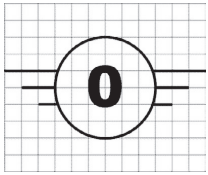
Please retain the user manual
for reference during routine maintenance and
adjustments!

GT50 Drone Manual

Foreword

Welcome to our drone user manual. This guide has been meticulously prepared to ensure you fully comprehend the operation of your drone and utilise it safely and effectively. To enhance your flying experience while adhering to all safety regulations, this tutorial is divided into four detailed sections, covering everything from fundamental safety knowledge to advanced flying techniques.

Key Features and Important Information for the GT50 PRO Drone



1. Drone weight: 183 grams
2. Maximum Take-off Mass (MTOM): 183 grams (including battery, propellers, and obstacle avoidance module)
3. Maximum flight speed: 10 metres per second
4. Maximum attainable altitude: 30 metres
5. Drone category: C0
6. The drone has no payload capacity.
7. Drone remote control equipment and software: Equipment: Remote controller / Software: KY UFO

Remote control model: GT50 Firmware version: [M.1]
Hardware version: [V.1] Operating frequency: [2453MHz-2477MHz]

8. Description of drone behaviour during data link loss: Upon data link disconnection, the drone shall perform a vertical landing onto the ground.
9. Operational restrictions: Refrain from outdoor operation during strong winds or thunderstorm conditions. Ensure night flights remain within visual line of sight.
10. This drone is suitable for operation by individuals aged 12 years and above. To ensure flight safety, avoid flying near airports, motorways, railway stations, underground stations, and densely populated urban areas.

GT50 Drone Manual

Part One: Safety Guidelines

Before commencing operation of a drone, it is paramount to familiarise yourself with all safety-related information. This section outlines fundamental safety rules and guidance to prevent potential injury or damage. Adherence to these basic guidelines not only safeguards your own safety and that of those around you, but also protects the drone from damage.

Part Two: Product Components Introduction

To familiarise you with your drone, this chapter details the names, functions, and operation of its various components. By learning the fundamentals of the product's components, you can swiftly diagnose issues when they arise and utilise the drone's diverse capabilities more effectively.

Part Three: Flight Tutorial

This section provides a comprehensive overview of fundamental setup procedures and operational techniques, designed to assist beginners in effortlessly mastering drone activation and basic flight manoeuvres. Once you have grasped the drone's essential controls, this section will further guide you in advancing your flying skills. Content includes detailed flight protocols, operational techniques, utilisation of advanced features, and strategies for addressing potential emergencies. Whether you are just beginning your learning journey or an experienced pilot, these in-depth tutorials will offer invaluable guidance and advice.

- We urge you to carefully read every section of this manual to gain a thorough understanding of all the drone's functions and safety measures. We hope you find both enjoyment and safety in using your drone. Thank you for choosing our product, and happy flying!

Safety Guidelines

Please store the aircraft's small components out of reach of children.
This aircraft possesses considerable power. During its maiden flight, to prevent unnecessary collisions or injury caused by excessive ascent, ensure the left control stick is moved slowly.
Upon concluding flight operations, first switch off the remote control's power switch, then the aircraft's power switch.
Do not expose the aircraft's battery to high temperatures or place it near flammable or explosive materials.
To ensure safety and prevent injury, maintain a distance of 4.5 metres between the aircraft and people or animals.
This aircraft is suitable for persons aged 12 years and above, and must be flown safely within the operator's (instructor's) line of sight.
If the remote control uses non-rechargeable batteries, do not attempt to charge them. The aircraft must be used exclusively with its original factory-supplied batteries.
When the aircraft is not in use for extended periods, remove the batteries from both the aircraft and the remote control.
Avoid causing short circuits during charging.
If the aircraft will remain unused for over 10 days, discharge the battery to 40-50% capacity (achieved by flying half the duration of a full charge). This significantly extends battery lifespan.
To prevent injury, maintain a safe distance from rotating propellers.
To comply with national aviation radio (station) electromagnetic environment regulations, the use of remote control radios within 5000 metres of airport runways is prohibited. All operators must also adhere to broadcasting regulations established by certification bodies and relevant regulatory authorities, including flight time and area restrictions.
Assemble the drone under adult supervision.
Operators are responsible for safe flight and maintaining safe distances. Do not hover over crowds exceeding 12 persons.

Children should use this product under adult supervision.
Remember to take precautions. Do not touch the propellers. Avoid loose clothing or hair becoming entangled in the propeller blades; do not fly near the face.
Operating the drone requires some skill:
1: Smooth take-off and landing
2: Practise basic manoeuvres
3: Familiarise yourself with your control mode

Safety Guidelines

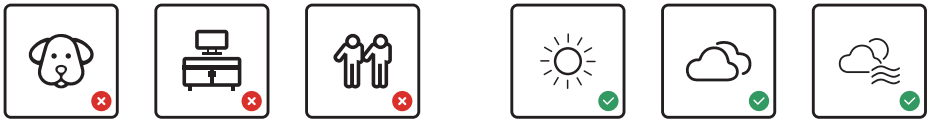
Flight environment requirements:

Indoor flying:

Please choose a spacious indoor area and make sure there are no obstacles, people or pets around for flying.Please ensure that babies and young children are kept at a safe distance and avoid any physical contact with the drone to prevent unnecessary accidents.

Outdoor flying:

Please choose a sunny, windless or breezy day.Choose a location free of obstacles .. crowds, pets, passersby, high walls and trees.Stay especially away from heat sources, electrical wires or electronic power sources to avoid collisions, entanglements, fires, electric shocks and other potentially catastrophic accidents.



⚠ Important matters:

1. Keep the drone in line of sight during flight and avoid obstacles, such as power lines, trees, and crowds.
2. Do not fly in extreme weather conditions, including extreme cold, extreme heat, strong winds, heavy rain, etc.
3. Do not fly near high-intensity radiation fields (such as high-power radar or television broadcast antenna transmitters).



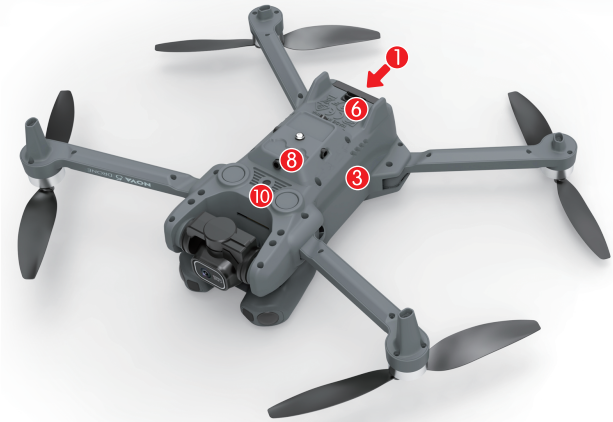
Pre-Flight Notes:

1. To avoid damage or loss of the drone due to improper operation, beginners are advised to carefully read the manual and watch the instructional videos before flying. Keep the flight distance within 98 feet/30 metres. Only attempt high-altitude flights after three days of low-altitude practice.
2. Gyroscope calibration must be performed before each takeoff. Failure to do so may result in unstable flight or loss of control.
3. To ensure a stable connection between the app and the drone during flight (Wi-Fi connection), it is recommended to disable the option in your phone's Wi-Fi settings that automatically connects to nearby strong Wi-Fi networks.
4. Ensure that the batteries in the remote controller are installed with the correct polarity. Avoid using high-voltage batteries.
5. When operating using the remote controller:
- If the app is not connected, the camera function will be unavailable, but all flight functions on the remote controller will remain operational.
- If the app is connected, the camera function can be used, and the app can assist in real-time viewing of the camera feed.
6. If you plan to operate the drone via the app:
You must first disconnect the remote controller; otherwise, the app control functions will be disabled.
- App control functions include basic flight direction control and intelligent flight features such as palm follow, person follow, trajectory flight, and gravity control.
- It is not recommended to use the app as a substitute for the remote controller to operate the drone. The flexibility of app control is inferior to that of the remote controller, and the effective control range of the app is significantly shorter than that of the remote controller.
7. The maximum connection distance between the remote controller and the drone is 230 feet/70 metres. Do not fly beyond this range, as this may cause the drone to lose control and crash or become lost.
8. The maximum connection distance between the app and the drone (i.e., the drone's Wi-Fi data transmission range) is 98 feet/30 metres.
Exceeding this distance may result in issues receiving photos, videos, etc.
9. Keep the drone within your line of sight during flight.
10. When the drone takes off, maintain a safe distance (recommended distance: over 6.5 feet/2 metres) and avoid touching the rotating propellers during flight; loose clothing or hair may get caught in the propellers, so please avoid this; do not fly near your face.

Product Component Overview

Aircraft components





Aircraft Component Names

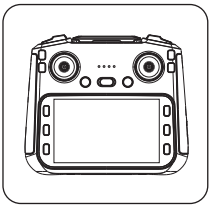
1. Power switch
2. Upper shell
3. Lower shell
4. Propeller
5. Arm
6. Battery
7. Motor
8. Obstacle avoidance sensor
9. Front camera
10. Bottom camera

GT50 Drone Manual

Accessories List



Aircraft (including battery) x 1



Remote controller x 1



Spare propellers A x 4
B x 4



USB charging cable x 1

⚠ Points to note:

If you have purchased the dual-battery version, this package will include one additional spare battery. If you have purchased the triple-battery version, this package will include two additional spare batteries.

Prepare for flight

⚠ Please undertake flight training or instruction (under professional supervision, etc.) beforehand. When flying, select a suitable flying environment.

Pre-flight inspection

Before flight, please check the following items:
(1) Whether the aircraft and remote controller batteries are sufficiently charged.
(2) Whether the propellers are correctly installed and show no signs of damage.
(3) Whether the propellers start normally after powering on.
(4) Whether the aircraft has successfully completed gyro calibration.
(5) Whether the aircraft has successfully connected to the mobile application and is transmitting video and data.
(6) Whether the surrounding environment meets flight requirements.

⚠ Note: Check that the aircraft's folding arms are fully extended.

GT50 Drone Manual

Why do drones lose control when operated via remote control?

1. Operational errors:
a. Operators may inadvertently press the wrong buttons or remain unfamiliar with the joystick's directional controls, causing the drone's behaviour to deviate from expectations.
b. Operators may confuse the drone's two directional control modes: normal mode and headless mode.
2. Signal interference: Signals from numerous nearby wireless devices or other equipment may disrupt the connection between the remote controller and the drone.
3. Low battery power: Insufficient battery charge in either the remote controller or the drone may impair performance, resulting in unresponsive controls or delayed reactions.
4. Excessive distance: Should the drone fly beyond the remote controller's maximum operating range, it may lose connection with the controller.
5. Environmental factors: Strong winds or other environmental conditions may influence the drone's flight path, making it appear as though it has lost control.
6. Hardware malfunction: Certain components within the remote control or drone may fail or become damaged, preventing them from functioning correctly.

⚠ Should you encounter such a situation, it is advisable to locate a safe area for an emergency landing, followed by troubleshooting and resolution. Where possible, consider re-flying in an area free from signal interference, and always ensure both the remote controller and the drone's batteries are fully charged.

Appendix Overview

General Information

1. Project list, including approved components:
- Model: Propeller GT50; Weight (4 pairs): 6.3 grams; Dimensions: 66mm x 17mm x 4.7mm; Maximum RPM: 11000
- Model: GT50 Battery (Model: ZN982548); Weight (1 unit): 42g; Dimensions: 76.5mm x 37.5mm x 30.5mm
2. Drone Combination List:
- Combination 1: GT50, GT50 Remote Controller
Remote controller auto-pairs, manual mode.
-Set 2: GT50, Mobile App (KY UFO)
App pairing: Automatically pairs with drone upon pressing app control button, manual mode.
3. Differentiation from Similar Products by Same Manufacturer:
-Similar products from the same manufacturer can be distinguished by product model and exterior colour.

MTOM Statement

1. The GT50's maximum take-off mass (MTOM) is 183 grams (including battery and propeller blades), meeting Class C0 standards without additional payload.
2. To ensure your GT50 drone complies with Class C0 requirements, adherence to the maximum take-off weight stipulation is paramount. Users must follow these instructions:
- Calculate take-off weight: Prior to flight, sum the drone's weight (including battery and any installed accessories) with the anticipated additional payload.
- Overweight warning: Failure to comply with the above requirements may result in reduced flight stability, operational difficulties, and increased accident risk. Furthermore, the product will no longer meet C0 requirements.
- Compliance: When operating the drone, ensure adherence to all local and international aviation regulations to avoid legal liability and potential safety hazards.

GT50 Drone Manual

Remote-controlled unmanned aerial vehicle equipment

1. Remote control model: GT50
2. Application: KY UFO
- The product includes an ‘Application Manual’ and is compatible with Android 6.0 and above, as well as iOS 9.0 and above.
3. Reminder Notes
- Low Battery Alert: Emits a ‘beep-beep’ sound as a warning.
- Automatic Frequency Pairing: Emits a single ‘beep’. The aircraft's body lights change from flashing to steady illumination to indicate successful pairing.
- Headless Mode: Briefly press the Headless Mode button on the remote controller; during Headless Mode, the aircraft's body lights will flash slowly.
- Speed Mode Switching: Press the Speed Mode button; a single ‘beep’ indicates Low Speed, two ‘beep beep’ sounds indicate Medium Speed, and three ‘beep beep beep’ sounds indicate High Speed.
- Remote Controller Activation: Emits a rapid ‘beep’ when the remote controller is switched on.

Loss of command and control link:

1. The GT50 drone can ascend to a maximum altitude of 30 metres above its take-off point. Upon reaching this height, the system will automatically prevent further ascent, though operation in other directions remains possible. During flight, environmental factors or signal interference may cause the drone to lose control and descend uncontrollably, making it difficult for the pilot to effectively command ascent or other manoeuvres, thereby increasing flight safety risks. To ensure safety and prevent loss of the drone, users must fully understand and adhere to the 30-metre altitude restriction before operation. Please remain mindful of the surrounding environment and fly within areas of strong signal reception to minimise flight risks.
2. Drone response upon remote controller disconnection:
- The drone's indicator lights will begin to flash, followed by a gradual descent.

Operator Health Precautions

When operating a drone, ensure that the operator (yourself) is alert and fully conscious, and not under the influence of alcohol, drugs, or other substances. Furthermore, if you experience dizziness, fatigue, nausea, or any other health condition that may compromise operational safety, refrain from flying.

Ground Handling Services - Related Guidelines

1. Safe Handling of Energy Storage (Batteries):
- When installing or replacing batteries, ensure correct polarity and avoid using damaged or incompatible batteries.
- Use the original charging cable when charging, avoid charging near flammable materials, and ensure the charging environment temperature is between 0°C and 40°C.
- Disconnect the power immediately after charging is complete to prevent overcharging.
- Cease use and dispose of batteries promptly if swelling, leakage, or other abnormalities occur.
2. Cleaning and Maintenance:
- Regularly clean the drone's exterior and propellers, ensuring no dust, dirt, or foreign objects remain on the equipment.
- Inspect all components, particularly moving parts and connection points, to verify no damage exists.
3. Pre-Flight Calibration:
- Before activating the drone and remote controller, ensure the drone rests on a level surface.
- Perform one-touch calibration and frequency pairing as per the manual to guarantee accurate flight orientation.
4. Use of Plugs and Protective Covers:
- When using or storing the remote controller and other accessories, shield electronic interfaces and plugs from dust and moisture.
5. Selection of Flying Environment:
- Choose open, unobstructed areas for flight, avoiding densely populated zones or locations frequented by wildlife.
- Refrain from flying in extreme weather conditions, such as strong winds, rain, snow, or extreme temperatures.

The transport and storage of drones, equipment for remotely controlling drones, and batteries.

1. Packaging for the drone and remote controller:
- Utilise the original packaging materials or equivalent protective materials to encase the drone and remote controller, safeguarding against impact or pressure damage during transit.
- Ensure every component of the drone and remote controller is securely fastened to prevent damage caused by movement.
2. Safe transport of batteries:
- Remove the batteries from the drone and store them separately in fireproof and explosion-proof packaging.
- Avoid exposing batteries to extreme temperatures or direct sunlight to prevent overheating.
- Comply with local transport regulations, particularly those concerning lithium batteries.
3. Storage environment:
- Store the drone and remote controller in a dry, clean environment at a suitable temperature, avoiding damp or extreme temperature conditions.
- The storage area should be distant from any potential heat sources, such as heaters or direct sunlight, to prevent material degradation or equipment damage.
4. Long-term battery storage:
- If the battery will remain unused for an extended period, maintain its charge level at approximately 50%, avoiding both fully charged and fully discharged states.
- Periodically inspect stored batteries, performing at least one charge-discharge cycle every three months to preserve battery vitality and safety.
5. Inspection and maintenance
- Periodically inspect stored drones and remote controllers for any signs of physical damage or functional abnormalities.
- Ensure all connections and interfaces remain clean and free of dust to prevent corrosion or poor contact during extended storage.

Post-flight Procedures
- To ensure the safety and performance of the GT50 UAV after each flight, the operator must conduct a thorough visual inspection, including checking the battery and all critical components.
Detailed inspection steps are as follows:

1. Battery Inspection:
- Visual Inspection: Remove the battery and carefully examine the casing for signs of damage, deformation, leakage, or swelling.
- Tactile Inspection: Gently touch the battery surface to check for abnormal temperatures (overheating or excessive cold).
- Connector Inspection: Inspect the battery connectors and wiring to ensure they are intact, with no signs of looseness or poor contact.
- Charge Level Check: Verify remaining charge is normal using a battery tester or the drone's built-in charge indicator.
2. Airframe Inspection:
- Visual Inspection: Check the drone airframe for cracks, scratches, or other physical damage, particularly at the arms, landing gear, and propeller mounting points.
- Structural Integrity: Gently shake the drone to check for loose components or abnormal sounds, ensuring the structure remains stable.
- Sensor and Camera Inspection: Examine the surfaces of the drone's sensors and cameras to ensure they are clean and free from scratches or other damage, guaranteeing proper operation.
3. Propeller Inspection:
- Visual Inspection: Check the propellers for cracks, bends, or other damage. Replace any damaged propellers immediately.
- Mounting Check: Verify propellers are securely fastened without play. Confirm propeller locking mechanisms function correctly.
4. Motor Inspection:
- Visual Check: Inspect motor casings for any signs of damage or deformation.
- Rotation Check: Gently rotate each motor by hand to verify smooth operation without binding or abnormal sounds.
5. Wiring and Connector Inspection:
- Visual Check: Examine all internal and external wiring and connectors for breaks, damage, or loose connections.
- Connector Check: Ensure all connectors are securely fastened with no signs of looseness or poor contact.
6. Remote Control Inspection:
- Visual inspection: Examine the remote controller casing for damage or cracks.
- Functionality check: Power on the remote controller and verify that all buttons and control sticks operate correctly, ensuring proper communication with the drone.

Summary:
By following these detailed inspection procedures, operators can ensure the safety and performance of the GT50 drone after each flight. Regular visual checks facilitate early detection of potential issues, enabling timely maintenance and repairs, ultimately extending the drone's operational lifespan.

GT50 Drone Manual

Relevant restrictions:

1. Speed Limits:
- High Speed: 10 m/s
- Medium Speed: 5.5 m/s
- Low Speed: 1 m/s (Indoor Use Only)

2. Specific Flight Restrictions:
- Horizontal Distance from Structures:
- To ensure safe operation of the GT50 drone during flight and maintain a safe distance from structures:
- The drone must maintain a minimum horizontal distance of 50 meters from structures at all times during flight, unless specifically authorized.
- Exercise extreme caution when flying in urban or densely populated areas, maintaining greater safety distances to avoid collisions or interference with structures.

3. Environmental Restrictions:
- Wind Speed Limitations for Operation:
- Wind Resistance: 3 m/s

4. Environmental Restrictions:
- Altitude for Operation, Transport, and Storage

4.1. Operation:
- Maximum Takeoff Altitude (Permitted Flight Altitude: 120 meters, Drone Altitude Limit: 30 meters)

4.2. Storage:
- Store the drone at an appropriate altitude, avoiding extremely high or low altitude areas.
- When storing drones at high altitudes, control the storage environment's temperature and pressure to prevent component damage from pressure changes.

4.3. Transportation:
- During transport, especially aerial transport, observe and comply with relevant altitude restrictions to ensure drone safety during high-altitude transit.

5. Environmental Restrictions:
- Humidity for Operation, Transportation, and Storage:

5.1. Operation:
- Avoid operating the drone in environments with high humidity (relative humidity exceeding 80%) or low humidity (relative humidity below 20%).
- Avoid flying in fog, drizzle, hail, or snow to prevent moisture ingress or icing.
- Immediately inspect all drone components for moisture or condensation after flight. If necessary, wipe with a clean, soft cloth.

5.2. Storage:
- Ensure all electronic components and batteries are well-sealed to prevent moisture ingress.
- Store the drone in a dry, well-ventilated environment, avoiding damp locations or proximity to water sources.
- Maintain relative humidity between 40% and 60% in the storage environment. Use dehumidifiers or desiccants to control humidity if necessary.

5.3. Transportation:
- During transport, store the drone and its accessories in moisture-proof packaging materials such as moisture-proof bags or sealed containers.

6. Environmental Restrictions:
- Other (Thunderstorms, Flocks of Birds, Sandstorms):
- Avoid operating the drone under special environmental conditions such as thunderstorms, flocks of birds, or sandstorms to ensure the safety and reliability of the drone system.

GT50 Drone Manual

In accordance with EU Regulation (EU) 2019/947, operators shall fully understand the following primary risks and take necessary measures to ensure safety:

1. Ensuring the safety of unmanned aerial vehicle systems during maintenance operations:

1.1 Regular inspections:

- Conduct periodic checks and tests on critical drone components such as batteries, motors, propellers, and control systems.
- Perform basic inspections before and after each flight to ensure the drone is in good working order.

1.2 Battery maintenance:

- Regularly inspect batteries for signs of swelling, leakage, or damage, replacing any faulty units promptly.
- Avoid overcharging or over-discharging batteries, adhering strictly to the manufacturer's charging guidelines.

1.3 Hardware maintenance:

- Inspect and tighten all screws and connectors to ensure structural integrity.
- Clean the drone's exterior and sensors to prevent dust and debris from affecting performance.

2. Ensuring Drone System Safety During Transport:

- Pack the drone and accessories in sturdy, appropriate protective packaging to prevent mechanical damage during transit.
- Utilise shock-absorbing materials (such as foam or bubble wrap) within the packaging to minimise vibrations and impacts that could damage the drone.
- Ensure batteries are securely stored and transported separately from the drone to prevent short circuits or overheating during transit.
- Avoid transporting the drone and batteries under extreme temperature conditions to prevent damage from high or low temperatures.
- Prevent the drone from coming into contact with moisture or water sources to avoid short circuits or corrosion.

3. Ensuring the safety of the drone system during shelf storage:

- Drones should be stored in a dry, well-ventilated environment, avoiding dampness, high temperatures, and direct sunlight.
- Storage areas should be kept away from flammable, explosive materials, and chemicals.
- Batteries should be stored separately from the drone to prevent over-discharge or over-charge.
- Charge batteries to approximately 50% before long-term storage to extend their lifespan.

GT50 Drone Manual

Safety Instructions:

Ensuring software integrity and security is paramount when operating the GT50 drone. The following security guidelines pertain to software integrity:

- Download exclusively from official channels: Ensure all video, image, and software updates are obtained solely from official or trusted sources, such as the manufacturer's official website or certified app stores.
- Avoid third-party software: Refrain from downloading any software or updates from unknown sources or unverified third-party websites to prevent malware infection and data breaches.
- Software updates are not prompted or automatic; manual updates must be initiated by accessing the store.

Information relating to privacy rights
- When operating drones, particular care must be taken to protect personal privacy that may be inadvertently captured by cameras. The following are guidelines and requirements for privacy protection:

1. Legal Considerations:

- When using drones for video recording or photography, ensure compliance with local laws and regulations, particularly when operating in public spaces or over private property.
- Prior to operation, familiarise yourself with and adhere to relevant privacy protection legislation, including obtaining necessary permissions or authorisations.

2. Informed Consent:

- Where drone operations may capture individuals, provide advance public notification, such as through posted notices or website announcements detailing the timing and area of operations.
- Avoid filming without obtaining explicit consent, particularly in private settings or during private events.