M22 MANUAL

Start here

Prepare, pair, calibrate, then fly

Your **M22 flight guide**, rebuilt in clear steps from the photographed instruction booklet. The supplied booklet identifies the aircraft as **MT22**; its Wi-Fi network also begins with MT22-GPS.



Realistic M22 product illustration reconstructed from your aircraft and booklet photos.

First-flight checklist

1. Charge the aircraft battery and controller. Check the propellers and unfold the arms.

2. Choose an open, dry area, away from people, obstacles and magnetic interference.

3. Place the drone level. Turn on the drone, then the controller, and confirm pairing.

4. Calibrate the compass and gyroscope using the steps on pages 5-6 of this guide.

5. For outdoor GPS flight, wait for satellite lock. Connect the MT Drone app if using the camera.

6. Unlock the motors, take off gently, practice a short hover, and land before the battery becomes low.

Important: The aircraft has **no obstacle avoidance**. Automatic return cannot detect objects in its path. This guide follows the supplied manual; it does not add unverified flight specifications.

Before you fly

Safety and a suitable flying area

People, propellers and surroundings

The booklet specifies **ages 14 and older** and recommends guidance from an experienced operator for beginners. Keep small parts away from children. Keep hands, hair, clothing and faces clear of the rotating propellers; never operate near your ears.

Fly in an open area with the aircraft in sight. Keep away from crowds, buildings, trees, power lines, water and radio interference. Do not fly when tired or unable to control the aircraft safely.

Weather and operating conditions

Keep the aircraft dry. Do not use it in rain, fog, thunderstorms or strong wind. The booklet warns against wind above **10 m/s (22 mph)**; this is not a guarantee that lighter wind is safe for your aircraft or skill level.

Avoid heat sources and prolonged sun exposure. The booklet lists **20-30 degrees C (68-86 degrees F)** as the optimal operating temperature. Cold and heat can reduce power and battery life.

GPS and optical-flow limitations

GPS: Use outdoors with a clear view of the sky. Roofs, trees, buildings, metal and magnetic interference can prevent reliable positioning.

Optical flow: Needs adequate light and a suitable ground surface. Water, smooth reflective floors, dim conditions and large changes in ground height can prevent stable hovering.

Inspect before every flight

1. Check the arms, propellers, motors and body for looseness or damage. Match replacement A/B propellers to their marked arms.

2. Use the recommended charging equipment and original replacement parts. Stop using a damaged charger or battery.

3. Keep a clear takeoff and landing area. Allow at least the booklet's 1-2 m separation from people during takeoff and landing, and increase clearance as needed.

Flight limits: The booklet depicts a flight height below 120 m. A manufacturer's limit is not permission to fly at that height or in a particular location. Observe the restrictions that apply where you fly.

Know your equipment

Aircraft, propellers and remote



Realistic controller illustration based on your product photo. Match the controls and markings on your controller.

Control	Function shown in the booklet
Left stick / accelerator	Up/down controls altitude; left/right rotates the aircraft.
Right stick / direction	Forward/backward and left/right sideways flight.
Camera roller	Tilts the front camera up or down.
Speed control	Changes the speed setting.
Photo / video control	Short press takes a photo; hold about 3 seconds to start or stop video.
Calibration control	Short press calibrates the gyroscope; hold 3 seconds to begin compass calibration.
Light / GPS control	Short press controls the lights; hold 3 seconds to switch GPS on/off before satellite lock.
Unlock / takeoff; Return	Unlock/start takeoff; separate return control starts return flight.

The controller also has a power switch, LCD, phone bracket and charging, GPS, compass and power indicators. Identify the labeled controls before switching on.

Charge and inspect

Aircraft battery and controller

Charge the aircraft battery

1. Turn the aircraft off and remove its battery.

2. Connect the supplied USB charging cable to the battery charging port and a suitable USB power adapter. The booklet recommends **5 V, 1-2 A**; the adapter is not included.

3. The charging indicator is **red while charging**. When fully charged, the red light goes out and the **green light turns on**. The stated charging time is about **240 minutes**.

4. Disconnect the charger after charging. Reinstall the battery securely before switching on.

Charge the controller

1. Connect the USB charging cable to the controller and a suitable 5 V, 1-2 A adapter.

2. The controller's **green light stays on while charging** and goes out when charging is complete. The booklet gives about **90 minutes** for a full charge.

Battery care: Charge under adult supervision, in a monitored indoor area away from flammable materials. Do not short-circuit, crush, disassemble, burn or heat batteries. Inspect plugs, cables and housings. The booklet recommends maintaining the battery during long storage to avoid excessive discharge; follow the battery's own care instructions.

Propellers and memory card

Match the **A** and **B** letters on replacement propellers to the corresponding marked arms. The source diagram places identical letters diagonally opposite. A propellers rotate clockwise and B propellers counterclockwise, according to the booklet.

For onboard photos and videos, the booklet recommends a high-speed TF/microSD card, formatted **FAT32 or exFAT**, with a maximum stated capacity of **128 GB**. Insert it in the aircraft's indicated card slot before flight.

Power on and pair

Start on a flat, level surface

1. Unfold and inspect the aircraft. Place it flat on the ground, with the area around the propellers clear.

2. Press the aircraft power switch for approximately **1 second**. After startup/self-test, the aircraft light flashes at a steady rate while waiting to pair.

3. Press and hold the controller power switch for approximately **2 seconds**. The LCD lights up and the controller beeps.

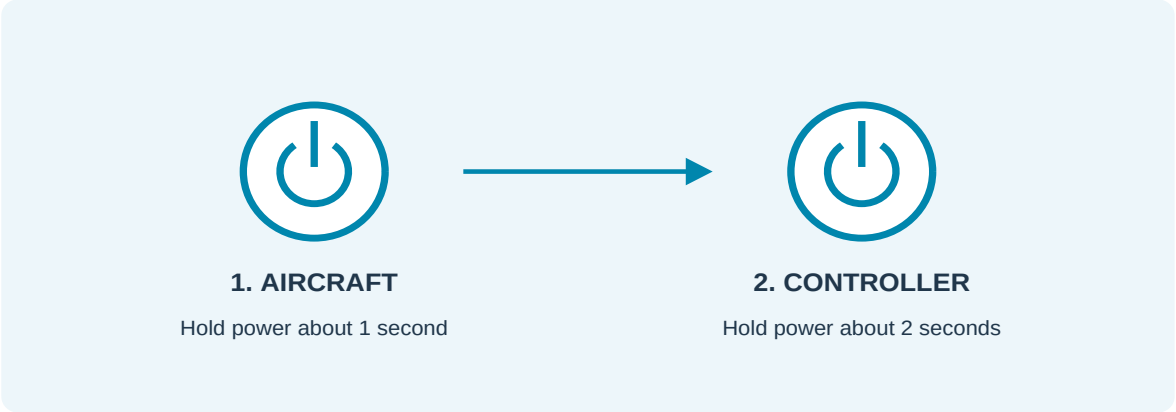
4. Successful pairing changes the aircraft indicator to a pattern of **two flashes followed by a pause**. It then begins searching for GPS satellites.

5. If the aircraft continues flashing at the same constant rate, turn both devices off and repeat the sequence.

6. Extend the controller antenna approximately **45 degrees upward**, as directed in the booklet. Calibrate the compass and gyroscope before takeoff.

Phone connection, when needed

Open the phone's Wi-Fi settings and connect to the aircraft hotspot beginning **MT22-GPS-** followed by its device suffix. Open **MT Drone** and tap **PLAY** to reach the operating screen. See page 10 of this guide for details.



Power-on order. Keep the drone stationary and level during startup.

Pairing the controller and obtaining GPS satellite lock are separate steps. A powered-on controller alone does not mean GPS return is ready.

Calibrate before flight

Compass first, then gyroscope

Compass / geomagnetic calibration

1. Choose an open area away from strong magnetic fields and metal. Do not calibrate near vehicles, metal structures, underground steel or on a metal surface. Keep keys and phones away from the aircraft during this procedure.

2. With the aircraft level on the ground, hold the controller's **compass/calibration key for 3 seconds**. The controller beeps, and the white compass indicator and aircraft indicator flash rapidly.

3. Lift the drone level and rotate the whole aircraft **clockwise four times**. The booklet recommends about 1 m above the ground. A double beep and slower flashing indicate the next stage.

4. Point the camera/nose **upward** and rotate the aircraft **clockwise four times** in the orientation shown by the booklet/app. Keep fingers clear of the propellers.

5. A double beep, the controller's white compass light going out, and the aircraft light becoming steady indicate completion. Put the drone back on level ground.

Gyroscope calibration

1. Place the aircraft **stationary and horizontal** on a level surface.

2. Short-press the controller's gyroscope/calibration control. A beep and rapidly flashing aircraft indicator show that calibration has started.

3. Wait for the light pattern to change to two flashes and a pause. Keep the aircraft still until calibration completes.

The app also provides **Calibrate Gyroscope** and **Calibrate Geomagnetism** commands under Settings. Follow the app's animation and prompts. If magnetic interference develops in flight, leave that area, land and recalibrate; do not assume return-to-home will work reliably.

GPS and flight modes

Choose the mode before takeoff

Outdoor GPS mode

1. Pair the aircraft and controller, then keep the aircraft on the ground in an open area with a clear sky view.

2. Allow about **2 minutes** for satellite search. The time is an estimate and depends on the location.

3. Wait for the controller beep and **steady blue GPS indicator**; the aircraft's blue light also becomes steady. The booklet identifies these as the satellite-lock confirmation.

The aircraft defaults to GPS mode. Trees, roofs and buildings can prevent satellite acquisition. Do not take off in GPS mode if satellite search fails.

Indoor optical-flow mode

1. If using optical flow, switch modes **before GPS satellite lock**. Hold the controller's GPS function control for **3 seconds**.

2. Listen for the beep and check that the blue indicators change to a slow-flashing pattern. Confirm the mode on the controller/app.

3. Use a well-lit area and a textured, nonreflective ground surface. Keep the aircraft nearby and actively control its height and position.

No GPS safeguards in optical-flow mode: The booklet says GPS one-key return, low-voltage return and signal-loss return are not available in this mode. Do not rely on automatic return or a fixed hover position.

Changing modes after GPS lock

The booklet says optical-flow mode cannot be selected after successful GPS lock during that startup. To change, power off the drone and controller, restart, and switch before satellite search finishes.

Read the controller LCD

The LCD shows satellite count, controller and aircraft battery levels, GPS ON/OFF, mode, speed, flight height and flight distance. The source identifies **mode 1 as GPS** and **mode 2 as optical flow**.

Take off and control

Practice close to the takeoff point

Takeoff with the controller

1. Confirm the chosen mode, calibration and a clear launch area. In GPS mode, wait for satellite lock.

2. Short-press **Unlock/Takeoff** once to start the motors. Short-press it again to take off. The booklet describes an initial hover around **1.5 m**.

Alternative: With the aircraft stationary, move the left stick to the lower-left corner and the right stick to the lower-right corner to unlock the motors; then raise the left stick gently to take off. If takeoff is not initiated within about 10 seconds, the booklet says the motors stop automatically.

Normal stick controls

Stick movement	Aircraft response
Left stick up / down	Climb / descend. Make small, gradual movements.
Left stick left / right	Rotate left / right (yaw).
Right stick up / down	Move forward / backward relative to the aircraft nose.
Right stick left / right	Move sideways left / right relative to the aircraft nose.

Land and finish

Choose a clear, level landing area. Use small control inputs and descend gently with the left stick. After landing, wait for the propellers to stop before approaching, then switch off the aircraft and controller.

App takeoff / landing button

The app asks you to drag an unlock slider from left to right. It describes an initial hover of about **1.2 m**. The source says the app's takeoff/landing button **does not land the aircraft in GPS mode**; in optical-flow mode it can issue takeoff and landing commands. Use the controller for your first flights.

Return and low battery

GPS return needs a clear route

No obstacle avoidance: The drone cannot see or avoid objects during return. GPS return depends on reliable GPS and compass data. Keep a safe route and land early rather than waiting for automatic recovery.

One-key return

1. In flight with GPS available, short-press the controller's **Return** control. The controller beeps repeatedly and the aircraft returns toward the takeoff point, then lands.

2. To interrupt a normal return, move a control stick or short-press Return again. The booklet says low-battery return cannot be interrupted with the controller.

In the app, tap **Return** and drag the confirmation slider fully to the right. The source says tapping Return again or using the controller can cancel a normal return.

Low-battery stages

First stage: The aircraft battery indicator flashes red slowly, and the controller sounds a repeated reminder about every 10 seconds. The booklet describes return to a hover above the takeoff point and limits of about **30 m high and 30 m away**. Bring the aircraft down promptly.

Second stage: The battery indicator flashes rapidly and the controller beeps continuously. The aircraft is forced to return, land and stop. Do not wait for this stage to end a flight.

Signal loss and GPS loss

Loss of the controller signal for about **6 seconds** triggers return when GPS return is available. If the controller signal comes back during this period, the source says it exits that return mode. If GPS is also lost and the controller stays disconnected for more than 6 seconds, the booklet describes a slow descent and motor lock after landing.

Return height is not obstacle protection

For a normal return from more than 30 m away, the source describes climbing to **25 m** when below that height; otherwise it returns at its current altitude. For low-voltage return, another passage uses **10 m**, while the first-stage description mentions a 25 m hover. These passages differ: **do not assume a fixed safe return height**.

Connect the MT Drone app

Wi-Fi connection and live camera view

Connect your phone

1. Install the app named **MT Drone**. The original booklet provides a download QR code and refers to the phone app stores. Verify that the app matches your aircraft and the booklet before installation.

2. Power on and pair the aircraft and controller. Open your phone's **Wi-Fi settings**.

3. Connect to the aircraft hotspot beginning **MT22-GPS-**. The remaining characters vary by aircraft. Return to the app once the phone is connected.

4. Open **MT Drone** and tap **PLAY**. Confirm that the operating screen shows the live image from the drone.

5. If there is no live image, exit the app, check that the phone is still connected to the drone hotspot, then reopen MT Drone.

Source-photo limitation: Part of the app-installation page is cut off and affected by glare. No download address, QR-code destination or app publisher has been guessed. The Wi-Fi hotspot name and PLAY sequence are also readable on the pairing page.

Photos, video and camera angle

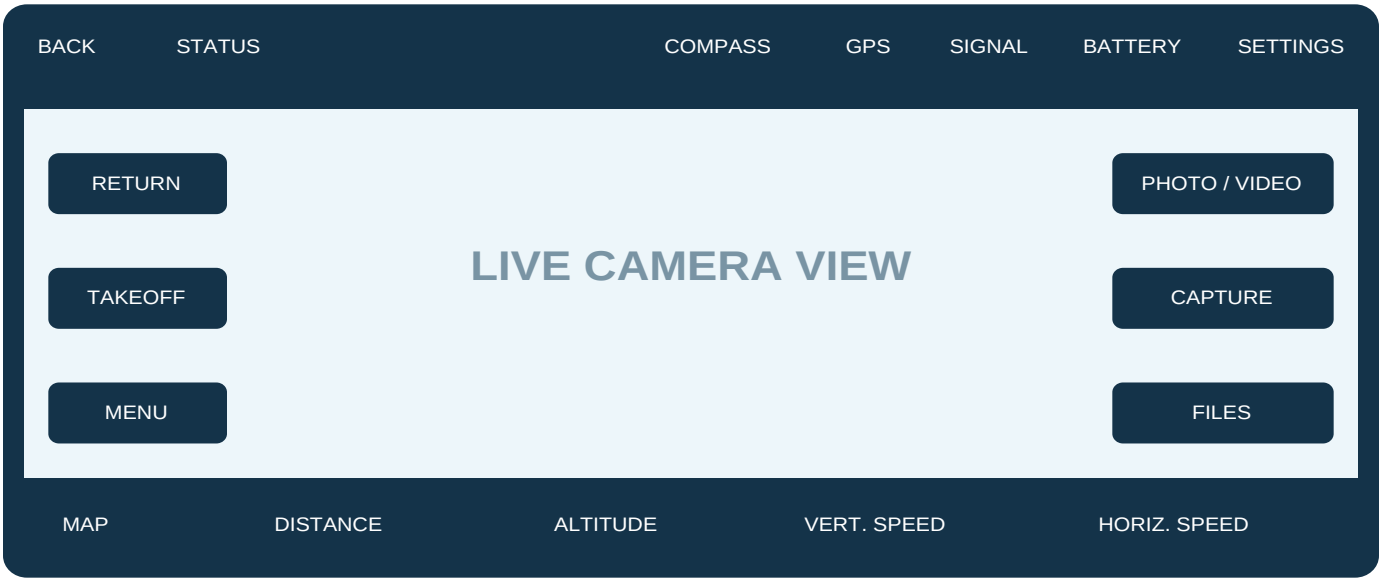
Turn the controller's camera roller to tilt the lens up or down. Short-press the photo/video key to take a picture. Hold it for about **3 seconds** to begin video; hold it again for about 3 seconds to stop recording.

In the app, use **Photo/Video Switch** to choose the mode, then press the capture button. In video mode, press once to start and again to stop. Open **File** to view captured photos and videos.

The source recommends a high-speed onboard TF/microSD card, FAT32 or exFAT, up to 128 GB. The booklet's phrase "5G HD image transmission" describes its wireless video feature; it does not establish a cellular service requirement.

Read the app screen

Status, telemetry and useful indicators



Simplified MT Drone screen map, redrawn from the booklet. Exact icons and layout may vary by app version.

Display / button	Meaning
Back / Menu / Settings	Back returns to the main screen; Menu reveals extra functions; Settings opens image and controller options.
Status bar before takeoff	Red: satellite search. Green: satellite search complete and ready. Yellow: optical-flow mode selected.
Status bar after takeoff	Red: low voltage. Yellow: returning. Read the message as well as the color.
Geomagnetic data	Green indicates normal compass data. Yellow indicates interference: leave the affected area, land and recalibrate.
GPS data / Signal	Satellite count and connection quality between the aircraft and phone. More satellites generally improve positioning.
Aircraft battery level	Current aircraft battery indication. Monitor it throughout the flight.
Map / Distance / Altitude	Map view; horizontal distance and vertical altitude relative to the takeoff point.
Vertical / Horizontal speed	Current vertical and horizontal aircraft movement speeds.

Extra flight features

Use only after mastering normal control

Waypoint flight

1. Tap **Waypoint Flight** in the hidden menu. A map with a gray selection circle appears.

2. Tap within the gray circle to place waypoints. The source allows up to **28**. Tap Upload to send the route to the aircraft.

3. Use Delete to modify or cancel the waypoints. Moving either control stick cancels waypoint flight, according to the booklet. This function is unavailable at low voltage.

Follow flight

Tap **Follow Flight**. The aircraft points its nose toward the phone and follows when the user moves with it. The left stick can adjust altitude. Tap the button again to cancel. Follow is unavailable at low voltage; it does not provide obstacle avoidance.

Orbit / point of interest

Tap **Orbit Flight**, then Confirm. The booklet says the aircraft uses its current position as the center and flies forward about **5 m** before orbiting. The right stick forward/backward adjusts the orbit radius from **3 to 50 m**; the left stick changes altitude. Tap Orbit again to cancel. Unavailable at low voltage.

Virtual joystick

Tap **Virtual Joystick** to show on-screen sticks: left controls altitude and rotation; right controls forward/backward and sideways flight. Tap again to hide them. The booklet directs users to turn the controller off for virtual control. For optical-flow virtual control, first select optical-flow mode with the controller, then turn it off before using the virtual sticks. Practice physical-controller flight first.

Find drone

Tap **Find Drone** to show the last recorded latitude/longitude on a map. As the phone moves, the map updates the phone's relation to that location. The marker represents **last recorded coordinates**, not a guarantee of the aircraft's present location.

Camera tools and settings

Hidden-menu and settings reference

Feature	How to use it
Reverse Lens	Flips the live image 180 degrees.
3D Stereo	Changes to a split view for VR glasses; tap again to exit.
Flight Record	Opens the recorded flight-history data.
Gesture Recognition	Activate it, stay within about 3 m and use sufficient light. An open palm starts video; show it again to stop. The booklet's "yeah"/V gesture takes a photo.
Zoom (Scale) Image	Shows a slider on the right. Slide up/down to change the displayed image zoom; the source lists 1-50 times. This does not establish optical zoom.
Gimbal Control	Shows a slider on the left. Slide up/down to tilt the front camera. Tap again to close.
Image Softening / Auxiliary Grid	Softens the image or adds framing grid lines. Both are off by default.
Speed Gear	Selects low/high speed when using the virtual joystick.
Remote Control Mode	Selects American-hand or Japanese-hand virtual-stick layout. American-hand is the default.
Calibrate Gyroscope	Tap Execute with the aircraft stationary and level before flight.
Calibrate Geomagnetism	Tap Execute and follow the animation and text for the compass rotation sequence.

Gesture, waypoint, orbit and follow functions are conveniences, not collision protection. Stay clear of other people and keep control of the aircraft.

Lights and troubleshooting

Recognize the status before takeoff

Aircraft state	Indicator pattern in the booklet
GPS satellite search	Blue: two flashes, then a pause.
GPS lock / GPS flight	Blue: steady on.
GPS return	Blue: rapid flashing.
Low battery, either flight mode	Red: slow flashing (see the low-battery stages on page 9).
Optical-flow mode / flight	Blue: slow flashing.
Compass calibration	White: fast flashes during horizontal calibration; slow flashes during vertical calibration.
Gyroscope calibration	Gyroscope indicator flashes rapidly.

Common problems

Problem	What to check
No GPS lock; cannot take off	Move to a more open area. Check for weak GPS or magnetic interference; recalibrate the compass.
Drifts or circles in GPS hover	Change the flying area and recalibrate the compass.
Vibrates in flight	Land, switch off, inspect the aircraft structure and check or replace damaged propellers.
Limited to 30 m high / 30 m away	The booklet identifies low battery as the likely cause. Return, land and charge.
App image freezes	Move away from radio interference and obstructions. Check the phone's drone Wi-Fi connection.
Cannot hold an indoor hover	Use a brighter area and a textured, nonreflective surface suitable for optical flow.