PURDUE UNIVERSITY
# THE DAUCH CENTER

Digital Supply Chain
Manufacturing & Suppy Chain

# DRONE DJI MINI 3
# HANDBOOK

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# INTRODUCTION
## DRONE DJI MINI 3

**What is the Drone DJI Mini 3?**

The DJI Mini 3 is an ultra-lightweight quadcopter drone designed for aerial photography and videography. With a takeoff weight of under 249 grams, it complies with sub-250g drone regulations in many countries, allowing for greater operational flexibility without mandatory registration (subject to local laws).

This drone is equipped with a 1/1.3-inch CMOS sensor capable of capturing 4K HDR video at 30fps and 12 MP still images. It features dual native ISO, f/1.7 aperture, and true vertical shooting, making it suitable for both landscape and portrait content creation.

Drone Mini 3
DJI

**What will I find here?**

This is an using manual focused on let you understand everything you need for using the DJI Mini 3 as a beginner. In this way, you will find safety recommendations, Drone Mini 3 parts, settings, license, ser guide for flying, photo & video options and a troubleshooting information.

# SAFETY
# RECOMMENDATIONS



**1**

Don't fly near airports stadium or crowds. Just in parks and open areas.

Follow the instructions regarded to the Federal Aviation Administration.



**2**

Recommended temperatures between 50°F and 77°F

Avoid rain, snow, or fog, as moisture can damage the drone's electronics. High winds can be also dangerous

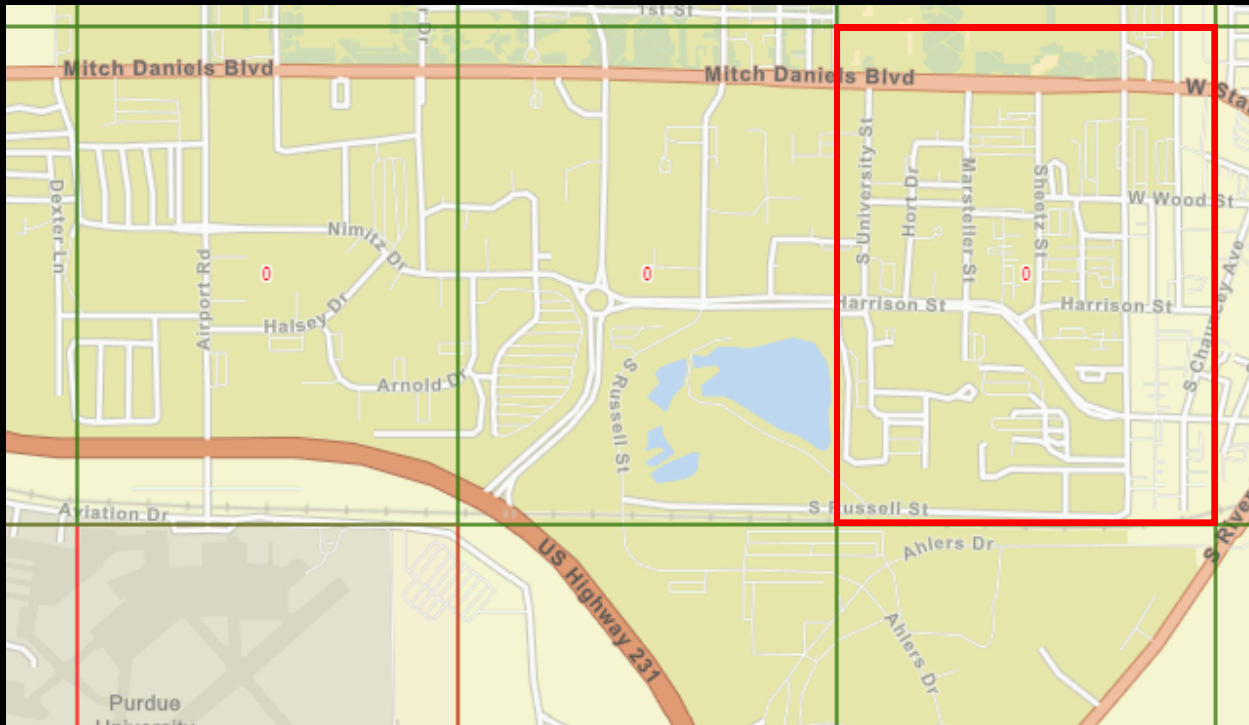

**3**

Avoid flying the drone alone. It is important to be with a supervisor or a <u>knowledgeable</u>.



**4**

Read all safety prompts, warning messages, and disclaimers carefully

# ABOUT
# LICENSE

**Registration and License:** The DJI Mini 3 is a light duty drone edition which is able to be flied without the Federal Aviation Administration (FAA) registration nor the Remote Pilot Certificate, mandatories for heavier drones, unless it is used for commercial purposes.

**Location disability:** According to the Federal Aviation Administration, the Dauch Center of Manufacturing and Management Enterprises, is located in a zero ceiling zone at Purdue, which means it is not available to fly any drone in this area.



**What does it mean?** To use this drone in a wide area, it is needed to move forwards to an allowed area over 100 feet high.

You can find the coordinates where it is possible to fly the DJI Mini 3, you'll find it in the next QR code:

**Note: Don't fly the drone in 0 feet high areas presented in the map, as it could be dangerous for pedestrians and the drone could suffer damages due to the builings.**

# GUIDELINES AT
# PURDUE

- **Compliance:** All drone operations must adhere to FAA regulations, state/federal laws, and Purdue policies.

- **Airport Proximity:** Contact the airport/control tower before flying (Purdue is within 5 miles of an airport).

- **Hobbyist Use:**

  - Max weight: 55 lbs.

  - Max altitude: 400 ft.

  - Maintain visual line-of-sight

  - Avoid flying near large crowds or stadiums..

- **University-Related Operations:**

  - Must be FAA registered.

  - Additional requirements for restricted airspace (Class D) – may need FAA Certificate of Waiver (CoW).

- **Recreational Use:** Follow FAA hobbyist guidelines and contact the airport control tower.

**For more information about the Purdue University regulations for drones, visit the Risk management webpage**
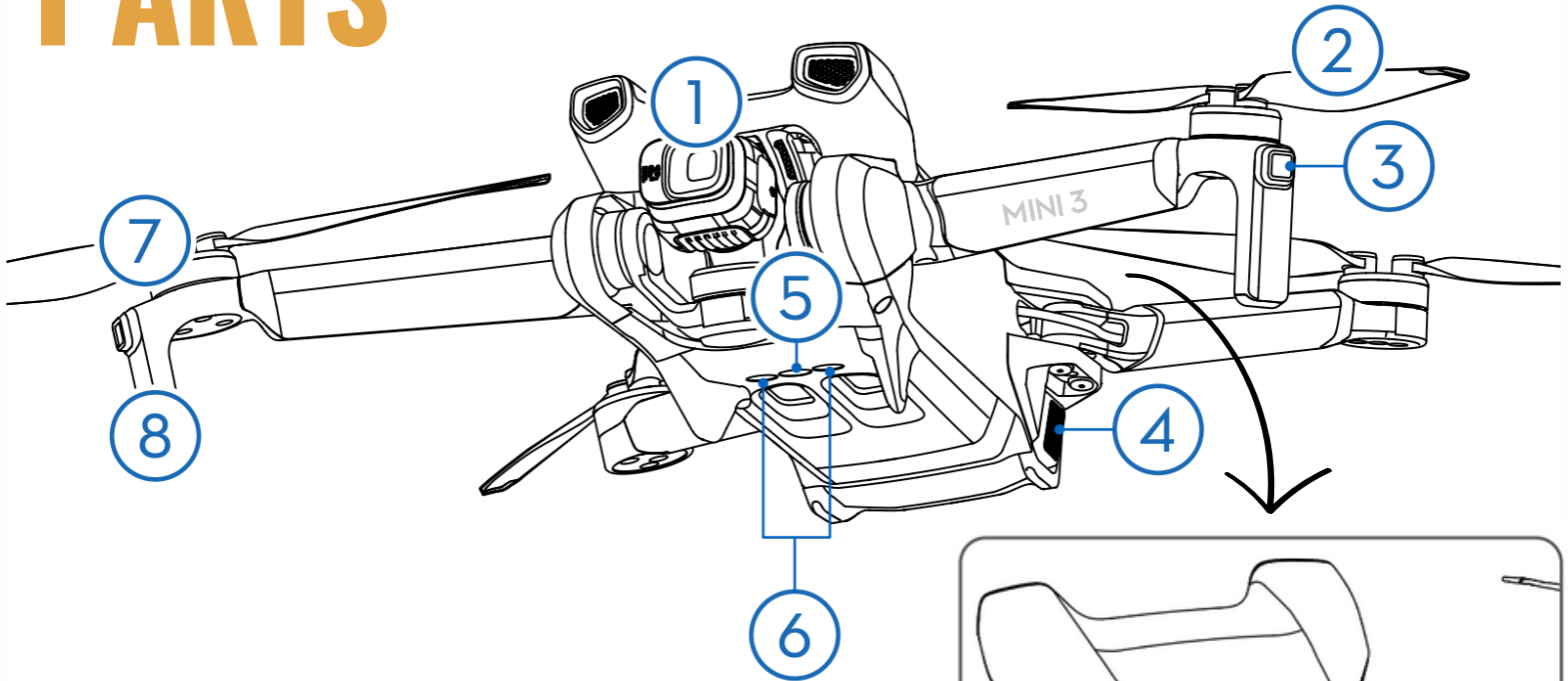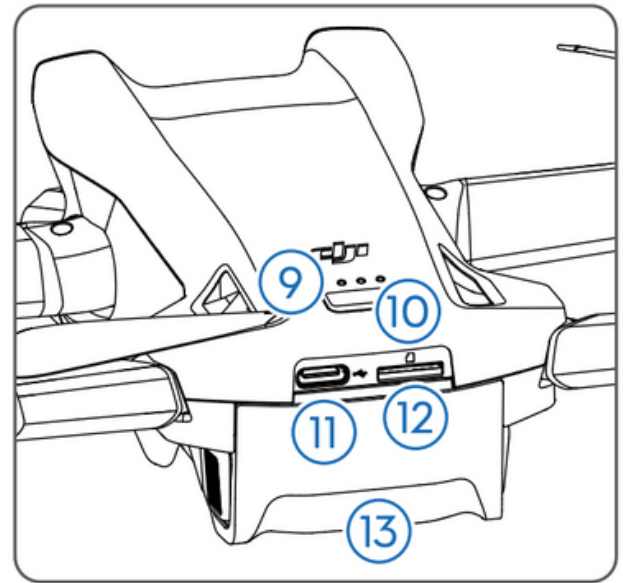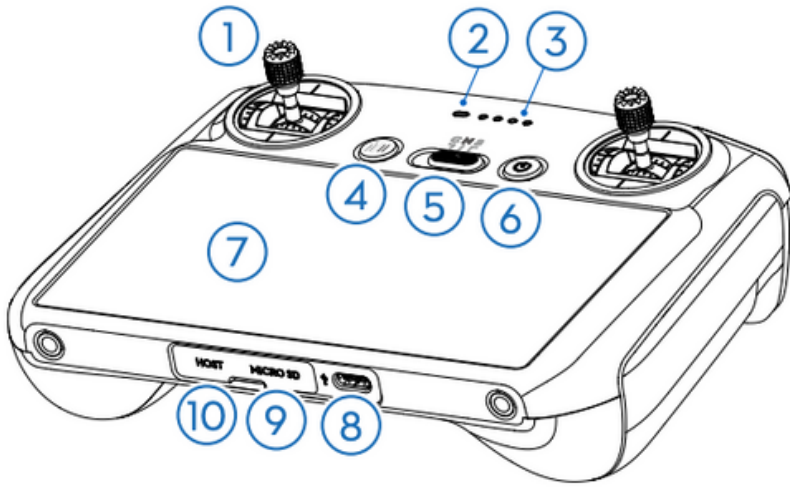
# DJI MINI 3
# PARTS

# DRONE MAIN PARTS



1.  Gimbal and Camera
2.  Propellers
3.  Aircraft status LEDs
4.  Battery buckles
5.  Downwards vision system
6.  Infrared sensing system
7.  Motors
8.  Landing gears (Built-in antennas)

9.  Battery Levels LEDs
10. Power button
11. USB-C port
12. Micro-SD Card slot
13. Intelligent Flight Battery
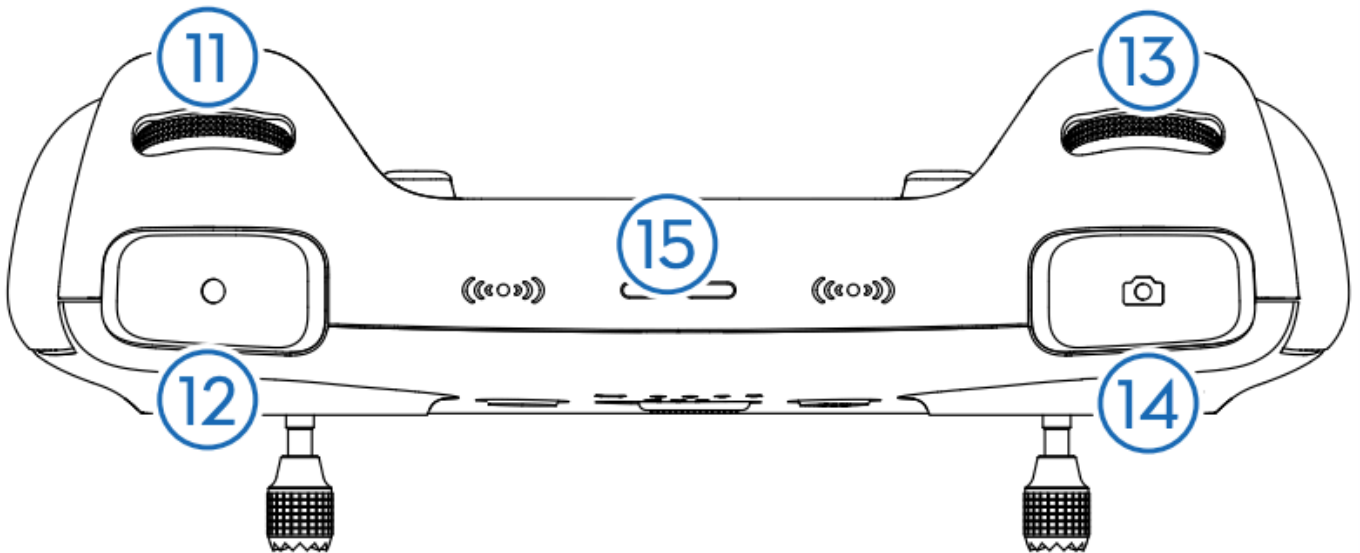
# CONTROLLER MAIN PARTS



1. **Control Sticks:** Use the control sticks to control the movement of the aircraft. The control sticks are removable and easy to store.
Set the flight control mode in DjI Fly
2. **Status LED:** Indicates the status of the remote controller.
3. **Battery Level LEDs:** Displays the current battery level of the remote controller.
4. **Flight Pause/Return to Home (RTH) Button:** Press once to make the aircraft brake and hover in place (only when GNSS or Vision System is available). Press and hold to initiate RTH. Press again to cancel RTH.
5. **Flight Mode Switch:** Switch between Cine, Normal, and Sport mode.

6. **Power Button:** Press once to check the current battery level. Press, and then press and hold to power the remote controller on or off. When the remote controller is powered on, press once to turn the touchscreen on or off.
7. **Touchscreen:** Touch the screen to operate the remote controller. Note that the touchscreen is not waterproof. Operate with caution.
8. **USB-C Port:** For charging and connecting the remote controller to your
9. **microSD Card Slot:** For inserting a microSD card.
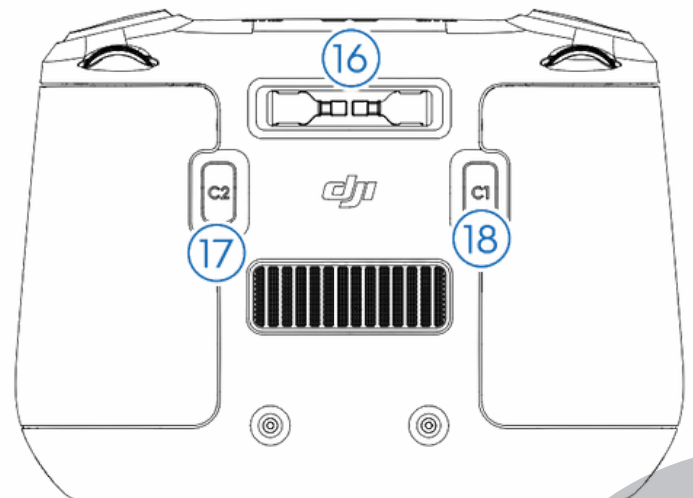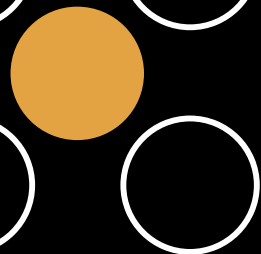10. **USB-C Connector:** For connecting a USB-C headphone.

11. **Gimbal Dial:** Controls the tilt of the camera.
12. **Record Button:** Press once to start or stop recording.
13. **Camera Control Dial:** For zoom control.
14. **Focus/Shutter Button:** Press halfway down on the button to auto focus and press all the way down to take a photo.
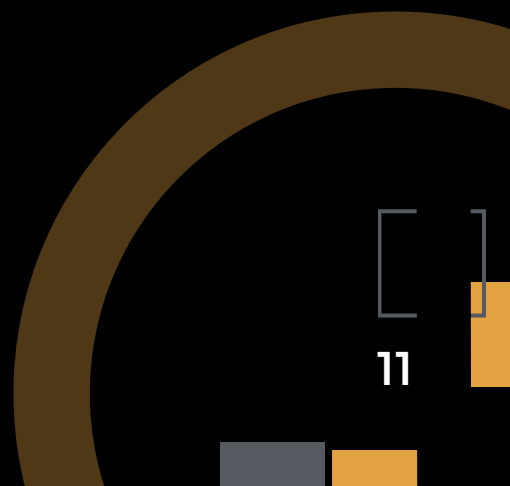15. **Speaker:** Outputs sound.

16. **Control Sticks Storage Slot:** For storing the control sticks.
17. **Customizable C2 Button:** Switch between landscape mode and portrait mode. The function can be set in DJI Fly.
18. **Customizable C1 Button:** Switch between recentering the gimbal and pointing the gimbal downward. The function can be set in DJI Fly
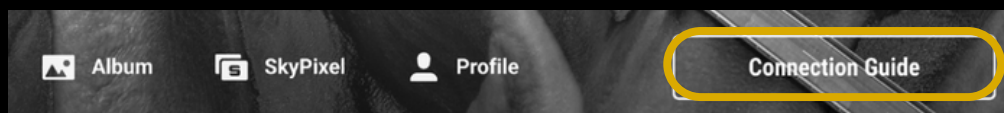
# USER GUIDE

## SETTINGS

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# GUIDE

☑ Turn on both the drone and the controller

☑ On the controller's home screen, tap "Connection Guide."



☑ Tap "Select Aircraft Model" and choose DJI Mini 3.

☑ Follow the on-screen instructions to start the pairing process.

**Note: If you see a message saying "Unable to connect to aircraft?", tap it and follow the troubleshooting steps.**

☑ When prompted, tap "Pair" on the controller. After a few seconds, the drone will connect, and you'll hear a confirmation chime.

# USER GUIDE
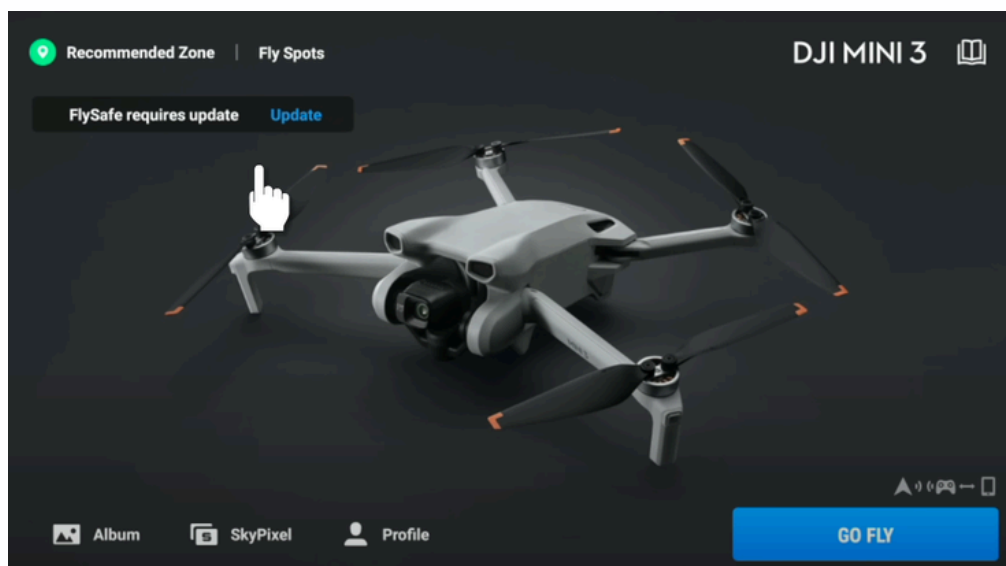## DJI FLY APP

# USER
# GUIDE

DJI FLY APP

The DJI Fly App is where you see what your drone sees, control flight and camera settings, monitor battery and GPS, and manage your photos and videos. It's available for iOS and Android.

**Home Screen**

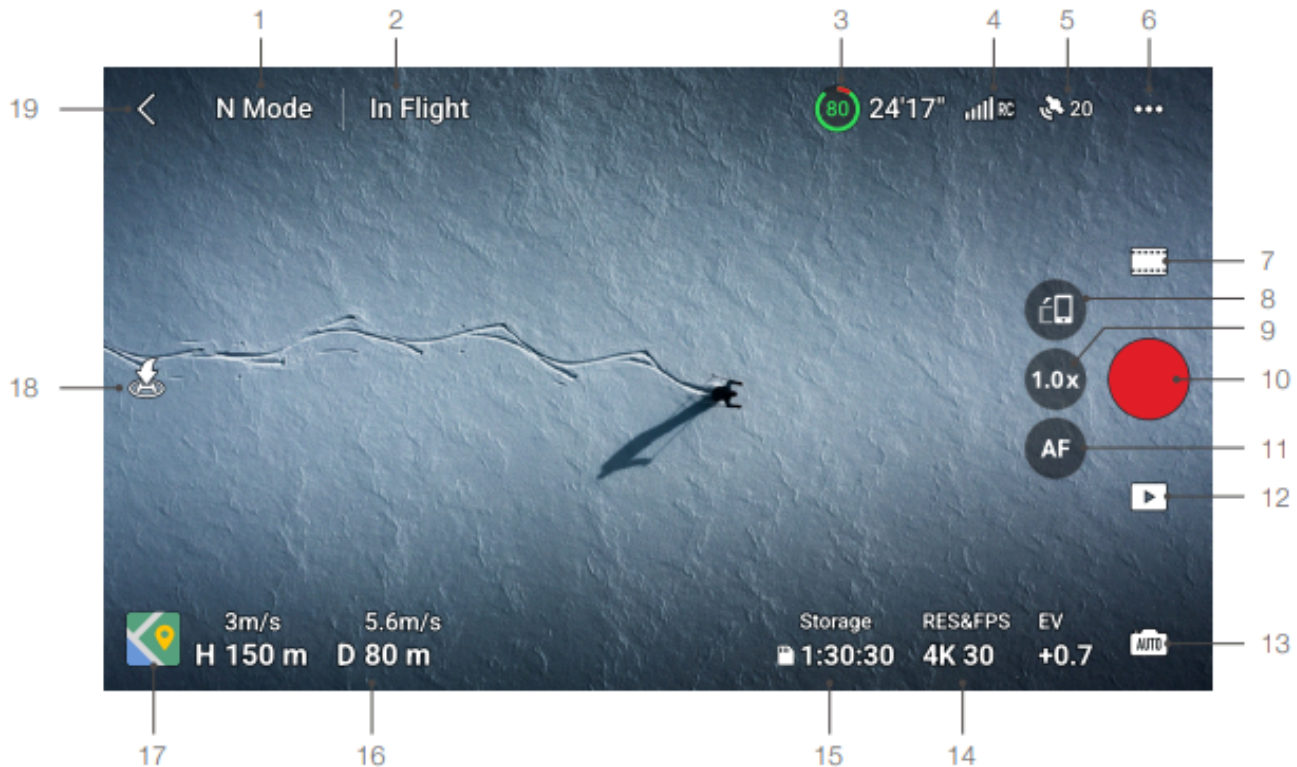When you first open the app (before hitting "Go Fly"), you'll see:

- Firmware Updates: The app checks for any updates—keep everything updated for safe flying.
- Academy: A learning section on the top right corner with beginner tutorials and flying tips.
- Album: Lets you view and download photos/videos taken with the drone.
- SkyPixel: A social media platform for done enthusiasts.
- Profile: Where you log into your DJI account, view flight records, and check device details.

To start flying, tap the "Go Fly" button.

# USER
# GUIDE

# DJI FLY APP



## 1. Flight Mode

N Mode

Displays the current flight mode (N mode/ Cine mode/ Sport mode).

## 2. System Status Bar In Flight:

Flight status and warning messages. Tap the screen to view more information

## 3. Battery Information

(80) 24'26"

Displays the current battery level and remaining flight time.

## 4. Video Downlink Signal Strength

Displays the video downlink signal strength between the aircraft and the remote controller.

## 5. GNSS Status

Displays the current GNSS (Global Navigation Satellite System) signal strength.
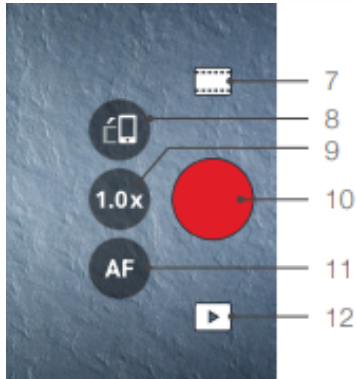
## 6. System Settings

Information about safety, control, the camera, and transmission.

Safety includes: RTH, flight protection and sensors calibration.

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**7. Shooting Modes**
Photo: Single, AEB, Timed Shot.
Video:
- QuickShots: Choose from Dronie, Rocket, Circle, Helix, and Boomerang.
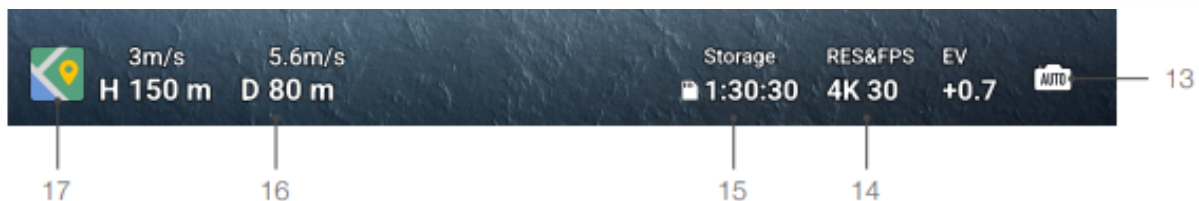- Panorama: Choose from Sphere, 180°, and Wide Angle.

**8. Landscape/Portrait Mode Switch:** Linked to camera rotation

**9. Zoom** Tap to adjust the zoom ratio. Tap and hold the icon to expand the zoom bar and slide on the bar to adjust the zoom ratio.

**10. Shutter/Record Button:** Tap to take a photo or to start or stop recording a video.

**11. Focus Button:** Tap the icon to switch the focus mode. Tap and hold the icon to expand the focus bar and slide on the bar to focus the camera.

**12. Playback:** Tap to enter playback and preview photos and videos as soon as they are captured.

**13. Camera Mode Switch:** Auto and Pro modes when in photo mode.

**14. Shooting Parameters:** Displays the current shootings parameters.

**15. microSD Card Information** Usage and available of the microSD card.

**16. Flight Telemetry**
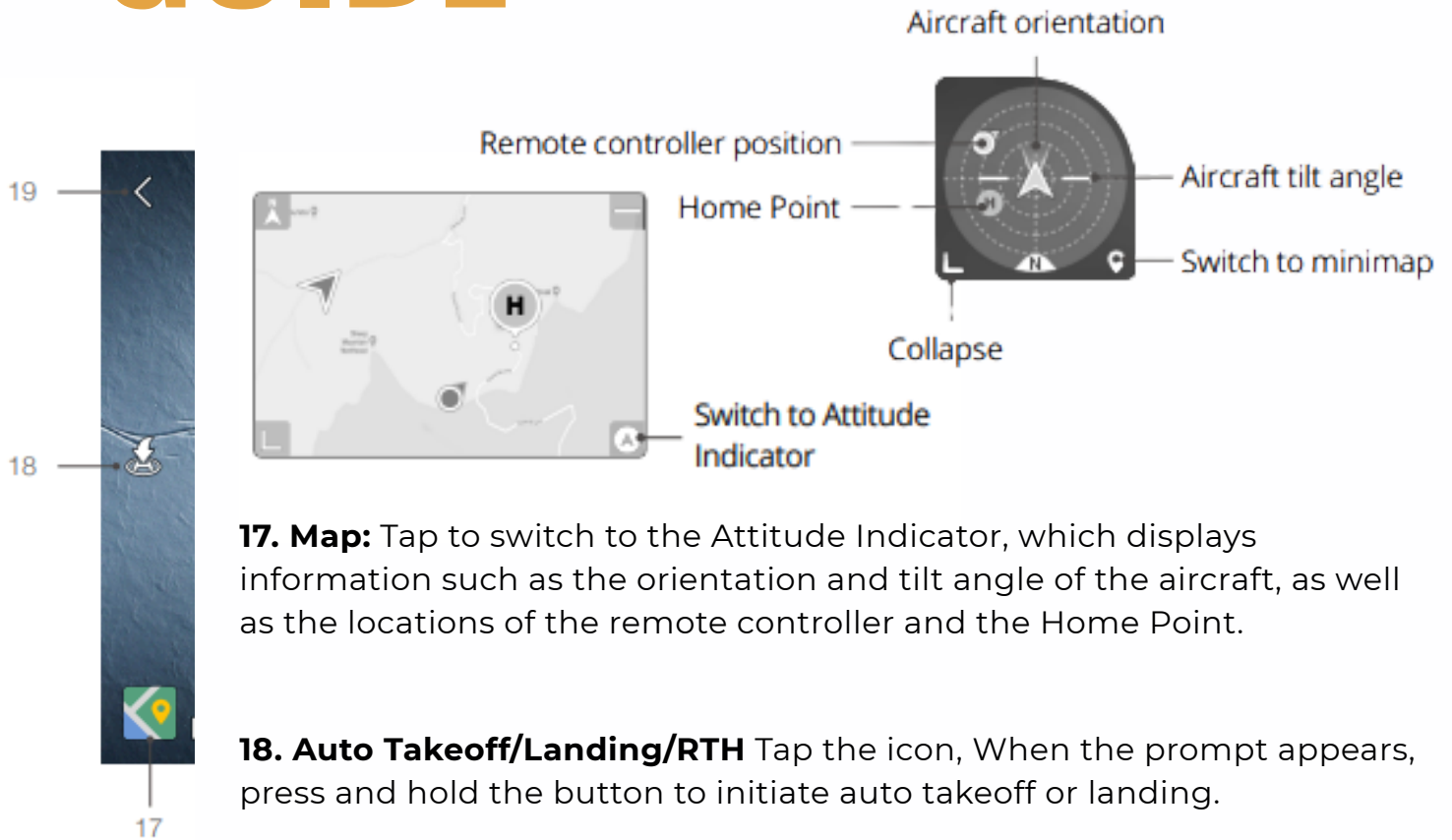H 150m : Vertical distance from the aircraft to the Home Point.
D 80m : Horizontal distance from the aircraft to the Home Point.
3m/s : Vertical speed of the aircraft.
5.6m/s : Horizontal speed of the aircraft.

Aircraft orientation

Remote controller position

Home Point

Aircraft tilt angle

Switch to minimap

Collapse

Switch to Attitude Indicator

**17. Map:** Tap to switch to the Attitude Indicator, which displays information such as the orientation and tilt angle of the aircraft, as well as the locations of the remote controller and the Home Point.

**18. Auto Takeoff/Landing/RTH** Tap the icon, When the prompt appears, press and hold the button to initiate auto takeoff or landing.

**19. Back:** Tap to return to the home screen.

# USER GUIDE
## FLIGHT

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☑ **Before You Fly:**
- Choose a large, open area (no people or trees).
- Charge everything: Drone, controller, and phone if using.
- Remove gimbal guard.
- Check propellers: No cracks or damage.
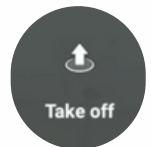- Insert SD card.

☑ **Power On:**
- Press drone and controller power buttons once, then press and hold.
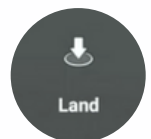- Wait for camera preview.

☑ **Takeoff:**
- **Auto:** Press takeoff button (upward arrow icon) and hold on the pop-up button at the center.



- **Manual:** Move both sticks inward and down to start motors. Then push the left stick up.



☑ **Landing:**
- **Auto:** Tap "land" (down arrow with H icon) and hold on the pop-up button at the center.



- **Manual:** Lower left stick all the way until it touches ground and motors stop.

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Moving the left stick to the left or to the right: **rotates drone**

Moving the right stick to the left and to the right: **strafes sideways**

Moving the left stick up and down: **changes altitude**

Moving the right stick up and down: **moves forward or backward**

# USER GUIDE

## QUICKSHOTS

# USER
## GUIDE

QUICKSHOTS

QuickShots are **smart shooting modes** where the drone flies in a preset path while **automatically** recording a video of your subject. Ideal for beginners who want cinematic results

**Available QuickShots:**

- **Dronie:** Flies backward and upward while keeping the camera on you.

- **Rocket:** Shoots straight upward with the camera pointing down.

- **Circle:** Rotates around the subject in a perfect circle.

- **Helix:** Spirals upward around the subject.

- **Boomerang:** Flies in a wide oval path—up, around, and back to its start.

**Note: Boomerang mode requires a wide-open space. Ensure at least: 99 ft (30 m) radius and 33 ft (10 m) clear vertical space.**

**Exiting QuickShots**

- Press the **Return to Home/Pause** button once, or tap the ❚❚ icon in DJI Fly. The drone will stop the QuickShot and hover in place.
- If you accidentally move a joystick, QuickShots will automatically stop.

**Safety warnings** ⚠️

- **Use QuickShots only in open areas, free of buildings, trees, or people.**
- **Always check for animals, humans, or obstacles on the flight path.**
- **Keep an eye on the drone during flight and use the controller to manually avoid collisions.**

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# REFERENCES
# DJI MINI 3 SOURCES

If you want to go deeper into DJI Mini 3, the following resources will be helpful:

**DJI Mini 3 Beginners Guide**
https://youtu.be/_-7IM82kAlg?si=16SAJXS0Sl0thbJE

**DJI Mini 3 Official User Manual**
https://dl.djicdn.com/downloads/DJI_Mini_3/UM/
DJI_Mini_3_User_Manual_V1.0_EN.pdf