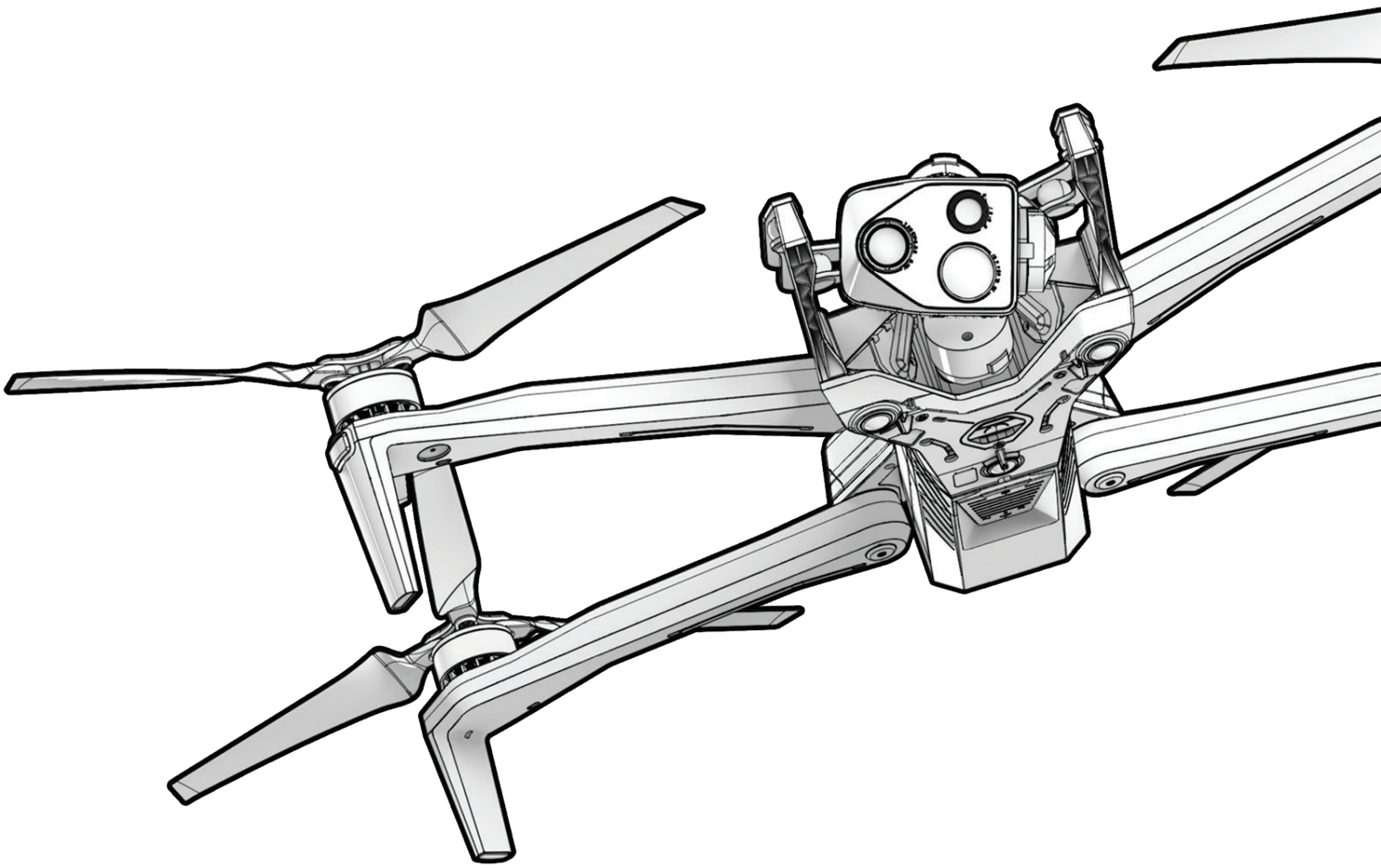
Skydio

Skydio X10

Operator Manual



Vehicle version: **34.1.106**
Controller version: **34.1.77**

Updated: **June 7, 2024**

WARNING: *Please read all documentation provided with your Skydio X10, including but not limited to the X10 Safety Guidelines in the Safety and Operating Guide: www.skydio.com/safety. Failure to follow any instructions or recommendations in our documentation may void the Skydio Limited Warranty.*

Additional Resources

For the latest information about Skydio and our products, visit: www.skydio.com

Scan the QR codes to view more information about flying with Skydio X10.

Getting Started with Skydio X10

Flying with Skydio X10

Skydio X10 Maintenance

Skydio X10 Safety and Operating Guide

Skydio Support

Skydio Legal

For legal, warranty and intellectual property information, visit:
www.skydio.com/legal

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Safety Guidelines

WARNING: *To avoid injury or damage to your drone, read the Skydio X10 Safety Guidelines in the Safety and Operating Guide.*

Keep your fingers away from moving propellers at all times.

Use caution around reflective surfaces (e.g., still water or mirrors) and small obstacles (e.g., thin branches, utility lines, or chain link fencing)

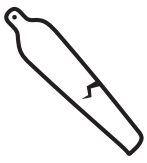
Skydio X10 does not avoid moving objects (e.g., vehicles).

Skydio X10 obstacle avoidance can be impaired when in low light and poor visibility when flying without NightSense. Fly with extreme caution under these conditions.

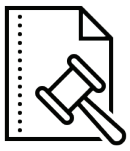
Before flying over water, ensure your drone has a strong GPS signal. Launch and land over a dry surface.

Skydio X10 is IP55 rated and able to fly in light to moderate precipitation with obstacle avoidance disabled. Skydio X10 Controller is IP54 rated.

Clean all of the cameras before each flight so Skydio X10 can see clearly.



Check your propeller blades for damage before each flight.



Follow all civil aviation authority regulations, as well as all local, state, and federal laws.

Flying Safely

Warnings

- Do not operate directly over people and vehicles without following all required regulations and garnering any required Certificates of Waiver or Authorization (COA).
- Fly with extreme caution and care around moving obstacles including but not limited to other aerial vehicles, cars, and/or animals.
- Skydio obstacle avoidance may be degraded around transparent or reflective surfaces, windows, mirrors, or still water greater than 23 in (58 cm) wide. Fly with caution.
- The pilot in command (PIC) is solely responsible for: a) managing altitude, range, and battery level and b) following all civil aviation authority regulations, as well as all local, state, and federal laws.
- Adhere to all in-app alerts, warnings, and recommendations such as landing in clear and safe areas.
- Propeller blades are sharp—handle with extreme caution and care especially when the propeller blades are spinning as serious injury and/or damage may occur.
- Obstacle avoidance is disabled during launching and landing. Exercise extreme caution and care to avoid injury and/or damage.
- When using the flashlight on the VT300-L sensor package, do not stare directly into the light at any range for any extended period of time.
- Ensure your landing area is flat, stable, and clear of obstacles.
- Skydio should not be used or handled by a person under the age of 16 years.
- Never fly near or interfere with crewed aircraft operations.
- Never fly under the influence of drugs or alcohol.

Flying Safely

Preflight

- Skydio X10 navigates visually using cameras so it is essential to keep all of the cameras clean. Use the included microfiber cleaning cloth (or a similar type of microfiber cloth) to ensure camera lenses are free of dust and dirt before every flight.
- Ensure all propellers are firmly attached and free of nicks, cracks, or other visible damage. Never fly with damaged propellers.
- Keep your fingers away from spinning propellers at all times.
- Ensure all 4 arms are fully deployed prior to initiating flight. Failure to do so may result in unstable flight and/or a loss of control.
- Skydio X10 uses magnets to retain the battery which may attract metallic debris that could interfere with the connection of the battery to the drone.
    - Prior to installing the battery, inspect the battery connection pins and the battery bay to ensure that they are undamaged and free of debris.
    - Verify the battery is fully seated in the drone prior to launching.
- Do not fly with any batteries with enclosures that are cracked, swollen, gouged, dented, or otherwise substantially physically deformed.
- Safely handle and dispose of any batteries in accordance with all local laws and regulations.
- Batteries should not be stored in extreme environmental conditions.
- Ensure the Skydio X10 Controller has adequate battery life remaining to complete your intended flight.
- Ensure you have set your Return and Lost Connection behaviors before flying.
- Remove the sensor package lock before flying.
- Inspect the chassis and entire drone for damage and debris prior to flight.

Environment

- Skydio X10 is IP55 rated providing protection from limited dust ingress and light to moderate precipitation conditions; it is recommended to not fly in heavy dust conditions or heavy precipitation.
- The Skydio X10 Controller is IP54 rated providing protection from limited dust ingress and light precipitation conditions; it is recommended to not be used in heavy dust conditions or moderate to heavy precipitation.
- Flight in icy conditions is not supported and may result in the loss of your drone.
- Ensure the flight environment has good initial visibility and will have good visibility throughout the duration of the flight.
- Do not hand launch or hand land during windy days, when Low Light flight is enabled, when flying at night, or extreme environmental conditions as serious injury and/or damage may occur.
- Fly cautiously over bodies of water as low relative-altitude flight may degrade or impair autonomous flight performance. Before flying over bodies of water, ensure your drone has a strong GPS signal. Fly at least 10 ft (3 m) above the surface of the water.
    - Failure to acquire strong GPS prior to flight over water may result in erratic flight and/or emergency landing and total loss of the drone.
- Launch and land over dry surfaces. Use extreme caution and care when launching or landing from moving vessels.
- Skydio X10 requires good visibility to retain its obstacle avoidance capabilities. Obstacle avoidance can also be impaired when in low light (without NightSense) and poor visibility. Fly with extreme caution and care under these conditions.
- Skydio does not recommend flying the X10 under the following conditions which can result in serious injury and/or damage including total loss of the drone:
    - Gusts at or above 28 mph (45 km/h)
    - Temperatures less than -4°F (-20°C) or more than 113°F (45°C)
- The Skydio X10 battery features self-warming technology. When flying in temperatures below 32°F (0°C), prewarm batteries before launching. Battery endurance may be degraded when operating near temperature limits below -4°F (-20°C) and above 113°F (45°C).

Flying Safely

- Your Skydio drone only avoids obstacles that are not in motion.
    - Cars, boats, people, animals, drones, crewed aircraft, or other moving objects may not be avoided.
- In the event that your X10 collides with an object, it will attempt to stabilize and continue flying.
- Keep your fingers away from the propellers anytime they are spinning such as during launch, flight, and landing.
- Skydio X10 can't see certain visually challenging obstacles. Do not fly around thin branches, telephone or power lines, ropes, netting, wires, chain link fencing, or other objects less than 0.5 inch (1.3 centimeters) in diameter. This type of crash is not covered under the Skydio Limited Warranty.
- Do not intentionally try to crash Skydio X10.
- The chassis of Skydio X10 may become hot to the touch in high-temperature environments or direct sunlight, even when powered off. The metal frame may also become hot if powered on while on the ground for long periods of time. Handle with extreme caution and care.
- Do not fly over bodies of water if Skydio X10 indicates a GPS quality warning.
- Exercise extreme caution and care when the sun is low on the horizon as it can temporarily blind the Skydio X10 cameras depending on the angle of flight. Your drone may be cautious or jerky when flying directly toward the sun.
- Skydio X10 may provide an indication, such as displaying an alert to land, if it encounters an issue or determines the environment is not safe for flying. Fly to the nearest safe area and land immediately.
- Flying at high altitudes may significantly increase the time required to return and safely land the Skydio X10. The pilot is solely responsible for managing altitude, range and battery level at all times.
- Be sure to read/watch all flight tutorials and safety-related materials and pay close attention to any in-app messages.
- Keep your hands on the controller joysticks to maintain control throughout flight.

- In preparation for landing, stop active autonomous Flight Skills and fly to a clear and stable area. Avoid areas with people, animals, and moving objects. Try to avoid areas with lots of fine pebbles, sand, rocks, or similar materials.
    - The lights on X10 will turn yellow as the drone descends below 10 ft (3 m) indicating that obstacle avoidance is disabled.
    - **WARNING:** Do not attempt to hand catch Skydio X10 before obstacle avoidance is disabled automatically during landing. Attempting to hand catch Skydio X10 while obstacle avoidance is still active will cause it to attempt to avoid your hand and may result in Skydio X10 impacting yourself or another nearby object, resulting in serious injury and/or damage.
    - While Skydio X10 is landing you may nudge the drone forward, backward, left, or right using the Skydio X10 Controller joysticks.
    - Always monitor Skydio X10 during landing and be prepared to use the “nudge” feature or cancel the landing if Skydio X10 is landing in an undesirable location. Use extreme caution and care when landing on elevated platforms, such as the roof of a car or truck, as the Skydio X10 may move laterally to avoid the platform before descending to the 10 ft (3 m) threshold.

Regulations

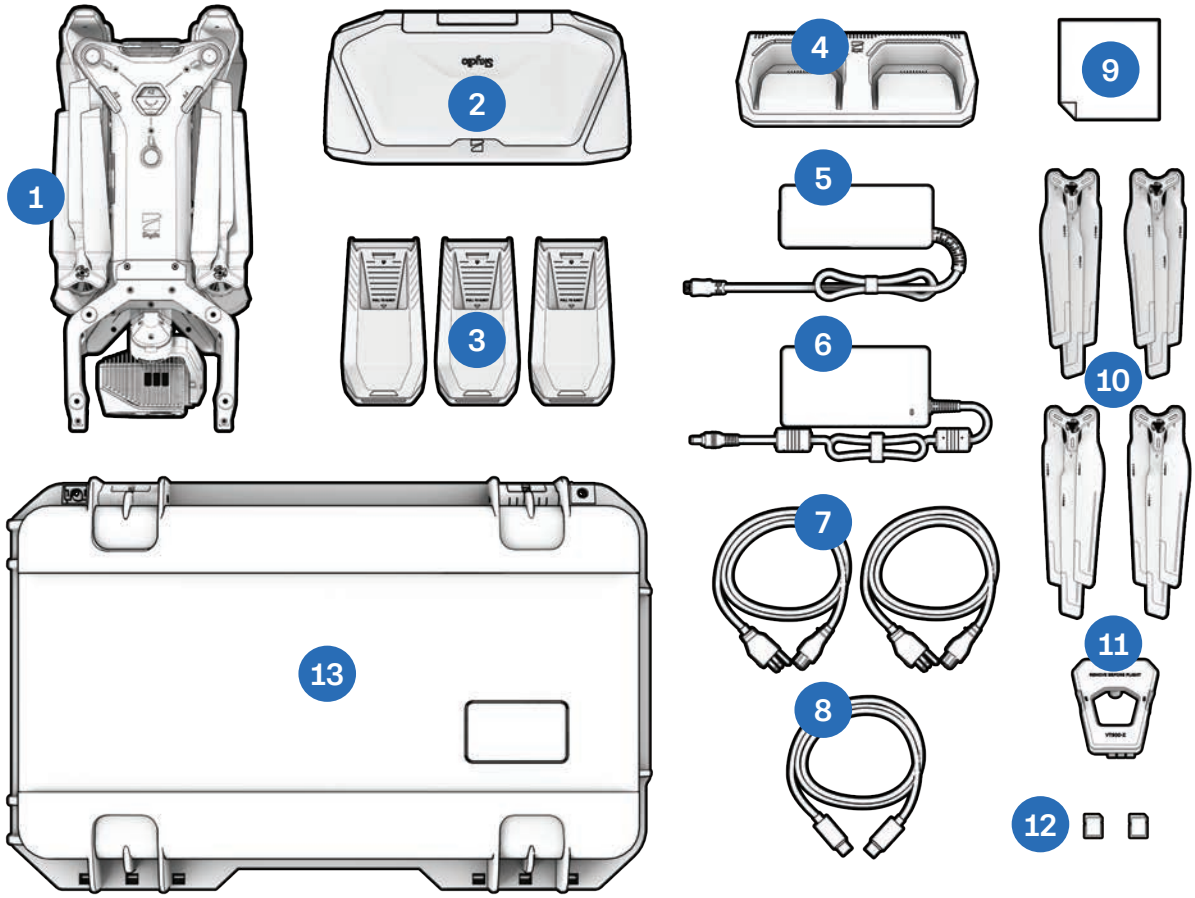
- You are solely responsible for your Skydio X10 at all times.
- Always follow FAA and country-specific civil aviation authority regulations, as well as local, state, and federal laws and regulations when operating your Skydio X10.
- Download the FAA Drone Safety Guide (if located in the United States).
- Check resources including but not limited to knowbeforeyoufly.org or apps like B4UFLY for more information.
- Do not fly in an environment where the use of drones is restricted or not authorized.
- **Maintain visual line of sight at all times**, unless you have received express permission to fly beyond visual line of sight from a civil aviation authority such as the FAA.
- Skydio drones sold in the United States are Remote ID-compliant.

Getting Started

Welcome to your Skydio X10! Review the basic hardware and accessories that come with your drone before your first flight.

This section covers

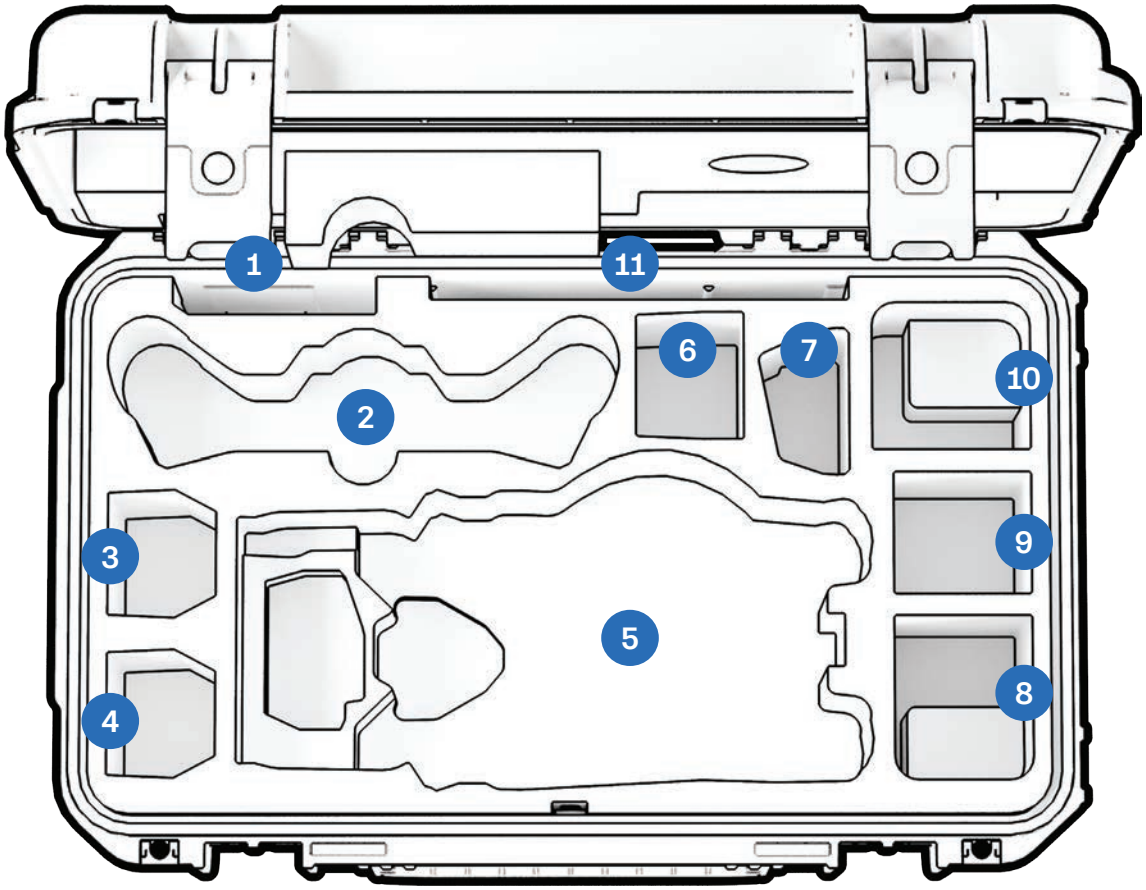
Skydio X10 Starter Kit



1. Skydio X10 and sensor package
2. Skydio X10 Controller with chosen Skydio Connect option
3. Batteries (3)
4. Skydio X10 Dual Charger
5. 100 W power supply (USB-C)
6. 230 W fast power supply (barrel jack)
7. Power cables (2)
8. USB-C to USB-C pairing cable
9. Microfiber cleaning cloth
10. Spare propeller sets (4)
11. Sensor package lock
12. 256 GB microSD cards, pre-installed (2)
13. Starter Case (hard shell)

Scan for more information about the kits available for purchase.

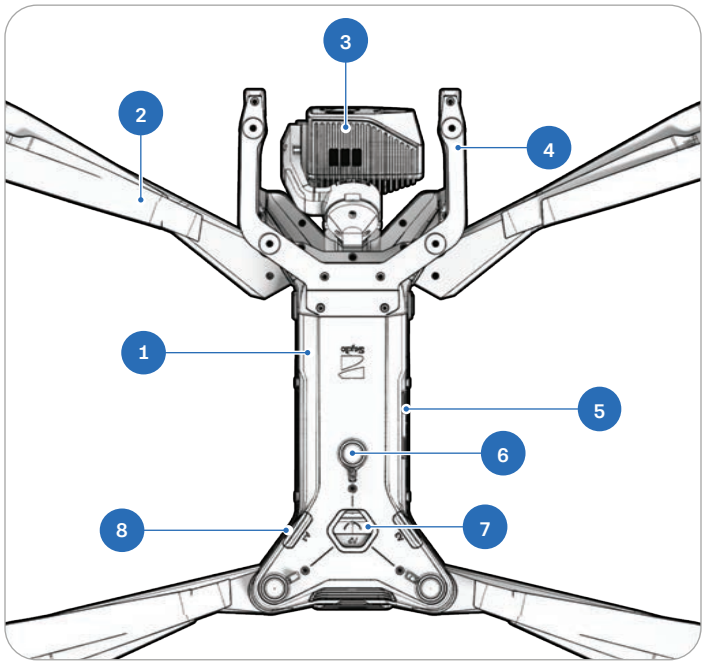
Skydio X10 Starter Case Layout

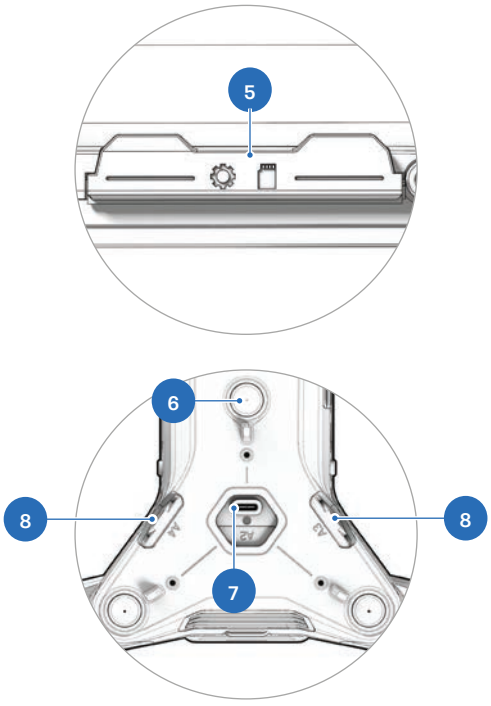


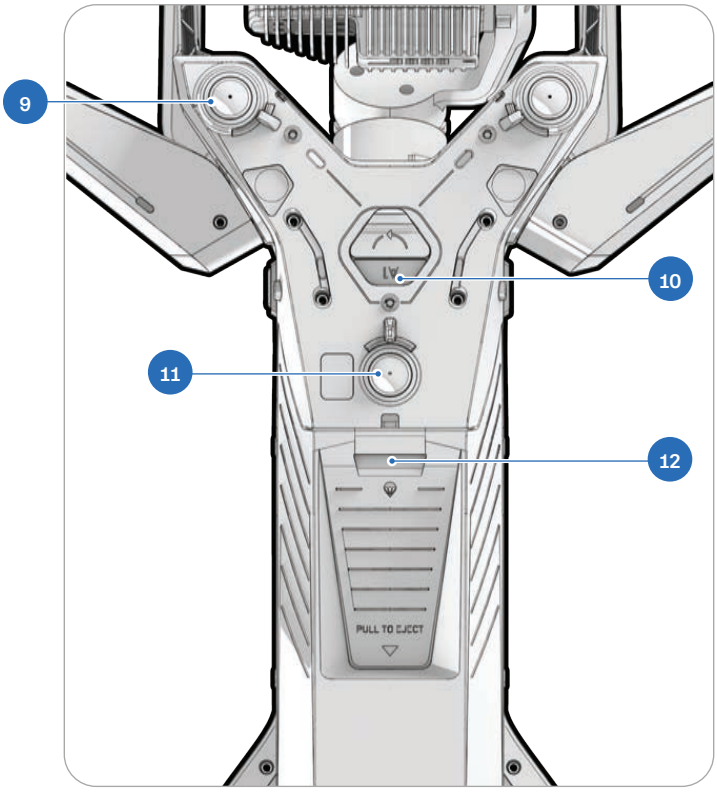
1. Propellers
2. X10 Controller
3. X10 Battery
4. X10 Battery
5. Skydio X10 Drone
6. Flex space: X10 Battery or 100W Power Supply
7. X10 Dual Charger
8. Flex space: 100W Power Supply or Attachment
9. Flex space: Attachment or 100W Power Supply only (battery not recommended)
10. Flex Space: 230W Power Supply or Attachment
11. Quick Start Guide and other documents

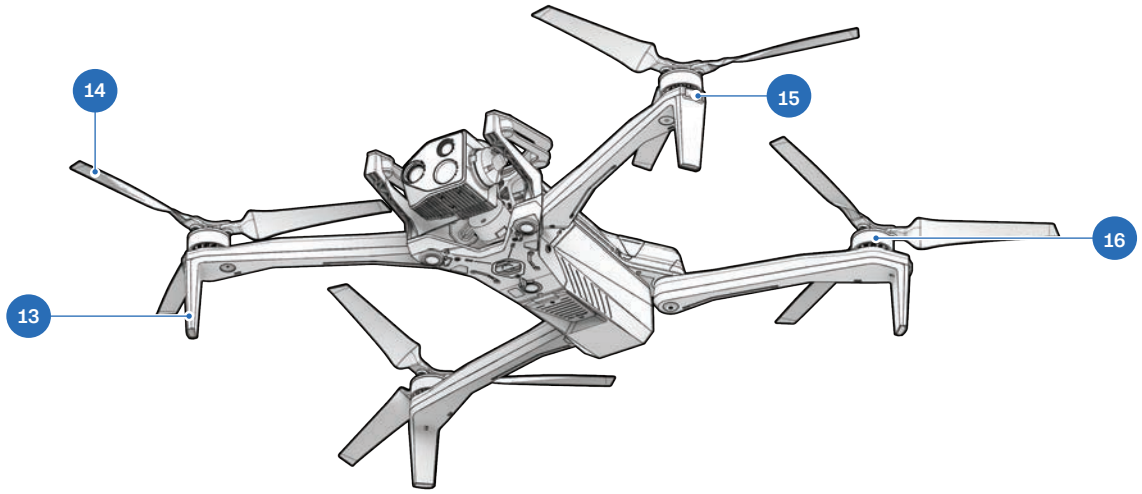
Skydio X10 Hardware

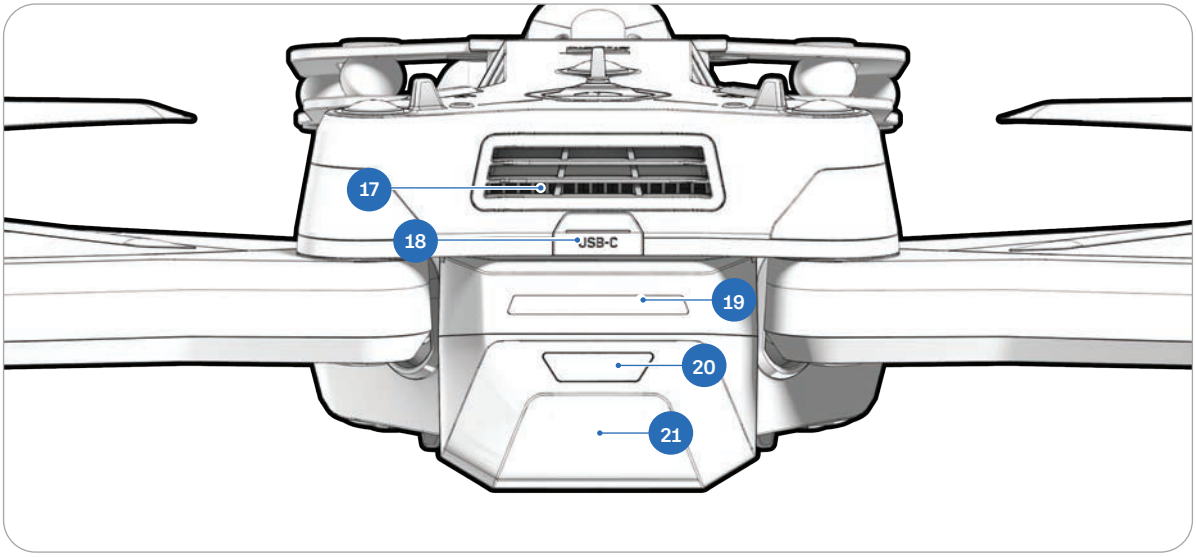
1. Chassis
2. Arm (4)
3. Sensor package
4. Sensor package frame
5. Log and Media card slots (2)
6. Top navigation cameras (3)
7. Top attachment bay (A2)
8. Side attachment bay (A3, A4)
9. Bottom navigation cameras (3)
10. Bottom attachment bay (A1)
11. Time of flight sensor
12. Parachute strap location (optional attachment)











13. Landing feet/antennas

14. Propeller blades

15. RGB/strobe lights

16. Propeller motors

17. Cooling fan/outlet

18. USB-C charge port

19. Battery lights

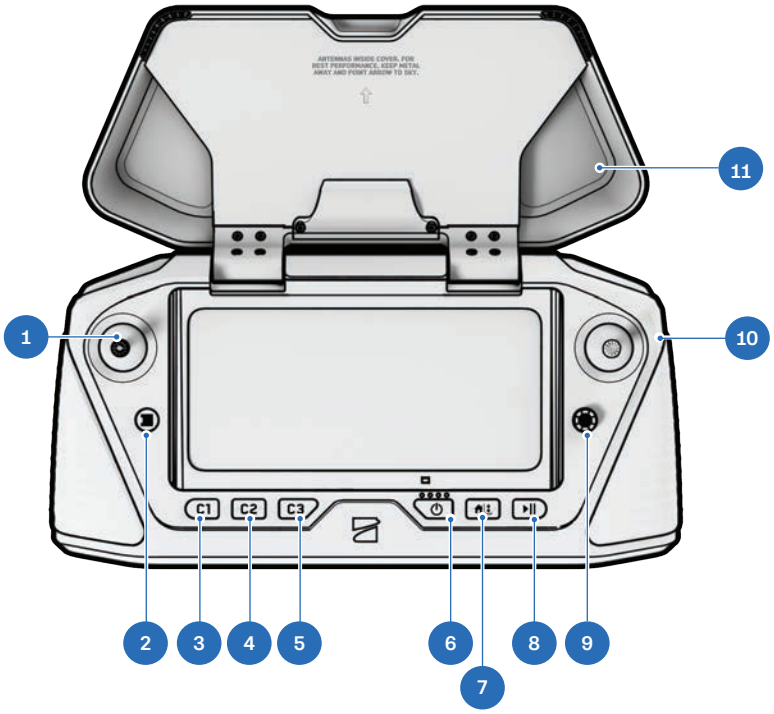
20. Power button

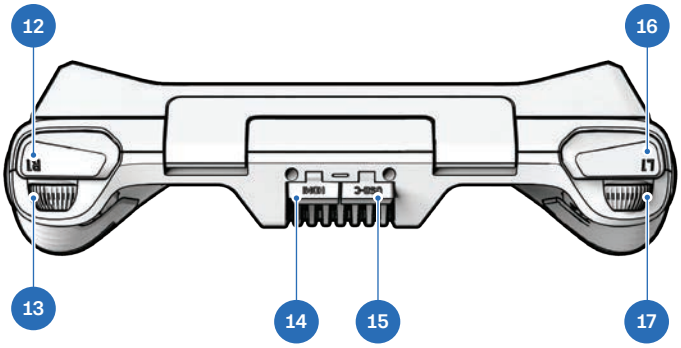
21. Battery

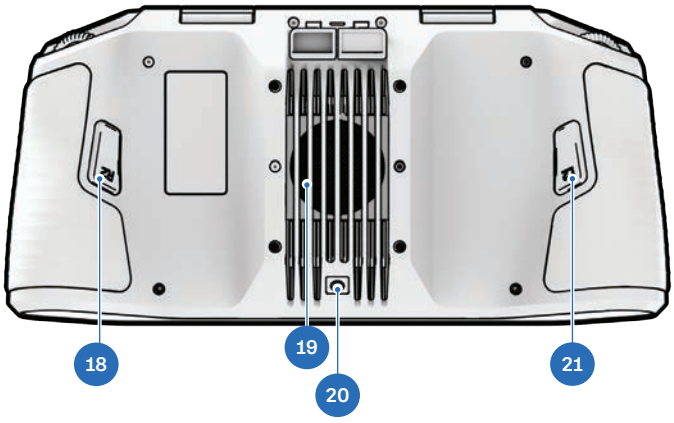
Scan for more information about the sensor packages available for purchase.

Skydio X10 Controller Hardware

1. Left joystick
2. Menu/Back button
3. C1 button[1]
4. C2 button[1]
5. C3 button[1]
6. Power button
7. Launch/Return/Land button
8. Pause button
9. Directional pad (D-pad)
10. Right joystick
11. Controller cover/antennas
12. R1 button (Shutter)
13. Right wheel
14. HDMI port
15. USB-C charge port
16. L1 button (Boost)
17. Left wheel[1]
18. R2 button[1]
19. Cooling fan
20. Neck strap[2] and tripod mount
21. L2 button[1]







[1]*Customizable*
[2]*Neck strap sold separately*

Skydio X10 Autonomy Features

With the purchase of Skydio X10, you have access to a powerful suite of advanced AI-pilot assistance capabilities.

You can purchase additional flight and data apps, such as Remote Flight Deck and 3D Scan. Visit our website for more information.

Skydio X10 comes equipped with the following software features:

Skydio Autonomy Package

- 360° Obstacle Avoidance
- Low Light Flight
- Manual Flight
- Map Capture
- Motion Planning
- Object/Scene Recognition
- Offline Maps/Map Importing
- Point of Interest Orbit
- Real-time 3D mapping
- Skydio Visual Navigator
- Subject Detection
- Track in Place (subject tracking)
- Visual Return-to-Home
- Waypoint Missions
- Zoom

Skydio Connect

Skydio Connect includes various radio connectivity options between Skydio X10, the Skydio X10 Controller, and Flight Deck controls, whether you're flying with the controller or via browser.

There are two Skydio Connect options when purchasing your Skydio X10:

Skydio Connect SL provides a proprietary, optimized point-to-point wireless link between X10 and the controller. With line-of-sight distances up to 7.5 miles or 12 kilometers, SL offers robust performance for most autonomous flight missions.

- Operating frequency: 2.4 GHz, 5GHz
- Range in ideal conditions: 7.5 mi (12 km)

Skydio Connect 5G allows you to fly Skydio X10 anywhere with a stable cellular connection. With the addition of Skydio Remote Flight Deck you can also operate your Skydio drones through an internet browser via Skydio Cloud. You will also be able to remotely operate your drones from any Skydio X10 Controller that is connected to your 5G network.

NOTE: *When flying with Skydio Connect SL, always maintain a clear line of sight between the controller and drone.*

Charging Skydio X10 Batteries

Skydio X10 batteries are shipped in a state of hibernation and will not power on your drone out of the box. Your batteries will automatically exit this state once they begin charging for the first time.

Using the Skydio X10 Dual Charger

The Skydio X10 Dual Charger sequentially charges two batteries. The Dual Charger will prioritize fully charging the battery with the highest charge level. If both batteries are depleted, it will prioritize the battery that is inserted first.

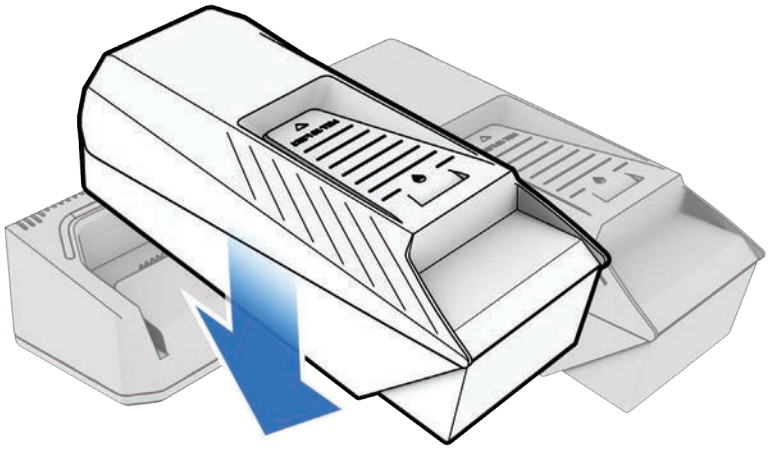
Step 1 - Remove battery from drone

Skydio X10 batteries are held in place using a magnetic connection.

1. Firmly grip the drone chassis with one hand
2. Grip the battery with your other hand, placing your palm over the power button and wrapping your thumb under the battery
3. Using your fingers as leverage, press against the drone until the magnets disengage and slide the battery away from the sensor package

Step 2 - Place batteries into the X10 Dual Charger

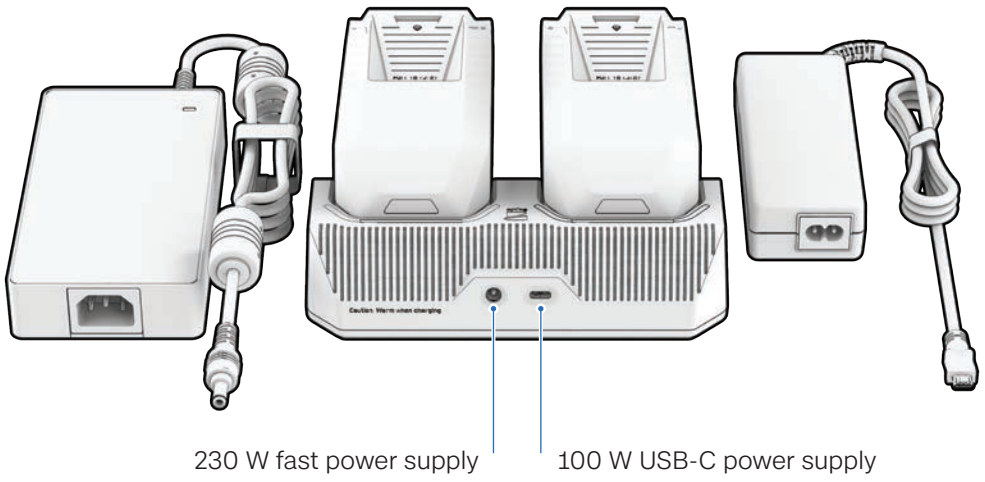
Ensure the battery and connection pins are free of debris and interference. Gently push down to ensure the batteries are properly seated.



Step 3 - Insert the power supply

Two charging ports are located on the back of the Skydio X10 Dual Charger. You may use either the 100 W USB-C power supply or the 230 W fast power supply.

Plug into a power source.



Charging

Battery Charge State	Light Behavior on X10 Dual Charger
Actively charging	Pulsing blue
Waiting to charge	Solid blue
Charging complete	Solid green

Power Supply	Input	Charge Time
230 W	20VDC, 11.5A	About 1 hour to charge a depleted battery
100 W	5-20VDC, 3A / 20VDC, 5A	About 1 hour 45 minutes to charge a depleted battery

CAUTION: *Third-party adapters and cables are not supported. Only use the Skydio-provided power supplies and cables to charge your batteries.*

NOTE: *Pass-through charging is not currently supported. This functionality will be enabled in a future software update.*

Using Skydio X10

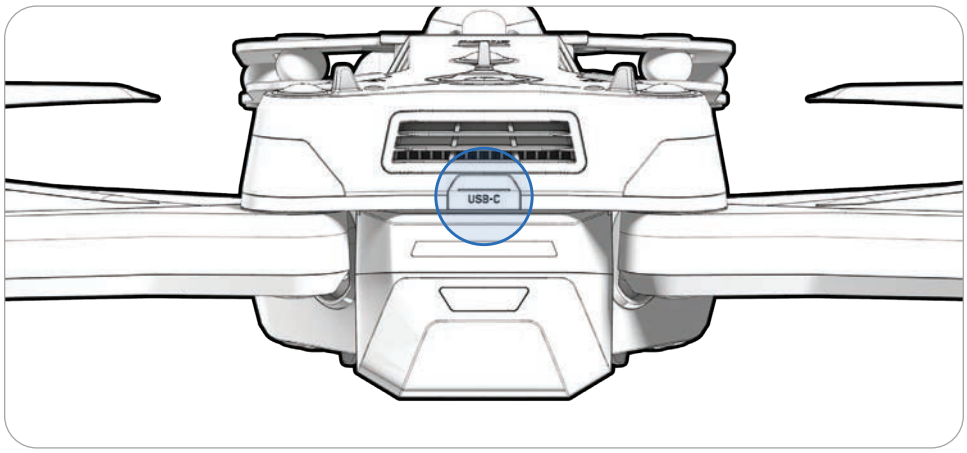
Step 1 - Insert battery

Align the battery with the rails and slide toward the sensor package until the magnets engage.

- Ensure the battery and rails are free of debris and interference
- Ensure the battery is completely seated before flying

Step 2 - Locate the charging USB-C port

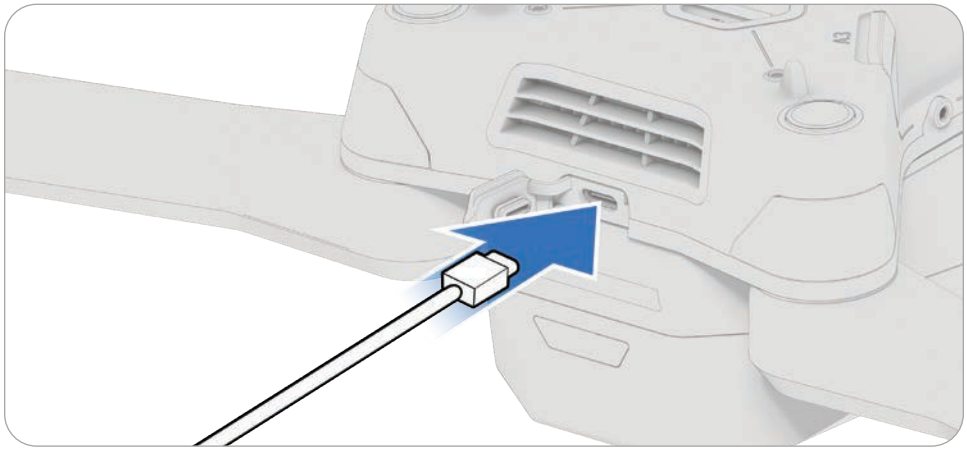
The charging port is located on the back of the drone above the battery. This is the only USB-C port that supports charging.



Step 2 - Insert the 100 W power supply

Plug into a power source.

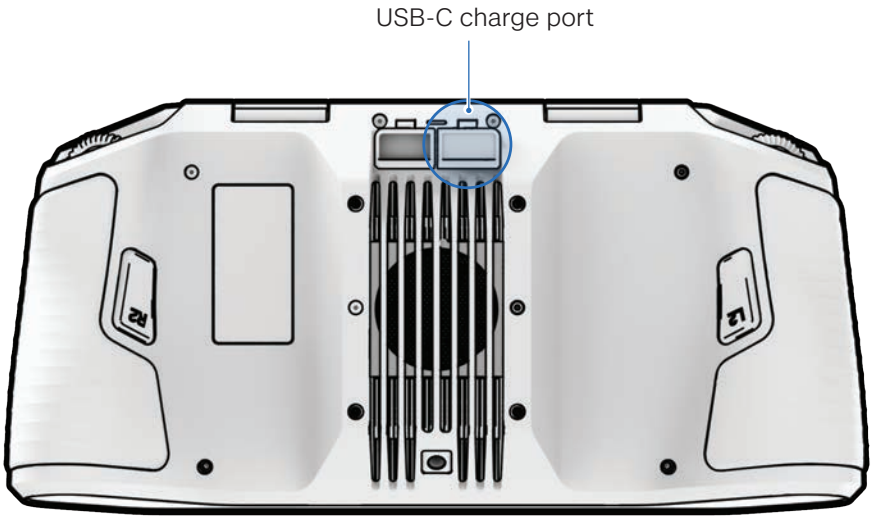
- It will take about 2 hours to fully charge a depleted battery using the 100 W power supply



Charging the Skydio X10 Controller

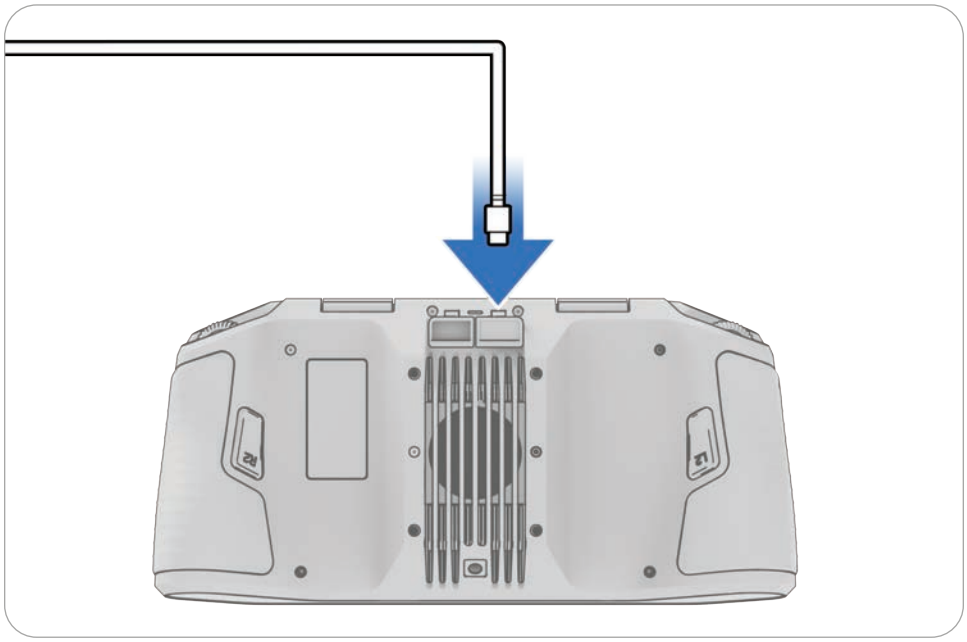
Step 1 - Locate the USB-C port

The charging port is located on the back of the controller.



Step 2 - Insert the 100 W power supply

Connect your Skydio X10 Controller to the 100 W power supply. Plug into a power source. The lights on the front of the controller will turn on and indicate the level of charge.



Skydio Cloud Setup

Before flying, you will need to configure your Skydio Cloud account in order to manage your fleet or sync your media. This includes configuring your organization settings, adding users, claiming your Skydio X10, and connecting to wireless networks.

NOTE: *You must claim your Skydio X10 in Skydio Cloud to receive software updates.*

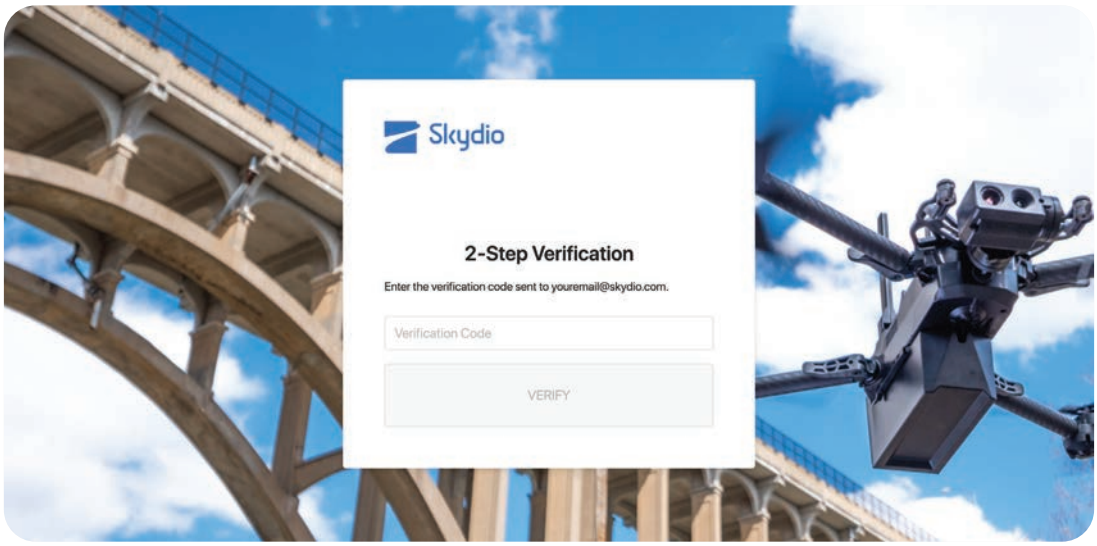
As part of our onboarding process Skydio will create the initial admin user for your organization. An admin level is required to set up your Skydio Cloud organization.

INFO: *For more information about setting up Skydio Cloud, visit Getting Started with Skydio Cloud.*

Log in and configure settings

Step 1 - Log in

Visit cloud.skydio.com and enter your email address. Enter the verification code sent to your email address.

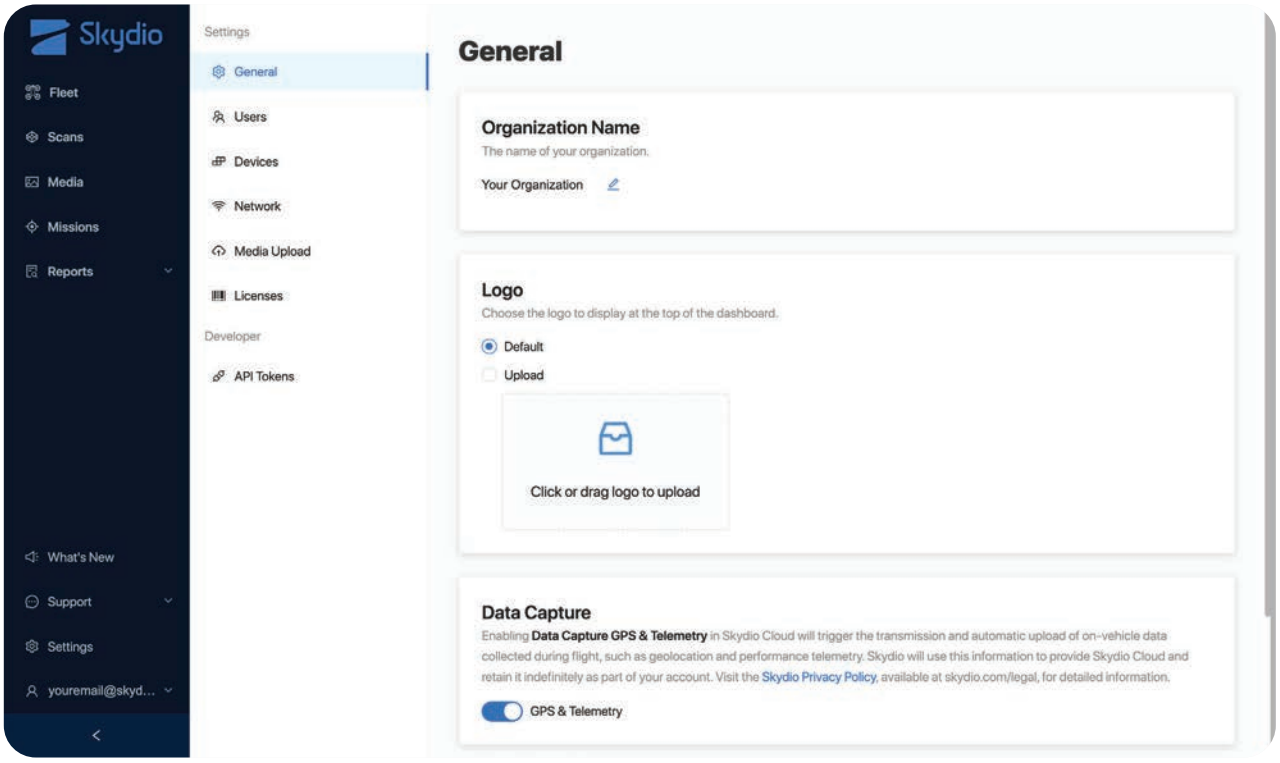


Step 2 - Select Settings > General

Upload a logo for your organization to replace the Skydio logo in the upper left corner (optional).

Enable Data Capture which allows GPS and telemetry data to automatically upload to the cloud after each flight.

If Data Capture is toggled off, the flight path and other telemetry data will not display on the flight screen.



Add Users

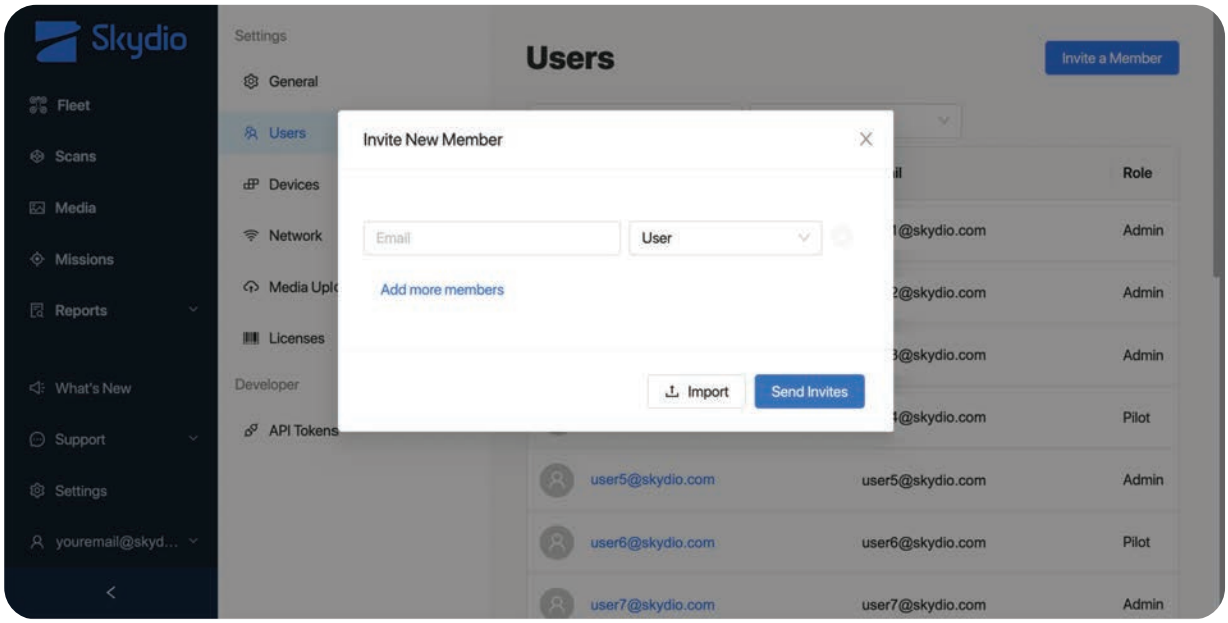
Step 1 - Select Settings

Step 2 - Select Users

Step 3 - Add members

Select **Invite a Member** or import a CSV or text file. Add an email address for the user and assign a role.

This is a crucial step to ensure pilots in your organization can access Skydio Flight Deck on their X10 controller.



NOTE: *Only Admin level accounts can add users. A member email address can only be associated with one organization at a time.*

Claim Devices

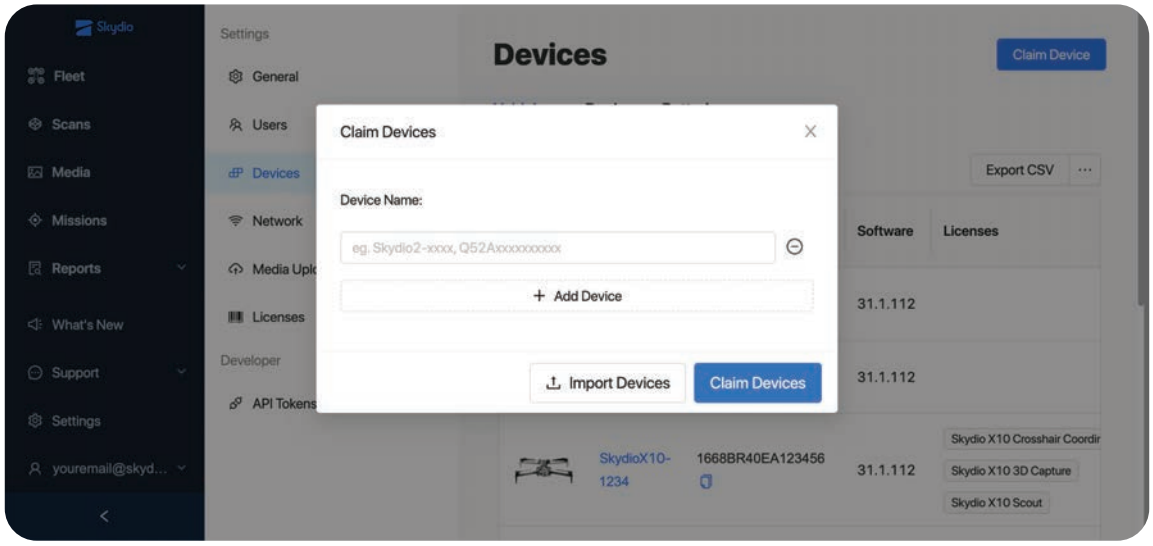
You will need to **claim your drone in Skydio Cloud to receive software updates.** Claiming your drone and batteries also enables you to track usage metrics and assign additional software licenses. Skydio X10 is not automatically associated with an organization, meaning you will need to claim the devices that you want in your fleet.

Step 1 - Select Settings

Step 2 - Select Devices

Step 3 - Select Claim Device

Step 4 - Enter Skydio X10 UAV name and battery serial number

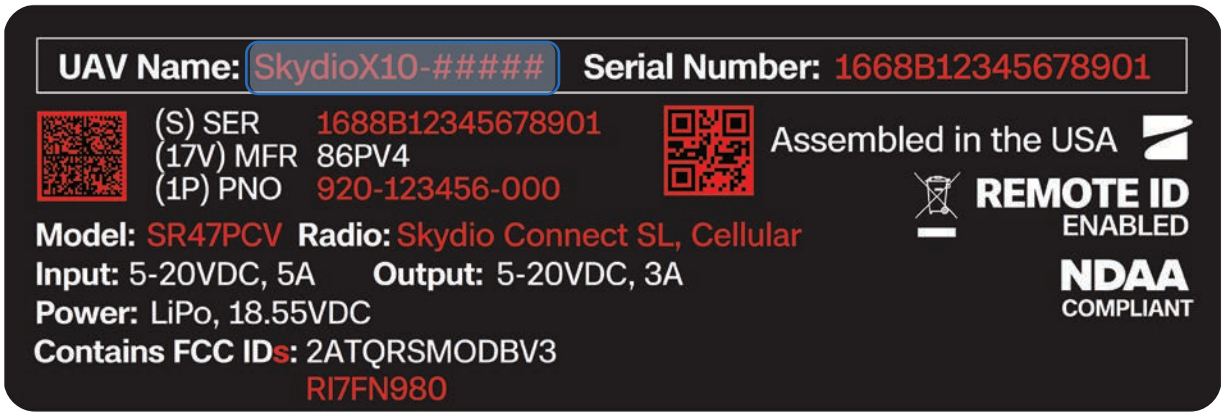


NOTE: *For organizations with large fleets, your Customer Success Manager can assist in bulk claiming your new Skydio drones and batteries in Skydio Cloud.*

Finding Drone Name and Battery Serial Number

Skydio X10 UAV Name

This begins with **SkydioX10-** and can be found on the label inside the battery bay of the drone.



Skydio X10 Battery Serial Number

This 16-character number begins with **P208904** and can be found on the battery label below the QR code.

> ***INFO:*** *After an initial flight, you can also find the battery serial number listed in the Battery column under* ***Reports > Flights****.*

Assign Licenses

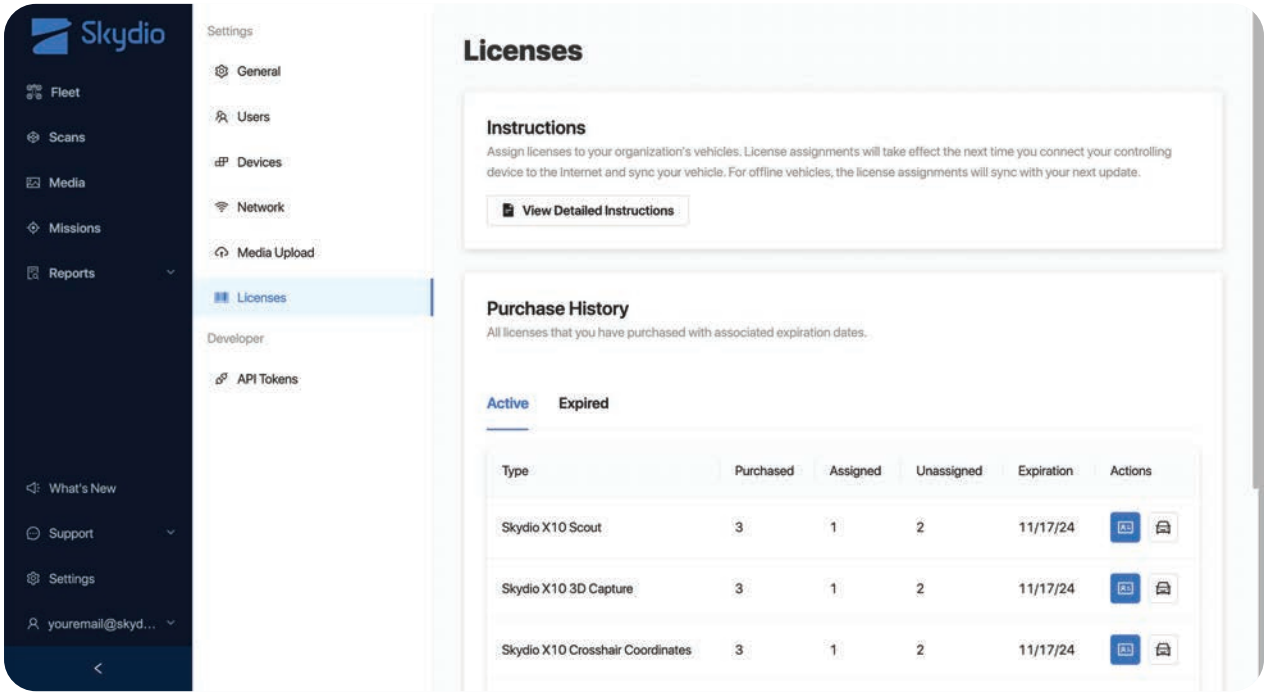
If you purchased the following add-on software packages, you will need to assign these software licenses to your drones:

- 3D Scan
- Tower Capture
- Scout
- Crosshair Coordinates

Step 1 - Select Settings

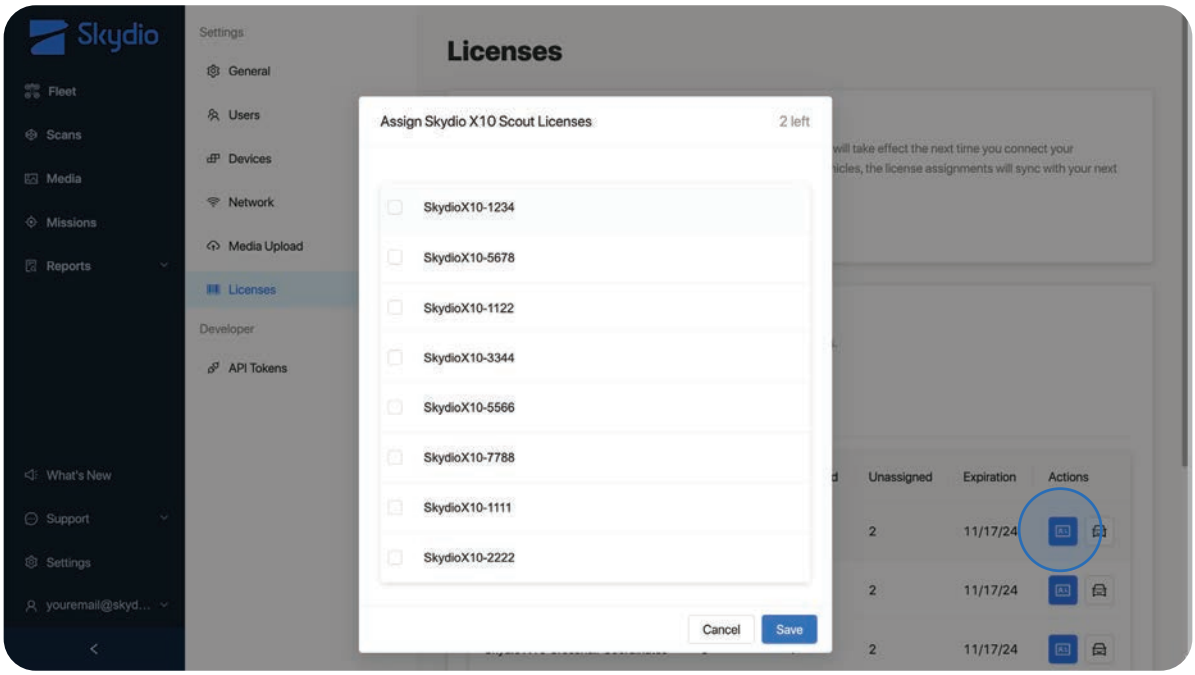
Step 2 - Select Licenses

The Licenses page offers information about your license Purchase History including all active and expired licenses, how many have been assigned, and how many remain unassigned.



Step 3 - Assign Licenses

Select the blue icon to assign that license to an eligible vehicle.



INFO: *For more information about software licenses, visit [How to assign Skydio advanced software licenses in Skydio Cloud].*

Media Sync

If you have purchased Media Sync for your organization, you will need to add a wireless network and configure your media upload preferences.

INFO: *For more information about setting up Media Sync, visit [How to use Media Sync in Skydio Cloud].*

Enable Remote Flight Deck (Skydio Connect 5G Only)

To fly your X10 over a cellular network, you will need to enable the Remote Flight Deck setting for your drone in Skydio Cloud.

> ***NOTE:*** *Flight over 5G Cellular is only available if you've purchased an X10 system with Skydio Connect 5G and subscription to Skydio Remote Flight Deck with Skydio Connect 5G.*

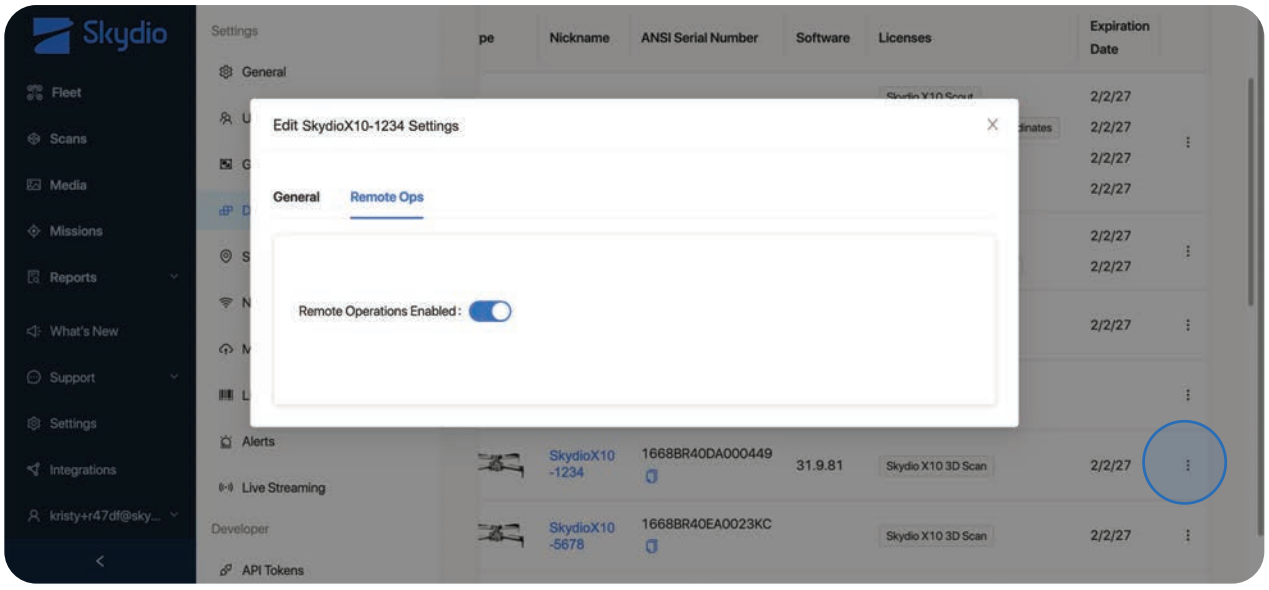
Step 1 - Ensure your drone is claimed in Skydio Cloud

Step 2 - Select the Settings menu and the Devices and Vehicles tab

Step 3 - Select the ellipses icon

Step 4 - Select Change Settings

Step 5 - Select the Remote Ops tab and toggle on Remote Flight Deck Enabled



Preflight

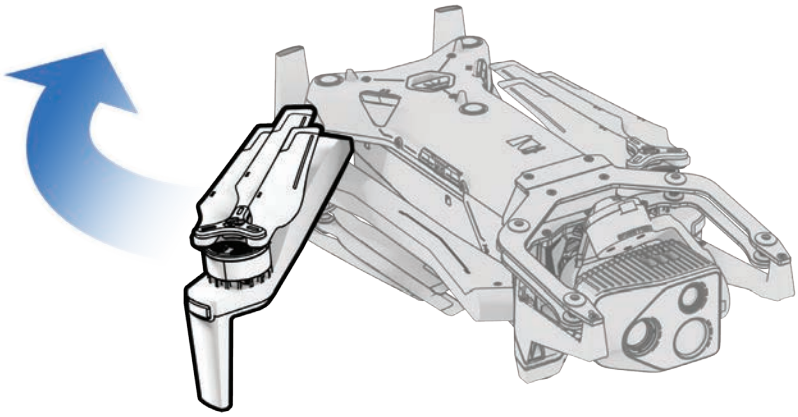
Learn the basics of setting up before launching.

This section covers

Skydio X10 Setup

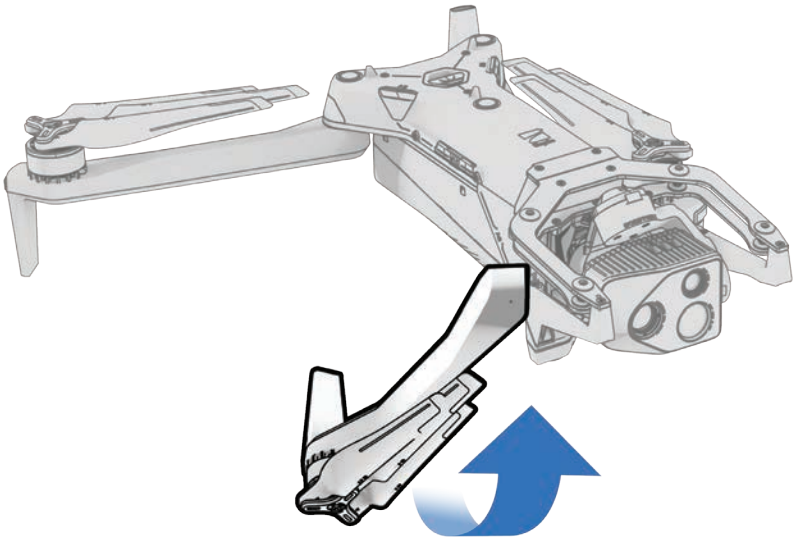
Step 1 - Unfold the rear arms

Hold the drone with the sensor package facing away from you. Pull **laterally** away from the chassis until you feel the arm seat into place.



Step 2 - Unfold the front arms

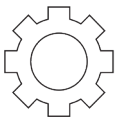
Push **down** and **forward**. Gently continue until you feel the arm seat into place.



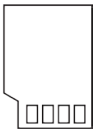
Step 3 - Verify and format microSD cards (pre-installed)

Ensure you have two UHS Speed Class 3 (or faster) microSD cards inserted in the slots on the side of the drone.

- Minimum 256 GB
- Format your cards before flying using **Manage Data** within the **Information** menu (**Global Settings** > **Information** > **Devices** > **Manage Data**)



Logs card
Supports software updates, scan data and records flight logs



Media card
Stores media captured during flight

Step 4 - Insert battery

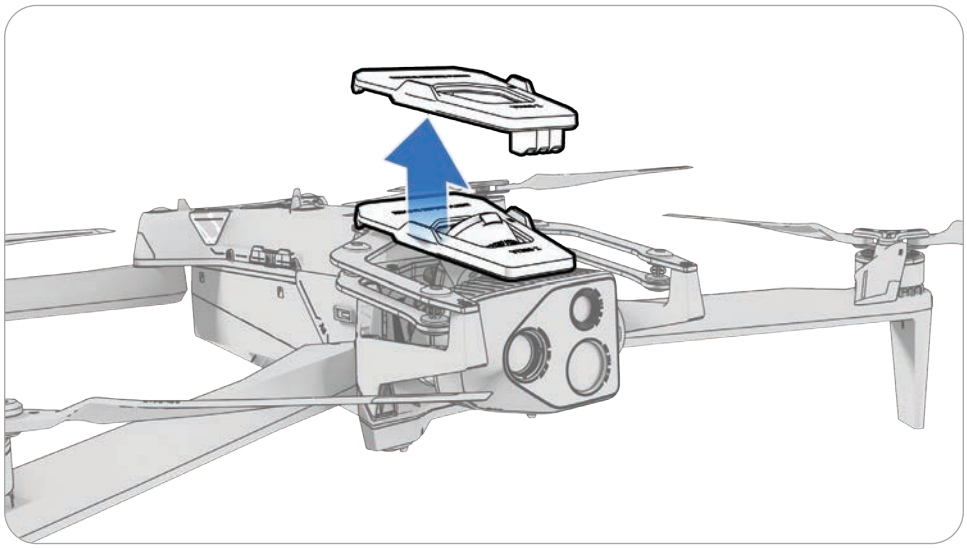
Align the battery with the rails and slide toward the sensor package until the magnets engage.

- Ensure the battery and rails are free of debris and interference
- Ensure the battery is completely seated before flying

Step 5 - Remove the sensor package lock

Hold the sensor package and gently pull to remove from the top of your drone.

- Save this piece to reattach when storing or transporting

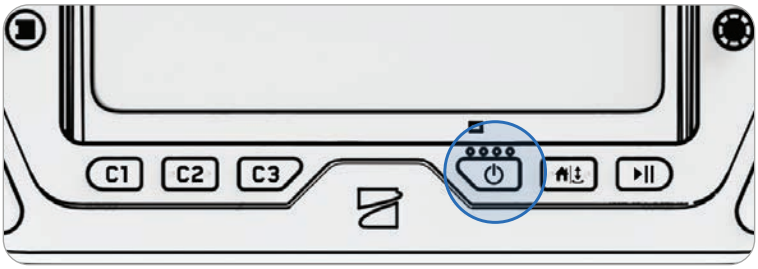


Skydio X10 Controller Setup

Scan for more information about Skydio Connect SL/5G.

Step 1 - Power on the Skydio X10 Controller

Open the controller lid and hold the Power button for five seconds. The lights on the front of the controller will turn on and indicate the level of charge.



NOTE: *While powered off, you can check the level of charge by pressing the Power button once.*

Step 2 - Set up Skydio Flight Deck

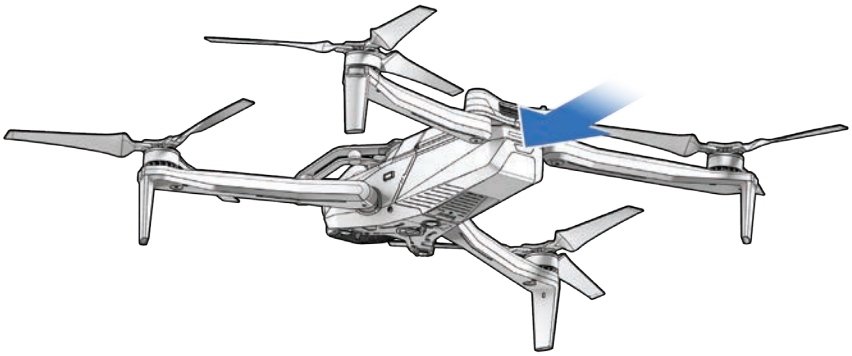
Skydio Flight Deck is the dedicated flight software on your controller. Follow the on-screen prompts to begin setup.

- Connect to a WiFi network
- Provide the email address associated with your Skydio Cloud account and enter the activation code sent to your email
- Set a password for your controller (optional)

CAUTION: *The password cannot be recovered or reset. Ensure that your password is entered correctly and is written down and stored in a safe location. If the password is lost, the controller will need to be replaced.*

Step 3 - Power on Skydio X10

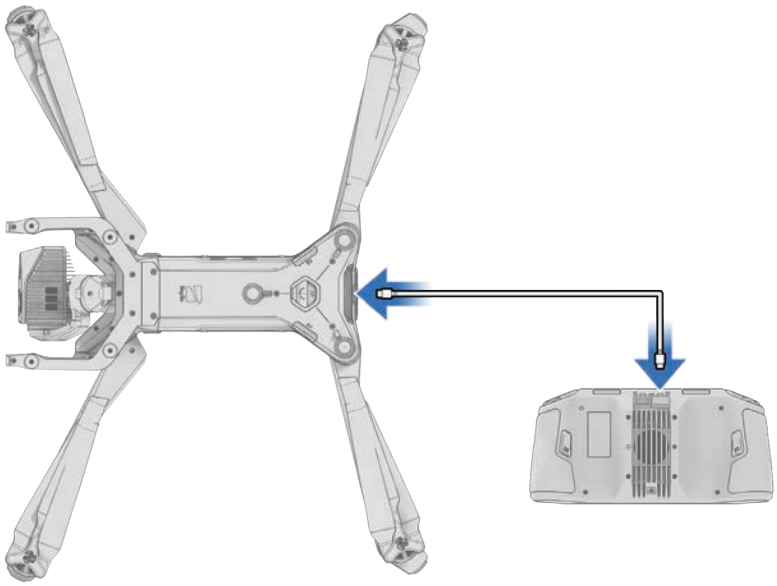
Press and hold the Power button on the battery for three seconds. The lights on the drone arms will turn blue as X10 powers on.



Step 4 - Pair the drone and controller

Use the USB-C pairing cable to connect your devices. Wait as pairing completes.
The lights on the drone will turn solid blue and the name of your drone will appear on the screen when pairing is successful.

Once paired, the drone and controller will automatically connect before future flights.

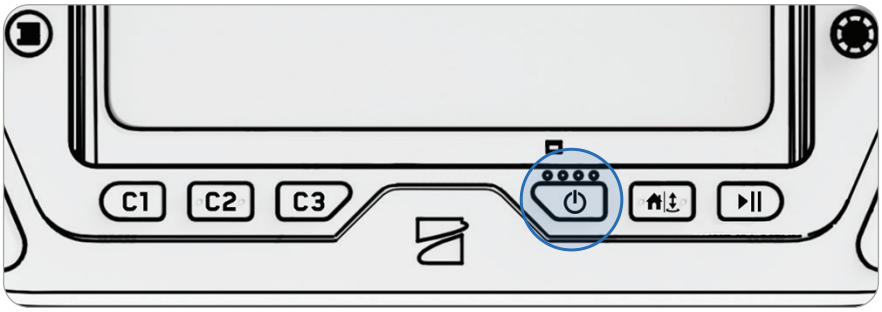


Updating the Skydio X10 Controller

NOTE: *Check for available updates before flying. You must update the Skydio X10 Controller first before updating Skydio X10.*

Step 1 - Power on the Skydio X10 Controller

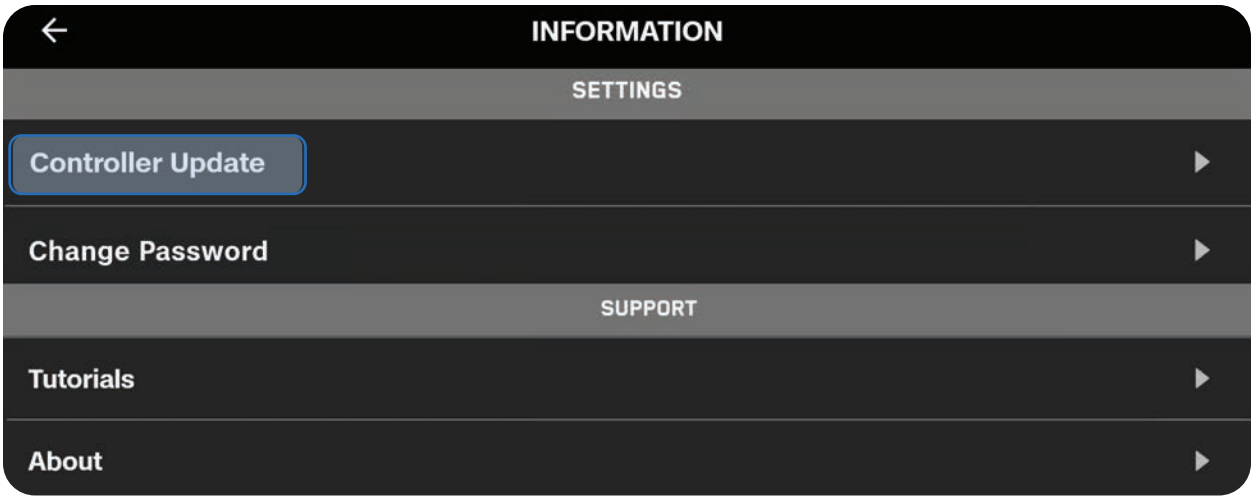
Open the controller lid and hold the Power button for five seconds. The lights on the front of the controller will turn on and indicate the level of charge.



Step 2 - Navigate to the Information menu

Located within Global Settings.

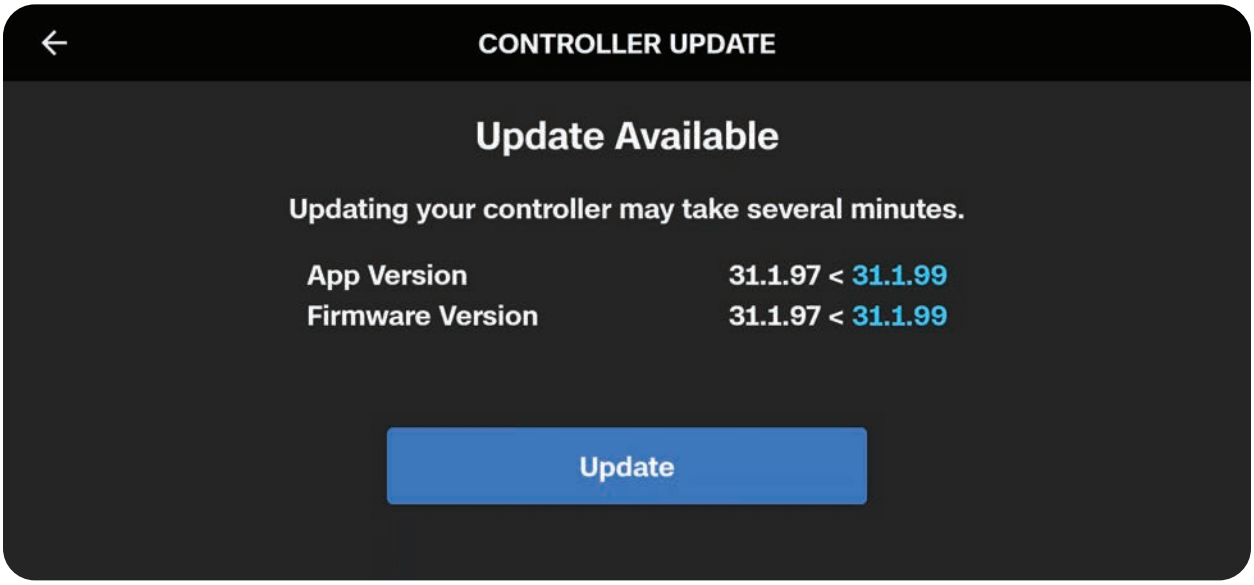
Step 3 - Select Controller Update under Settings



Step 4 - Select Check for Update

Step 5 - Select Update

Follow the on-screen prompts to update your controller.

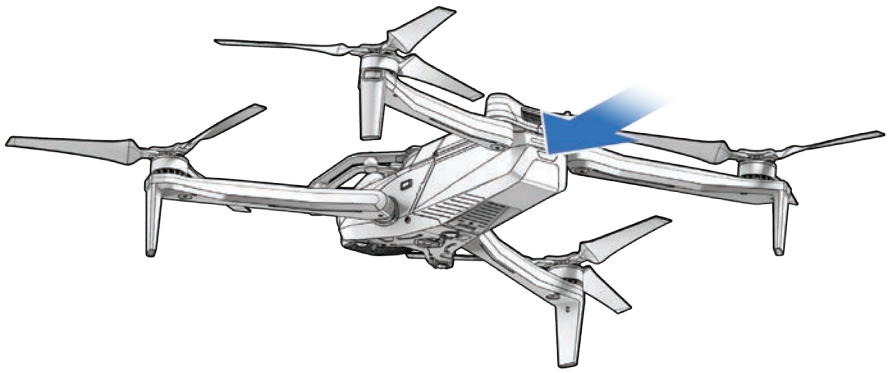


Updating Skydio X10

Skydio will not force an update for your system, however, for optimal performance, we recommend that you keep your Skydio system up-to-date. If an update is available, you will see a red notification icon in the **Information** menu.

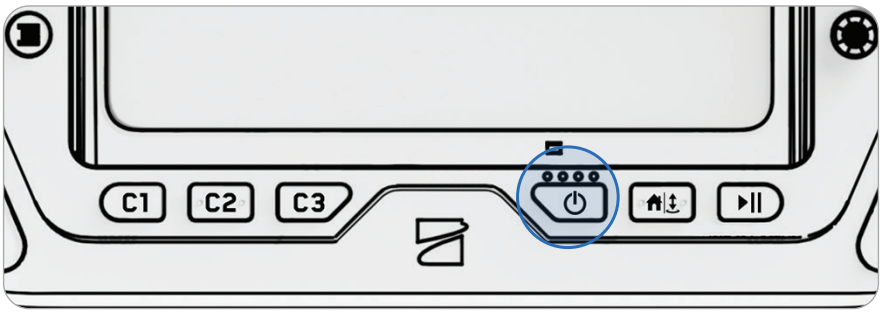
Step 1 - Power on Skydio X10

Press and hold the Power button on the battery for three seconds.



Step 2 - Power on the Skydio X10 Controller

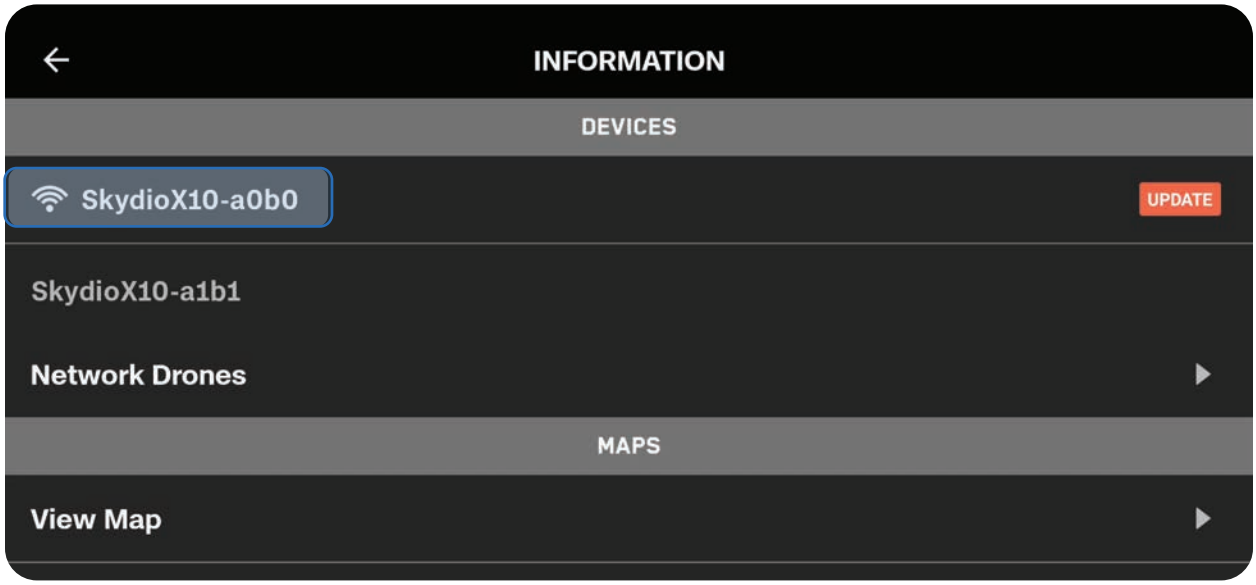
Open the controller lid and hold the Power button for five seconds. The lights on the front of the controller will turn on and indicate the level of charge.



Step 3 - Navigate to the Information menu

Located within Global Settings.

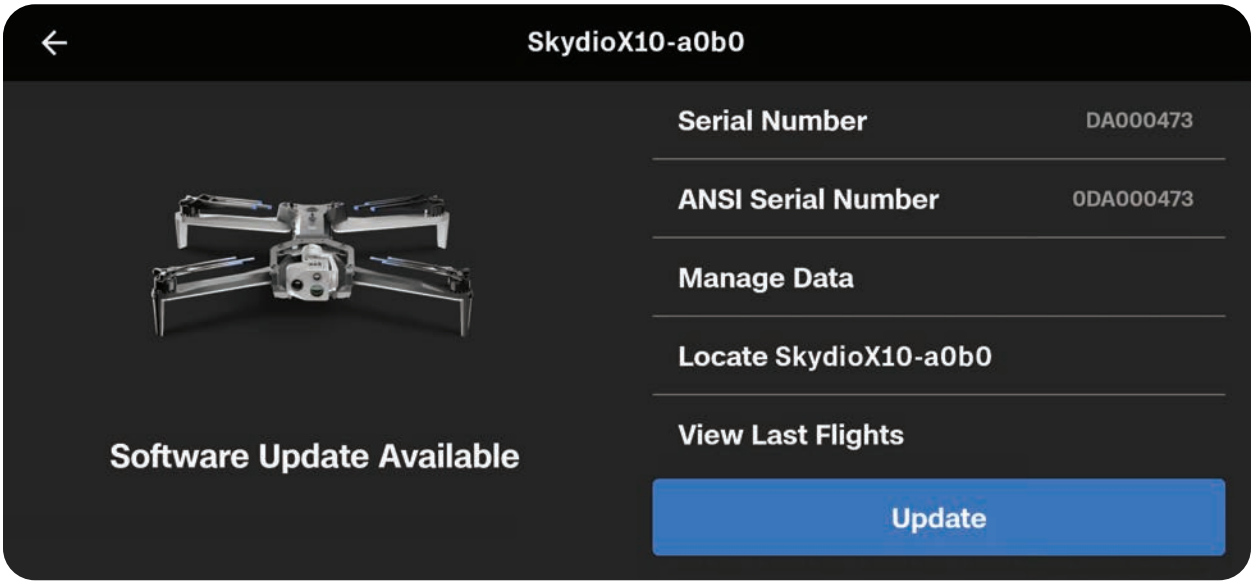
Step 4 - Select your Skydio X10 under Devices



Step 5 - Select Update

Follow the on-screen prompts to update your drone.

Select **Check for Updates** anytime to look for available updates.



Skydio Connect 5G Setup

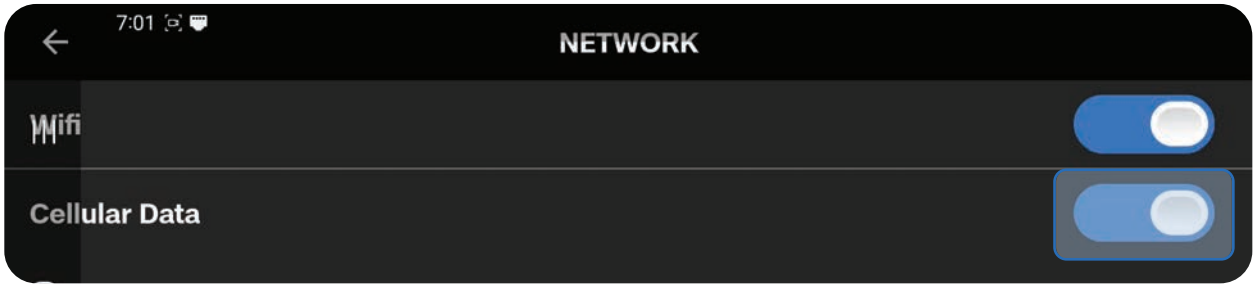
NOTE: *Flight over 5G Cellular is only available if you've purchased an X10 system with Skydio Connect 5G and subscription to Skydio Remote Flight Deck with Skydio Connect 5G.*

Step 1 - Enable 5G Cellular for your drone

On your X10 Controller, select the **Global Settings** menu and the **Radio** tab. Toggle on **Vehicle 5G Cellular**.

Step 2 - Enable 5G Cellular for your controller

Select the **Global Settings** menu and the **Information** tab. Scroll down to **Device Settings**, select **Network**, then ensure **Cellular Data** is toggled ON.

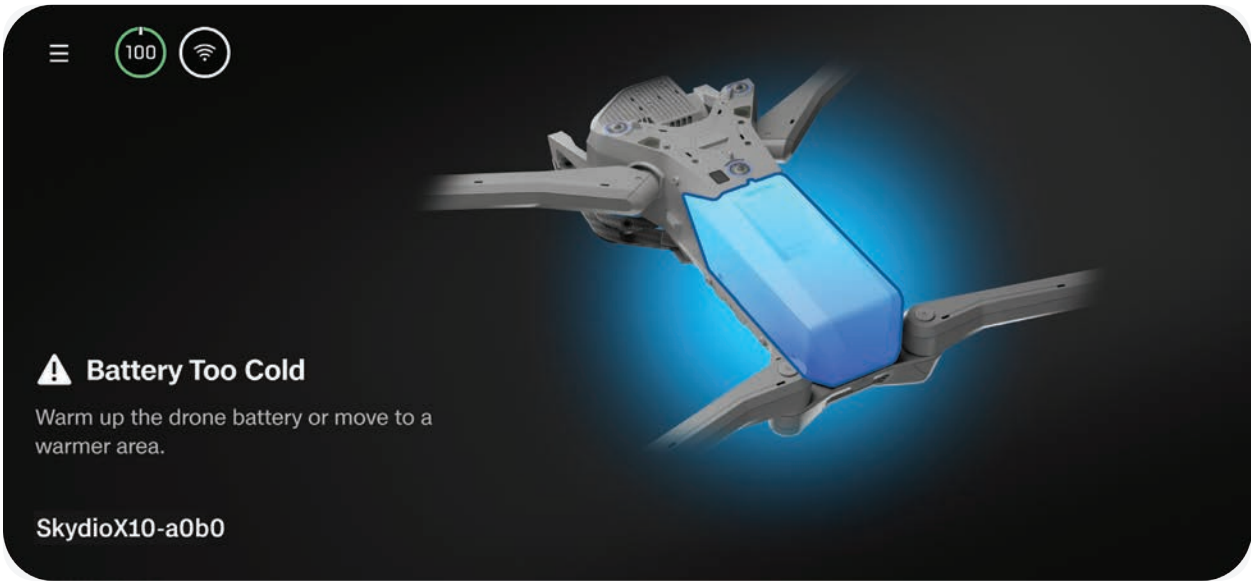


Battery Warming in Cold Environments

For extremely cold environments, the Skydio X10 battery features self-warming technology to enable flight within 5 minutes.

If the X10 battery is below 32°F (0°C), Skydio X10 will be prevented from launching. You will need to pre-warm your batteries before you can launch.

- Battery self-warming is supported down to -4°F (-20°C).
- Skydio X10 will allow launching with reduced performance while continuing to operate the self-warmer until full performance is restored.
- A battery must have at least 30% charge to self-warm.
- A fully charged battery is strongly recommended when flying in cold weather.
- Flight time will be reduced in cold temperatures.
- Minimize aggressive maneuvering in extremely cold environments.



Pre-warming Skydio X10 Batteries

If Skydio X10 detects that a battery is too cold to launch, the battery will automatically begin self-warming. Launch will become unblocked when the battery is sufficiently warmed for the given state of charge.

You also have the option to prewarm a battery before inserting into the drone:

Step 1 - Triple tap the battery button to begin the self-warming process

- The lights on the battery will turn orange during the self-warming process
- Triple tapping again will end the self-warming process

Step 2 - If the battery is cold enough it will begin self-warming

- When self-warming is complete, the lights on the battery will briefly turn blue and then power off

Step 3 - Insert the battery into the drone and power on

- If the self-warming was still in progress prior to inserting, it will continue while the battery is in the drone
- Launch will become unblocked when the battery is sufficiently warmed for the given state of charge

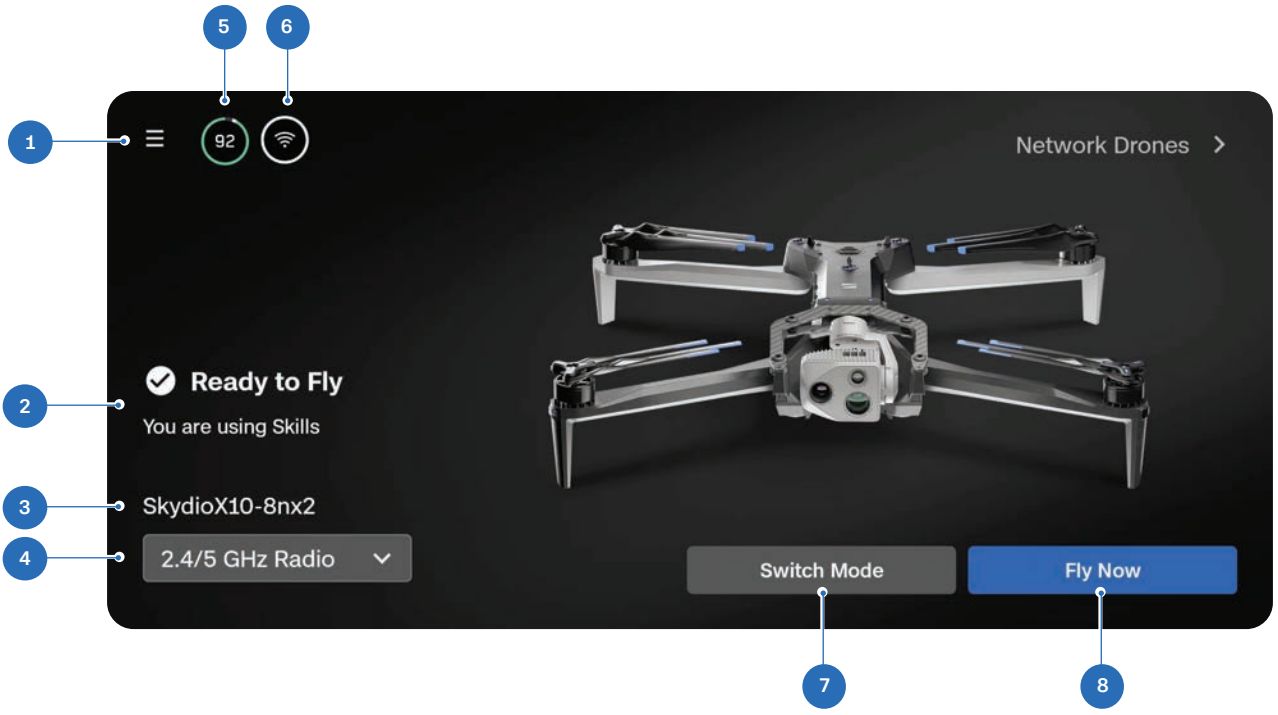
Navigating Skydio Flight Deck

Skydio Flight Deck is the dedicated flight software on your controller. In this section you will learn about core menu locations and setting customizations.

This section covers

Gate Screen

After powering on and connecting to your drone, the first screen you will see is the **Gate Screen**. This screen is the first step to starting your flight, switching modes, or configuring preflight settings.



1. Global Settings
2. Flight Status
3. Drone Name
4. Connectivity Type (choose to fly over 2.4/5 GHz direct link or 5G Cellular)
5. Drone Battery
6. Signal Strength
7. Flight Mode Selector
8. Fly Now (opens Flight Screen)

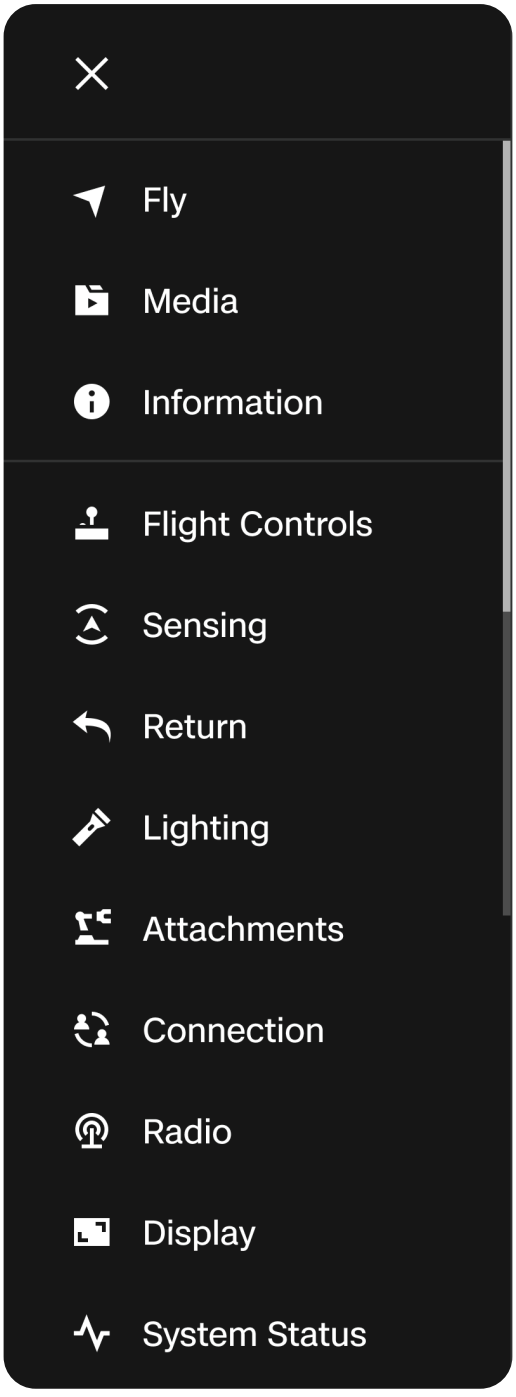
> ***INFO:*** *For more information about flying over cellular, visit How to fly Skydio X10 over cellular connectivity.*

Global Settings

The Global Settings menu is accessible before and during flight. You will use this menu to navigate to a variety of settings, such as low battery behaviors, stream layouts, and obstacle avoidance behavior.

Select the Global Settings icon in the top left of the screen to access the following menus:

- Media
- Information
- Flight Controls
- Sensing
- Return
- Lighting
- Attachments*
- Connection
- Radio
- Display
- System Status



**Attachments coming soon*

Media

Use this menu to view photos, videos, and scans from your recent flights.

- Select an image or video to view
- Press and hold on a thumbnail to select multiple or delete

If you captured photos using **Interval**, all photos captured will appear as a single stack. Selecting the stack will allow you to scroll through individual images one by one.

Only standard color and thermal JPGs will display in the Media menu. To access your DNG or RJPG files, you must transfer the files from your drone.

NOTE: *Media is not accessible inflight.*

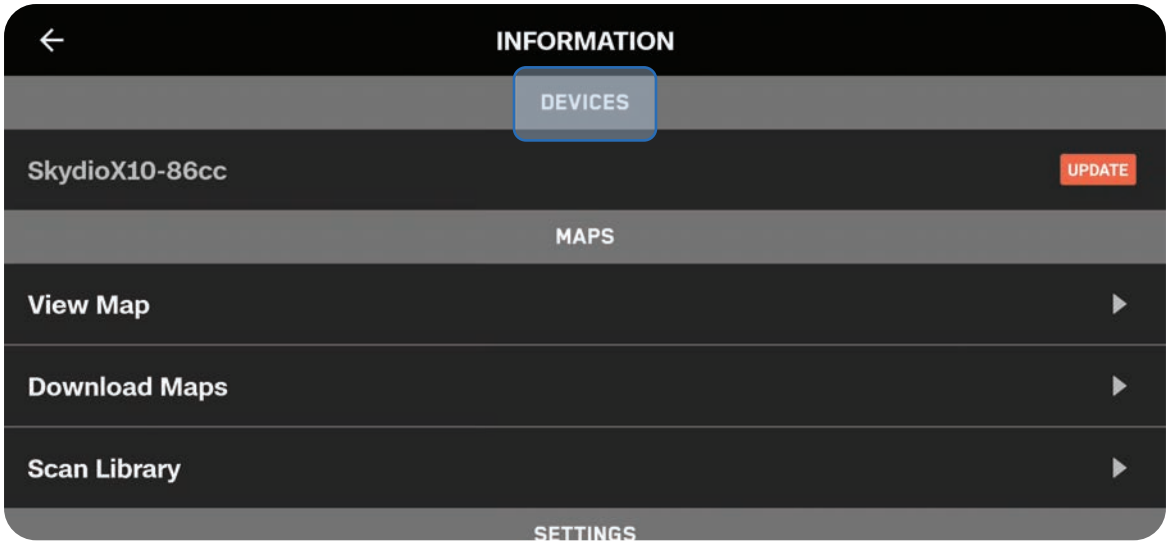
Information

While you are connected to Skydio X10, the Information menu provides access to settings such as drone and controller updates, radio frequency selections, the map library, and more.

Devices

Lists the name of the drone that is currently connected, as well as other X10 drones that have previously paired to the controller.

Check for drone updates and verify software versions by selecting the name of a drone.



Manage Data
Select to format the Log and Media cards or Factory Reset your drone.

Locate Skydio X10
In the event that your Skydio X10 is lost, you may view its last known location. If the Coordinate setting is enabled, the latitude and longitude of the current or last known location will be displayed.

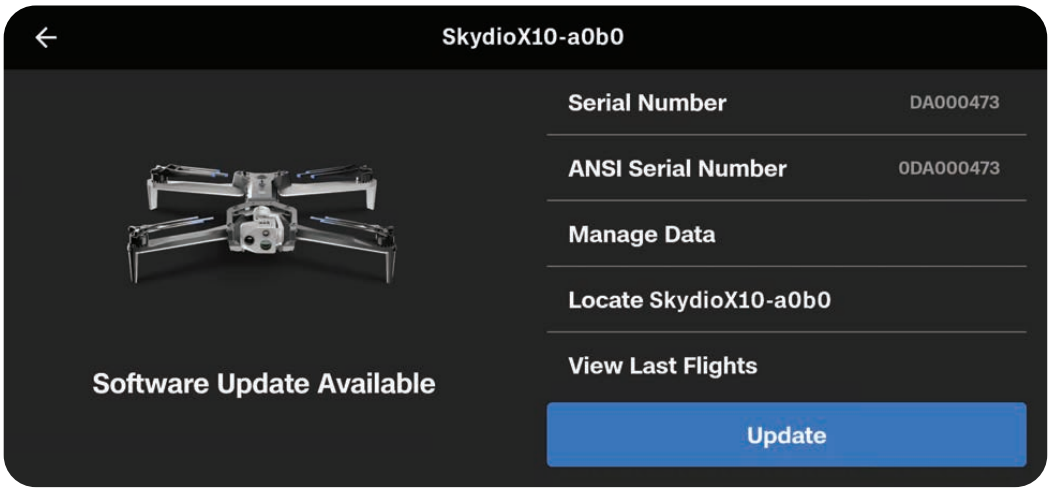
View Last Flights
Displays the feed that was last viewed from the Flight Screen, even if the drone is not connected. Designed to assist you with locating your drone in the event of a crash, emergency landing, or low battery landing in an unintended location.

Cloud Settings
Provides visibility into the licenses you have assigned to your drone, features, and the networks you have added in Skydio Cloud.

Upload Files
Monitor the progress of file uploads from the X10 Controller to the Cloud, including flight telemetry.

Overwrite Media
Manage your media storage by automatically deleting old media to ensure you always have enough storage space to start a new flight. Select Delete Oldest Media to automatically delete the oldest media stored on the microSD memory card.

Anti-flicker
Adjust anti-flicker settings if you experience flickering in your video. This setting is for users located outside of North America, in countries where the frequency of the alternating current in household electrical outlets is 50 Hz.



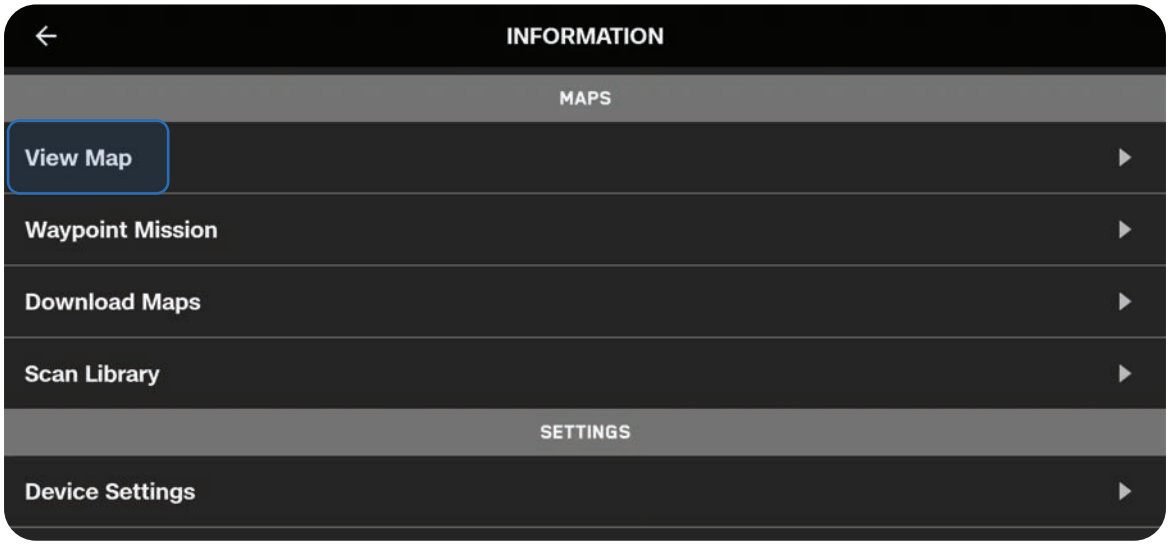
Maps

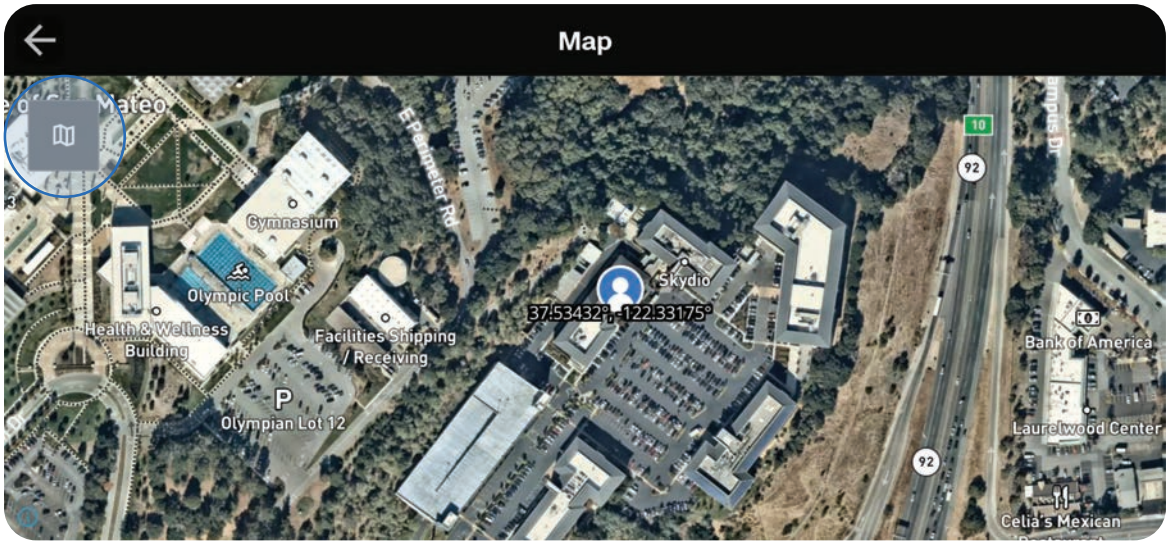
View Map

View your current location, search, and configure map settings.

The location of Skydio X10, the controller, Launch Point, and Home Point (if set) are all indicated on the map.

Skydio X10 Controller Launch Point Home Point

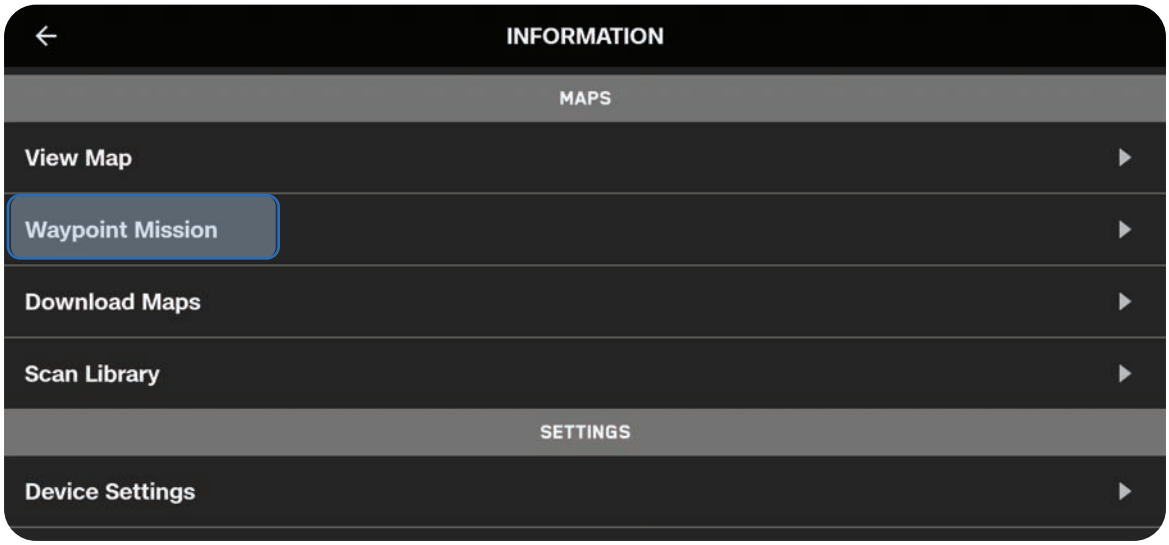


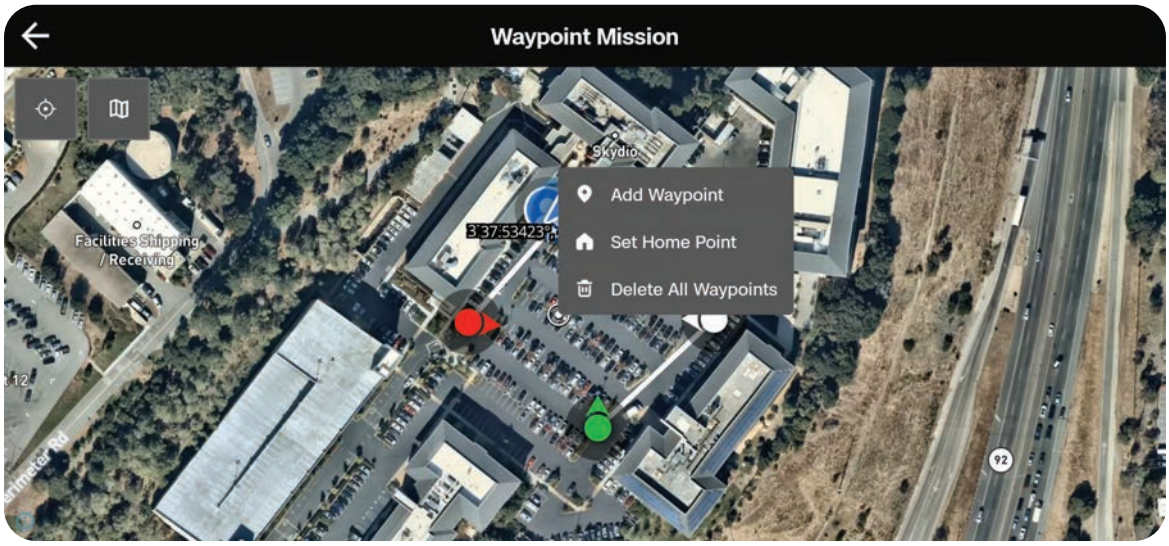


Waypoint Mission

Stores the most recent Waypoint Mission. Press and hold on a waypoint to delete it. Press and hold on the map to add a waypoint or delete all waypoints.

Only one Waypoint Mission will be saved at a time.

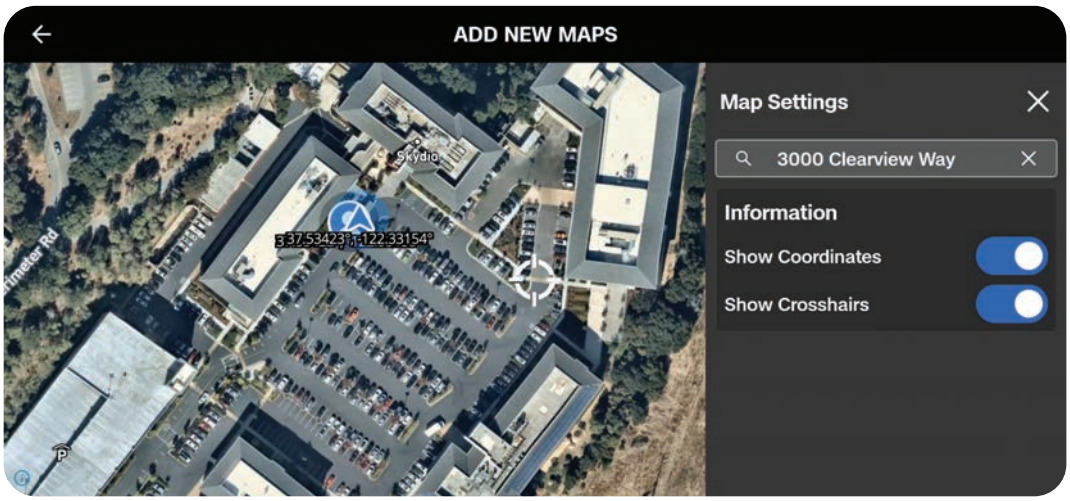


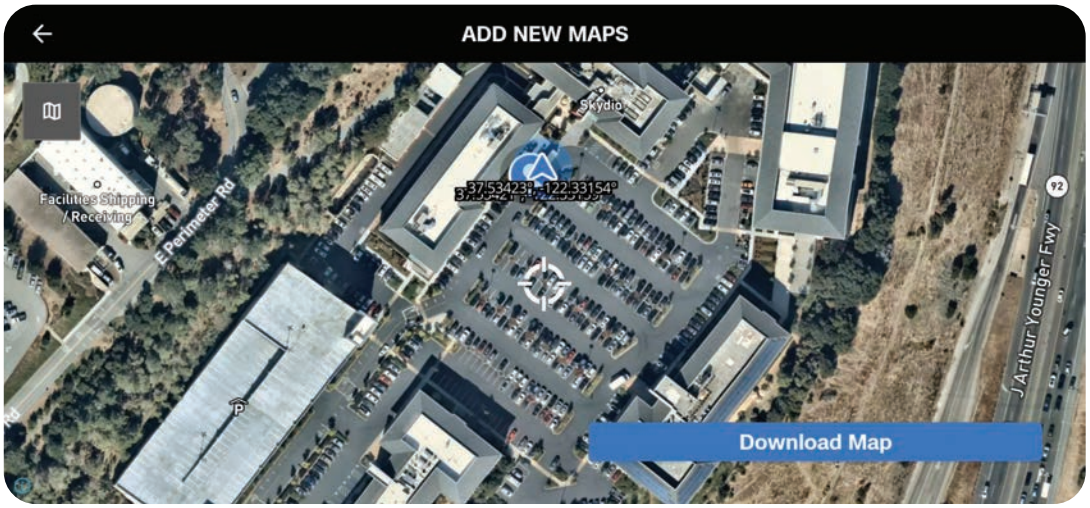


Download Maps

- Select the blue + icon under Add New Maps and a satellite view of your current location will display.
- Drag and pinch-to-zoom on the map until your desired location is centered on the screen
- Use the search bar to enter coordinates or type a location
- Select Download Map to save

The map will be 3.5 x 3.5 square miles, centered around the target point even if you are zoomed in. Your map will appear in this menu once the download is complete.



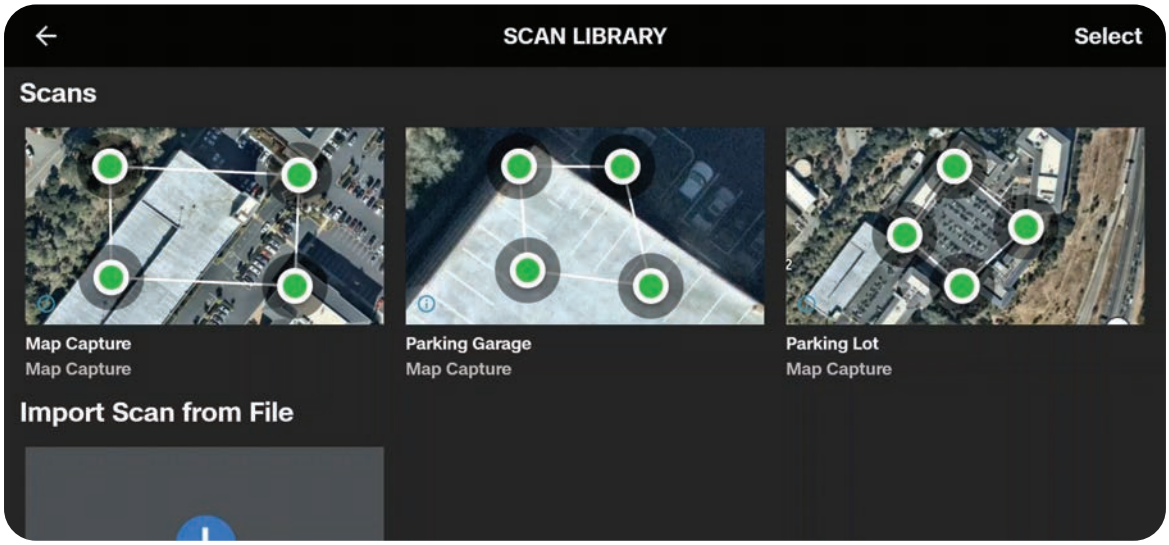


NOTE: *The map library is able to store 10 maps at a time. Delete unsued maps to make room for new maps.*

Scan Library

View or repeat saved Map Capture scans. You also have the ability to import a previous Map Capture.

INFO: *For more information, visit How to use Map Capture.*



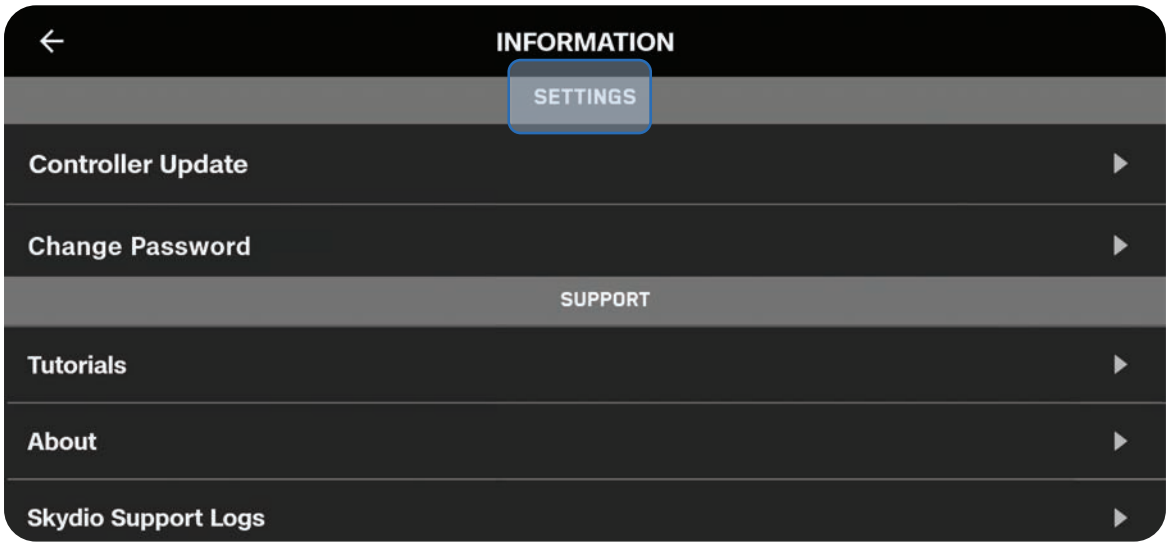
NOTE: *Only .mission files created from Skydio Map Capture are supported when importing.*

Settings

Controller Update
Use this menu to view the current software version of your controller and to check for or initiate updates.

Create/Change Password
Optionally add a password for your controller.

> ***CAUTION:*** *The password cannot be recovered or reset. Ensure that your password is entered correctly and is written down and stored in a safe location. If the password is lost, the controller will need to be replaced.*



Support

Tutorials
Includes step-by-step instructions for actions such as calibration.

Hand Wave Calibration Guide
For use in environments with magnetic interference such as cars, metal bars, power lines, etc. You will need to calibrate before flying at night without NightSense.

About
View the current software version of the X10 Controller, the email associated with your account, and your organization.

Skydio Support Logs
To assist the support team and better troubleshoot any issues or questions you may have, we may require you to upload logs or other data from your drone to help us determine the root cause of any issues.

If you have any objection to this, please let the support team know. We will never review your videos or data without your permission. Do not reformat or factory reset your Skydio drone prior to contacting our support team.

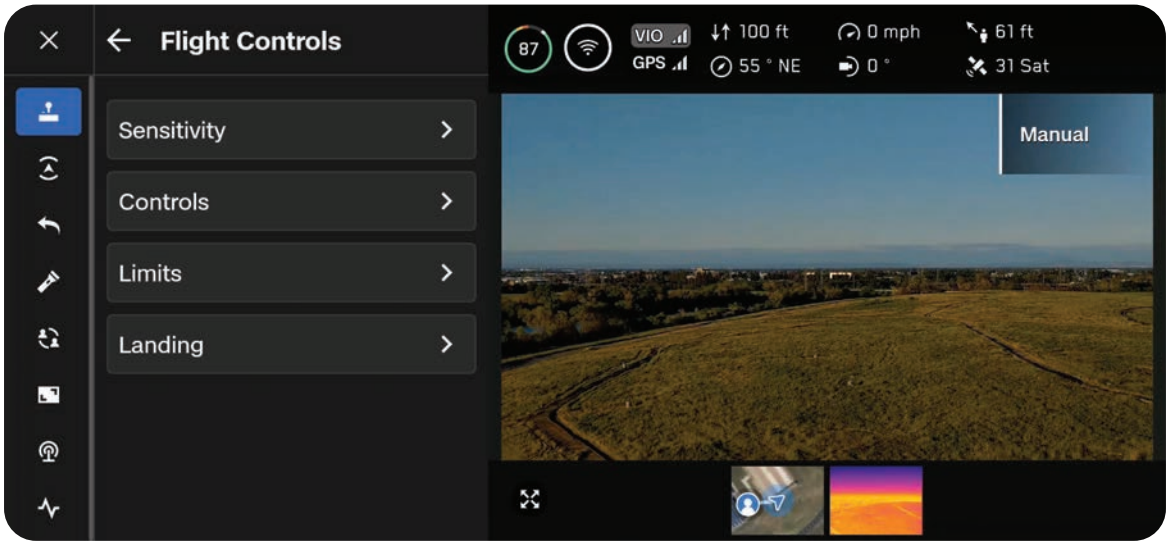
Single Flight Log
Includes all logs from a specified flight. This option will show you the history of all flights, organized by date and time. Select which individual flight you wish to upload.

All Logs
Exports all logs saved on the controller from all flight history. This option allows you to sync logs whether you are connected to the drone or not.

Legal
View legal documentation such as the Skydio Safety and Operating Guide.

Flight Controls

Use this menu to customize your joystick controls, input mapping, and altitude limits.



Moving the joysticks allows you to adjust the roll, pitch, yaw, and throttle of the drone.

Roll - Controls left and right movement

Pitch - Controls forward and backward movement

Yaw - Changes rotation around the vertical axis

Throttle - Controls altitude

Sensitivity

Gimbal Pitch
Controls how quickly the camera sensor package moves up and down.

- Default - 18%

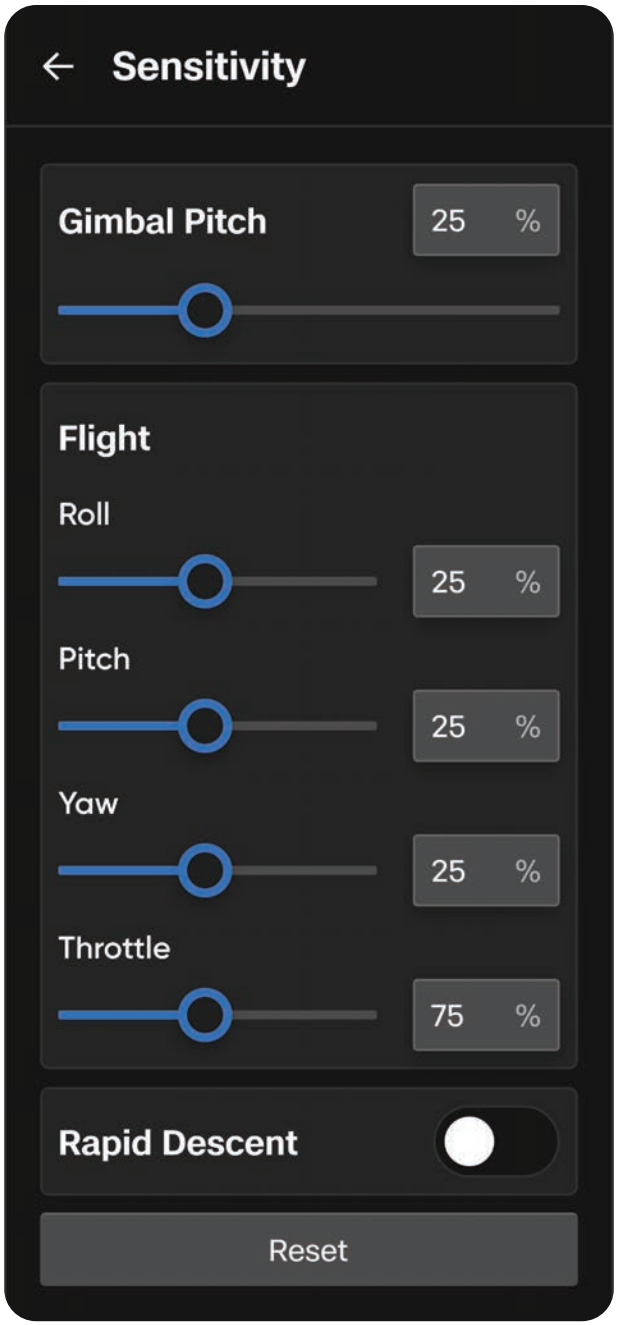
Flight
Allows you to customize the maximum allowed speed for roll, pitch, yaw, and throttle.

Default sensitivity:

- Roll - 35%
- Pitch - 35%
- Yaw - 45%
- Throttle - 100%

Rapid Descent
Allows you to increase the speed to the maximum descent rate when pressing and holding Boost (L1 button).

- Descent speed: 27 mph (12 m/s)



NOTE: *Increase pitch sensitivity to increase the maximum speed of the drone.*

Controls

Battery
Displays Skydio X10 Controller battery level.

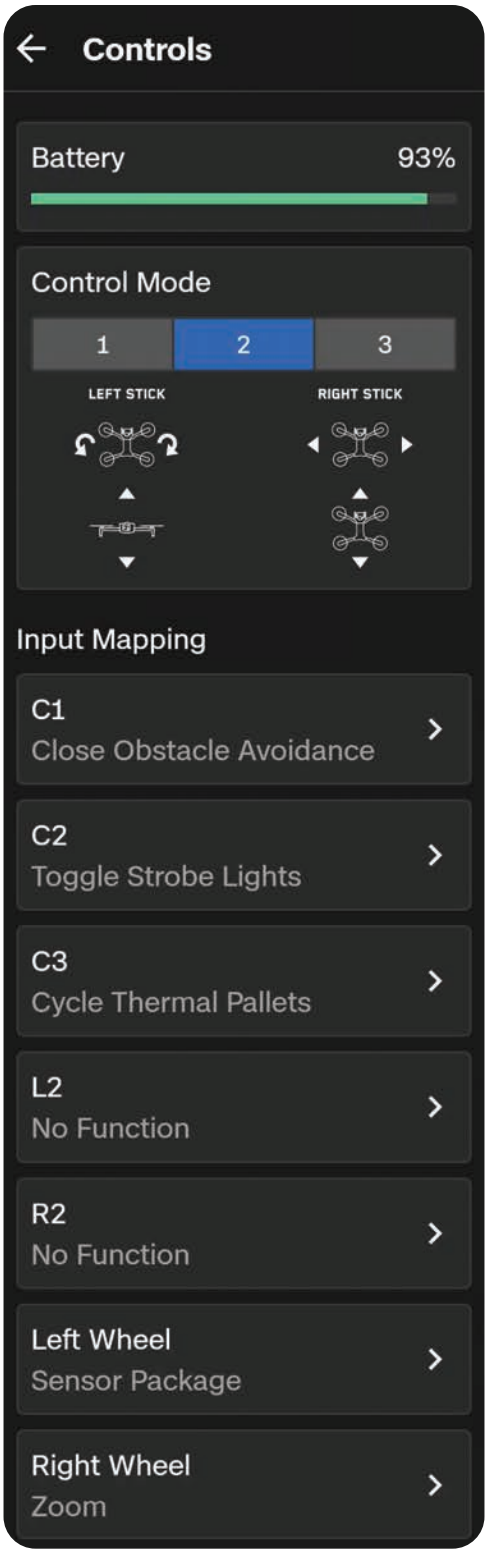
Control Mode
Determines how your controller joysticks will maneuver X10. Select between Mode 1, 2 (default), and 3.

Input Mapping
Allows you to customize buttons and wheels with the following options:

- Toggle Map
- Toggle Camera
- Obstacle Avoidance (Close, Minimal, Disabled)
- Cycle Display Layout
- Cycle Thermal Palettes
- Cycle Full Screen View
- Reset Sensor Package
- Toggle Strobe Lights
- Toggle RGB Lights
- Stop at Structure
- No Function

Customizable buttons include: C1, C2, C3, L2, R2.

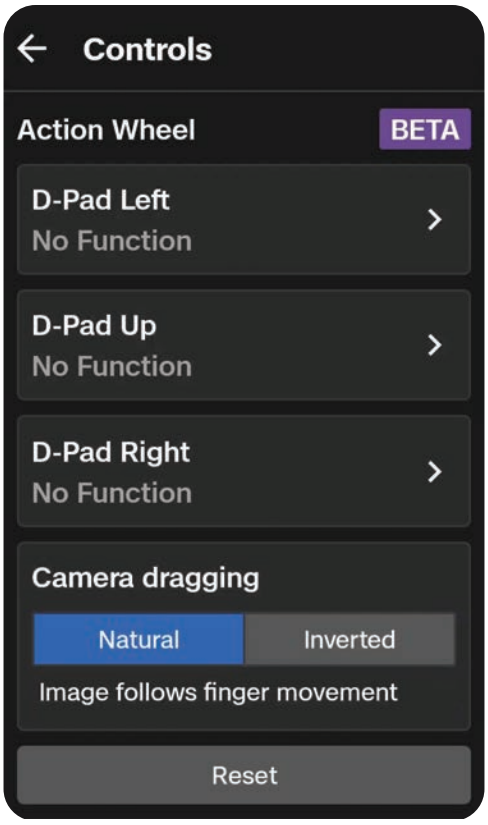
You can also invert your wheel directions, assign Exposure Compensation to your Right Wheel (instead of Zoom), or assign No Function to your wheels.



Action Wheel
Assign functions to your controller D-pad and quickly preview and select functions in flight.

Once functions are assigned, hold the Back button on the controller to bring up the Action Wheel menu. While holding the Back button, press the D-pad up, left, or right to execute that function

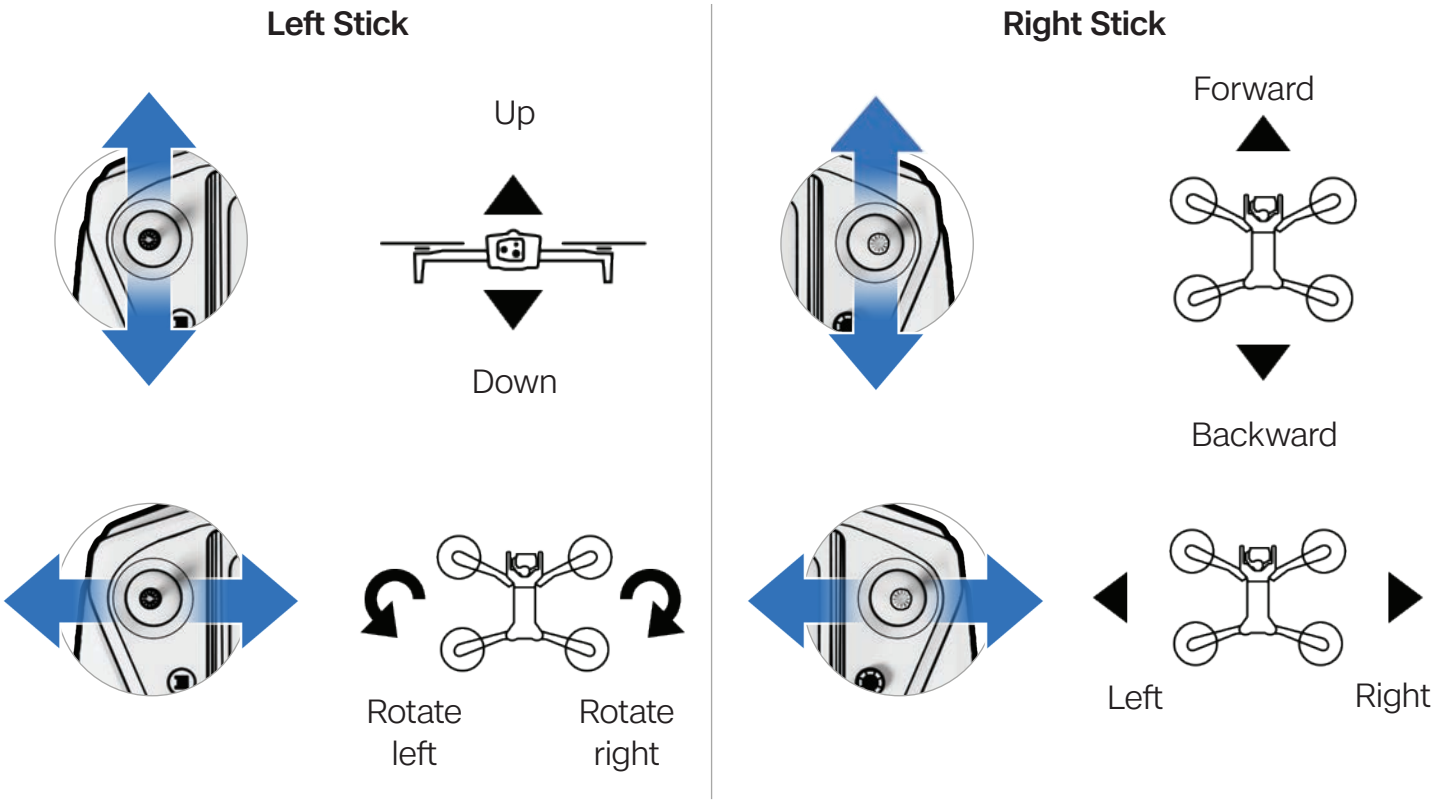
Camera Dragging
Drag your finger on the screen to pitch the sensor package and yaw the drone to look around.

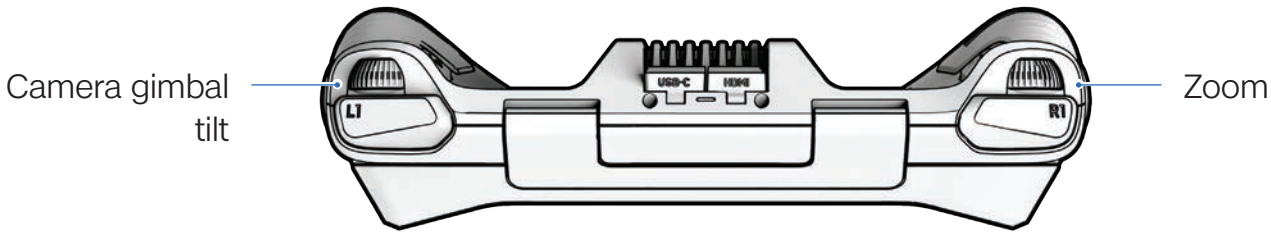


Control Mode

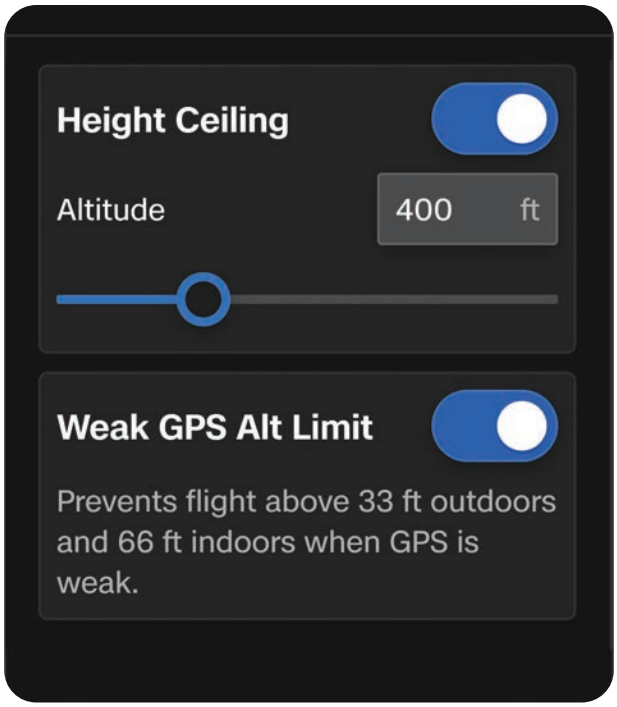
By default, flight controls are set to Mode 2.

In Mode 2, the left joystick controls the elevation and horizontal rotation of the drone, and the right joystick controls the forward, backward, and lateral movements of the drone.





Limits



Height Ceiling
When enabled, allows you to set the maximum allowed drone altitude above the Launch Point.

- Minimum: 30 ft (9 m)
- Maximum: 1500 ft (457 m)

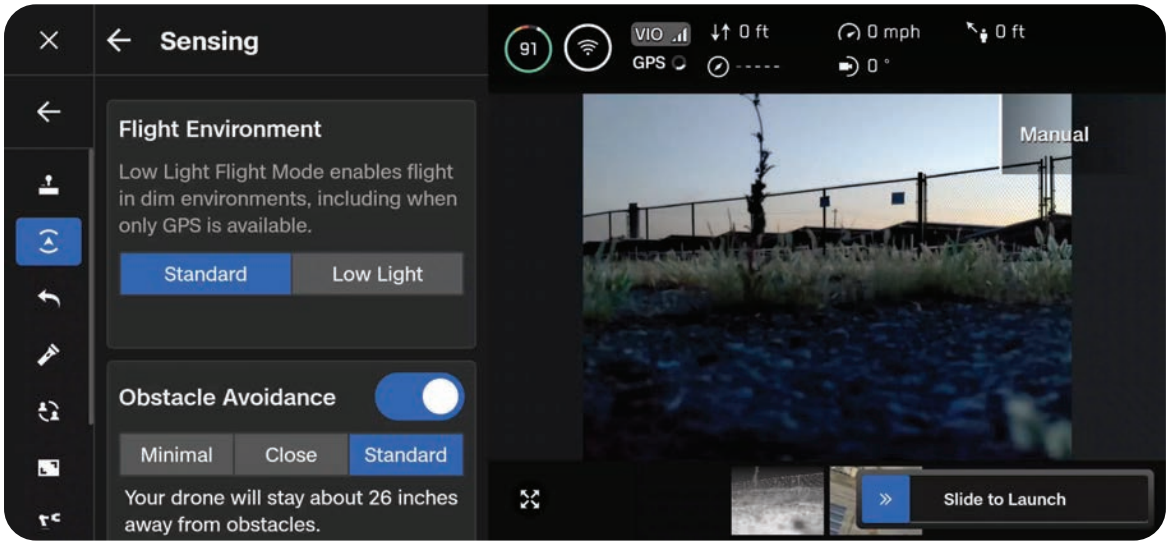
Height Ceiling settings persist across flights and power cycles.

Weak GPS Alt Limit
When enabled, prevents flight above 66 ft (20 m) when GPS is weak.

WARNING: *Toggling Weak GPS Alt Limit OFF disables the altitude limit and your drone will fly using only visual navigation. To reduce the risk of an emergency landing, maintain a flight path near surfaces and objects.*

Sensing

Use this menu to adjust autonomous flight behaviors.



Flight Environment
Select either Standard or Low Light to best represent your flight environment

Standard (default) - flight in normal daytime or in brightly lit conditions (i.e. indoors)

Low Light - flight at night or in low-light conditions with poor visibility.

Obstacle Avoidance
When flying near obstacles your drone will follow your selected distance setting. Choose between Standard, Close, and Minimal.

Standard (default) - Drone stays 24 in (60 cm) away from obstacles (15 in, 39 cm in narrow spaces)

- Top ground speed: ~36 mph (16 m/s)

Close - Drone stays 6 in (15 cm) away from obstacles (5 in, 13 cm in narrow spaces)

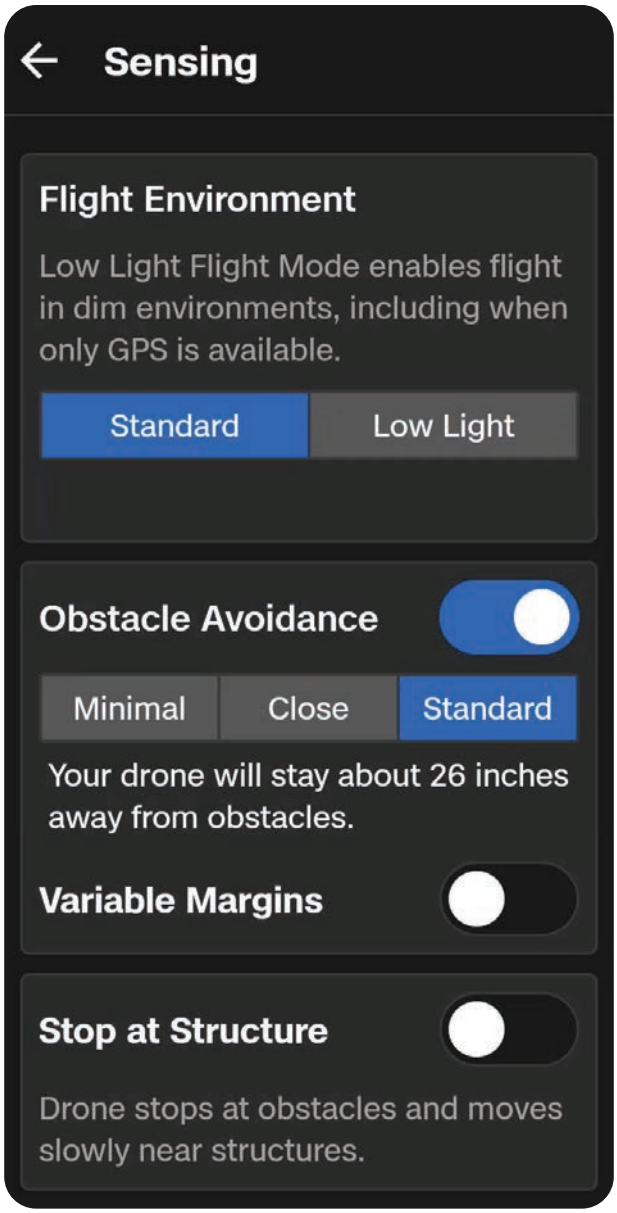
- Top ground speed: ~18 mph (8 m/s)

Minimal - Slight course corrections to avoid obstacles, but primarily relies on the pilot to avoid collisions.

- Top ground speed: ~18 mph (8 m/s)

Disabled (toggle off) - Skydio X10 will not avoid obstacles and there is a high risk of collision

- Top ground speed: ~45 mph (20 m/s)



Variable Margins
Skydio X10 uses AI and visual navigation to dynamically, and temporarily, reduce obstacle avoidance margins when moving through narrow spaces. Margins will also dynamically expand if the drone detects environmental dangers, such as wind.

Enabled by default. Disable to turn off the dynamic margin behavior.

Stop at Structure
Perform finer, more controlled inspections on structures such as bridges or building facades.

When enabled, your drone will not deviate from its course when it is within 8 ft (2.5 m) of a structure.

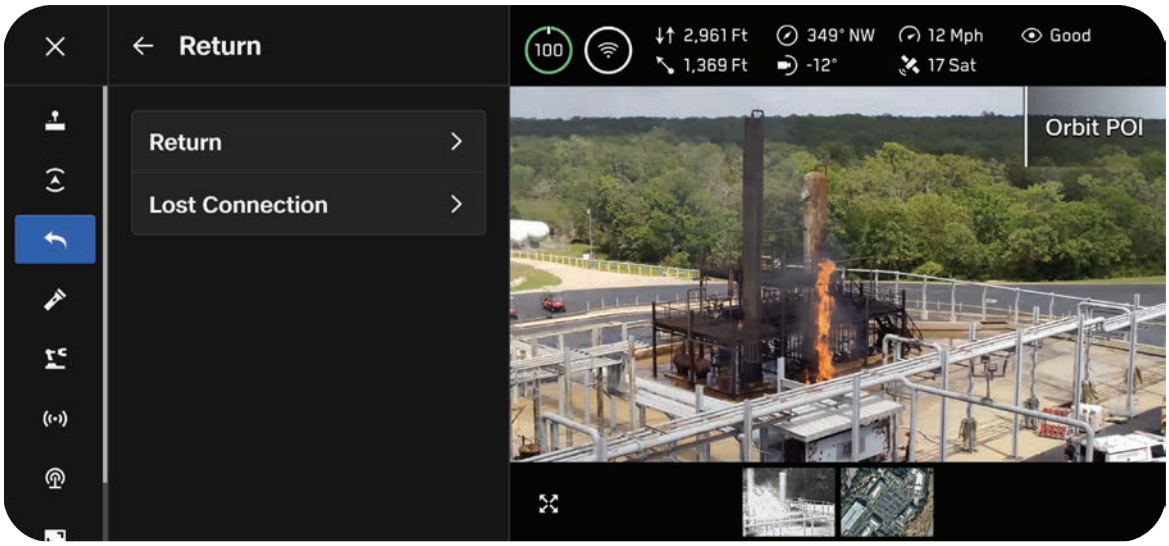
The drone will reduce speed and maintain position, allowing for more precise maneuvering in the immediate vicinity of the structure.

- Adjust the maximum speed using the Speed Near Obstacles slider
- Maximum controller speed settings apply when no structure is present
- Stop at Structure is active during manual flight, including when paused during a 3D Scan

CAUTION: *Flying with Close, Minimal or Disabled settings greatly increases the risk of collision. Minimal or Disabled settings are used to navigate tight spaces and should only be used if you are an experienced pilot. Skydio recommends turning down controller throttle, roll, and pitch sensitivity to the lowest setting and proceeding at a maximum speed of 2 mph (1 m/s).*

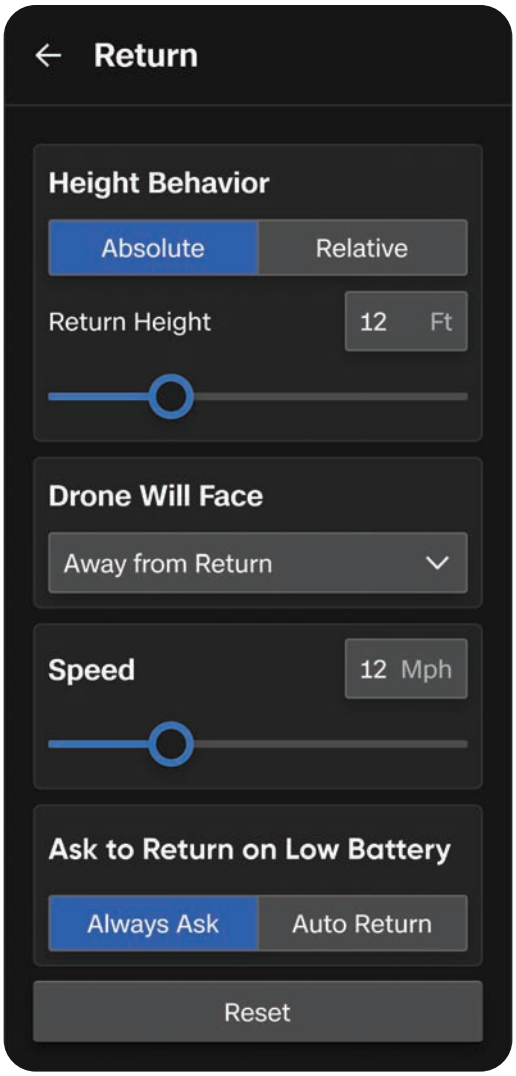
Return

Configure your standard return behaviors as well as how Skydio X10 will return if connection is lost.



WARNING: *Before flying, ensure you have set your Lost Connection Return Behaviors. This is a critical step that ensures your drone returns safely and lands in an accessible location.*

Return



Height Behavior
Customize the altitude behavior of Skydio X10 when returning.

Use Return Height to set the altitude at which the drone will ascend to before returning.

Absolute means your drone will ascend to the specified Return Height above the Launch Point before returning

- For example, if the Return Height is 32 ft and the drone is at 20 ft at the time the return is commanded, Skydio will ascend 12 ft before returning

Relative means your drone will ascend to the specified Return Height above the current position before returning

- For example, if the Return Height is 32 ft and the drone is at 20 ft at the time the return is commanded, Skydio will ascend 32 ft and then return at a height of 52 ft

Drone Will Face
Set Skydio X10 to either look toward or away from the return destination while flying.

Speed
Set the speed at which Skydio X10 returns.

- Vision return: 1 - 35 mph (0.5 - 16 m/s)
- GPS return: 1 - 45 mph (0.5 - 20 m/s)

Ask to Return on Low Battery
When the battery is only sufficient to return and land, choose between a prompt or an automatic return.

Always Ask (default) means you will be asked to select the return location each time the battery level is low.

Auto Return means the drone will automatically return to either the Launch Point or the Home Point (if set) when the battery is low.

Lost Connection

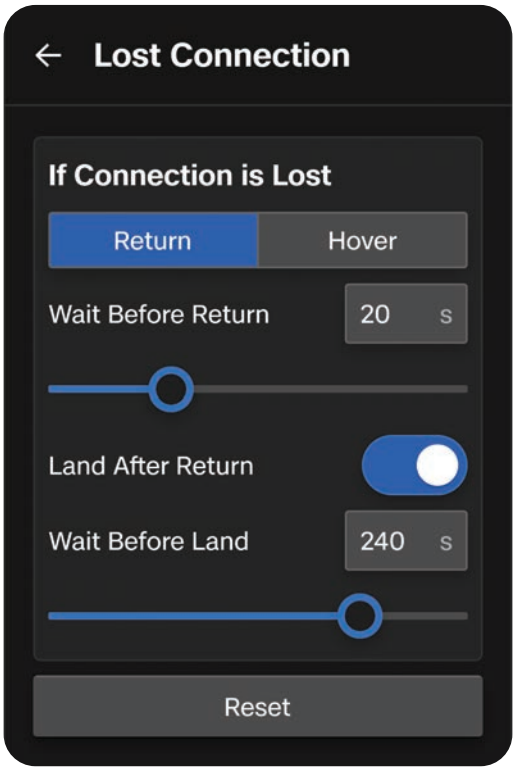
If connection is lost, Skydio X10 will default to the **Lost Connection** settings. Select between **Return** and **Hover** upon lost connection.

Return

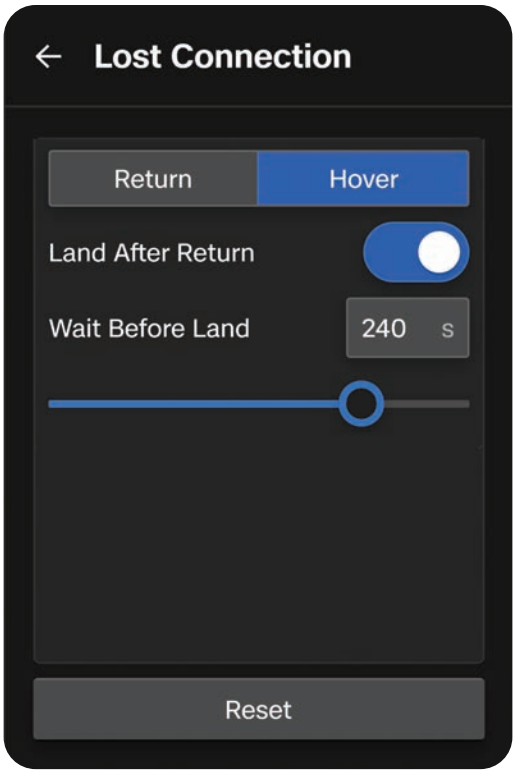
Wait Before Return - set the amount of time you want Skydio X10 to wait before it initiates a return flight, allowing time to reconnect

Land After Return - when enabled, your drone will return, hover for a specified amount of time, then land.

Wait Before Land - the amount of time between 0 to 300 seconds (default is 240 seconds) that you want your drone to wait above the landing location before landing. This setting is only enabled when Land After Return is toggled on.



Hover



Land After Hover - when enabled, Skydio X10 will hover for a specified amount of time, then use visual navigation to find a safe area to land.

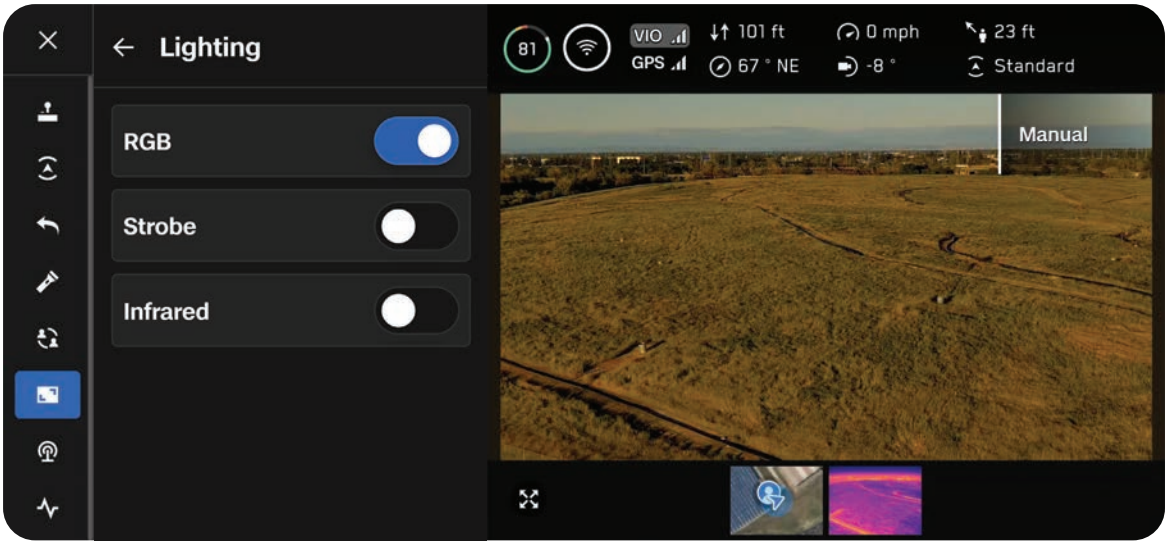
Wait Before Land - the amount of time between 0 to 300 seconds (default is 240 seconds) that you want your drone to wait before landing. This setting is only enabled when Land After Hover is toggled on.

Skydio X10 will continue hovering as it tries to regain connection. If it fails to reconnect and reaches low battery:

- If you have an automatic return set, your drone will return to either the Launch Point or Home Point (if set)
- If you do not have an automatic return set, your drone will use visual navigation to find a safe area to land
- If VIO is degraded (flying in Low Light without NightSense), your drone will be unable to use visual navigation and will descend vertically and land

Lighting

Customize the in-flight behavior of the RGB/strobe lights that are located at the end of the arms.



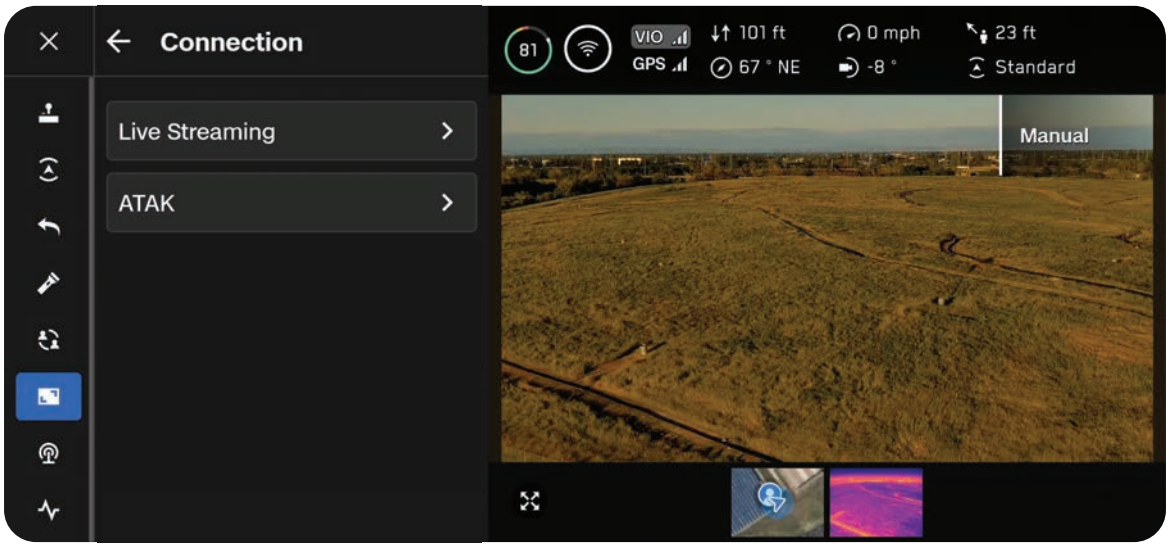
RGB
When enabled, the lights on the end of the arms will appear red and green while flying. When the drone is powered on and grounded, the lights will appear blue.

Strobe
Enable to visually track the drone in low-light conditions. Skydio X10 strobe lights meet the FAA requirement of being visible at a distance of 3 statute miles (4.8 km).

Infrared
Cannot be seen by the naked eye. These broadcast an IR light that can only be detected with an infrared lens. Assists with navigation in low-light.

Connection

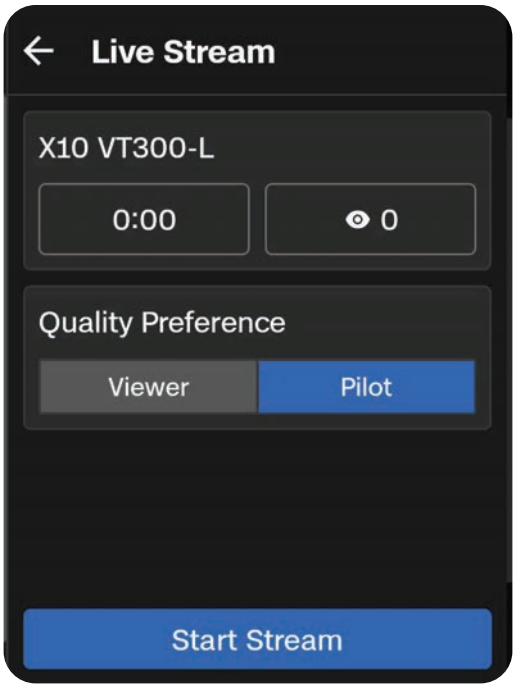
Use this menu to begin streaming your flight.

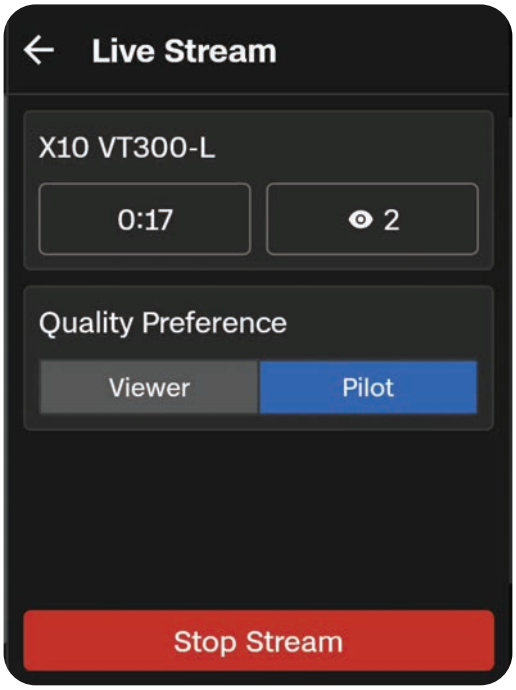


Live Streaming

While live streaming, you will be able to view the current stream time as well as how many viewers are watching your flight.

Use **Quality Preference** to optimize the video quality for either the pilot (default) or viewers of the stream.

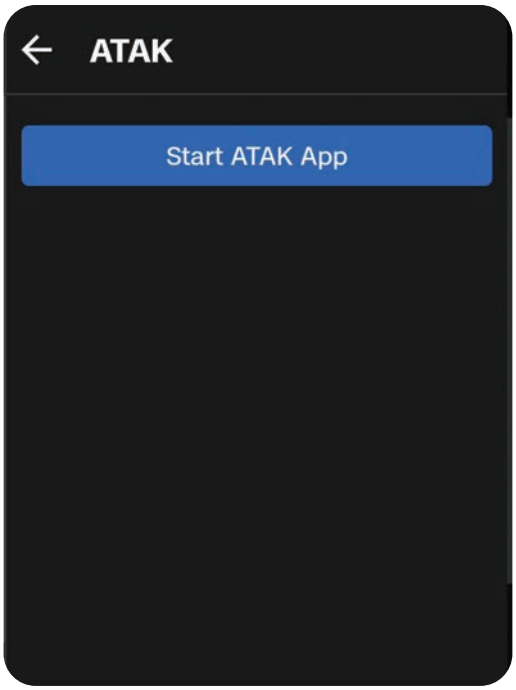




NOTE: *Skydio Live Streaming is an optional software add-on available for purchase. When flying over 5G Cellular Skydio X10 will live stream automatically.*

ATAK

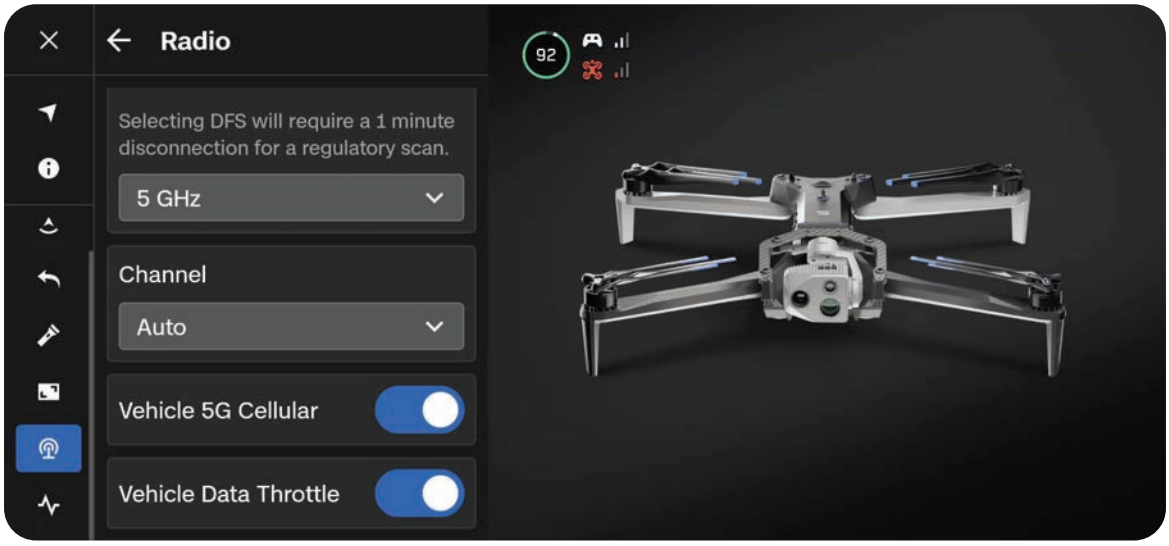
The integration of the Skydio X10 Controller and the Android Team Awareness Kit (ATAK) app allows you to seamlessly monitor your Skydio fleet. ATAK provides geospatial information about your drones and controllers for increased situational awareness in the field.



INFO: *For more information about setting up ATAK, visit [How to set up ATAK with the Skydio X10 Controller](#).*

Radio

Use this menu to configure your radio settings.



Band
Select your radio bandwidth (Skydio Connect SL):

- 2.4 GHz (coming soon)
- 5 GHz
- DFS (Dynamic Frequency Selection)

Channel
Select your radio frequency channel to avoid congestion from other signals.

Set to **Auto** by default.

Vehicle 5G Cellular
Enables 5G cellular connection to the drone. For more information about setting up and flying over 5G cellular, visit: *How to fly Skydio X10 over cellular connectivity*.

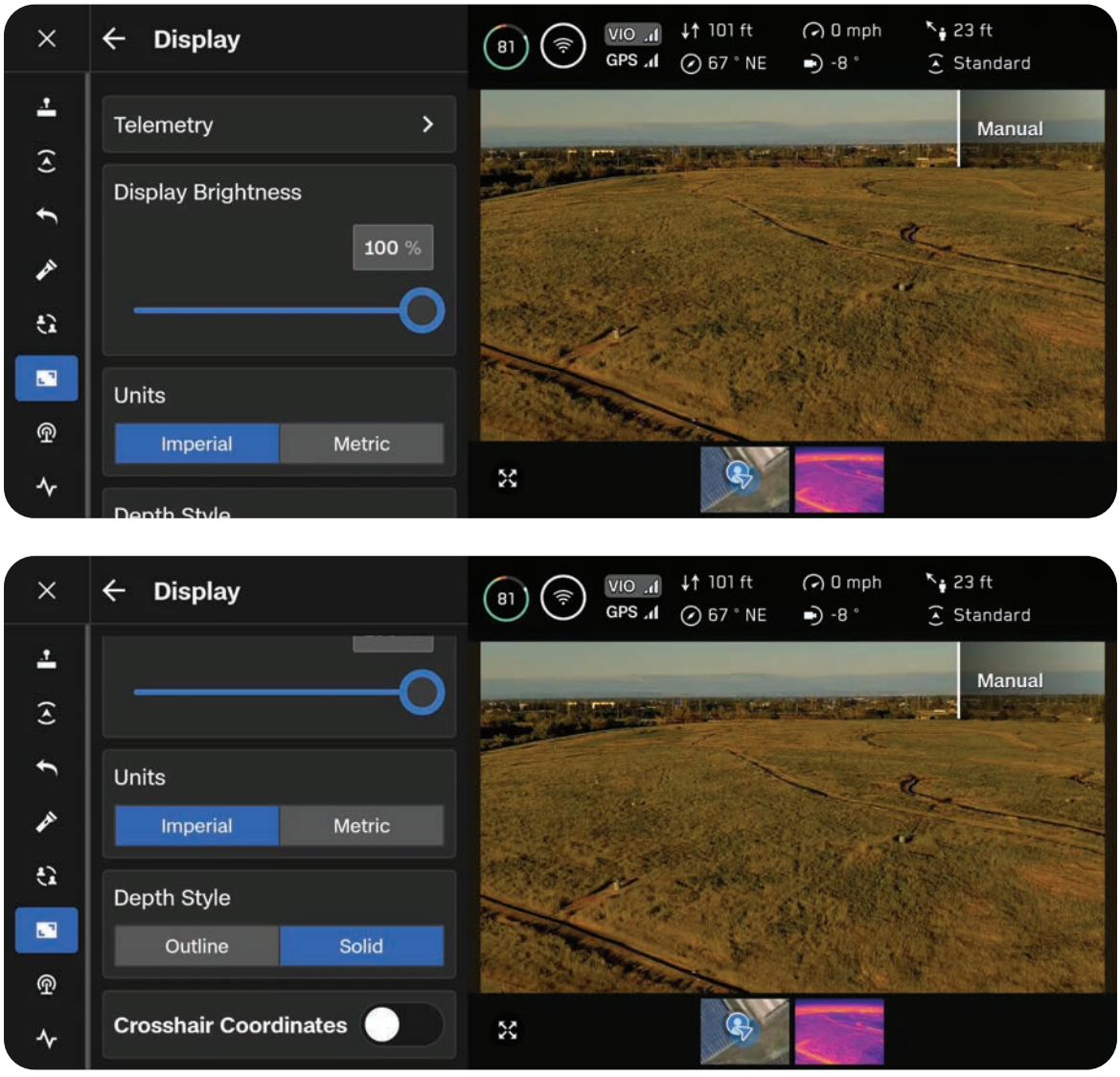
Vehicle Data Throttle
Helps reduce instances of lost connection or high video latency when flying in locations with poor cellular coverage. Enable this toggle if you're experiencing frequent lost connections or high video latency when Vehicle 5G Cellular is enabled.

Skydio Connect SL Frequencies

2.4 GHz (coming soon)	Auto 1: 2401-2423 MHz 2: 2406-2428 MHz 3: 2411–2433 MHz 4: 2416–2438 MHz 5: 2421–2443 MHz 6: 2426–2448 MHz 7: 2431–2453 MHz 8: 2436–2458 MHz 9: 2441–2463 MHz 10: 2446–2468 MHz 11: 2451–2473 MHz
5 GHz	Auto 36: 5170–5190 MHz 40: 5190–5210 MHz 44: 5210–5230 MHz 48: 5230–5250 MHz 149: 5735–5755 MHz 153: 5755–5775 MHz 157: 5775–5795 MHz 161: 5795–5815 MHz 165: 5815–5835 MHz
DFS (Dynamic Frequency Selection)	Auto 52: 5250–5270 MHz 56: 5270–5290 MHz 60: 5290–5310 MHz 64: 5310–5330 MHz 68: 5330–5350 MHz 96: 5470–5490 MHz 100: 5490–5510 MHz 104: 5510–5530 MHz 108: 5530–5550 MHz 112: 5550–5570 MHz 116: 5570–5590 MHz 120: 5590–5610 MHz 124: 5610–5630 MHz 128: 5630–5650 MHz 132: 5650–5670 MHz 136: 5670–5690 MHz 140: 5690–5710 MHz 144: 5710–5730 MHz

Display

Customize your Flight Screen display, including telemetry metrics, unit type, and depth style.



Telemetry
Customize the telemetry metrics you want to display while flying. Select the blue checkmark to enable or disable the corresponding telemetry information. Up to 6 telemetry metrics may be displayed while flying.

Altitude is required.

Display Brightness
Adjust the brightness of your X10 Controller screen.

Units
Choose between Imperial or Metric units.

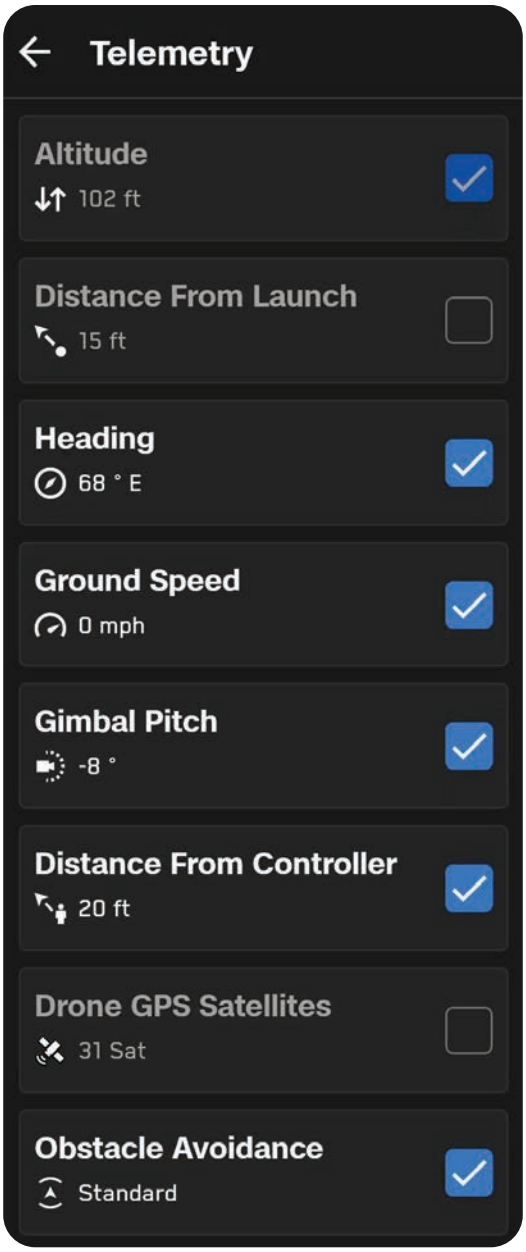
Depth Style
Only applies if you have enabled Depth View within the AR Quick Actions (located on the left side of the Flight Screen).

Select **Solid** or **Outline** when displaying visual information about what obstacles the drone sees.

- Solid displays boxes filled with color
- Outline displays wireframed or unfilled boxes

The AR Quick Actions button on the Flight Screen cycles between the distances from objects at which the visual information will start showing on screen.

- Off
- 6 ft (2 m)
- 13 ft (4 m)



Display Layouts

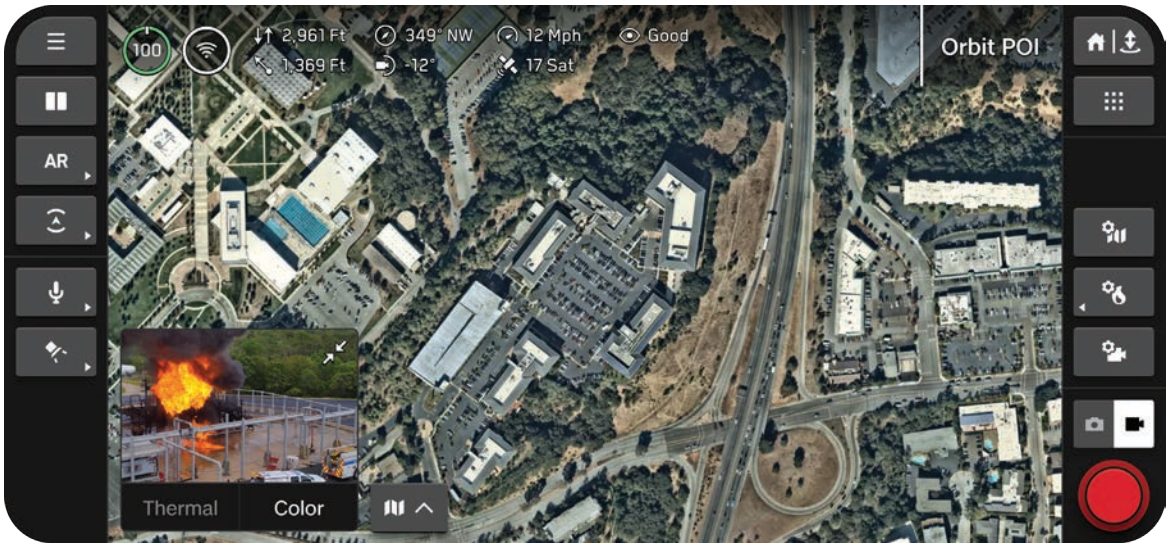
While flying, you have the option to use a Single, Split or Grid layout to set the number of streams that appear while flying. Available feeds include:

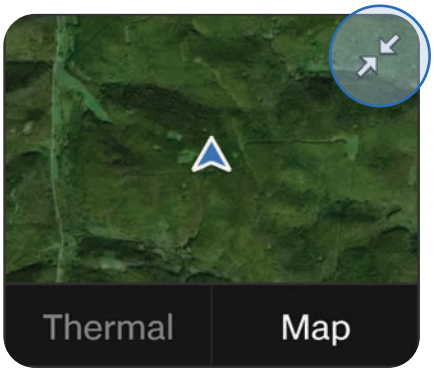
- Color
- Thermal
- Map

Single Layout
Displays one stream at a time.

In this layout, you will see a Picture-in-Picture (PiP) in the bottom left of the screen.

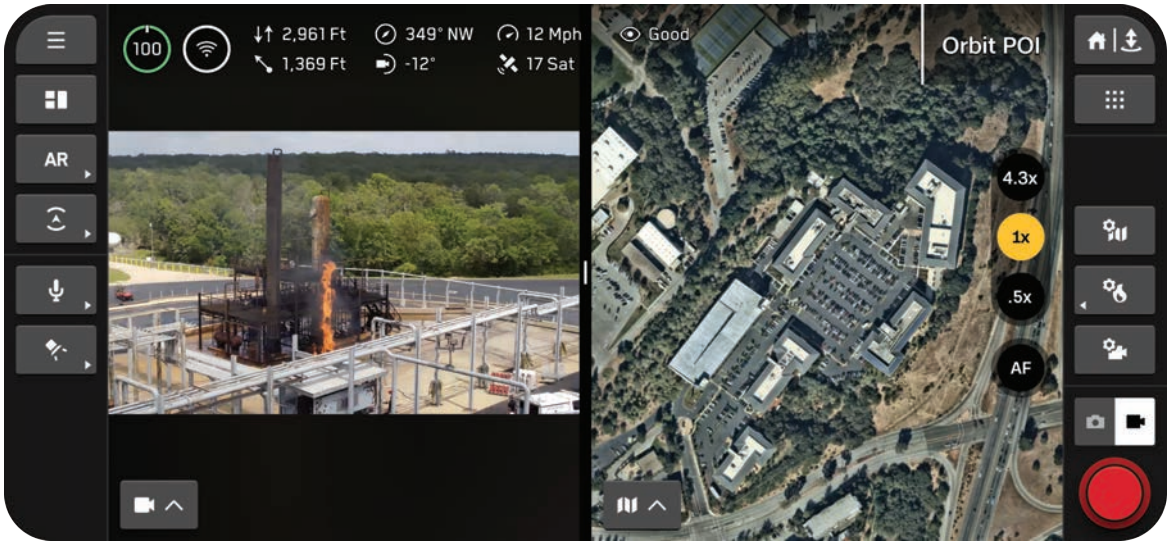
- Minimize using the two arrows in the top right
- Use the buttons on the bottom to select whether the Color, Thermal or Map feed displays in the PiP





Split Layout
Choose two streams to display. Drag the middle handlebar to resize streams.

The primary feed displays on the right.



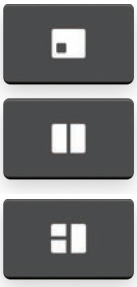
Grid Layout
Choose three streams to display. Press and drag the middle handlebar to resize streams.

The primary feed displays on the right.

Customizing Display Layout

Step 1 - Select the Display Layout icon in the left sidebar

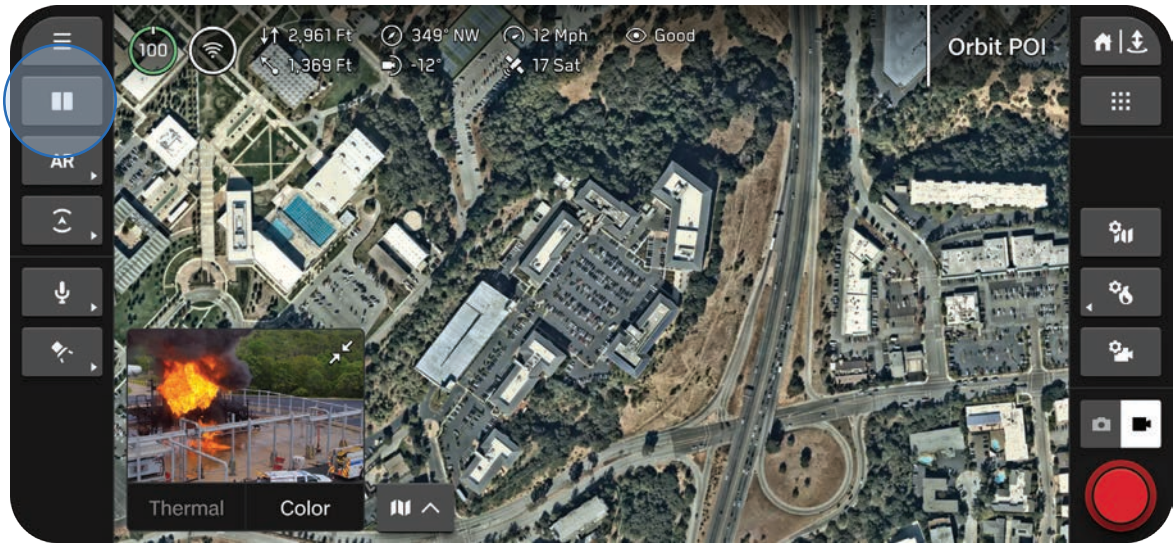
Use this button to cycle through the various layout options. The icon reflects the next layout in the queue rather than the layout you are currently using.



Single Layout

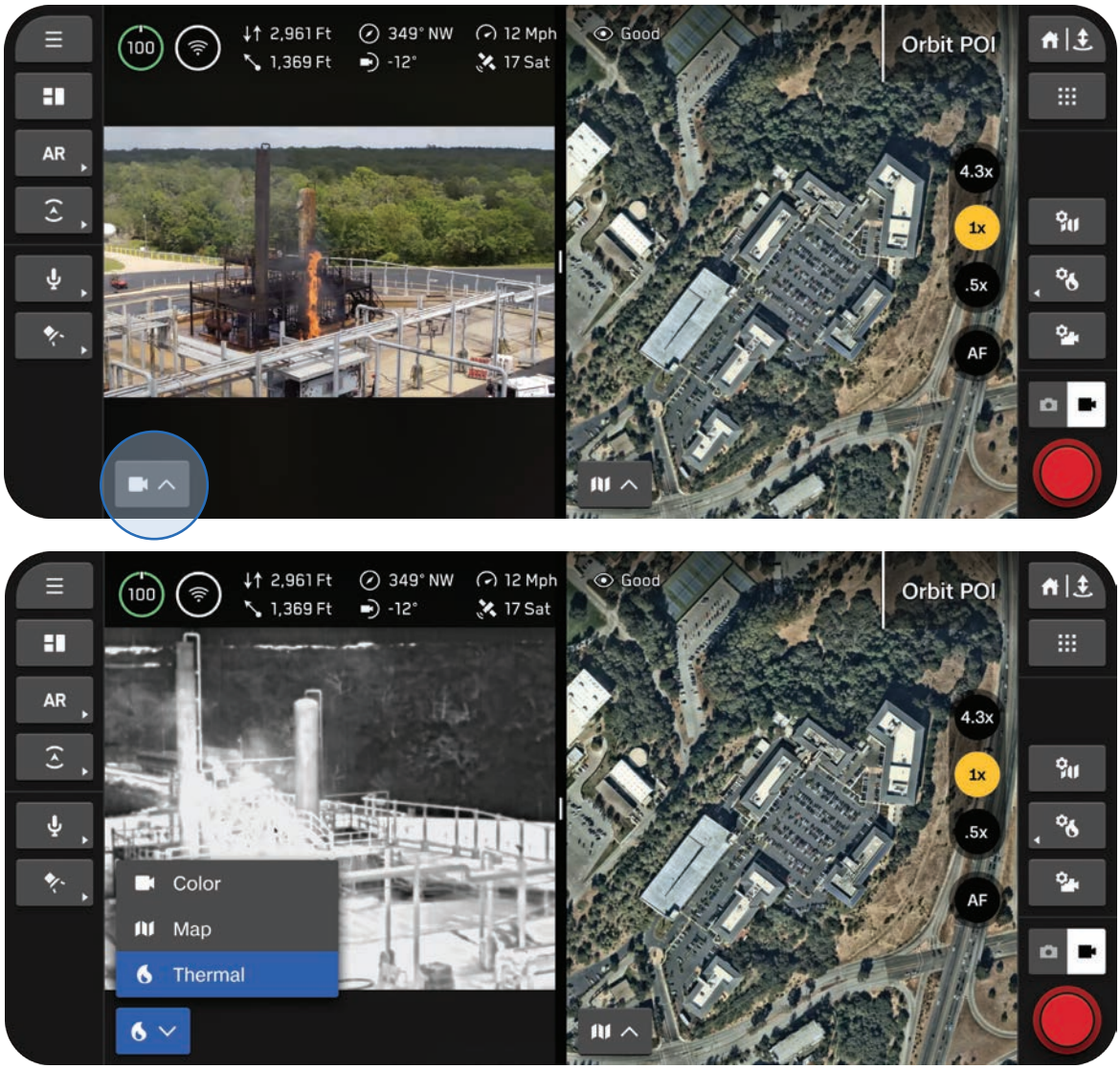
Split Layout

Grid Layout



Step 2 - Use the View Selector to select which feeds display

A menu will appear with the stream options. Drag the middle handlebar to resize streams.

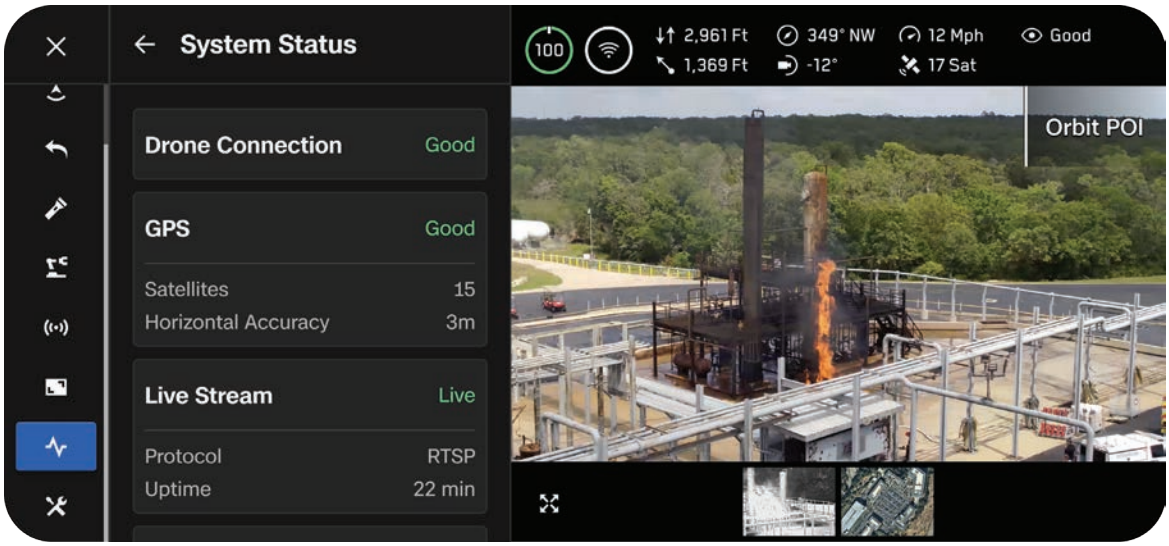


System Status

Provides a comprehensive overview of the system at a glance.

Displays:

- Drone connection quality
- GPS signal quality and position accuracy
- Live Stream status
- Remote ID broadcast status



Drone Connection
Skydio Connect SL
Refers to the connection quality between the drone and controller.

Skydio Connect 5G*
Refers to the cellular connection quality of the drone to cellular towers.

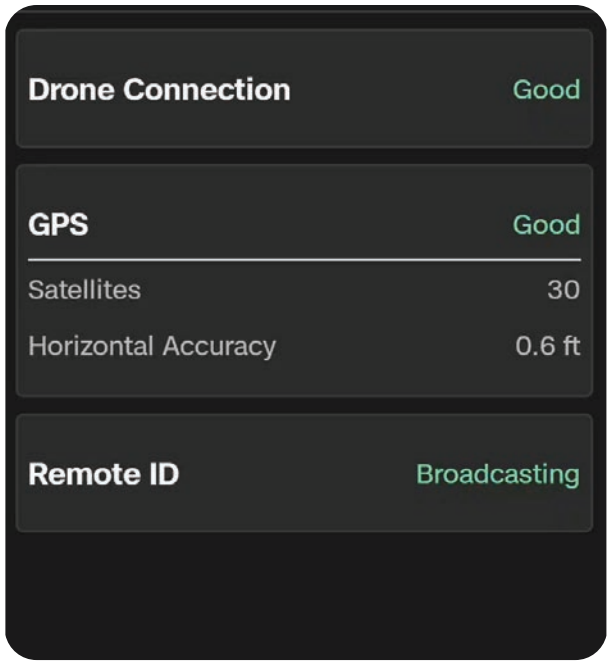
**Skydio Connect 5G coming soon*

GPS
Satellites
Represents the count of GPS satellites that the drone is currently receiving signals from. A greater number of satellites results in a more accurate position as well as greater safety and reliability during flight.

It is important to establish a strong GPS connection, especially before flying over water.

- Connection to 13 or more satellites is considered a Good connection
- We recommend 18 or more satellites before flying over water

Horizontal Accuracy
Quantifies the position of Skydio X10 on a two-dimensional plane. Especially useful when mapping or surveying.



Remote ID
Displays the status of Remote ID broadcasts.

Remote ID requires drones operating in U.S. airspace to identify themselves by broadcasting information that will enable the authorities to identify pilots who are not following the rules. Only authorized individuals from public safety organizations may request the identity of the owner of the drone from the FAA.

Remote ID broadcast includes:

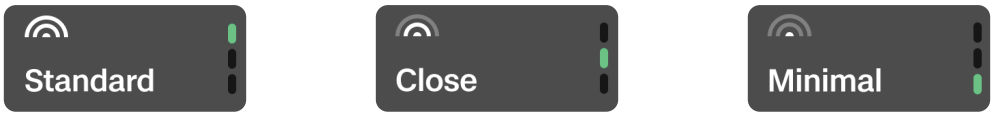
- Launch location
- Drone ID - your Skydio ANSI serial number
- Drone location and altitude
- Drone velocity
- Control station location and elevation
- Time of operation
- Emergency status

Quick Actions

The left sidebar of your Flight Screen contains a variety of Quick Action menus. With Quick Actions, you have the ability to quickly **toggle** a setting or **cycle** through setting options.

Toggle
Full green bar indicates a setting is ON.

Cycle
A menu will pop out and label the current setting. The green bars indicate the number of available settings.

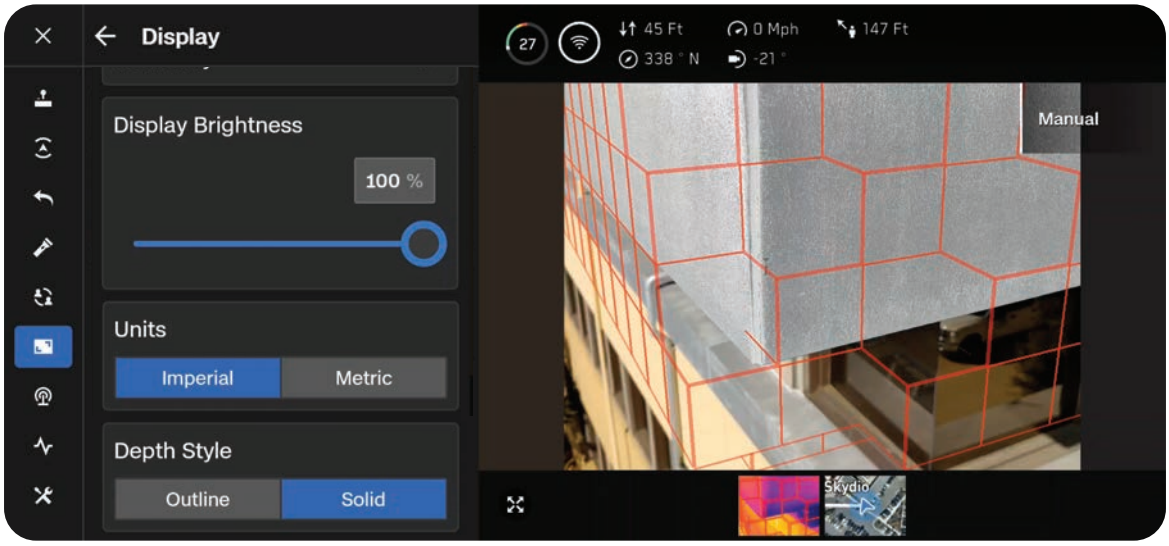


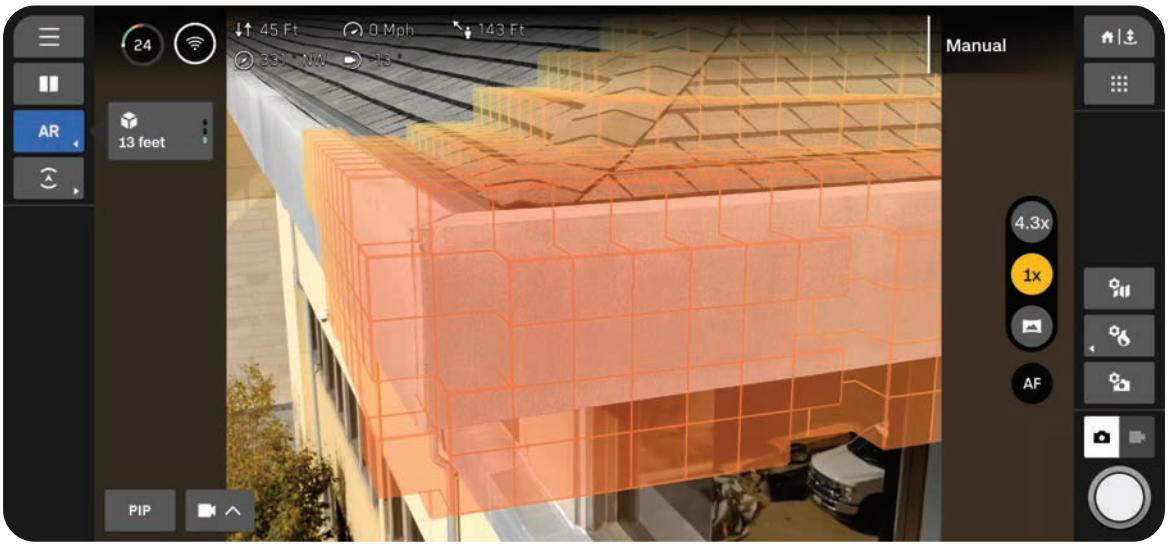
Augmented Reality (AR) Quick Actions

Enable to visually display where Skydio X10 detects obstacles in the environment. Appears as either solid or outlined augmented reality (AR) boxes, depending on your selection within the **Display** menu.

Use the **AR Quick Action** button to cycle between the distances from which obstacles are rendered on the screen. Objects that are closer appear red.

- Off
- 0 - 6 ft (0 - 2 m)
- 0 - 13 ft (0 - 4 m)

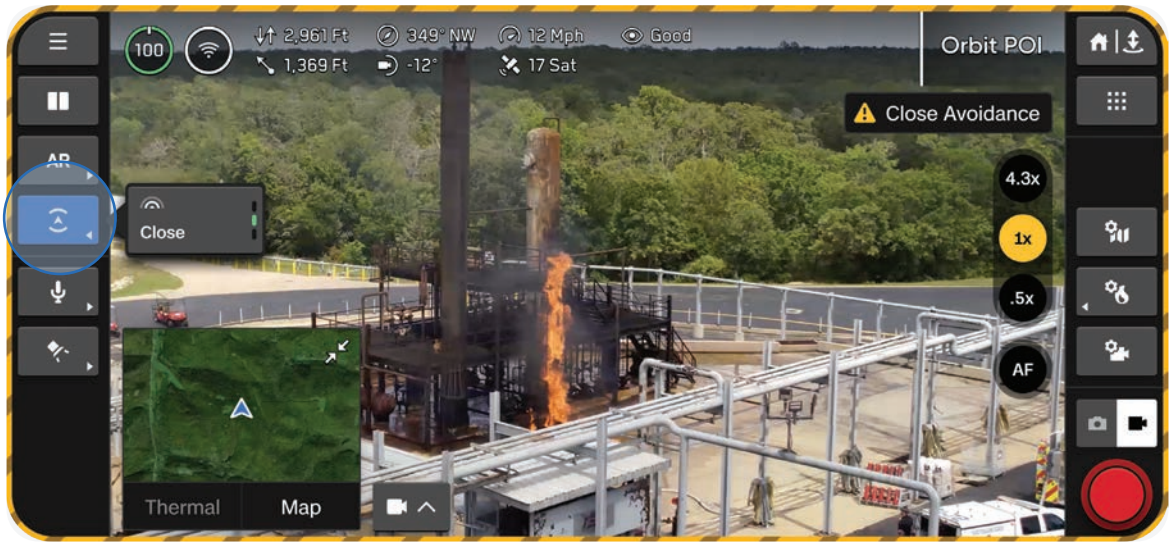




Obstacle Avoidance Quick Actions

Quickly cycle through the three obstacle avoidance settings, available in the **Sensing** menu.

A yellow border appears when in Close or Minimal obstacle avoidance mode.

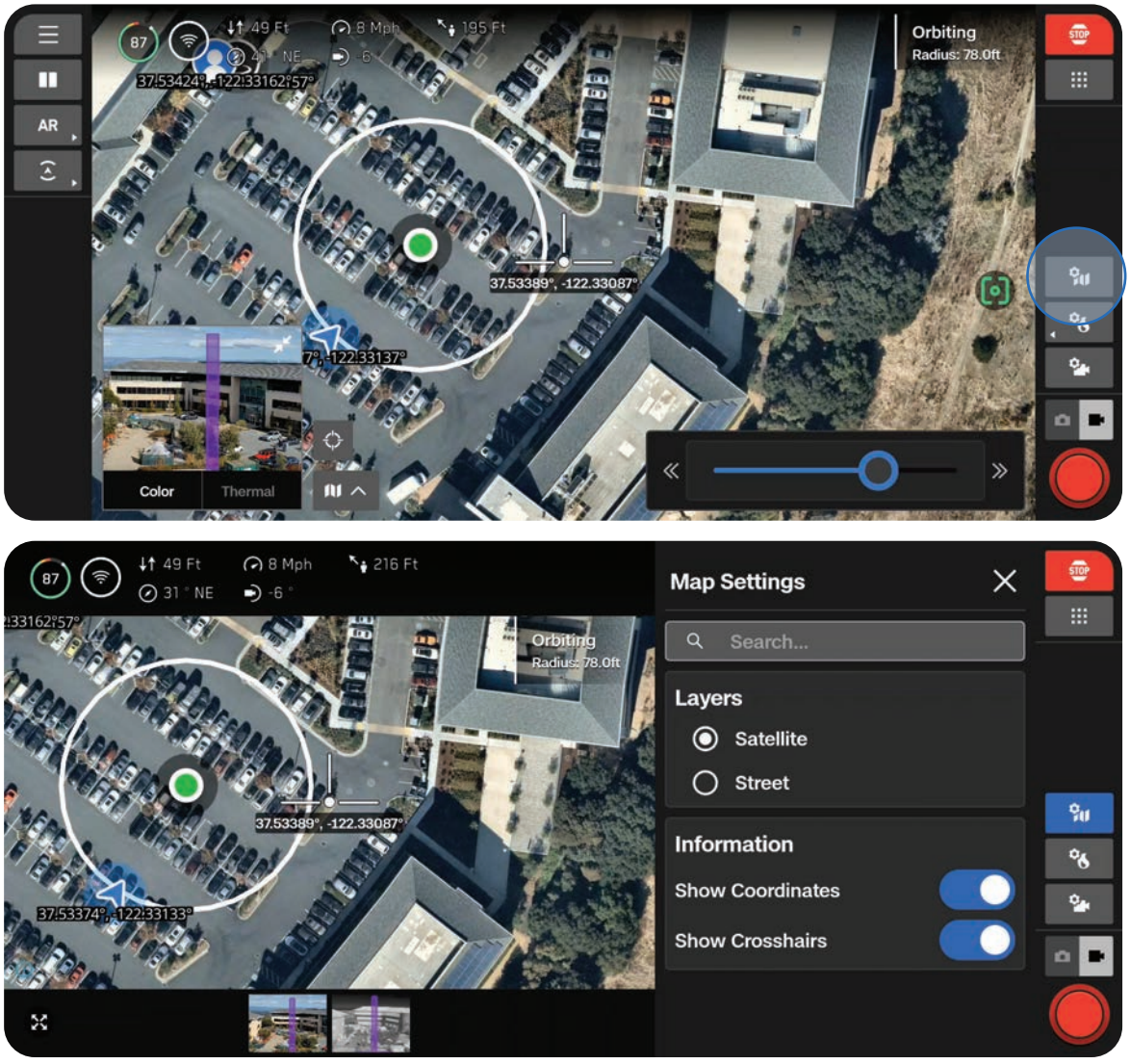


Inflight Map

View your current location, search, set a Home Point, and configure map settings.

- The location of Skydio X10, the controller, Launch Point, and Home Point (if set) are indicated on the map
- Press and hold on a location to set a **Home Point**

Adjust your map settings during flight using the **Map Settings** icon.



Camera Settings

Learn how to adjust camera and video settings such as zoom, exposure, ISO, and resolution.

This section covers

Overview

When your drone captures a photo or video, it will save one image file with the color camera. Two files will save if you have JPG and DNG enabled. If you would like Skydio X10 to also capture an image file with the thermal camera, enable **Thermal Capture** within the **Thermal Settings**.

Use **Camera Mode** on the right sidebar to switch between photo or video. Skydio X10 can capture photos or videos but not both at the same time. Your color and thermal cameras will always be in the same Camera Mode.

Access your photos and videos using the **Media** menu located in **Global Settings**.

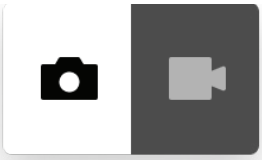
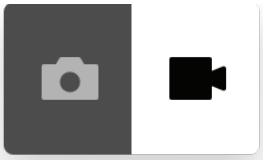
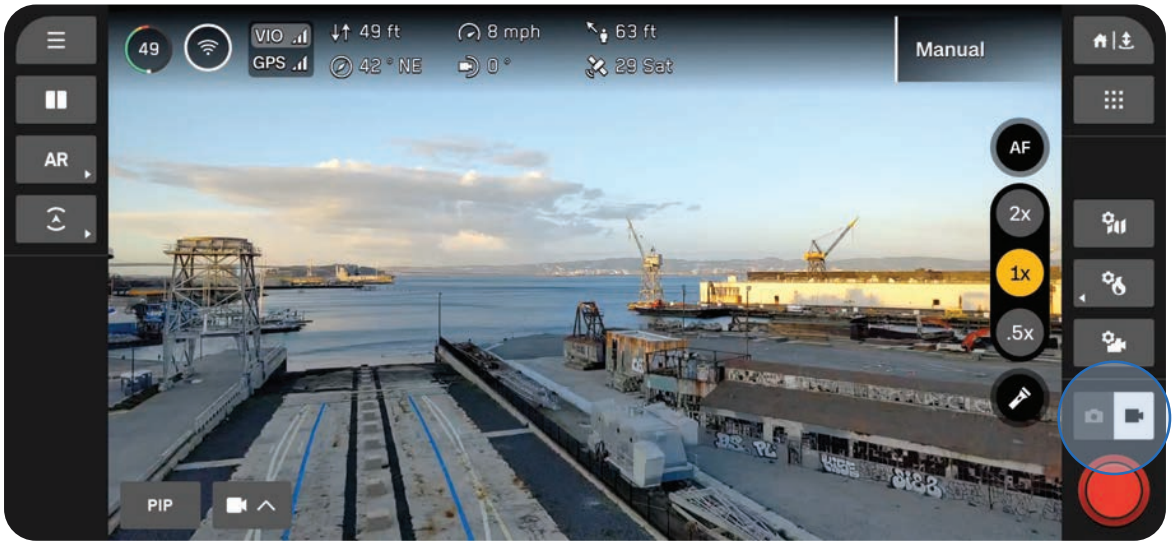


Photo enabled

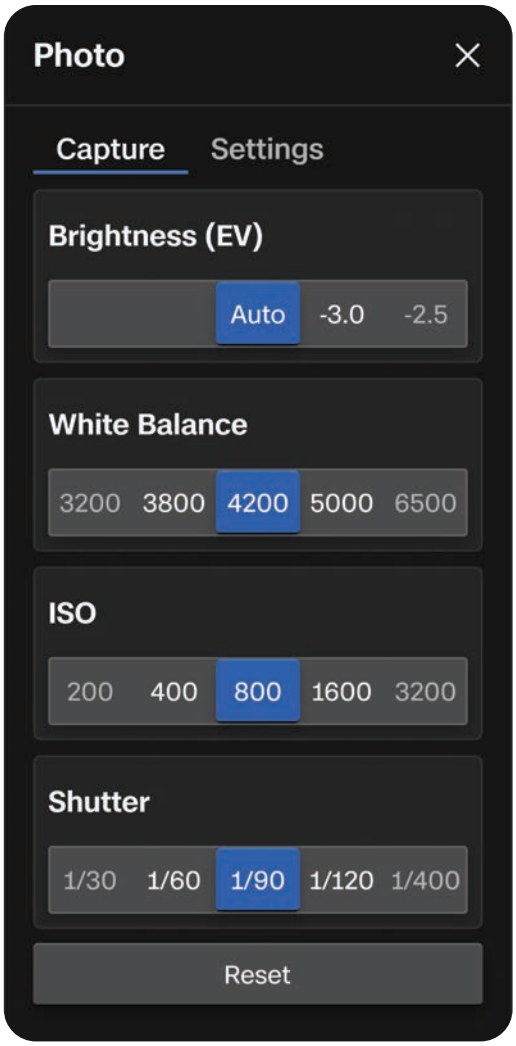


Video enabled



NOTE: *Photo and Video mode settings are independent of each other and persist through mode changes, but not power cycles.*

Capture Settings (Photo and Video)



Brightness Exposure Value (EV)
Refers to the amount of light the camera allows in.

Negative numbers result in darker images (less exposure) while positive numbers result in brighter images (more exposure).

- Brightness is set to Auto by default

White Balance
Balances the color temperature in your photo. If the whites in your picture are too orange, for example, adding the opposite color (blue) will balance them out.

Lower values result in a cooler (blues) image while higher values result in a warmer (yellows) image.

- Auto (default) means Skydio X10 will automatically adjust the White Balance for its environment

ISO
Brightens or darkens your photo. When in low-light conditions, raising the ISO value will brighten the image, however you may see some graininess.

- Auto means Skydio X10 will automatically adjust the ISO for its environment

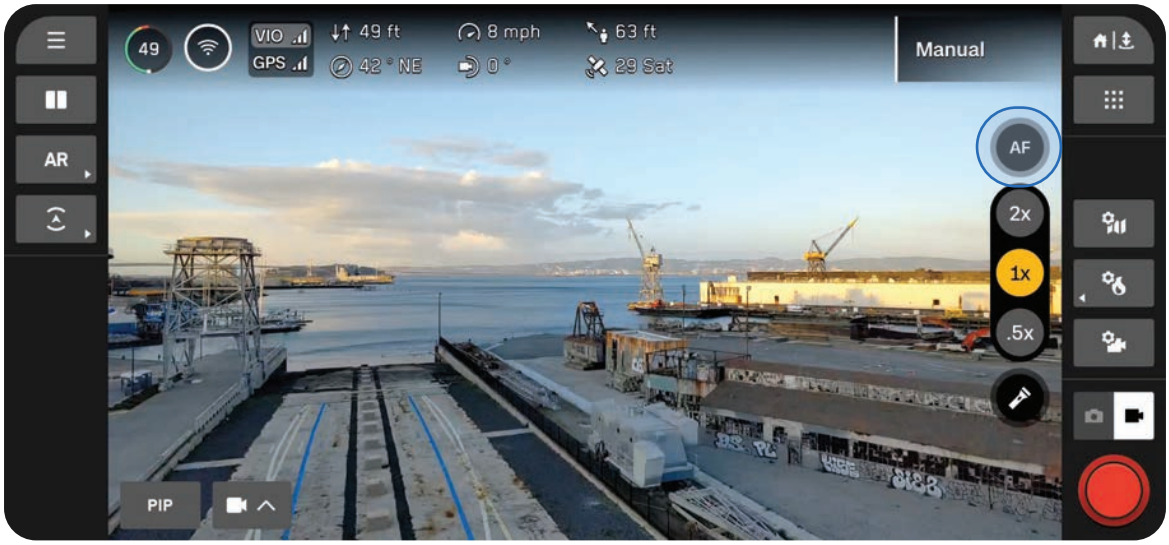
Shutter
Refers to the length of time a photo is exposed.

Slower shutter speed means greater exposure, while faster shutter speed means less exposure.

- Auto means Skydio X10 will automatically adjust the Shutter speed based on the available light

Focus and Exposure

To view the various focus options, select the Focus Control button on the right side of the Flight Screen.



AutoFocus (AF)
By default, your camera will be set to automatically adjust focus and exposure. In this focus mode, focus will generally prioritize objects in the center of the screen.

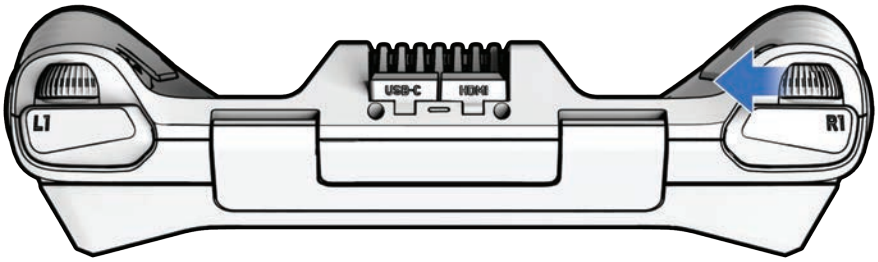
Manual Focus (MF)
After selecting the Manual Focus icon, two more button options will appear.

- Use the image of the mountain to focus on objects further away
- Use the image of the flower to focus on objects that are closer

Tap to Focus
Touch anywhere on the screen to focus on an area of interest, or select the icon to center. The Focus Indicator will turn green once the image is sharp and clear.

Zoom Settings (Photo and Video)

To zoom in digitally, place your finger on the right controller wheel and push it to the left. Customize this using Input Mapping (Flight Controls > Controls).



Quickly snap to a zoom level using the Zoom buttons on the right side of the screen.

VT300-Z Sensor

- 4.3x - transitions between narrow and telephoto lens, 128x max system zoom
- 1x - default zoom level of narrow lens
- .5x - Surround Vision

VT300-L Sensor

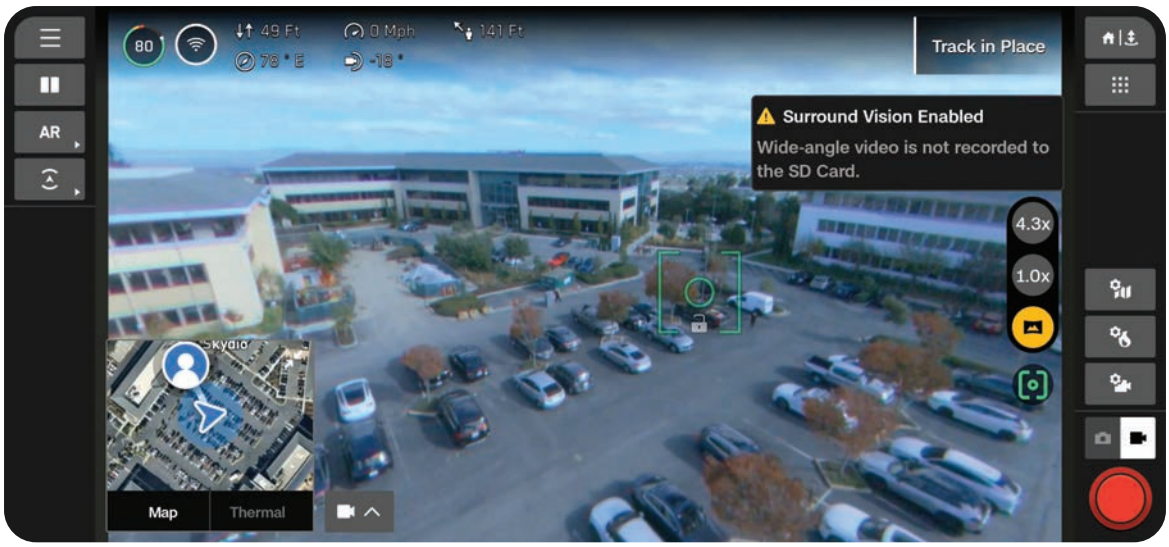
- 2x - transitions between wide and narrow lens, 64x max system zoom
- 1x - default zoom level of wide lens
- .5x - Surround Vision

NOTE: *Images and videos taken while zoomed in will be saved at that zoom level.*

Surround Vision

Surround Vision uses Skydio X10 navigation cameras to generate an ultra-wide view of your environment for situational awareness.

> ***NOTE:*** *Photos and videos captured when in Surround Vision will be saved at 1x zoom.*

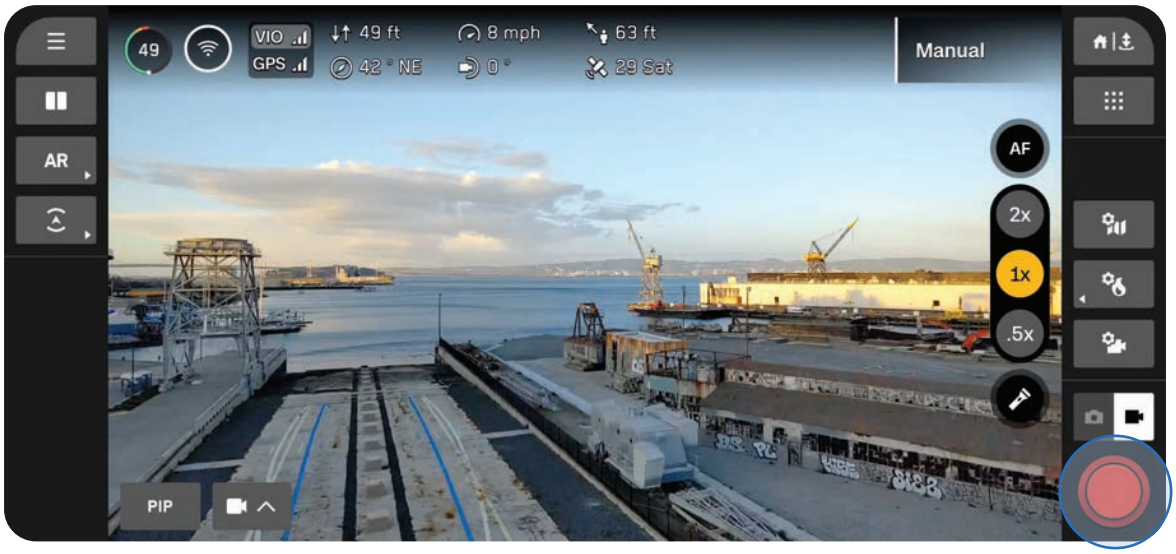


Thermal Zoom

The thermal camera will zoom up to 16x, but you may continue to zoom using the color camera. If any Tools are enabled, such as Region of Interest, they will dynamically adjust to fit the screen as you zoom.

Shutter Indicators

The Shutter is located in the bottom right of the Flight Screen and indicates the current state of Photo or Video mode.



Photo

Ready for Capture

Pressed

Disabled

Interval

Video

Manual Record

Manual Record (Pressed)

Recording

Recording (Pressed)

Auto Recording

Auto Recording (Paused)

Photo Settings

File Type

Choose whether you want Skydio to capture JPG images only, or both JPG and DNG files.

- **JPG** - Digital image format containing compressed image data.
- **DNG** - RAW image format file, meaning it is not compressed and retains all original photo data. A DNG file is larger than a JPG file since it stores image data.

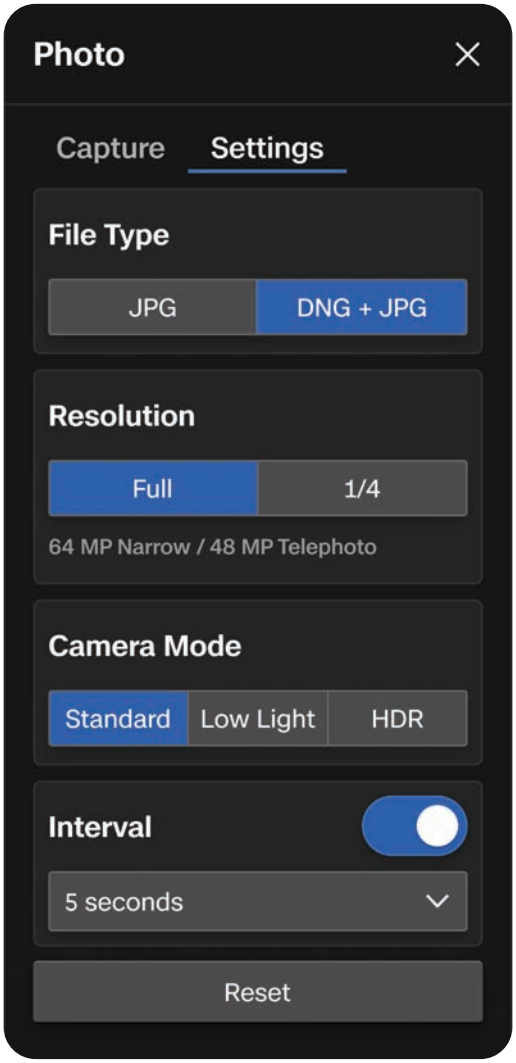
Resolution

Refers to the amount of detail in your video. Measured in megapixels.

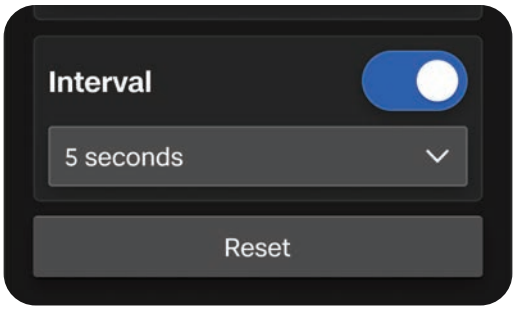
- **Full** - Images are captured at the highest quality, providing more detail and clarity.
- **1/4** - Images are captured at one-fourth of the full resolution, resulting in smaller file sizes. Best for conserving storage space or transmitting images faster.

Camera Mode

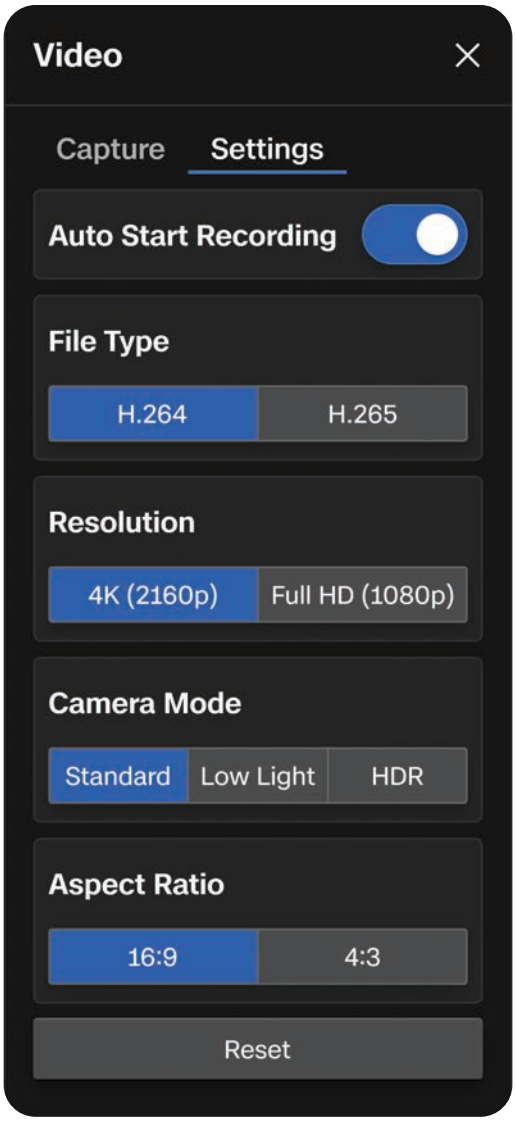
- **Standard** - Designed for typical, everyday lighting conditions. Provides a balanced, standard level of exposure, image processing, and contrast.
- **Low Light** - Designed for environments with dim lighting, such as indoors or evening. Settings are adjusted to capture more light, reduce noise, and improve visibility. Only available with 1/4 Resolution.
- **HDR** - Designed to capture environments with a wide range of brightness levels. Only available with 1/4 Resolution.



Interval
When enabled, Skydio X10 will continuously capture photos at the specified time interval until the setting is disabled or the flight ends.



Video Settings



Auto Start Recording
When enabled, Skydio X10 will record video automatically.

When disabled, tap the on-screen Shutter button or on the controller (R1 button) to start/stop video recording.

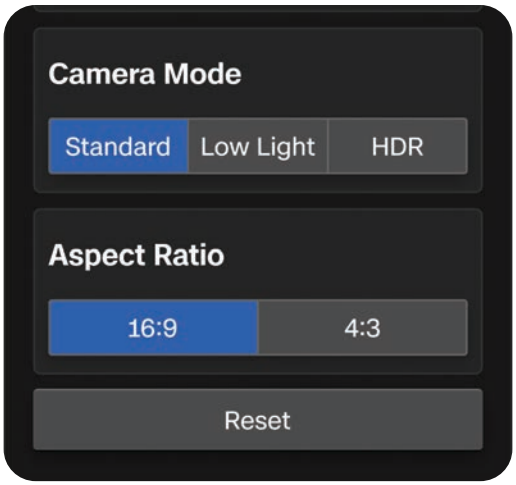
File Type
Select between H.264 and H.265 compression formats, depending on your preferences for video quality, file size, and playback compatibility.

- **H.264** - Provides manageable file sizes without sacrificing video quality. Recommended for standard video recording, and compatible with most devices and video editing software.
- **H.265** - Ideal for high-quality video capture and maintains efficient compression.

Resolution
Select between 4K and Full HD, which refers to the amount of detail in your video. Measured in pixels.

- More pixels result in a high-resolution video
- Fewer pixels result in a lower resolution video

Camera Mode



- **Standard** - Designed for typical, everyday lighting conditions. Provides a balanced, standard level of exposure, image processing, and contrast.
- **Low Light** - Designed for environments with dim lighting, such as indoors or evening. Settings are adjusted to capture more light, reduce noise, and improve visibility.
- **HDR** - Designed to capture environments with a wide range of brightness levels.

Aspect Ratio

Sets the shape and framing of your video.

- **16:9** - Provides a wider, broader field of view.
- **4:3** - Provides greater FOV in the vertical axis, resulting in more square-shaped framing. Images are taller, as opposed to wider.

Using the Flashlight on the VT300-L Sensor Package

The VT300-L sensor package comes quipped with an onboard flashlight, providing effective illumination up to 10 ft (3 m) and enabling inspections in low-light environments.

Select the on-screen flashlight icon to turn the flashlight on or off in flight.

NOTE: *The flashlight can only be controlled during flight and will not be operational on the ground nor during launch and landing.*

WARNING: *When using the flashlight on the VT300-L sensor package, do not stare directly into the light at any range for any extended period of time.*

WARNING: *After prolonged use of the flashlight, your sensor package may be hot to the touch and could present a serious burn risk. After landing, wait for your sensor package to cool down before handling.*

Thermal Camera and Tools

The thermal camera with Skydio X10 includes a powerful suite of tools, such as radiometric capabilities, to assist you in a variety of use cases.

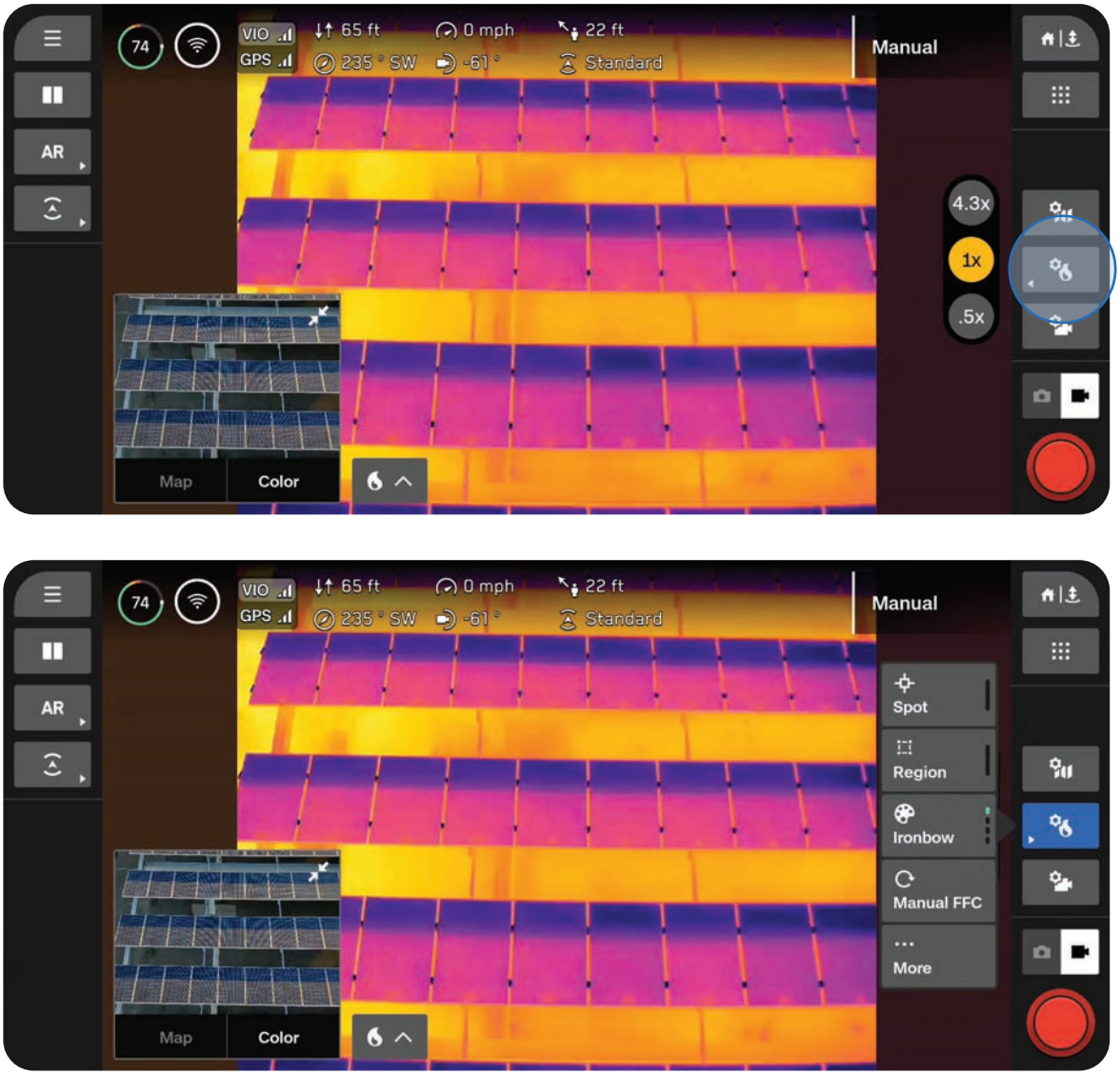
This section covers

Accessing Thermal Options

Quickly access your Thermal Tools and Settings using the quick action button located on the right side of the Flight Screen.

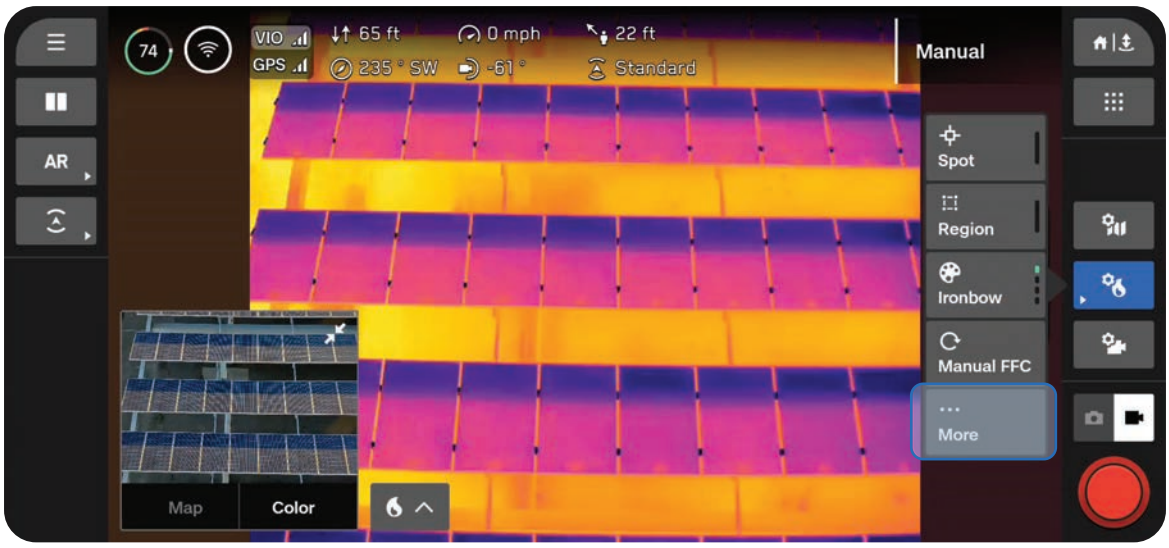
Step 1 - Select Thermal Settings

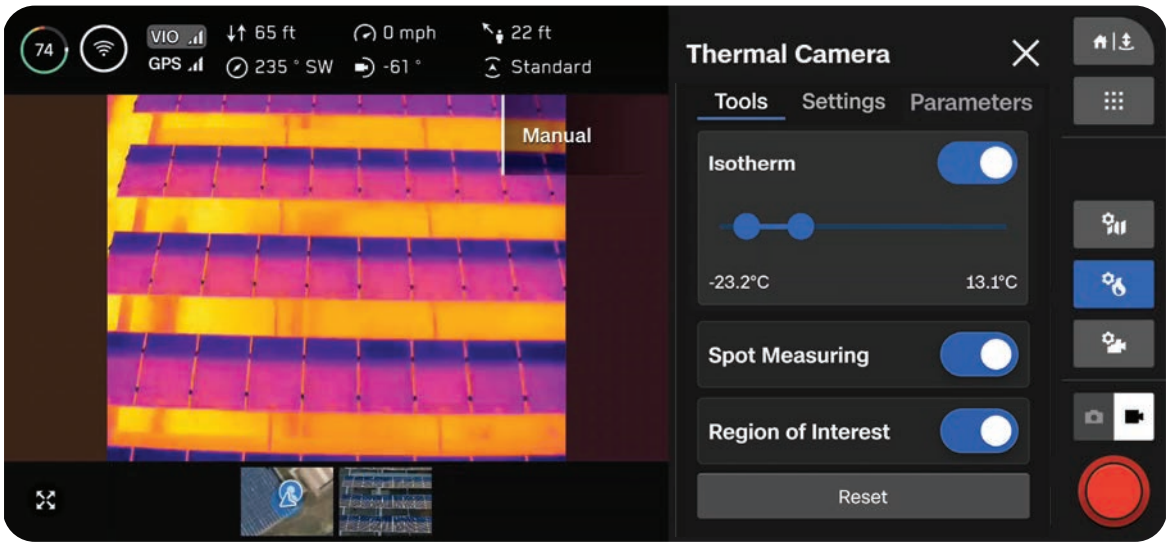
Easily enable some settings using the quick actions that appear, or access the full menu.



Step 2 - Select More

Use the tabs at the top to customize your Tools, Settings, and Parameters.

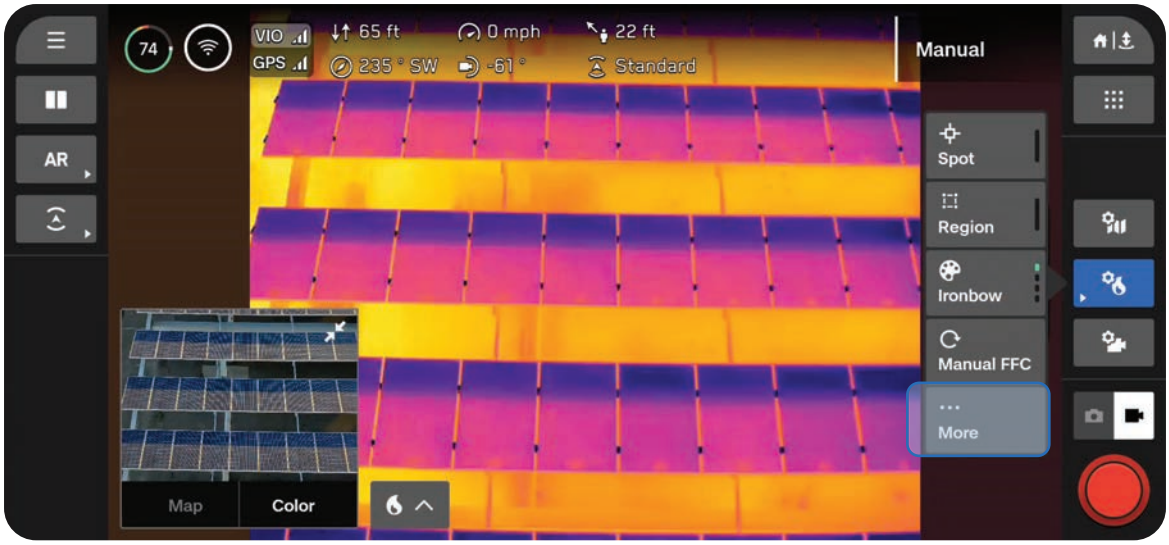




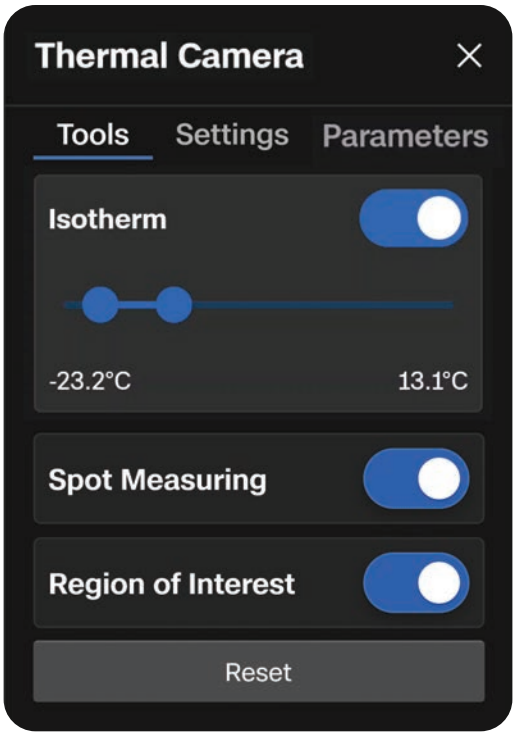
Flat Field Correction (FFC)

Flat Field Correction (FFC) mitigates and compensates for errors that build up over time during the thermal camera operation. This is performed in the background automatically at lower zoom levels, however, you can use the Thermal Settings to manually perform FFC at any time.

NOTE: *If you manually perform FFC, the actuation of the shutter may be noticeable on the image at higher zoom levels.*



Thermal Tools



Isotherm
Allows you to set a range of temperatures to detect. Use this setting to omit unwanted data outside of the specified range.

The defined range will appear as the currently selected palette.

- Temperatures outside of the defined range will appear as the default White Hot or Black Hot palette
- If White Hot or Black Hot are currently selected, the temperatures in the Isotherm range will default to Rainbow

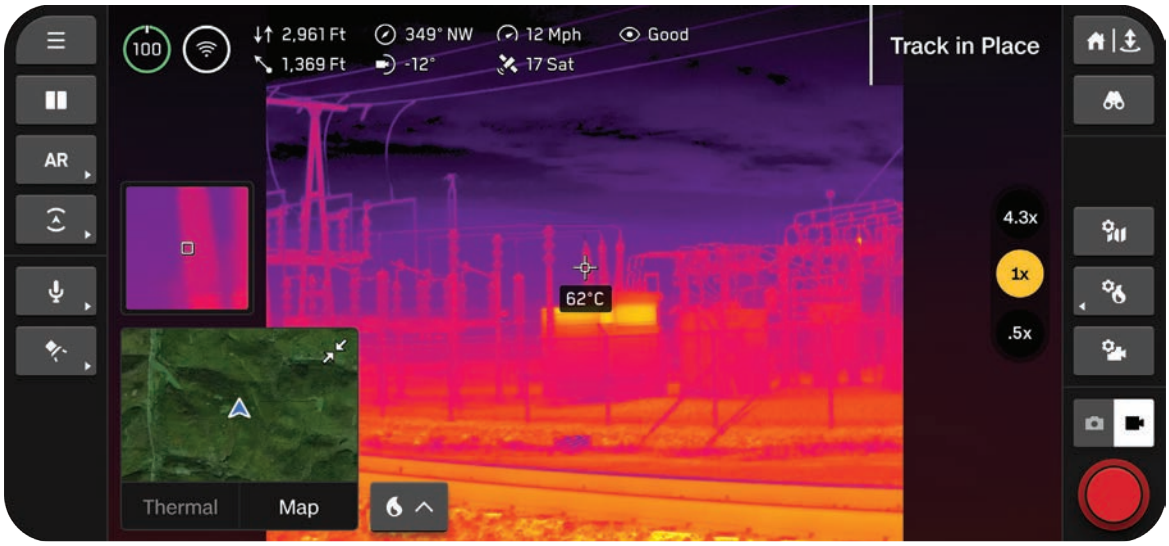
Spot Measuring
Enable to display the specific temperature value of an object on-screen as you drag your finger on-screen.

- Tap or drag your finger across the screen to view temperatures

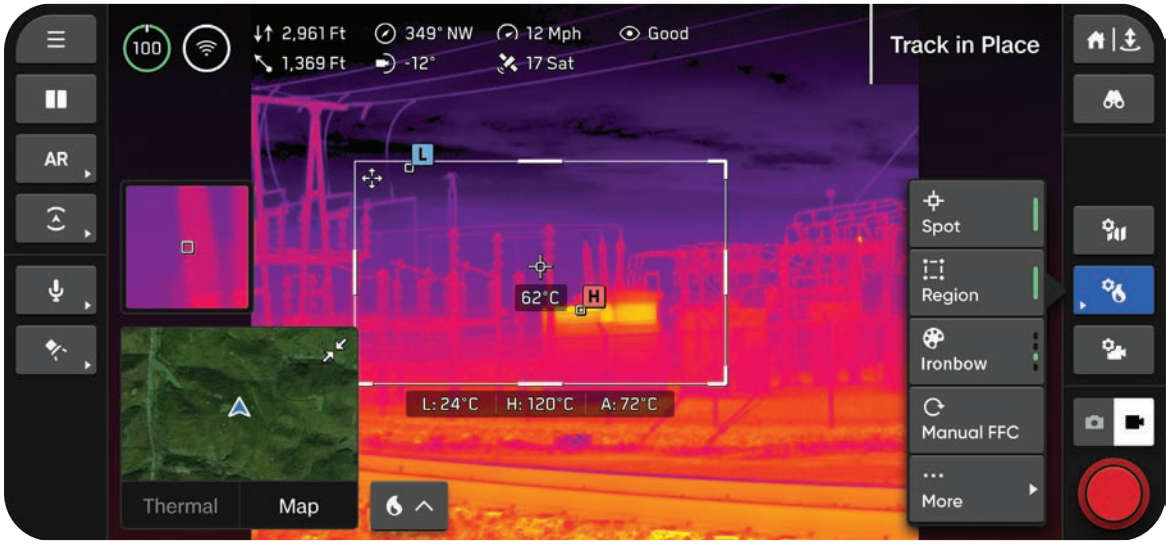
Region of Interest
Enable to display an on-screen box that detects the minimum, maximum, and average temperatures within the outlined area

- **H** represents the highest temperature detected
- **L** represents the lowest temperature detected
- **A** indicates the average temperature detected
- Select the edges of the box to resize, or use the arrows to drag the box to a different location

Spot Measuring

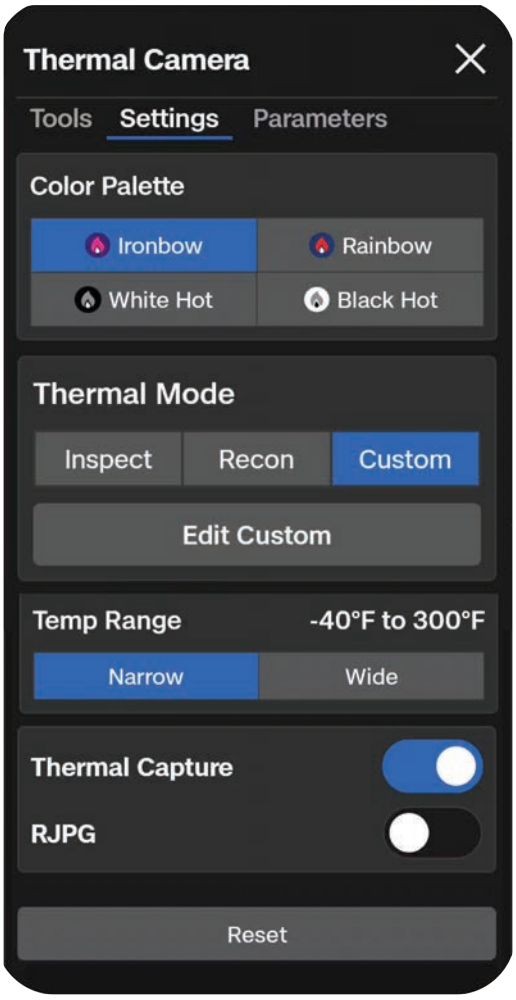


Region of Interest



Thermal Settings

Color Palette
Visual representations of temperature variations captured by a thermal camera



Ironbow - Quickly identify varying temperatures and spot thermal anomalies. Displays a specific range of colors, from blues to reds, which indicate different temperature levels.

- Warmer objects are presented in lighter colors and colder objects in darker colors

Rainbow - Uses the colors of a traditional rainbow to distinguish between subtle variations in temperature levels.

- Covers a broader range of colors without emphasizing specific temperature ranges

White Hot - Provides a clear visualization of temperature variations without a variety of colors.

- Brighter, whiter colors indicate warmer temperatures
- Darker colors represent cooler temperatures

Black Hot - Displays the inverse of a White Hot palette.

- Brighter, white colors indicate cooler temperatures
- Darker, black colors represent warmer temperatures

Thermal Mode
Adjust the signal amplification from the camera sensor to enhance temperature differences in an image.

Recon - Tuned to increase the contrast between the overall scene and targets. Best for search and rescue or situational awareness use cases. Recon helps differentiate the scene from things like people, vehicles, or animals.

Inspect - Tuned to decrease the overall contrast so that temperature anomalies are easier to identify in inspection use cases. This makes it easier to not only see the anomaly, but help track the source from the heat signature.

Custom - Allows you to fine-tune your Gain, High Tail, and Low Tail settings. Select Inspect or Recon as your Base Mode, then adjust your Gain, High Tail, and Low Tail settings from there. These settings will persist across flights and will be applied each time you select Custom as your Thermal Mode.

- Gain - Artificially increases contrast of areas with similar temperatures
- High Tail - Adjust saturation of the hotter items in the scene
- Low Tail - Adjust saturation of colder items in the scene

Temp Range
Select the range of temperatures Skydio X10 will detect.

Narrow - Detects temperatures ranging from -40°F to 302°F (-40°C to 150°C)

Wide - Detects temperatures ranging from -40°F to 662°F (-40°C to 350°C)

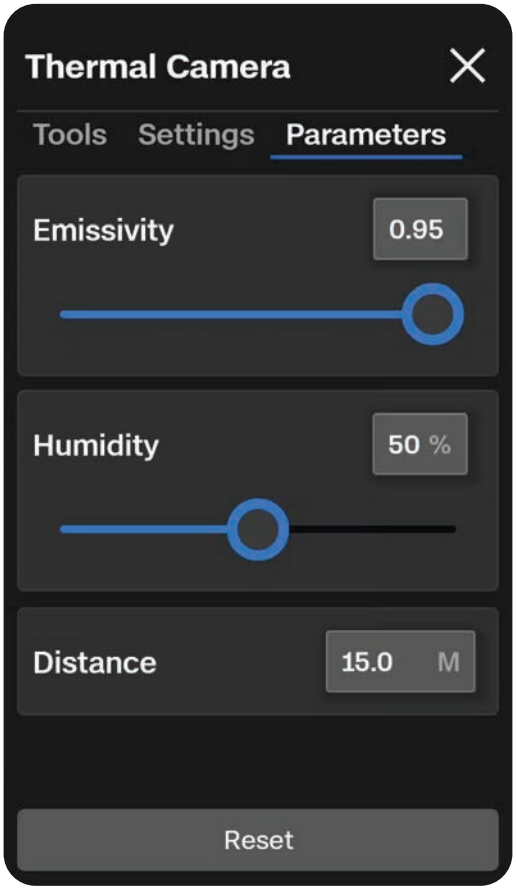
Thermal Capture
Enable to capture thermal images as JPG files.

RJPG - When enabled, your drone will capture a Radiometric JPG in addition to a standard JPG. A Radiometric JPG includes the radiometric data within the photo file.

Thermal Parameters

Emissivity
The measure of how efficiently an object emits thermal radiation. Adjust to match the camera readings to the true temperature of the object.

- Higher values means the camera is more sensitive to temperature variations
- Lower values means the camera is less sensitive to temperature variations



Surfaces that are better emitters (higher emissivity) provide more reliable temperature readings. For example, black electrical tape, rusted or oxidized surfaces, bodies of water, or human skin all absorb and emit energy. Set your emissivity high for these types of surfaces.

Reflective surfaces are not good emitters (low emissivity) and therefore not as reliable to measure. Stainless steel, shiny surfaces, or reflective windows tend to have a low emissivity. Set your emissivity low for these types of surfaces, but we recommend gathering your reading from a higher emissivity surface whenever possible.

Humidity
Set your humidity to accurately reflect the environment you are flying in. This should be the humidity between the sensor and the target.

Humidity is an important parameter to set because your thermal sensor will detect atmospheric conditions like humidity (and distance) which can affect the accuracy of your reading.

Distance
Set your distance to accurately reflect the range from your thermal sensor to the target.

The further away the target, the more atmosphere your thermal camera will pick up along the way to the target which can affect the accuracy of your reading.

Flight

Review safe flight practices and important information you need to know while in flight.

This section covers

Preflight Inspection

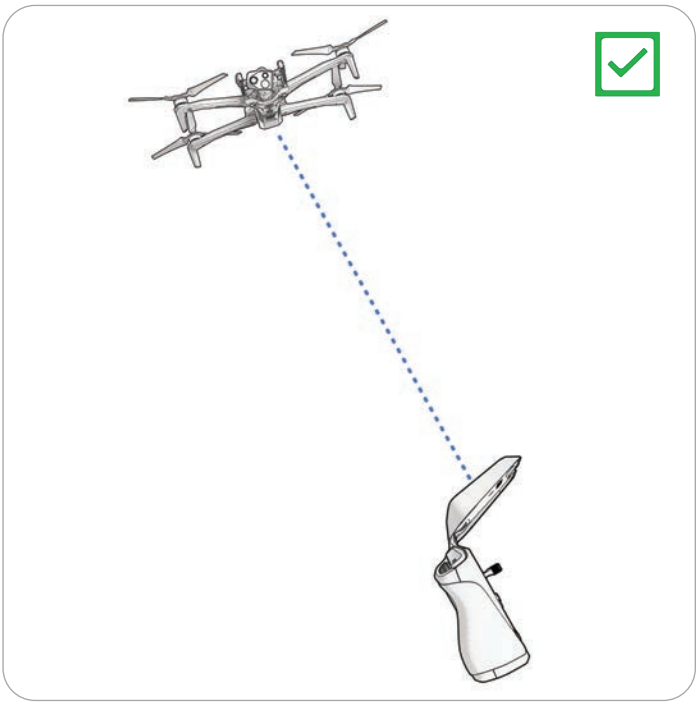
WARNING: *Carefully inspect your drone and environment before launching to ensure a safe flight.*

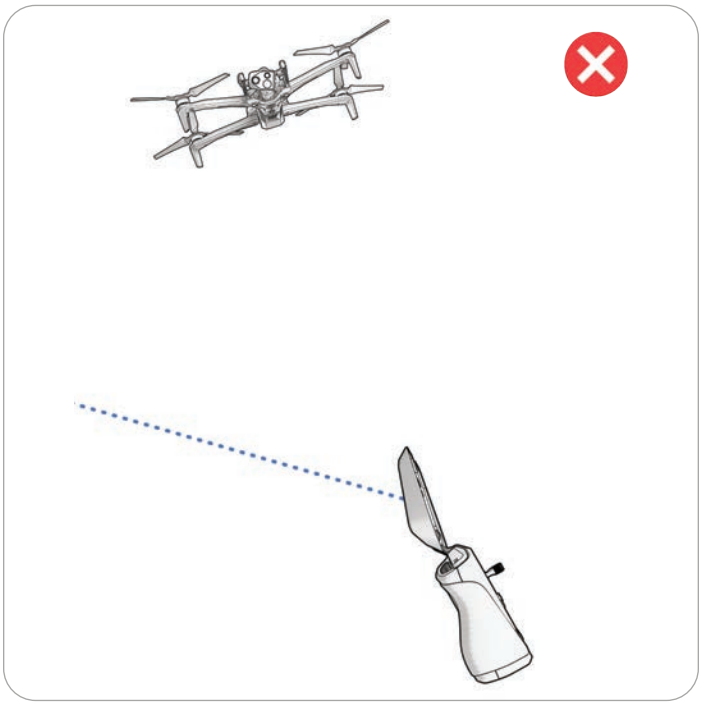
- **Inspect the chassis** to ensure it is free of damage.
- **Inspect drone arms** and verify they are fully extended and free of damage.
- **Inspect the battery** and confirm it is securely seated prior to launching. Skydio X10 uses magnets to seat the battery which may attract metallic debris. Ensure the connector pins are free of debris or damage.
- **Clean the camera lenses and time of flight sensor** with a clean microfiber cloth. Cameras should be dust and smudge-free before flight.
- **Fan out the propellers and inspect** to verify they are firmly attached and properly seated in the motors and spin freely. Propellers should be free of cracks or damage. Do NOT fly with damaged propellers.
- **Inspect the sensor package** before powering on and ensure it moves freely and is not damaged, and **remove the Sensor Package Lock** before flying.
- **Ensure all USB-C and microSD card seals are secured** over the ports.
- **Check your surroundings** before launching to ensure a safe environment for flight.
- **Point the controller cover/antennas toward the drone** for maximum wireless performance.
- **Verify batteries are fully charged** before flying.
- **Check for drone and controller updates** before flying.

Maximum Wireless Performance (Skydio Connect SL)

For maximum wireless performance when flying over a direct link, always maintain a direct line of sight between the controller and Skydio X10. Point the controller cover toward the drone, especially when flying at close range high altitude.

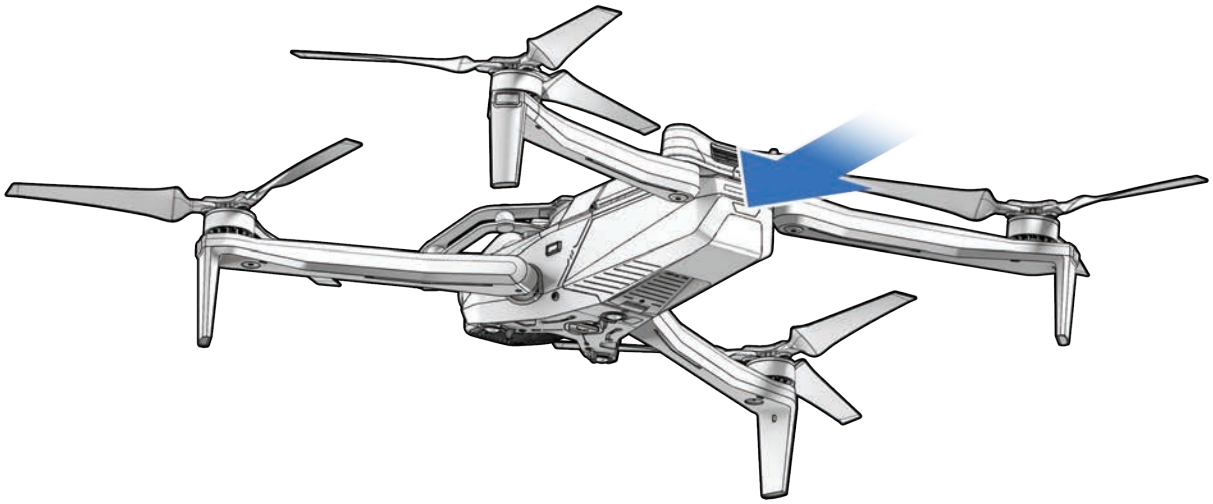
Signal strength and maximum control range may be affected when flying in areas with electromagnetic interference.

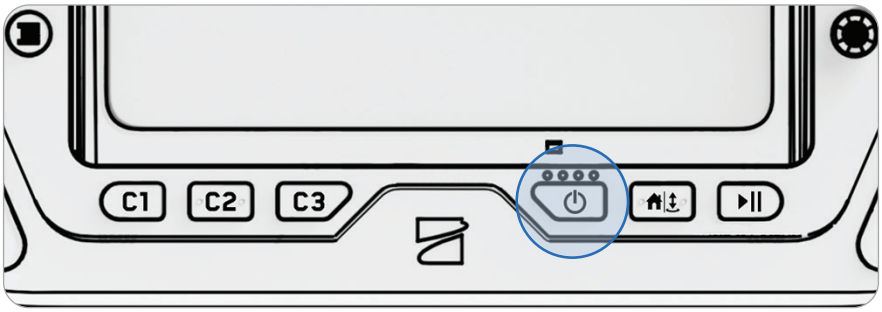




Connecting Devices

Step 1 - Power on Skydio X10 and the X10 controller





Step 2 - Wait for devices to connect

A drone and controller that were previously paired will automatically connect.

Launching

NOTE: *Before your first flight, make sure to set your Return and Lost Connection Behaviors (Global Settings > Return). Scan the QR Code for more information about Return and Lost Connection Behaviors.*

Step 1 - Find a clear, safe area to launch

Find a clear, safe area to launch and place your drone on a stable surface. Leave about 10 ft (3 m) clearance in all directions.

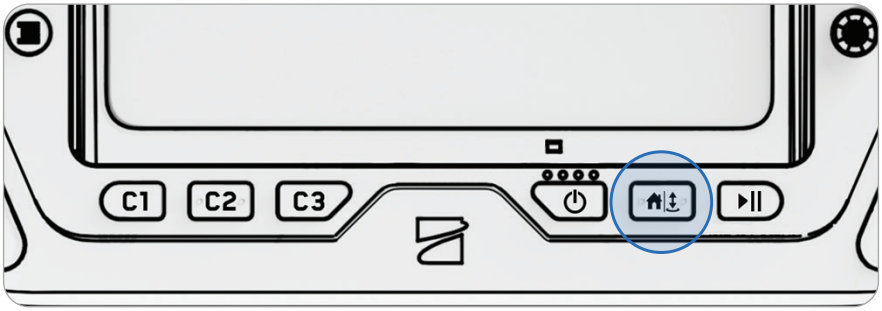
Select your connection type (2.4/5 GHz direct link or 5G Cellular), then select **Fly Now**.

Step 2 - Launch

Your drone will rotate 360° during launch to calibrate its Inertial Measurement Unit (IMU) and navigation system, climb to 10 ft (3 m), and hover.

Option 1 - Drag the on-screen slider
The drone will initiate launching when you lift your finger away from the screen.

Option 2 - Press and hold the Launch/Land button on the controller
The drone will initiate launching when you see the on-screen check mark.



WARNING: *Obstacle avoidance is disabled when the drone is below 10 ft (3 m) during landing. Exercise extreme care to avoid injury or damage. Do not touch spinning propellers.*

Step 3 - Acquire GPS Lock

The GPS indicator in the telemetry bar will spin until the drone has acquired GPS Lock and established heading.

When the **Weak GPS Alt Limit** toggle is enabled, your drone will not be able to ascend above 66 ft (20 m) when GPS is weak.

Fly laterally to acquire a GPS lock and ascend above 66 ft (20 m).

Hand Launching

Launching and landing Skydio X10 from your hand is a quick and convenient way to start or end your flight, particularly if you are not in a clear, level area. For your safety, always use caution when hand launching. This maneuver is dangerous and should not be attempted in unstable environments, such as during high winds or while standing on a moving vehicle or boat.

WARNING: *Obstacle avoidance is disabled when the drone is below 10 ft (3 m) during landing. Exercise extreme care to avoid injury or damage. Do not touch spinning propellers.*

Step 1 - Ensure you have clearance above and in front of you

Step 2 - Hold the drone away from you (sensor package facing away from your body)

- Lightly grip the battery
- Keep the drone level, still, and at arm's length from your body
- Your fingers should be below the Skydio X10 chassis and away from the propellers at all times
- Ensure your hand steady

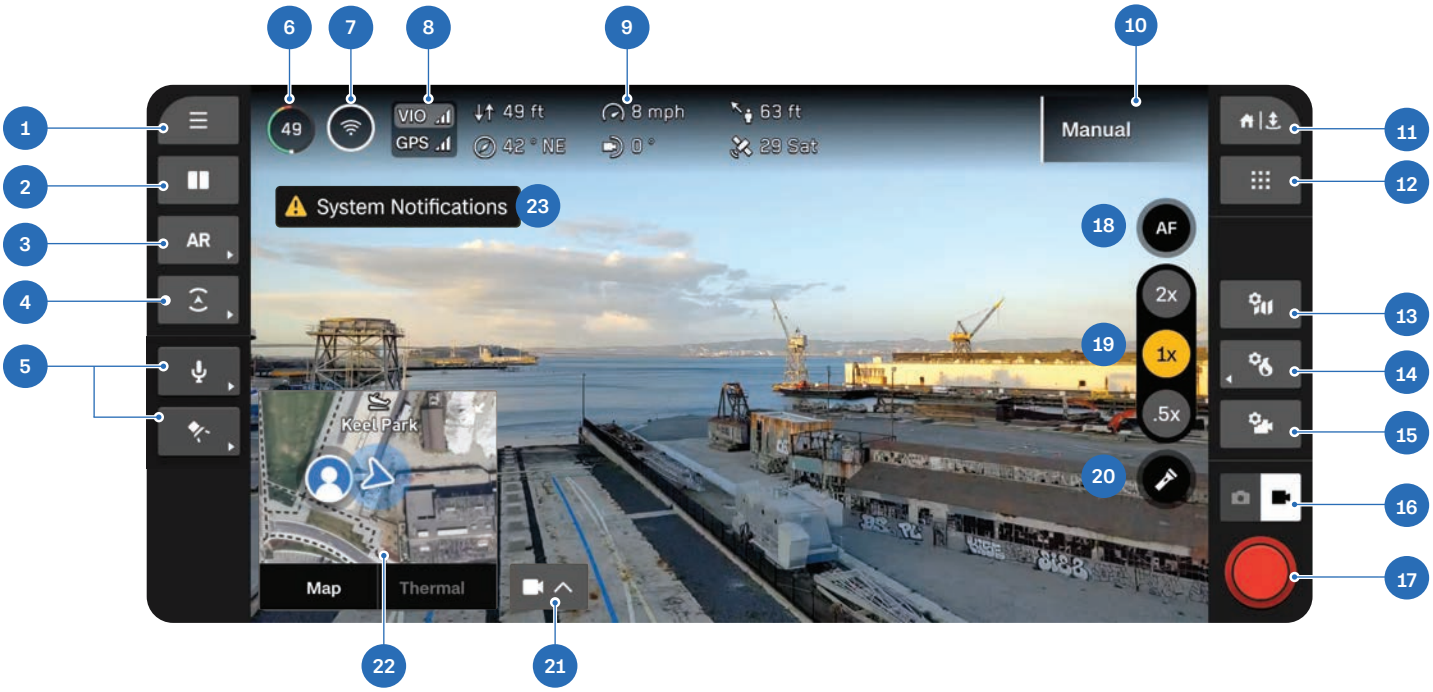
Step 3 - Launch

Press and hold the Launch Button on the X10 Controller. Slowly relax your grip as Skydio X10 launches.

- Do not push or throw the drone up in the air
- Keep your hand still - the drone will slide off your palm and take flight on its own

TIP: *Quick Launch allows you to use the battery power button to hand launch your Skydio X10 so that you do not have to balance the controller in one hand and your drone in the other. Press the battery button four times to initiate the launch.*

Flight Screen



1. Global Settings
2. Display Layout
3. AR Quick Actions
4. Obstacle Avoidance Quick Actions
5. Attachments Quick Actions*
6. Drone Battery
7. Signal Strength
8. VIO/GPS Indicator
9. Telemetry (customizable)
10. Active Flight Skill
11. Return/Land
12. Flight Skills
13. Map Settings
14. Thermal Settings
15. Camera Settings
16. Camera Mode
17. Shutter
18. Focus Control
19. Zoom
20. Flashlight On/Off (VT300-L Only)
21. Picture-in-Picture (PiP)
22. View Selector
23. Notifications

**Only appears when you are currently using an attachment. Attachments coming soon.*

Battery Indicator

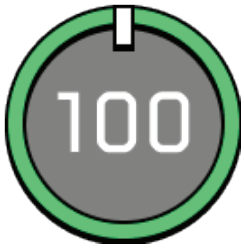
The battery percentage **dynamically changes** during your flight based on altitude and distance from the return location. Monitor the Battery Indicator while flying to understand how much battery is:

- Available for flight
- Available for return
- Required to land

The battery on Skydio X10 has the ability to warm itself in cold environments. For more information, read the Maintenance section.

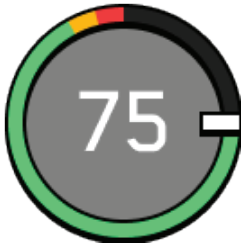
Green indicates the battery capacity for nominal flight before the time limit required to safely return and land.

- Decreases as battery capacity diminishes
- Adapts based on your altitude and distance from the return location



Yellow indicates how much battery is required to safely return.

- Adapts based on your altitude and distance from the return location



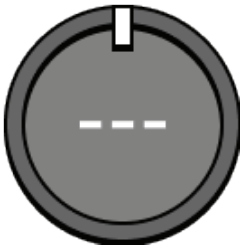
Red indicates how much battery is required to land.

- Adapts based on your altitude and distance from the return location

The lightning bolt indicates the battery is connected and charging.

When battery capacity has less than two minutes of flight time available for landing, the indicator will change to a countdown.

Three dashes indicate the battery is disconnected.



VIO/GPS Indicator 

Indicates the health of the drone positioning systems, and which positioning system is actively being used (highlighted).

- **VIO** - Visual Inertial Odometry. This is the visual navigation system of the drone.
- **GPS** - Global Positioning System

VIO and GPS states: Healthy, Degraded, Failed, or Disabled

If both GPS and the drone's vision navigation system (VIO) become unreliable, Skydio X10 will enter Attitude Mode.

> ***CAUTION:*** *Monitor your GPS and VIO health in the telemetry bar. If VIO and GPS both drop below 2 bars of health, your drone will enter Attitude Mode.*

Flight Skills

Skydio offers a range of manual and autonomous controls called **Flight Skills**. Select your desired skill and Skydio X10 will intelligently fly itself to assist with the task at hand.

By default, you will start in the Manual Flight Skill, which provides a traditional flying experience.

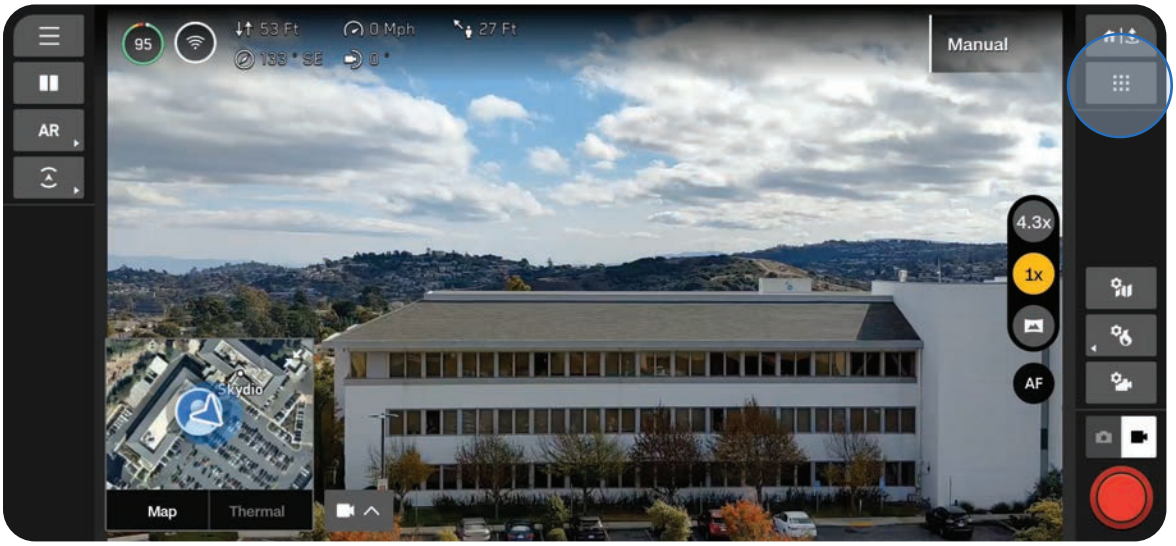
Base Skydio Flight Skills

Manual	Traditional flying experience. Obstacle avoidance settings will persist when flying manually, allowing Skydio X10 to route itself around obstacles, modifying any commands that could potentially cause a collision. Fly using Control Mode 1, Mode 2 (default), or Mode 3.
Orbit Point	Rotate around a user-selected point-of-interest in either a clockwise or counter-clockwise direction, keeping the point in the center of the frame. Set a GPS position on a map.
Track in Place	Initiate tracking a person or vehicle and Skydio X10 will hover in a fixed position, as if affixed to a virtual tripod. The drone will automatically yaw and adjust the sensor package pitch to maintain tracking. Tracking in both Color and Thermal is available.
Waypoints	Create and executive multi-waypoint GPS missions, preflight or postflight.

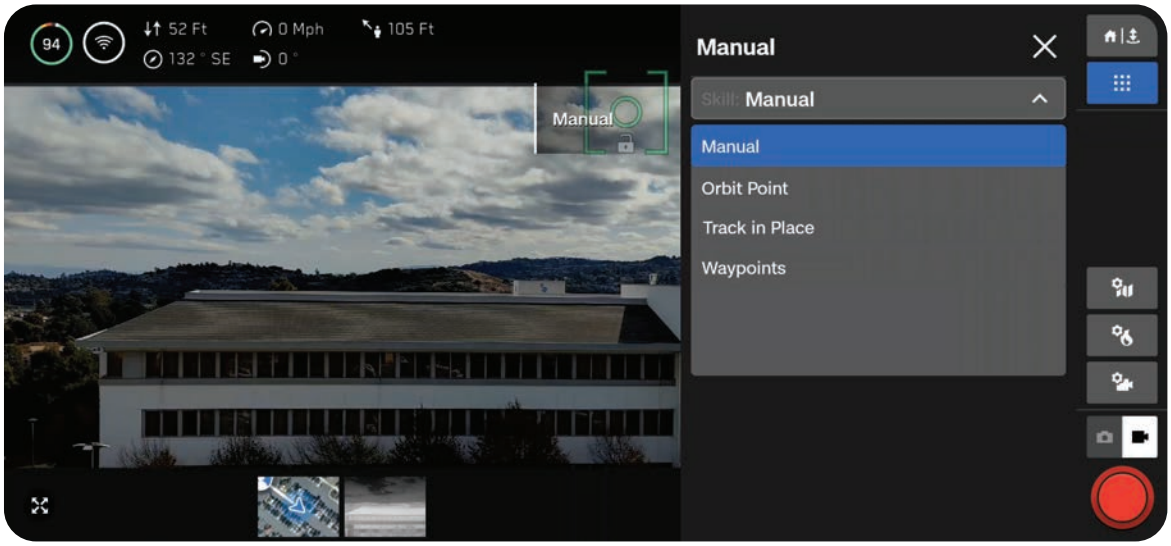
INFO: *Visit our website for more information on additional Flight Skills available for purchase.*

Changing Flight Skills

Step 1 - Select the Flight Skills icon

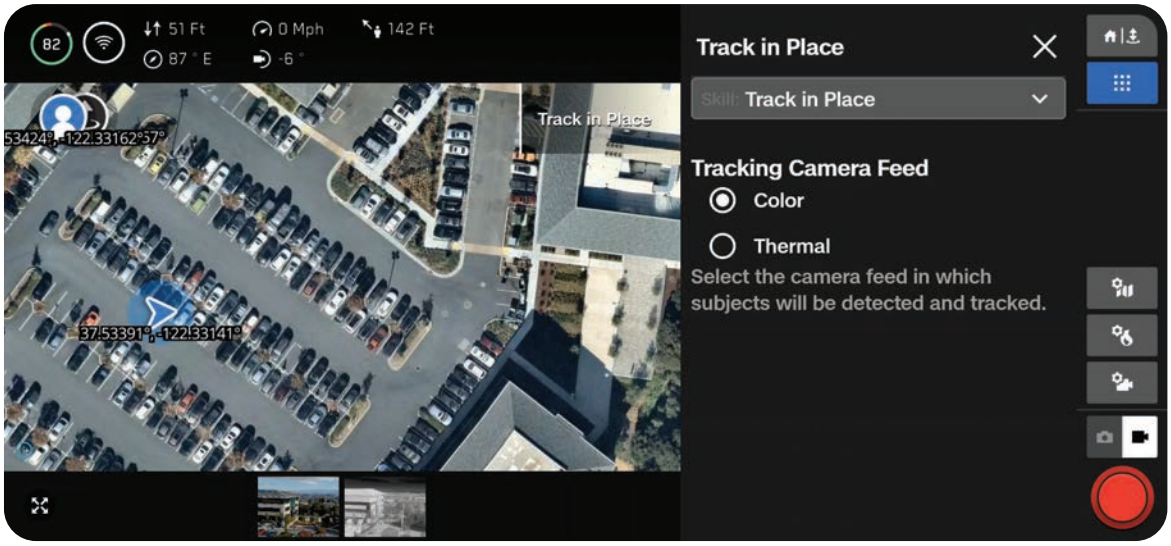


Step 2 - Select your Flight Skill



Step 3 - Adjust settings (optional)

Each skill may have its own adjustable settings which only affect the selected skill. If the selected skill has adjustable settings, they will appear below the skill name within the Flight Skills menu.



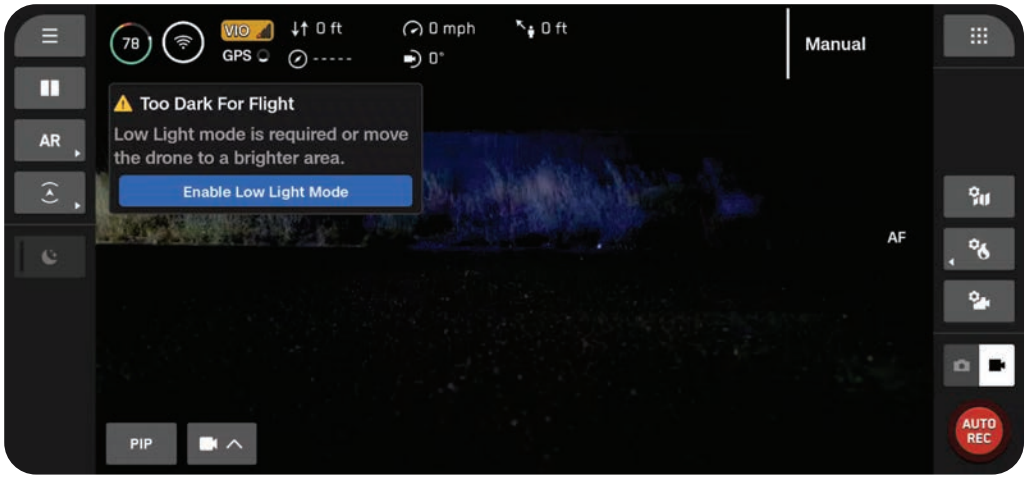
Flying at Night

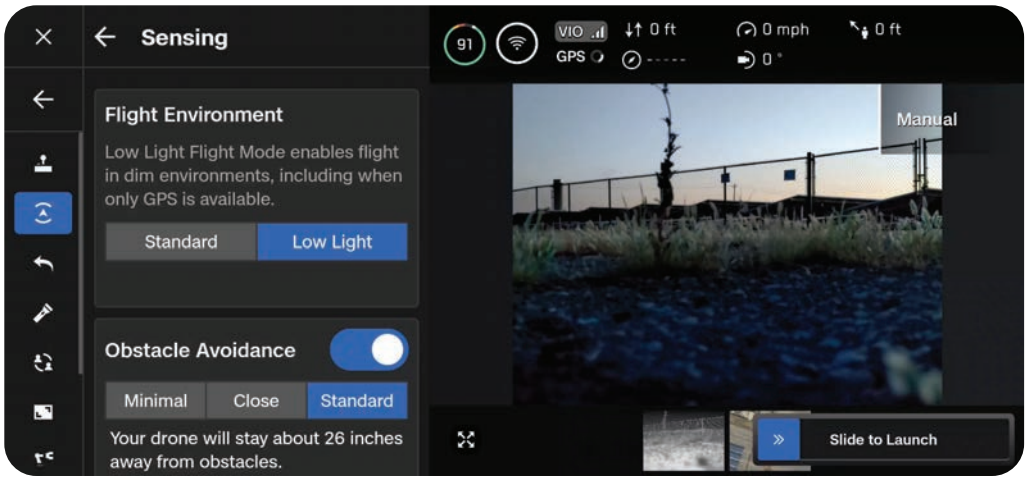
Flying at Night without NightSense

When flying at night or in low light conditions without NightSense, Skydio X10 will primarily use GPS to navigate and obstacle avoidance will be disabled.

Step 1 - Enable Low Light mode

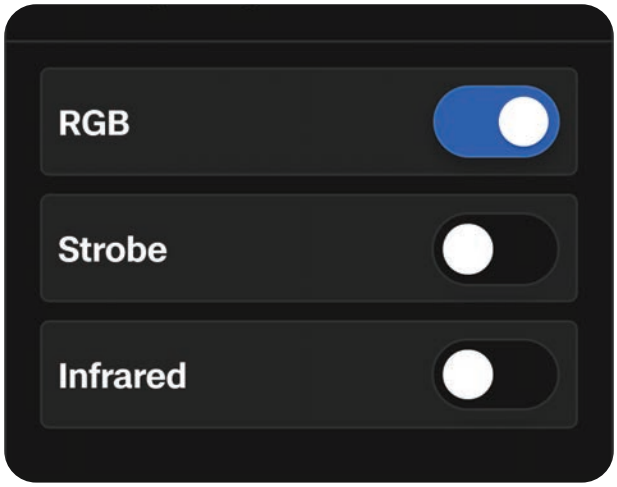
You will see an on-screen notification to enable Low Light mode if there is insufficient light. You may also select the Global Settings icon, select Sensing, then select Low Light.





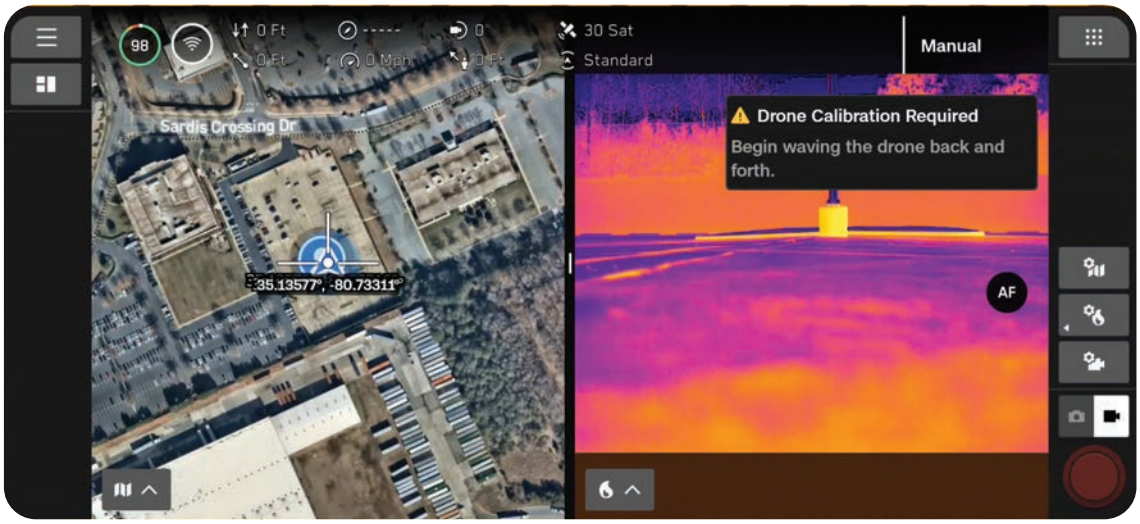
Step 2 - Configure your lighting settings

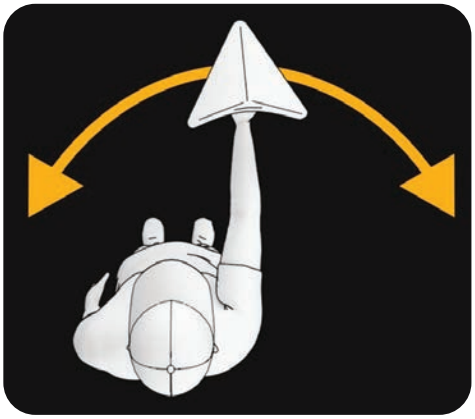
Improve visibility by enabling infrared or visible strobe lights. Select Lighting then toggle on RGB (default navigation lights), Infrared, or Strobe lights. Infrared and Strobe lights cannot be on at the same time.

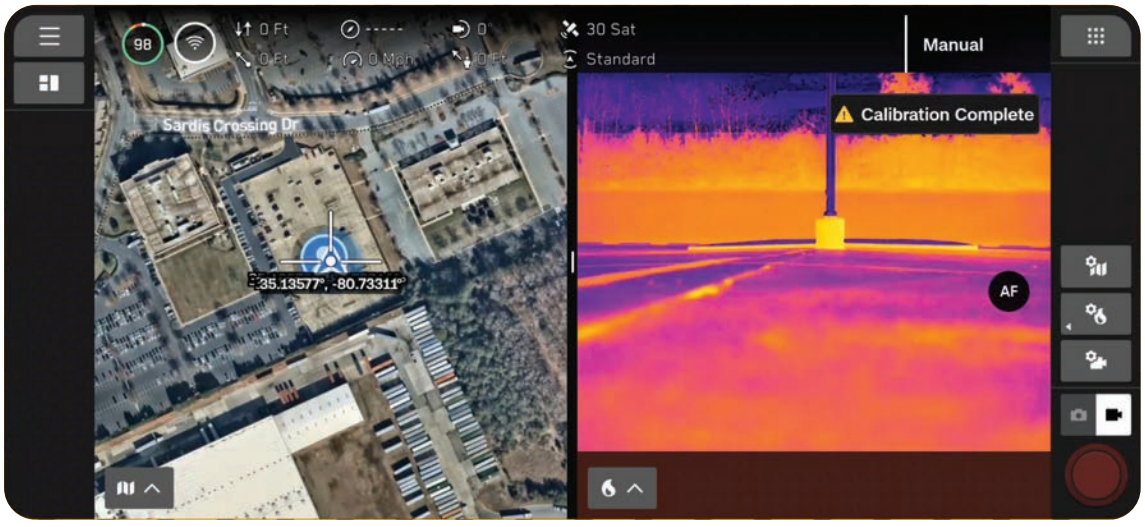


Step 3 - Calibrate your drone

Exit the Global Settings menu, then select Fly Now. Hold your drone from the bottom with the camera facing away from your body and wave from side to side to calibrate. You will see an on-screen message when calibration is complete.

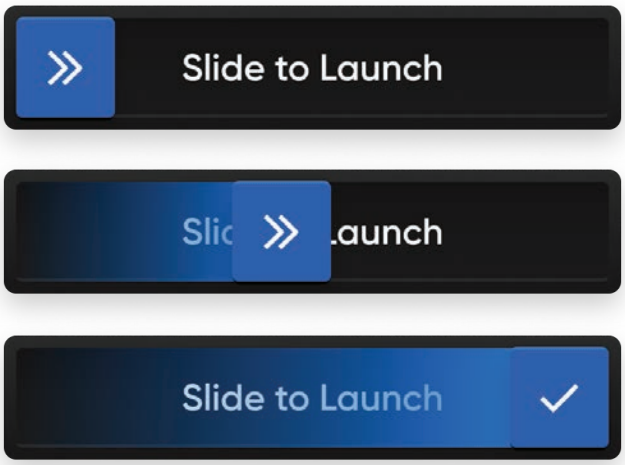






Step 4 - Launch Skydio X10

Your drone will rotate 360° during launch to calibrate its Inertial Measurement Unit (IMU) climb to 10 ft (3 m), and hover. Obstacle avoidance will be disabled.



WARNING: *Obstacle avoidance is disabled in Low Light mode without NightSense. Fly with extreme caution!*

Flying at Night with NightSense

The Skydio NightSense attachments and add-on software allow you to leverage Skydio X10 visual navigation and obstacle avoidance capabilities even when flying at night.

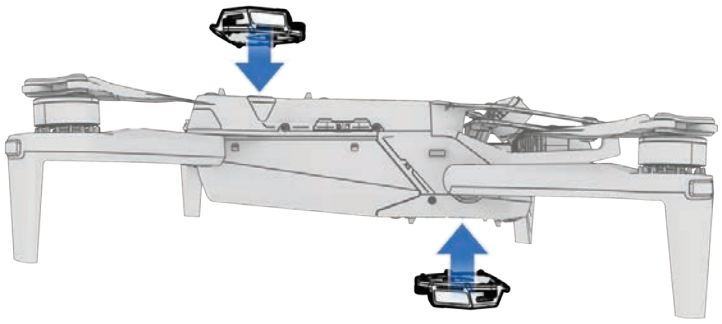
The set of two NightSense attachments cast a light above and below your drone. This light illuminates the area, unlocking Skydio visual navigation and obstacle avoidance when flying at night and in low-light conditions.

KEY WARNINGS:

- *After prolonged use of the NightSense attachments, they may be hot to the touch and could burn your hand. After landing, wait for your attachments to cool down before handling.*
- *Do not stare directly into your NightSense modules at close range. NightSense attachments, both Visible and Infrared, may cause eye damage if held closer than an arm's reach for 30 seconds or more.*
- *Due to potential burn risk and eye damage, Skydio does not recommend Hand Landing your drone while using NightSense.*

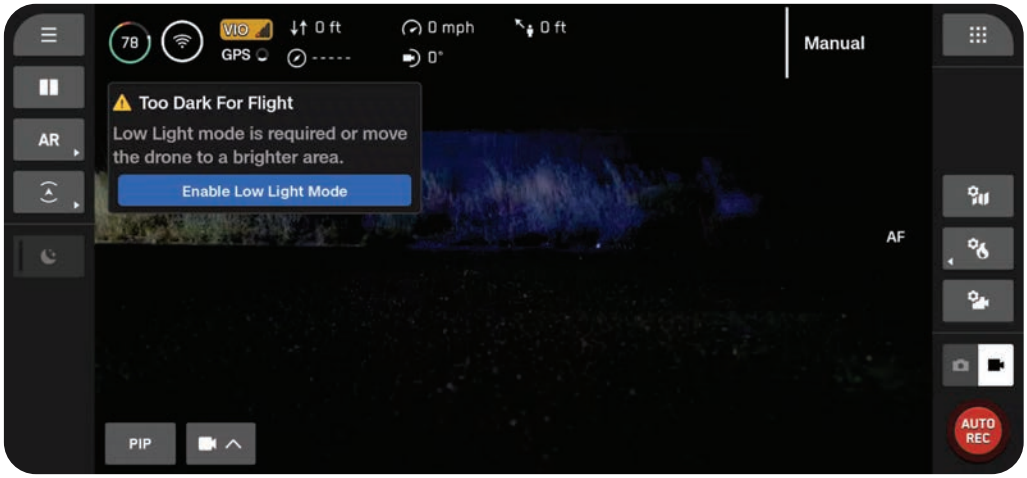
Step 1 - Install your attachments

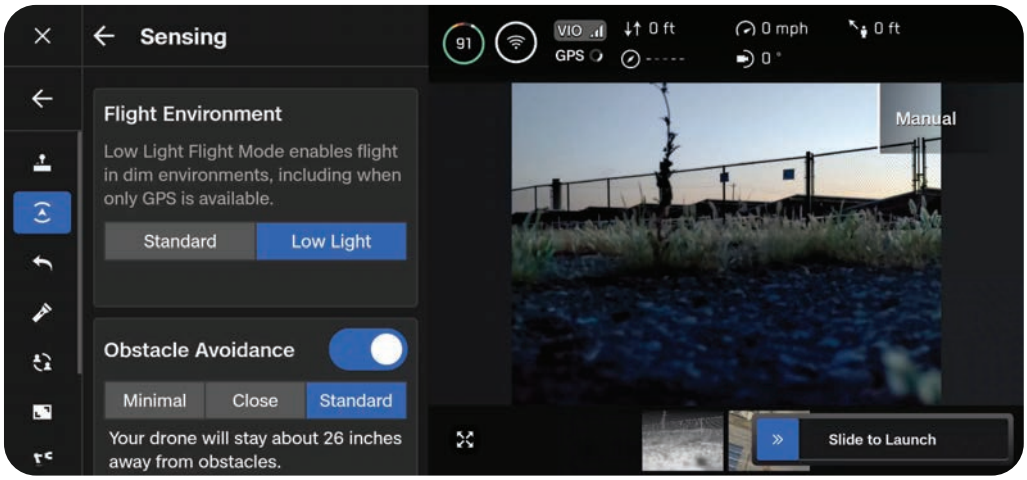
Visit *Getting Started with NightSense for Skydio X10* for step-by-step installation instructions.



Step 2 - Enable Low Light mode

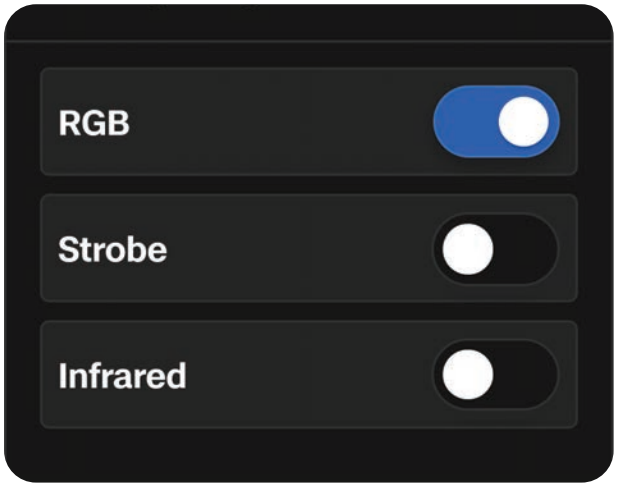
You will see an on-screen notification to enable Low Light mode if there is insufficient light. You may also select the Global Settings icon, select Sensing, then select Low Light.





Step 2 - Configure your lighting settings

Improve visibility by enabling infrared or visible strobe lights. Select Lighting then toggle on RGB (default navigation lights), Infrared, or Strobe lights. Infrared and Strobe lights cannot be on at the same time.

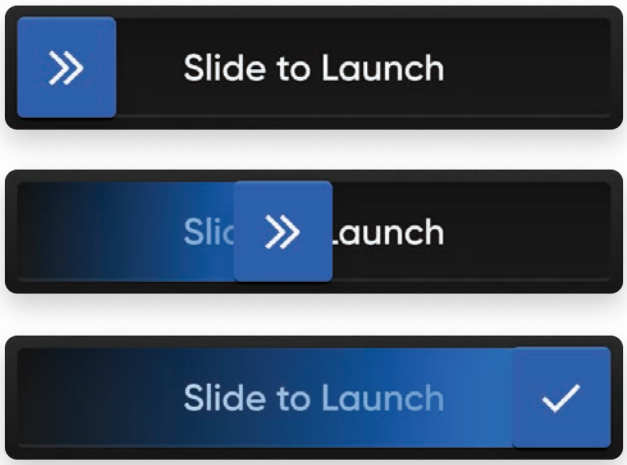


Step 3 - Enable NightSense

By default, NightSense will automatically turn on when entering Low Light mode. Use the left sidebar quick action to subsequently turn NightSense on or off. The visible or infrared lights from the NightSense attachments will illuminate the area around the drone.

Step 4 - Launch Skydio X10

Your drone will rotate 360° during launch to calibrate its Inertial Measurement Unit (IMU) climb to 10 ft (3 m), and hover.



NOTE: *Skydio X10 is limited to a max speed of 18 mph (8 m/s) with NightSense on.*

INFO: *For more information about flying with NightSense, including configuring settings visit: [Getting Started with NightSense for Skydio X10].*

Inflight Safety Considerations

Obstacle Avoidance

- **NightSense ON:** Obstacle avoidance is active when NightSense is on. Enable the AR Depth View to visually display where Skydio X10 detects obstacles in the environment, especially when using Infrared NightSense attachments, to assist with situational awareness.
- **NightSense OFF:** When in Low Light mode, obstacle avoidance is disabled. Take extra caution when piloting the drone to avoid obstacles and stay clear of people.

GPS Signal

- **NightSense ON:** When NightSense is on, visual naviation (VIO) is the primary navigation method, however if flying at high altitudes the drone will rely on GPS. Monitor your VIO and GPS heath status inflight; if both VIO and GPS degreade the drone will enter Attitude Mode.
- **NightSense OFF:** Maintaining a strong GPS signal is paramount when operating X10 at night. If Skydio X10 loses GPS while in Low Light mode, and there is not enough ambient light for VIO, it will enter Attitude Mode.

Visibility

Improve visibility by enabling infrared or visible strobe lights. Skydio X10 strobe lights meet the FAA requirement of being visible at a distance of 3 statute miles.

Return Behavior

Review the return behavior height setting in the Global Settings menu.

NightSense OFF: Skydio X10 does not avoid obstacles when in Low Light mode and NightSense off, so you may want to set the drone's return height such that it will be above any potential obstacles.

Landing

When landing, use the controller joystick to descend down to 15 feet (4.6 meters), when you are ready to land, press and hold the LAND button on the screen or the controller. Do not hand launch or hand land at night.

> ***WARNING:*** *Due to potential burn risk and eye damage, Skydio does not recommend Hand Landing your drone while using NightSense.*

Flying in Precipitation

Skydio X10 is IP55 rated and able to fly in light to moderate precipitation when **obstacle avoidance** is disabled. Skydio will primarily use GPS to navigate, so it is critical to have a strong GPS signal when flying in precipitation.

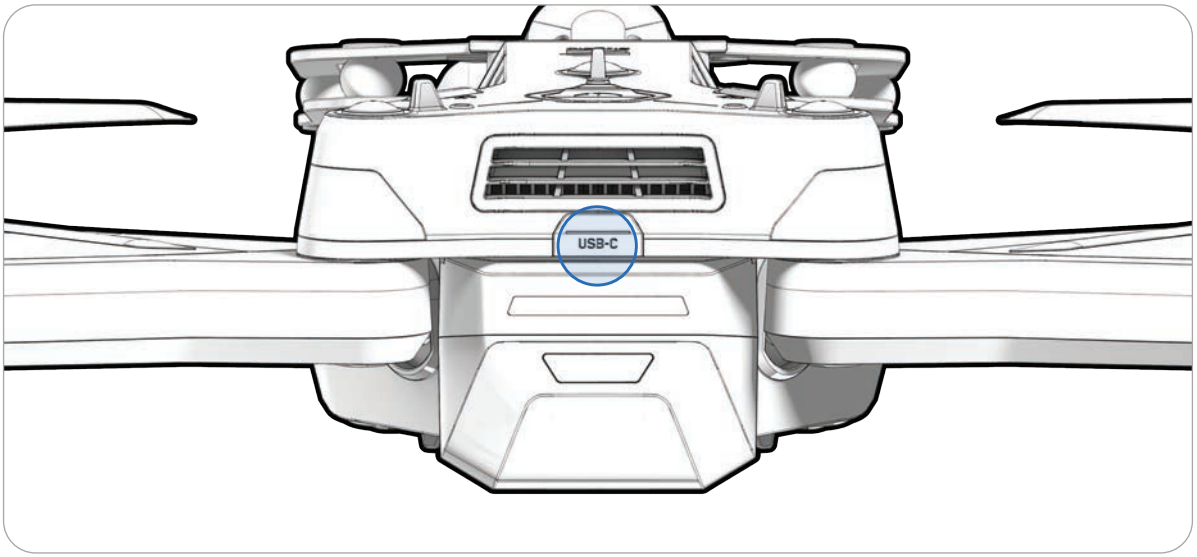
CAUTION: *Flight in icy conditions is not supported and may result in the loss of your drone.*

Quick Reference

Flying in precipitation during the day	• Select Standard as your Flight Environment • Disable obstacle avoidance via the quick action or the settings menu • Only fly with a strong GPS signal
Flying in precipitation at night	• Select Low Light as your Flight Environment • Disable obstacle avoidance, disable NightSense (if you have NightSense attachments installed) • Only fly with a strong GPS signal

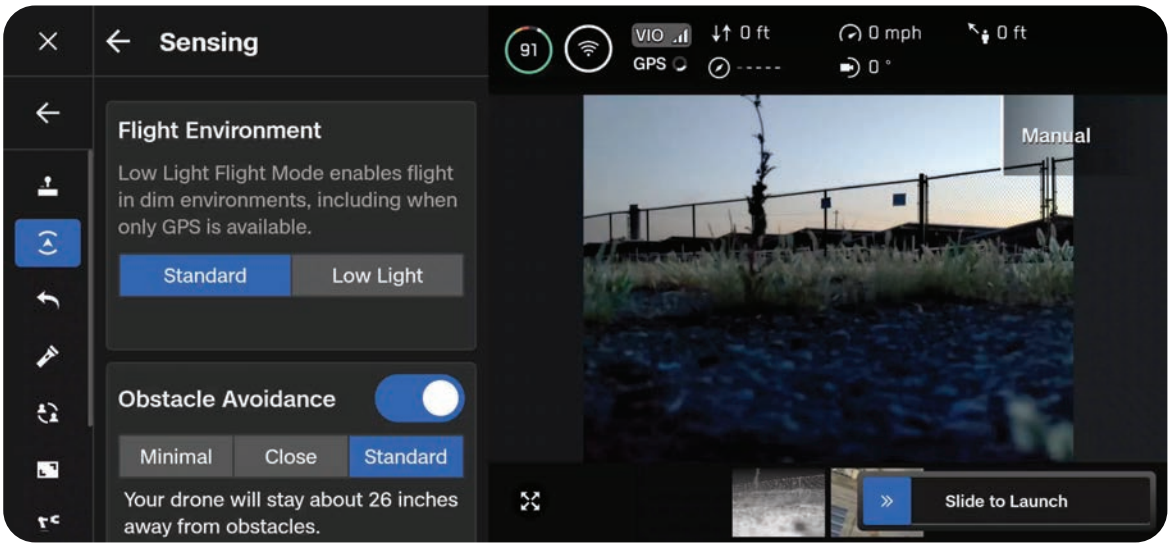
Preflight

Step 1 - Ensure all rubber seals on the drone are securely closed



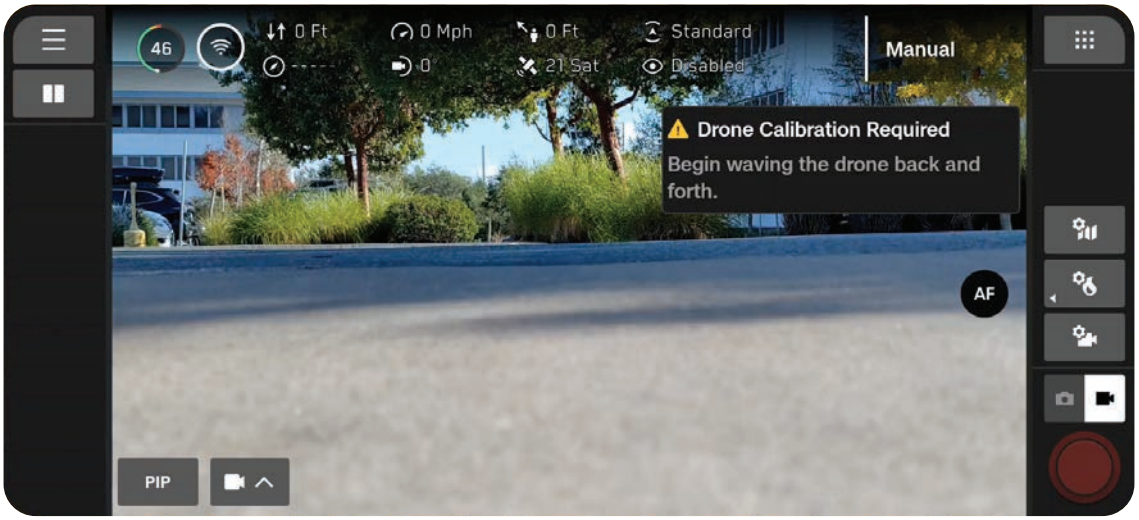
Step 2 - Select your Flight Environment

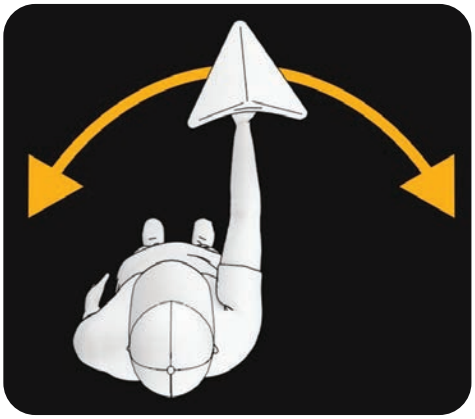
Select the Global Settings icon, select Sensing, then select Standard (flying in precipitation during the day) or Low Light (flying in precipitation at night).

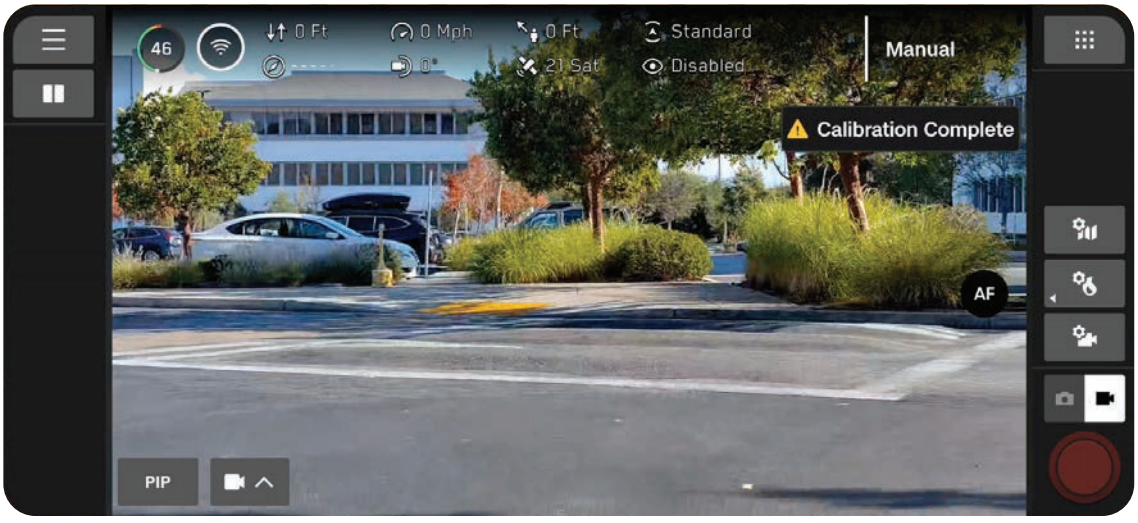


Step 3 - Calibrate your drone (if in Low Light mode)

Exit the Global Settings menu, then select Fly Now. Turn off NightSense (if on). Hold your drone from the bottom with the camera facing away from your body and wave from side to side in a straight line to calibrate. You will see an on-screen message when calibration is complete.

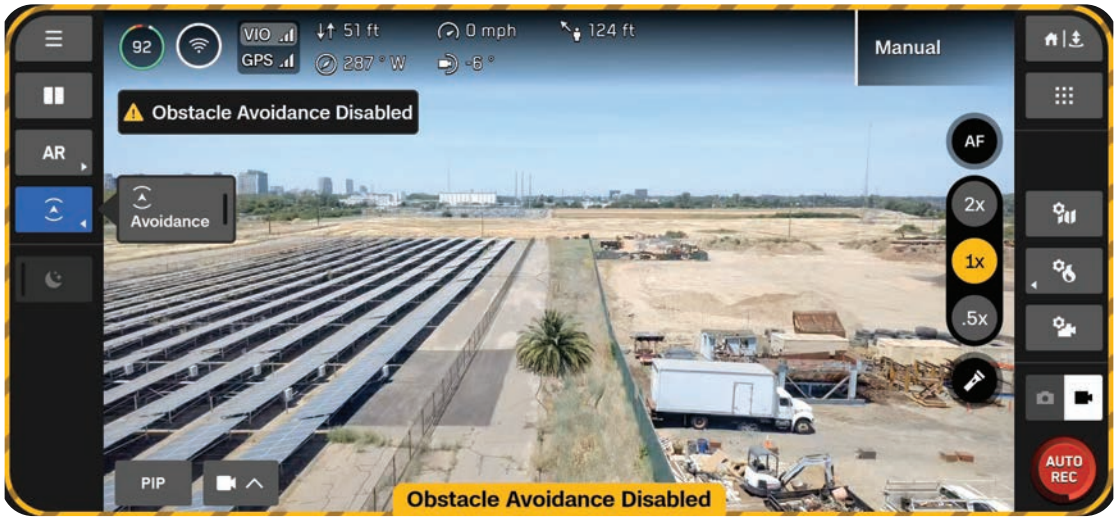






Step 4 - Disable obstacle avoidance

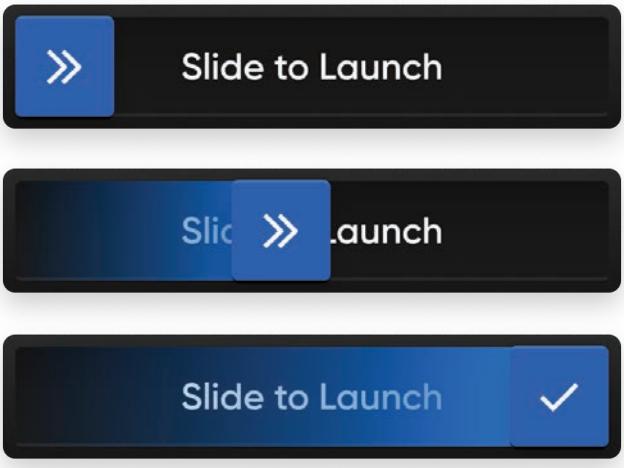
Disable obstacle avoidance from the quick action menu on the Flight Screen. Turn off NightSense if on.



> ***NOTE:*** *If it begins to precipitate during a flight, disable obstacle avoidance inflight.*

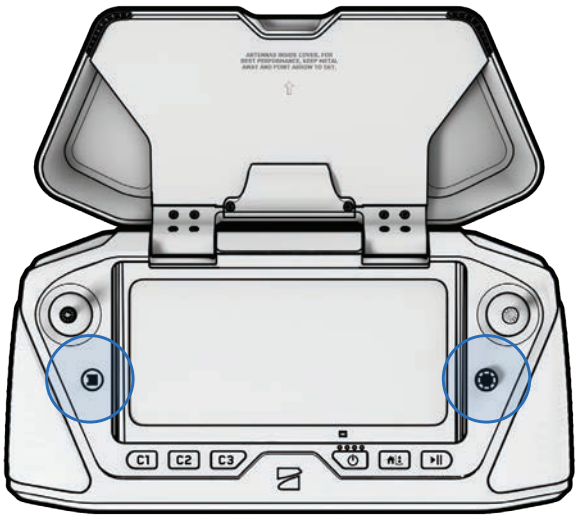
Step 5 - Launch Skydio X10

Your drone will rotate 360° during launch to calibrate its Inertial Measurement Unit (IMU) climb to 10 ft (3 m), and hover. Obstacle avoidance will be disabled.



Step 5 - Lock controller touchscreen (optional)

To prevent touchscreen interference from precipitation, you have the ability to lock all touchscreen inputs. While holding the back button, press the D-pad down to lock or unlock the screen.



NOTE: *You will not be able to make on-screen selections while touchscreen inputs are locked.* ***Controller buttons are still functional and can be customized to perform specific actions (Controls > Input Mapping).***

Inflight Safety Considerations

Obstacle Avoidance
When flying in precipitation, obstacle avoidance must be disabled. Take extra caution when piloting the drone to avoid obstacles and stay clear of people.

GPS Signal
Maintaining a strong GPS signal is paramount when flying in precipitation, since Skydio X10 is navigating primarily using GPS. If Skydio X10 loses GPS, it will enter Attitude Mode.

Visibility
Improve visibility by enabling infrared or visible strobe lights. Skydio X10 visible strobe lights meet the FAA requirement of being visible at a distance of 3 statute miles.

Wireless Range
Moisture in the air may significantly reduce wireless range.

Return Behavior
Review the return behavior height setting in the Global Settings menu. Obstacle avoidance must be disabled when flying in precipitation, so you may want to set the drone's return height such that it will be above any potential obstacles.

Landing
When landing, use the controller joystick to descend down to 15 feet (4.6 meters), when you are ready to land, press and hold the LAND button on the screen or the controller. Do not hand launch or hand land in precipitation.

Postflight

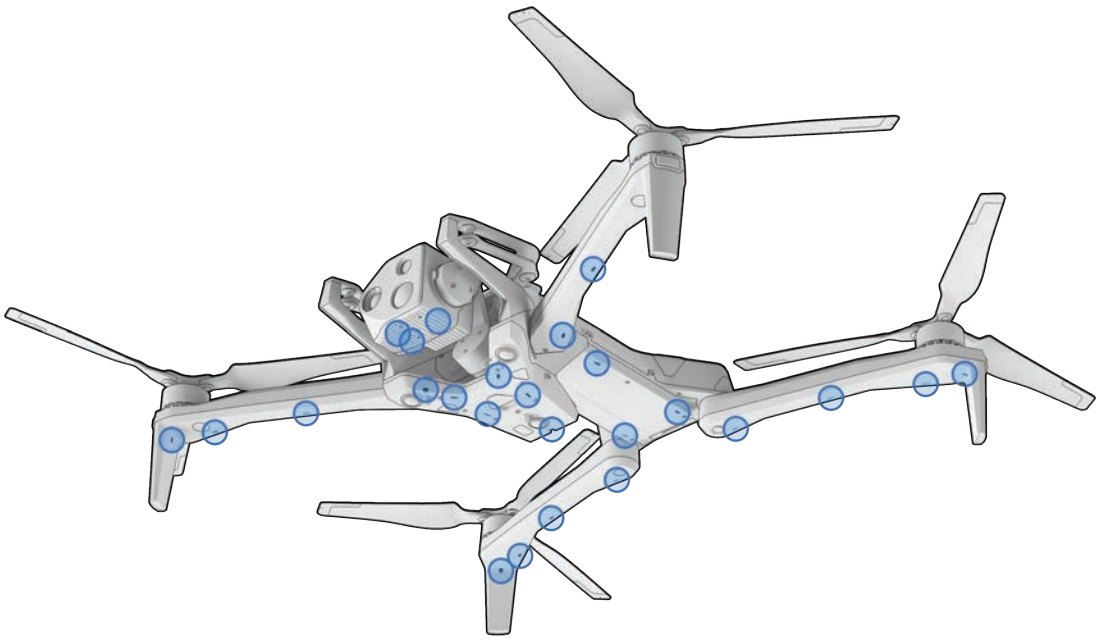
After flight operations in precipitation, follow all postflight steps before stowing your drone to ensure it is properly maintained and does not sustain any water damage.

CAUTION: *Do not stow Skydio X10 while wet.*

Step 1 - Power off Skydio X10

Step 2 - Allow water to drain

Install the sensor package lock to hold the sensor package in place. Rotate the drone to allow water to drip out of all egress areas.



NOTE: *Skydio is IP55 rated and able to fly in light to moderate precipitation. It is expected for water to enter different areas of the drone and draining postflight is normal. Sensitive components are protected.*

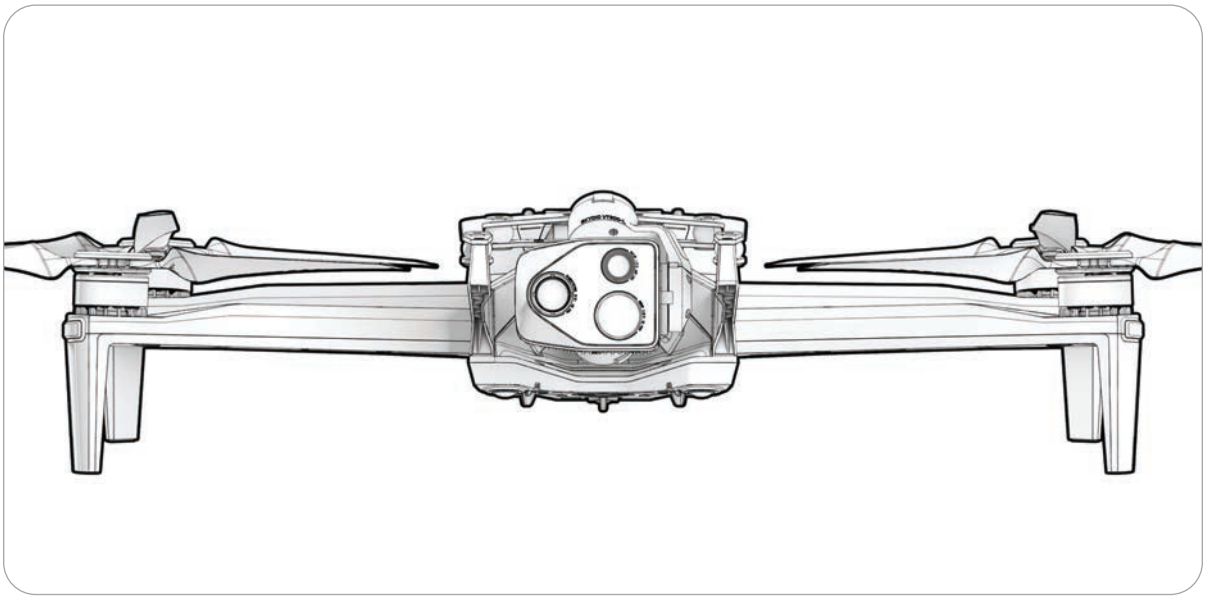
Step 3 - Remove the battery

Step 4 - Wipe camera lenses clean

Use a microfiber cleaning cloth to wipe the lenses clean and prevent dried water spots from forming.

Step 5 - Air dry for a minimum of 12 hours

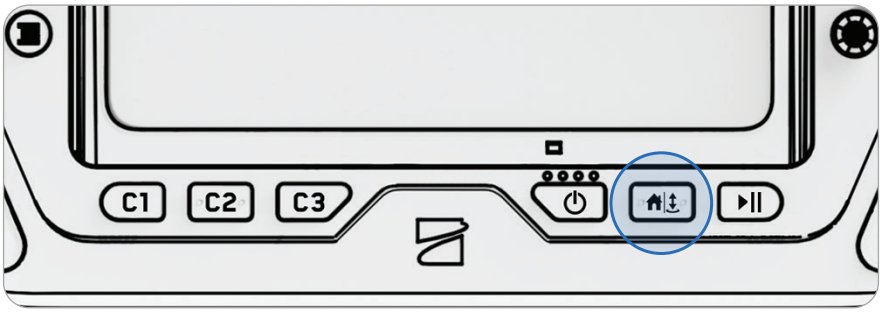
Leave the drone to air dry in a ventilated, temp-controlled environment with the arms deployed in an upright position. Do not open any seals, including the USB-C charge port, until after the drone is dry. Do not remove the sensor package or any attachments while the drone is wet.



Returning and Landing

Scan for more information about Return and Lost Connection Behaviors.

Step 1 - Select the Return/Land button in the top right of your screen or on the controller

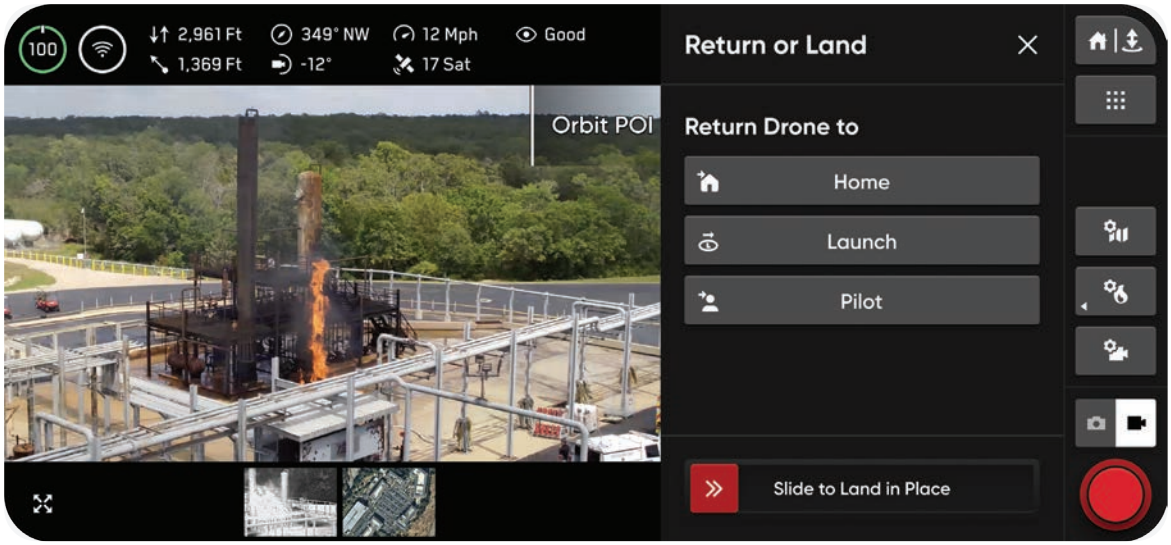


Step 2 - Choose your return location or land in place

Home
Returns to a Home Point previously set on the map (GPS required)

Launch
Returns to the Launch Point

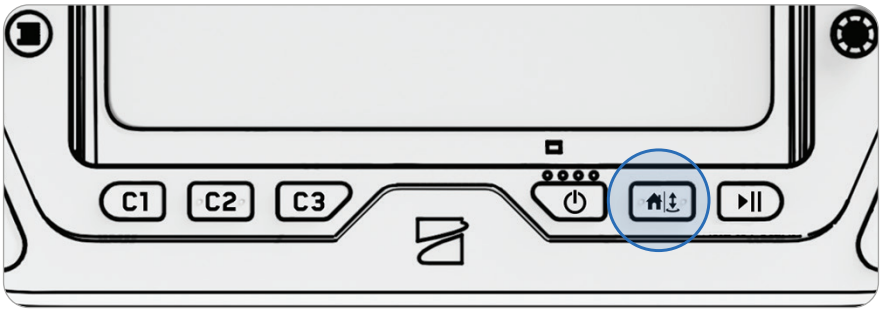
Pilot
Returns to the location of the Skydio X10 Controller



You have three options when landing in place:

Option 1 - Select and drag the on-screen slider
Landing begins when you lift your finger away from the screen.

Option 2 - Press and hold the Return/Land button on the controller
Landing begins when you see the on-screen check mark.



Option 3 - Press and hold the Return/Land button on-screen
Landing begins when you see the on-screen check mark.

WARNING: *Obstacle avoidance is disabled when the drone is below 10 ft (3 m) during landing. Exercise extreme care to avoid injury or damage. Do not touch spinning propellers.*

Hand Landing

Landing Skydio X10 in your hand is a quick and convenient way to start or end your flight, particularly if you are not in a clear, level area. For your safety, always use caution when hand launching or landing.

> ***WARNING:*** *Do not hand launch or hand land during windy days, when flying at night, or extreme environmental conditions as serious injury and/or damage may occur.*

Step 1 - Position Skydio X10 above a clear area so that you can move underneath it

Ensure the drone is facing away from you and extend your arm away from your body.

- The sensor package should face away from your body
- The back of the chassis and the battery are closest to you

Step 2 - Initiate landing

Skydio X10 will descend vertically with full obstacle avoidance until it is 10 ft (3 m) above the ground.

Once your drone is below 10 ft (3 m), the lights on the drone turn yellow to indicate obstacle avoidance is disabled for the remainder of the landing.

> ***WARNING:*** *Do not attempt to grab or catch Skydio X10 without initiating a landing, the motors will continue to spin at full speed and may cause severe injury. Do not attempt to hand land until the lights turn yellow. Attempting to hand land while obstacle avoidance is active will cause it to attempt to avoid your hand and may result in Skydio impacting yourself or another nearby object.*

Step 3 - Lightly grab the drone by the battery from underneath as it touches down on your open palm

Once the battery has made contact with your palm, keep your hand steady until the propellers completely stop spinning.

Do not attempt a hand landing if:

- There are high winds present.
- Skydio X10 is not stable in flight for any reason.
- Skydio X10 is performing an emergency landing after an accident or crash.
- You are in an area where you do not have stable footing.
- You are on a moving vehicle or boat.
- Skydio X10 is in Low Light mode, with or without NightSense.

Hot Sensor Package

> ***WARNING:*** *After prolonged use of the flashlight, your sensor package may be hot to the touch and could present a serious burn risk. After landing, wait for your sensor package to cool down before handling.*

If you have the VT300-L sensor package and use the flashlight for an extended period of time, the sensor package may be hot to the touch after flight and could present a serious burn risk. If the flashlight is used for the duration of a flight in ambient temperatures of 100°F (38°C), the sensor package can reach temperatures up to 142°C (61°C).

Monitor your controller for any safety notifications and be careful when handling the sensor package after flight.

Postflight

Learn how to access media and properly store your drone.

This section covers

Offloading Media

Select the **Media** menu within **Global Settings** to view photos, videos and scans from your recent flights.

- Select an image or video to view
- Press and hold on a thumbnail to select multiple or delete

If you captured photos using **Interval**, all photos captured will appear as a single stack. Selecting the stack will allow you to scroll through individual images one by one.

Only standard color and thermal JPGs will display in the Media menu. To access your DNG or RJPG files, you must transfer the files from your drone.

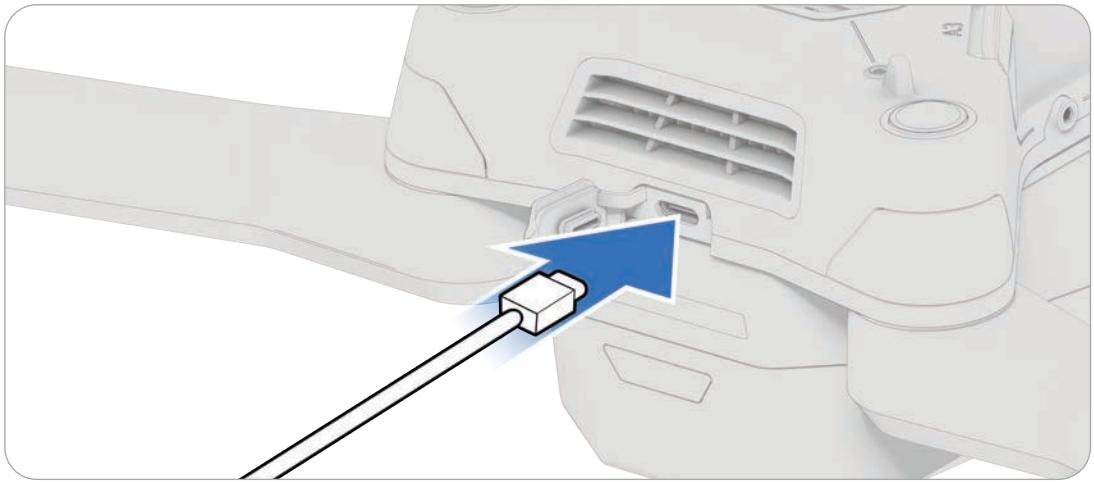
NOTE: *Media is not accessible inflight.*

Transferring Media

Step 1 - Power on Skydio X10

Step 2 - Connect X10 to your computer

Insert the provided USB-C cable into the USB-C charging port on the back of your drone.



Step 3 - Import your media

If you are using an Apple product, use the Photos app or the Image Capture app to transfer your files.

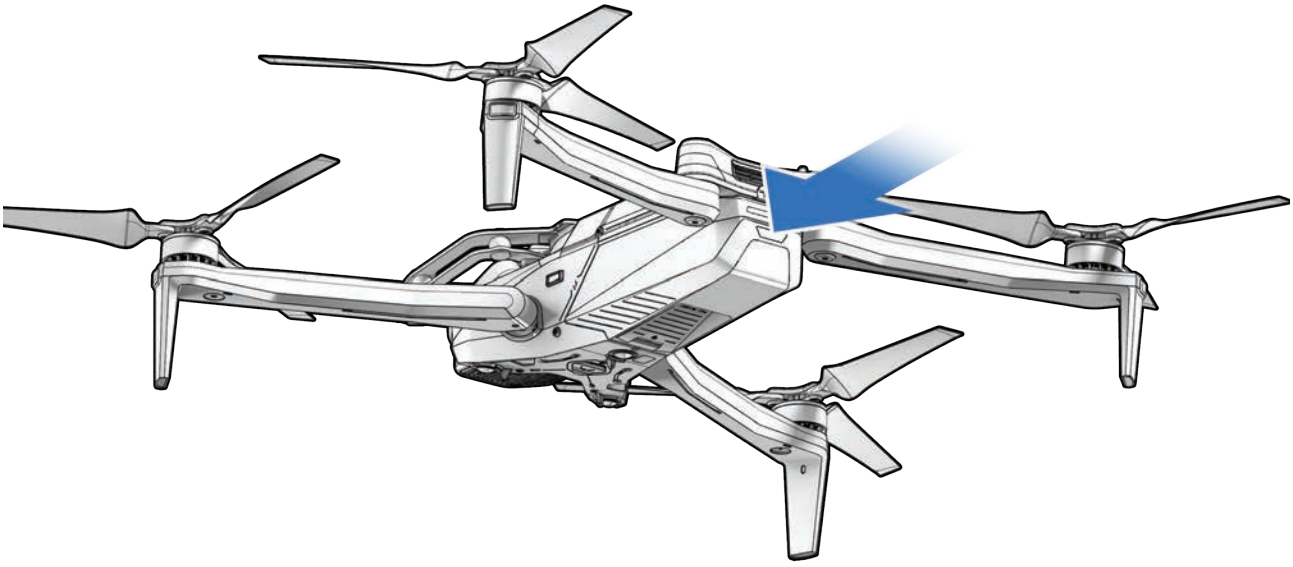
Stowing Skydio X10

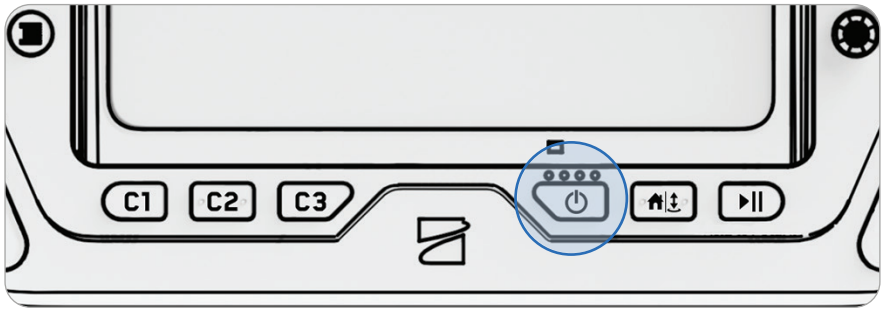
Step 1 - Wait for postflight tasks to complete

If the battery is low while performing a longer postflight task, such as Onboard Modeling with Map Capture, ensure the drone is plugged into a power source.

- Powering off or removing the battery during postflight tasks will result in loss of data

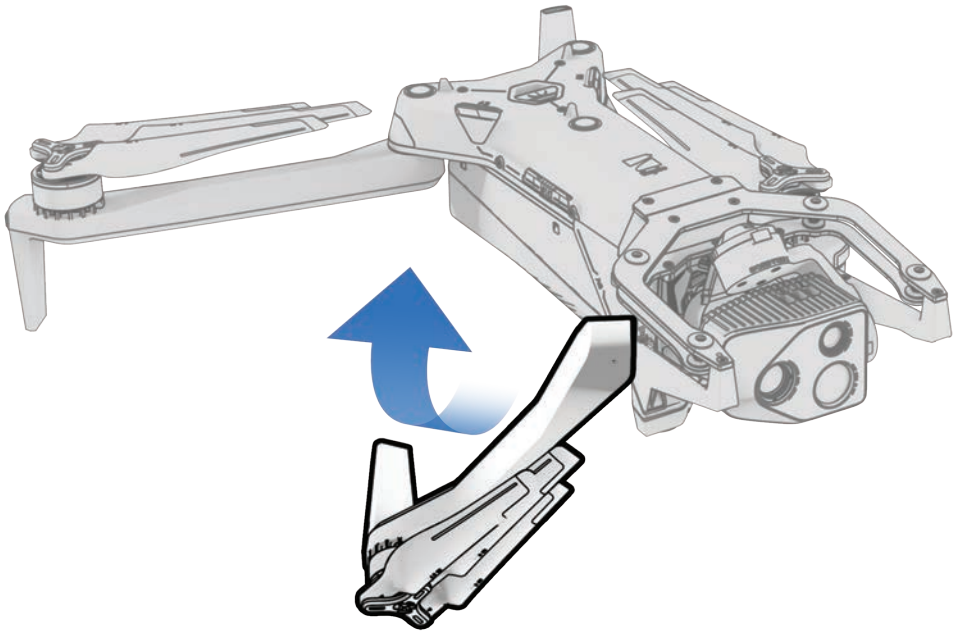
Step 2 - Power off Skydio X10 and the X10 controller





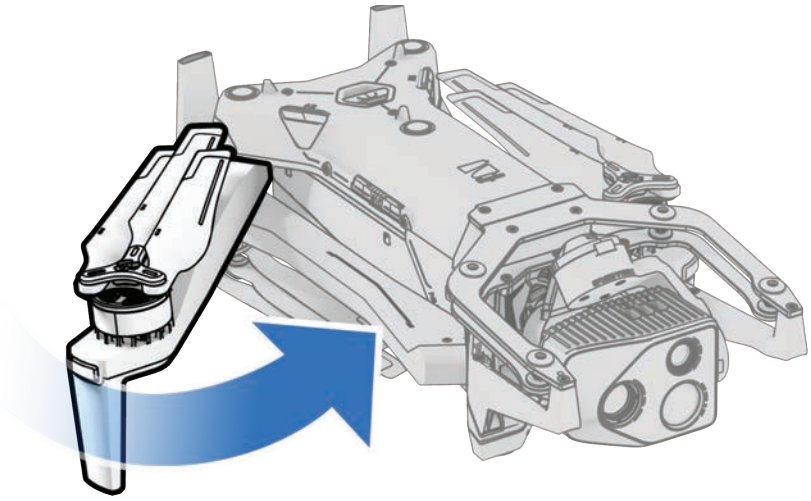
Step 2 - Fold in the front arms

Hold the drone with the sensor package facing away from you. Gently pull the arm toward the back of the drone and rotate until it is tucked into place.



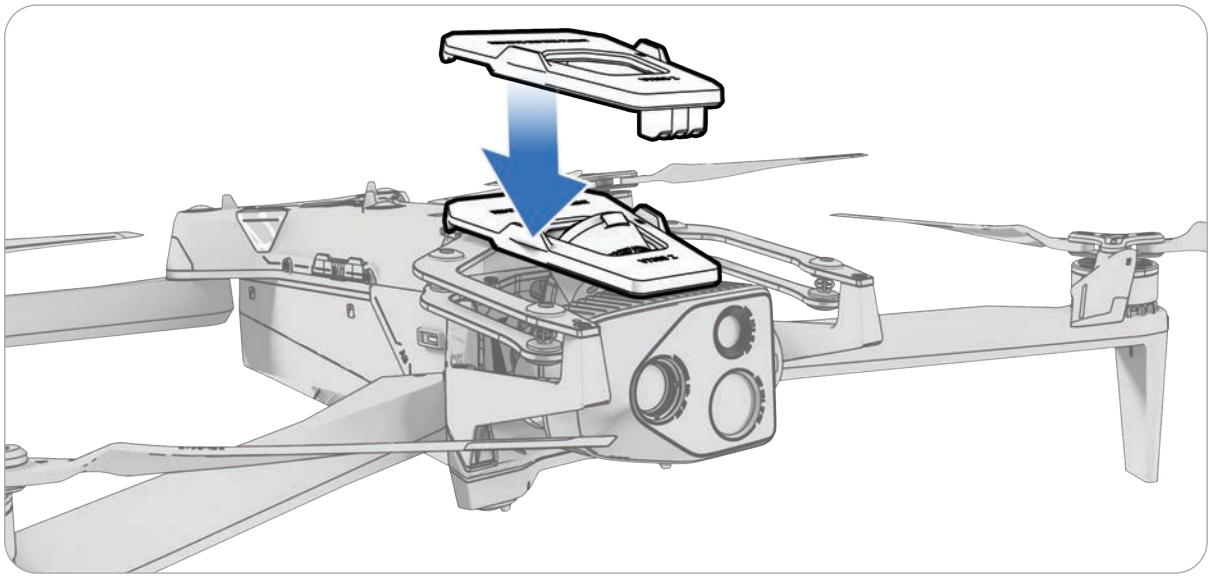
Step 3 - Fold in the rear arms

Push laterally toward the chassis. Gently continue until you meet resistance.



Step 4 - Attach the sensor package lock

Hold the sensor package and gently reattach the lock to the top of your drone.



NOTE: *Refer to the Flying in Precipitation section above for steps on how to properly store your drone after flight in precipitation.*

Contingency Behaviors

Learn about the behaviors during events such as lost connection or low battery. Always monitor Skydio Flight Deck for in-app alerts.

This section covers

Contingency Behaviors

WARNING: *While flying, always monitor Skydio Flight Deck for in-app alerts relating to battery levels, signal quality and other inflight notifications.*

Scan for more information about Contingency Behaviors.

Low Battery

Skydio X10 will assess the altitude and distance from the Launch or Home Point and alert you when it is time to return and land. It is **strongly recommended you initiate a return or land at this time**. If you selected Auto Return on Low Battery in your return settings, the drone will automatically return at this point.

1. If you continue flying, Skydio X10 will notify you when it has two minutes of flight time left based on its current altitude and the battery indicator will begin a two-minute countdown. **You may choose to continue flying, however, it is strongly recommended that you fly to a safe location and land.**
2. If you ignore the countdown and continue flying, when the two-minute countdown is complete **Skydio will initiate an automatic landing**.

Before flying, configure return settings, such as an automatic return on low battery, in the Return menu (**Global Settings** > **Return**).

WARNING: *You may only choose to cancel an automated landing at your own sole risk—you are responsible for the potential loss of the drone and/or serious bodily harm and property damage.*

Lost Connection

> ***WARNING:*** *Before flying, ensure you have set your Lost Connection Return Behaviors. This is a critical step that ensures your drone returns safely and lands in an accessible location.*

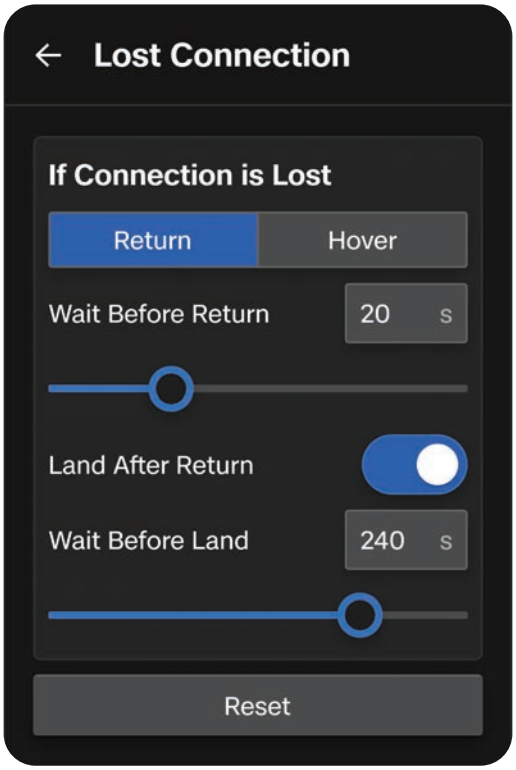
If connection is lost, Skydio X10 will default to the **Lost Connection** settings. Select between **Return** (default) and **Hover** upon lost connection.

Return (default)

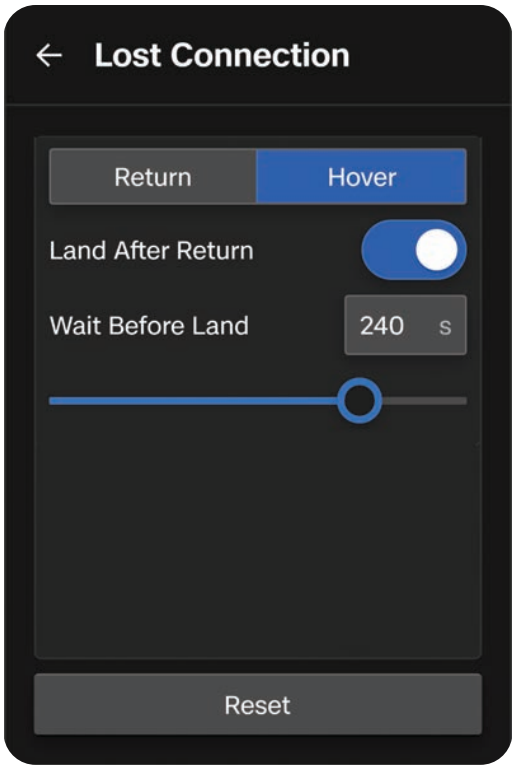
Wait Before Return - set the amount of time you want Skydio X10 to wait before it initiates a return flight, allowing time to reconnect

Land After Return - when enabled, your drone will return, hover for a specified amount of time, then land.

Wait Before Land - the amount of time between 0 to 300 seconds (default is 240 seconds) that you want your drone to wait above the landing location before landing. This setting is only enabled when Land After Return is toggled on.



Hover



Land After Hover - when enabled, Skydio X10 will hover for a specified amount of time, then use visual navigation to find a safe area to land.

Wait Before Land - the amount of time between 0 to 300 seconds (default is 240 seconds) that you want your drone to wait before landing. This setting is only enabled when Land After Hover is toggled on.

Skydio X10 will continue hovering as it tries to regain connection. If it fails to reconnect and reaches low battery:

- If you have an automatic return set, your drone will return to either the Launch Point or Home Point (if set)
- If you do not have an automatic return set, your drone will use visual navigation to find a safe area to land
- If you do not have strong VIO (e.g. you are flying in Low Light mode without NightSense), your drone will be unable to use visual navigation and will descend vertically and land

Lost GPS

If Skydio X10 loses GPS signal, the drone will continue flying using the vision system. Actions that require GPS will be disabled.

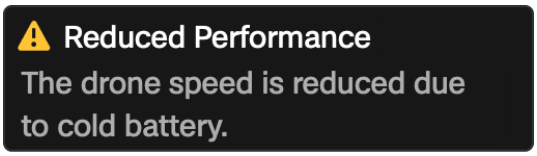
If visual navigation (VIO) is also unavailable, the drone will enter Attitude Mode, a mode of flying that relies on the drone barometer to maintain altitude. By default, if there are no joystick inputs for 5 seconds, the drone will begin emergency landing.

Reduced Performance State due to Battery Capability Limitation

At times of reduced battery performance, the drone will reduce it's top speed and acceleration in order to enhance safety:

- Max ascent speed: 2 m/s
- Max ground speed: 12 m/s

Scenarios where the drone will have reduced battery performance include extreme cold, extremely low battery level, overheating, and cell imbalance.



Controller Overheating

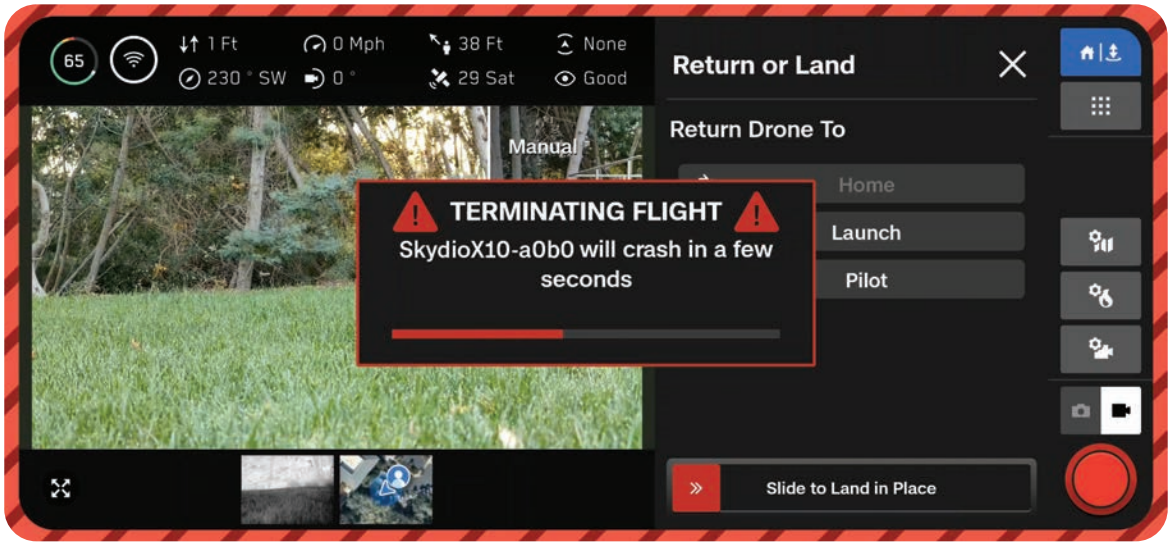
If the Skydio X10 Controller reaches critical temperatures and overheats in flight, it will shut down and lose connection to the drone, triggering the X10 Lost Connection behavior.

To mitigate overheating and reduce the risk of lost connection during flight, the controller will issue two alerts and provide guidance to the operator.

Alert	Operator Action
Controller is Heating Up	Take mitigation actions: • Move the controller screen out of direct sunlight • Move to a shaded or cooler area if possible • Continue flight - this alert is cancellable
Controller Too Hot to Operate	Take immediate action to land: • Launch will be prevented • If the drone is in flight the signal between the controller and the X10 will be lost and your drone will default to the operator-defined lost connection settings • This alert is non-cancellable

Emergency Landing and Attitude Mode

If both GPS and the vision navigation system (VIO) become unreliable, Skydio X10 will enter Attitude Mode.



NOTE: *Monitor your GPS and VIO health in the telemetry bar. If VIO and GPS both drop below 2 bars of health, your drone will enter Attitude Mode.*

In this mode, the drone will use internal barometer readings to maintain altitude when the throttle joystick is centered.

The drone will drift, in which case you will need to adjust roll and pitch movements to maintain the drone's position. The drone will not automatically hold position or automatically brake when the joysticks are centered.

CAUTION: *Obstacle Avoidance is not available in attitude mode.*

If the drone regains GPS and/or VIO while in Attitude Mode, it will switch out of Attitude Mode and use whichever navigation system is strongest.

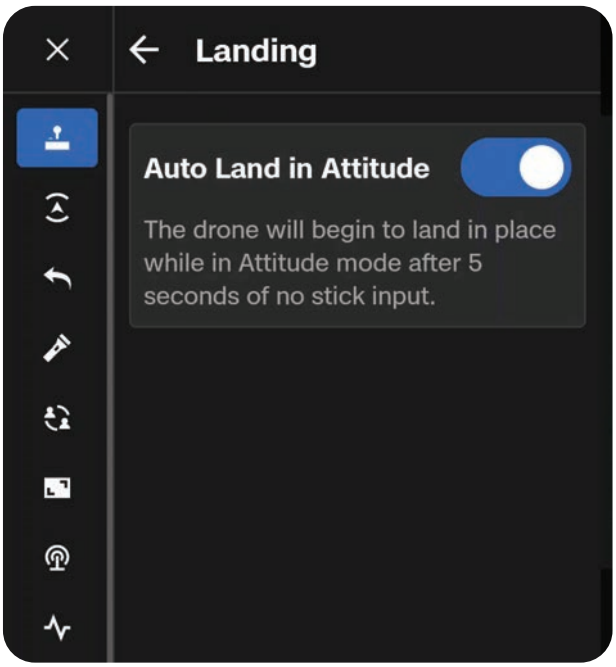
- To have the best chance of recovering VIO, descend below approximately 60 feet above the ground and fly within sight of visual features.
- When GPS becomes available again, a prompt will be displayed. Fly the drone horizontally (either left and right, or back and forth) to regain GPS heading and resume GPS navigation.

Navigate to **Global Settings** > **Flight Controls** > **Landing** to configure landing behavior while in attitude mode.

Auto Land in Attitude

Toggled ON (default) - After 5 seconds of inactivity in Attitude Mode (i.e. the joysticks are centered and not touched), Skydio X10 will automatically initiate an emergency landing.

Toggled ON (default) - The drone will remain in attitude mode indefinitely under user control while no navigation sources are healthy.



After 5 seconds of inactivity in Attitude Mode (i.e. the joysticks are centered and not touched in a neutral position and not engaged), Skydio X10 will automatically initiate an emergency landing and descend autonomously. An alert notification will display that Skydio X10 is initiating an emergency landing.

If you input any joystick command while the drone is emergency landing, it will stop descending landing and you can continue to fly in Attitude Mode.

Low Battery in Attitude Mode

The drone will not return or land automatically at low battery while flying in Attitude Mode. It is your responsibility to monitor battery level and manually fly the drone to a safe landing location and land the drone when the battery is low. When the battery is low and the throttle stick is centered, the drone will descend to remind you that it is time to land.

Lost Connection in Attide Mode

If you lose connection with the drone while flying in attitude mode, the drone will descend and emergency land in place.

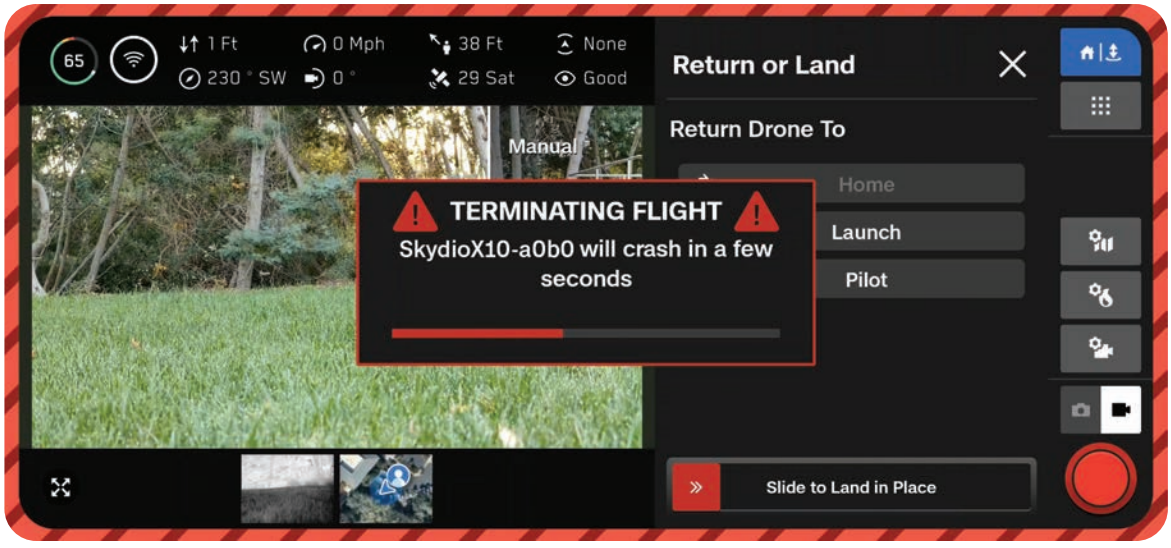
Landing in Attitude Mode

To land the drone in attitude mode, you can press or hold the Land button to autonomously descend and touch down, or you can manually descend and touch down. The drone will automatically disarm and spin down the propellers after a few seconds when it detects that the drone is safely on the ground and the throttle joystick is held in a full down position.

Flight Termination

> ***WARNING:*** *Terminating a flight will cause your drone to crash. Damage resulting from Flight Termination is not covered under warranty and may result in injury or damage.* ***Use only in extreme situations****.*

In the event of an extreme emergency, you have the option to immediately terminate your flight. **Simultaneously press and hold the C3 button and Launch/Return/Land button for three seconds** while in flight to immediately stop the motors.



Maintenance

Learn how to replace your propellers and best practices for battery and equipment storage.

This section covers

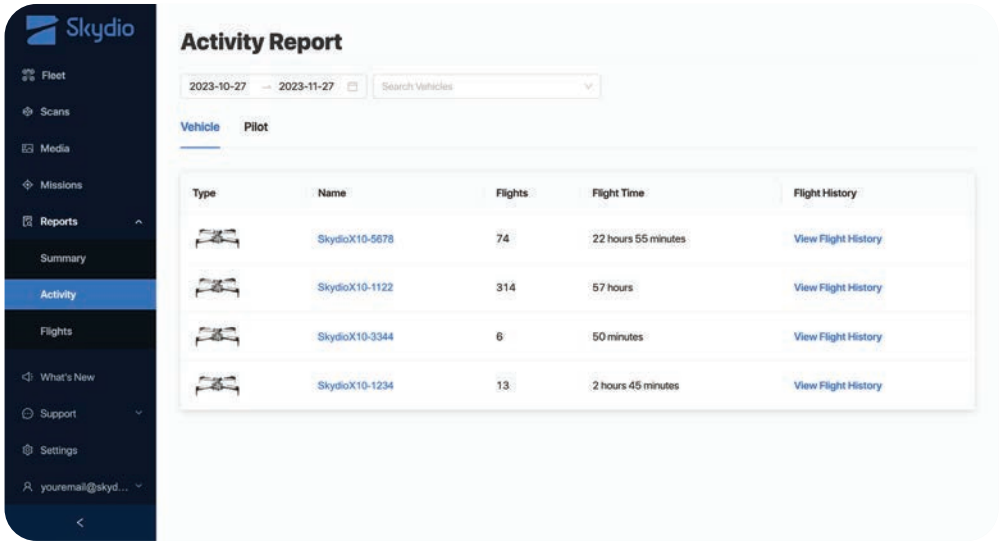
Monitoring Drones and Batteries in Skydio Cloud

If you've claimed your Skydio X10 drones and batteries in Skydio Cloud, you can track the total number of flights and flight hours for each device.

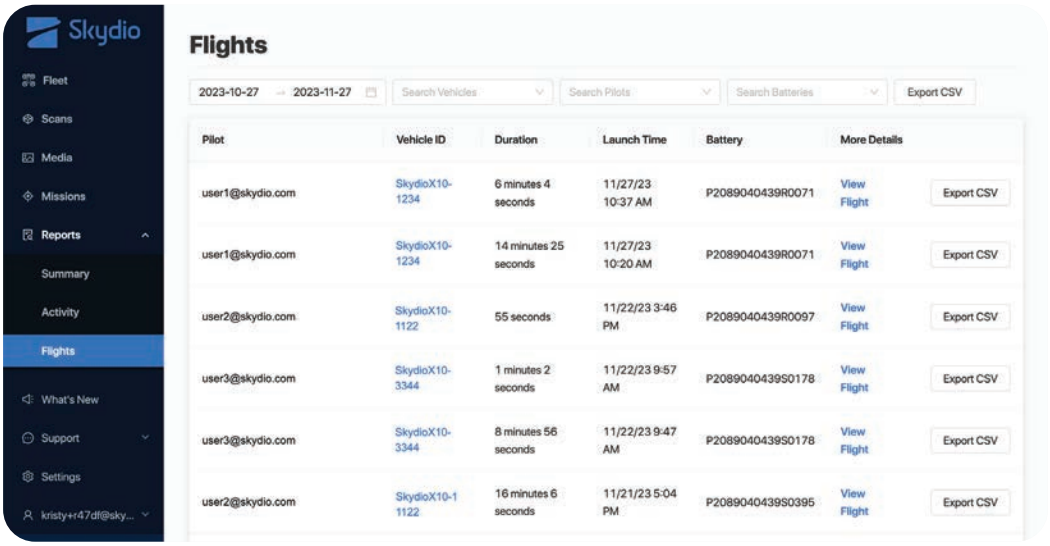
> ***NOTE:*** *Skydio X10 drones and batteries must be claimed in Skydio Cloud to view this flight data. Visit the Skydio Cloud Setup section of this manual for instructions on how to claim your devices.*

Skydio X10

Navigate to Reports > Activity. Here you can view the total number of flights and total flight time for each drone in your fleet.

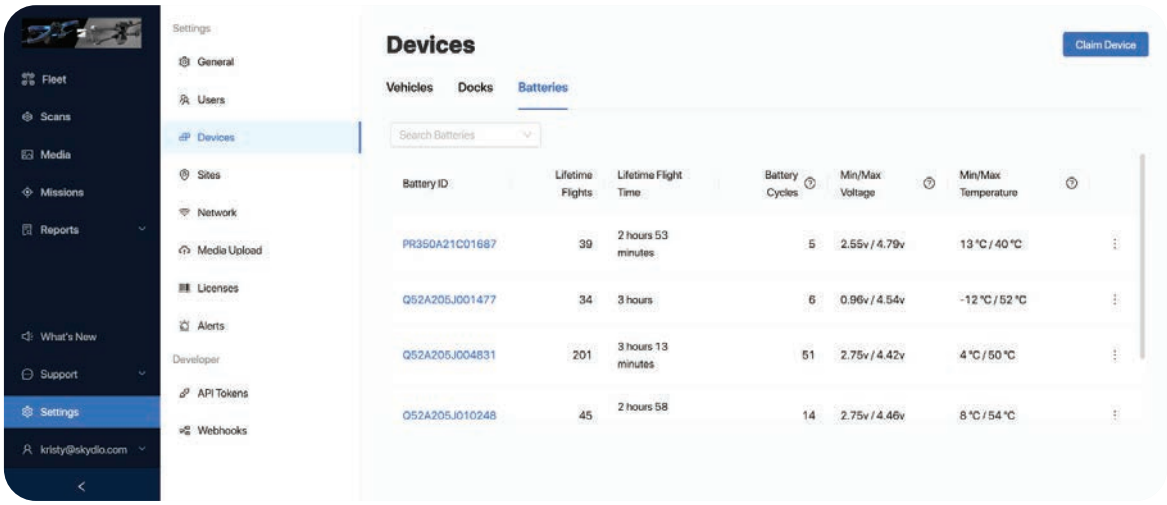


Under the Flights tab you can also view a list of all flights, their duration, launch time, and more.



Skydio X10 Batteries

Navigate to Settings > Devices > Batteries. Here you can view the total number of flights, total flight time, and cycles for each battery in your fleet.



Updating Your System

Skydio will not force an update for your system, however, for optimal performance, we recommend that you keep your Skydio system up-to-date. If flying your Skydio X10 as part of a larger fleet or organization, follow your organization's update guidelines.

Visit **Updating Skydio X10** in the preflight section of this manual for detailed instructions.

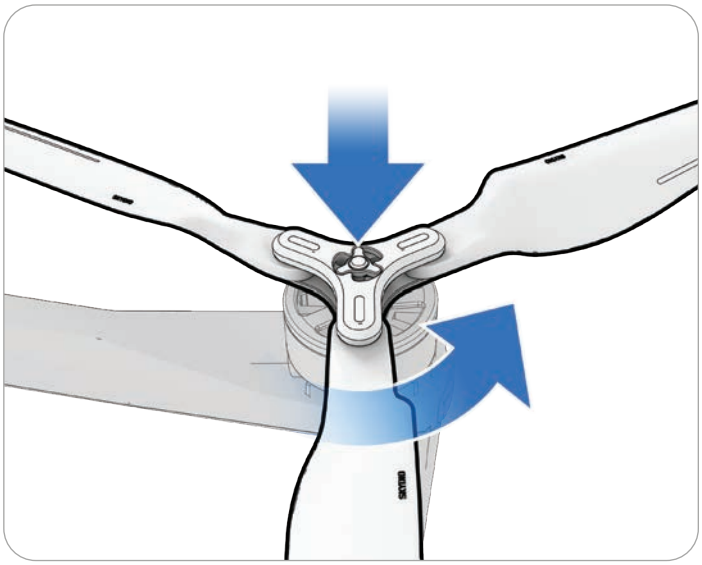
Replacing Propellers

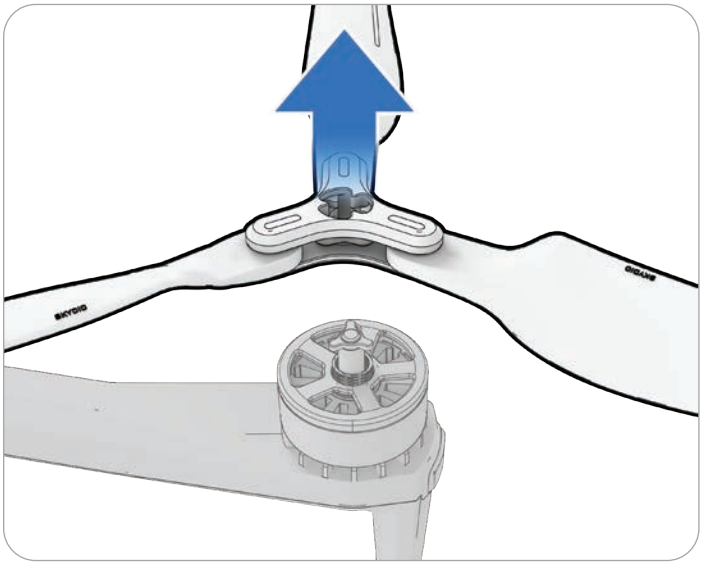
For optimal performance, Skydio recommends replacing your propellers **after 250 hours of flight time** or whenever you notice any damage.

WARNING: *Propellers with hairline cracks or large breaks, chops, or bends should be replaced immediately. Do **NOT** fly Skydio X10 with propellers that are not in good condition as serious bodily harm or injury may occur.*

Step 1 - Remove old or damaged propeller set

Hold onto the motor with one hand and take the propeller hub in the other. Press down on the propeller hub and twist to release.





NOTE: *You will need to twist either clockwise or counterclockwise depending on the motor.*

Step 2 - Identify the propeller set that matches the motor

Match the replacement set of propellers to the color on the motor.

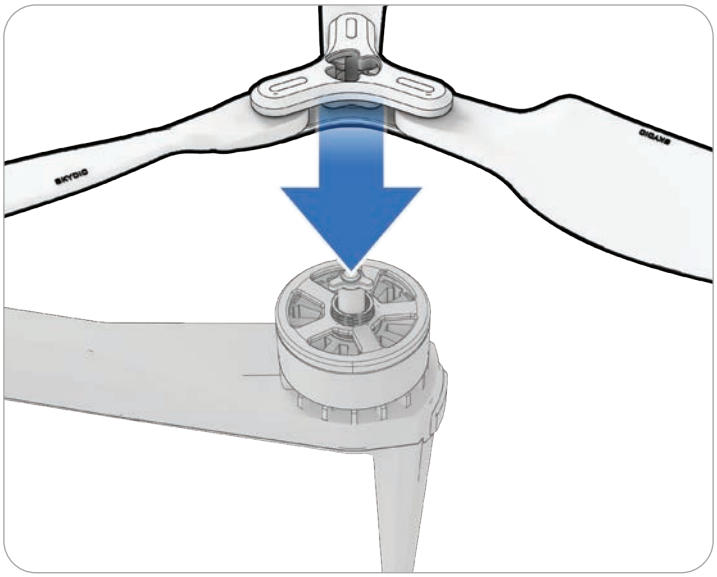
Step 3 - Inspect for any debris

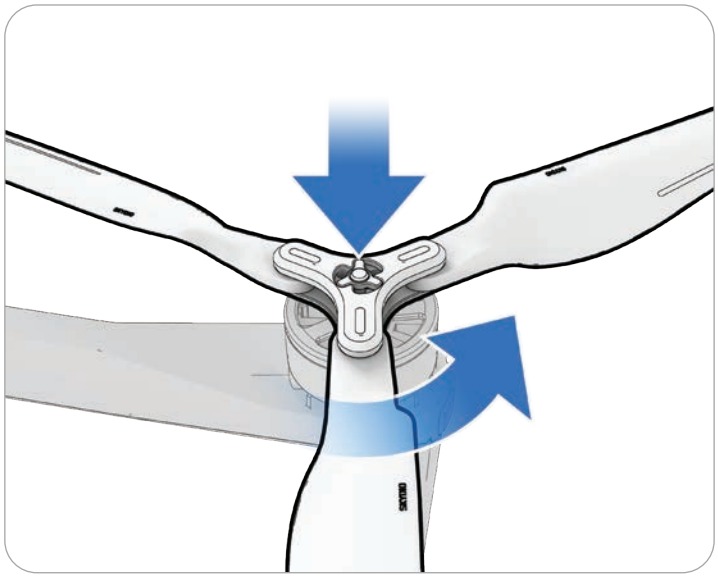
Inspect the motor to ensure there is no dirt or debris.

Step 4 - Install new propeller set

Hold onto the motor with one hand and take the propeller hub in the other. Flip the propeller hub so the opening on the hub aligns with the the motor. Press down and twist to lock in place.

Be gentle and do not force the fitment. If the propeller set does not fit on the motor it might be the incorrect set or side.





NOTE: *You will need to twist either clockwise or counterclockwise depending on the motor.*

TIP: *The total number of flight hours for your drone is tracked in Skydio Cloud. Consider replacing all propellers at the same time for ease of tracking total propeller flight time.*

Cleaning Your System

It is recommended to wipe down your drone after flights in environments with significant dust or debris.

> ***WARNING:*** *Do not submerge your drone or batteries or place them under running water. Water volumes from flight in precipitation are much lower than those from a faucet or hose. Water may get into areas where the drone is not designed to withstand and you may compromise the sensors.*

- Wipe down your drone with a dry or water-damp microfiber cleaning cloth.
- Only use lens cleaner on cameras.
- Do not submerge your drone or batteries.
- Do not place your drone or batteries under running water.
- Use a compressed air canister to remove any debris in hard to reach areas.
- If needed, mild soap and water may be used to remove heavier dirt or debris. Avoid getting any soap near ingress areas on the drone.
- Keep all the drain holes on the drone and battery clear. If any debris is blocking a drain hole (e.g., mud), use compressed air or gently scrape with a toothpick to remove.

Storage

- Do not store Skydio X10 while wet. After flying in precipitation, allow the drone to air dry in a dry, temperature-controlled environment before stowing. Visit the **Flying in Precipitation** section of this manual for more information.
- Store batteries at room temperature 71°F - 82°F (22°C - 28°C) for optimal performance and longevity.
- Store batteries in a cool, dry area with less than 75% relative humidity. Do not store your batteries in extreme environmental conditions.
- Batteries in an idle state (14 days of idle time with no flights) will start to self-discharge in an effort to retain capacity. This may take several days to complete and it is normal for the battery to be slightly warm during this discharge process.

Maintenance Schedule

To optimize the performance of your Skydio X10 it's important to keep your drone updated, inspect your equipment, store your equipment properly, and occasionally replace your propellers and batteries.

Action	Interval
Update system	When an update is available (per your organization's guidelines).
Clean drone navigation cameras	Before each operational session, and after sessions in dust or precipitation. If flying in areas with high amounts of dust or debris, you may be prompted to clean your camera lenses before each flight.
Replace propellers	Per 250 hours of flight time
Replace battery	Per 12 months / 300 battery cycles A battery cycle is the depletion of at least 80% of the charge.

Specifications

This section covers

X10 Drone

Dimensions (unfolded, with propellers)	31.1” x 25.6” x 5.7”
Dimensions (folded, without battery)	13.8” x 6.5” x 4.7”
Weight (incl. batteries)	Connect SL: 2.11 kg / 4.65 lbs Connect SL + 5G1: 2.14 kg / 4.72 lbs
Max Launch Weight	2.49 kg / 5.49 lbs
Operation Frequency	Connect SL: 2400-2483.5MHz, 5150-5850Mhz
Transmitter Power (EIRP)	Connect SL: 34.3dBmi (2.4GHZ) Connect SL: 33.7dBmi (5GHZ)
Hovering Accuracy (windless or breezy)	VIO: +/- 10cm
Max Angular Velocity	GNSS: +/- 1m
Max Tilt Angle	Yaw: 100 deg/s Roll / Pitch: 225 deg/s 40 degrees
Max Ascent/Descent Speed	Ascent: 6 m/s / 13.4mph Descent: 4 m/s / 9.0mph
Max Non-Vertical Descent Speed	6 m/s / 13.4mph
Max Horizontal Speed (at sea level)	20 m/s / 45mph
Max Horizontal Speed with Obstacle Avoidance	16 m/s / 36mph
Max Service Ceiling Above Sea Level (without other payload)	15,000 ft density altitude
Max Gust Handling	Under 12.8 m/s / 28 mph
Max Hover Time	35 minutes
Max Flight Time2	40 minutes

Specifications

Processors	NVIDIA Jetson Orin SoC Qualcomm QRB5165 SoC
Ingress Protection Rating	IP55
GNSS	GPS + Galileo + GLONASS + BeiDou
Operational Temperature Range	-20C to +45C / -4F to 113F
Wireless Range (no interference, line of sight operation)	Connect SL: 12km / 7.5 miles
Wireless Networking (media offload)	Connect SL: WiFi6
Obstacle Avoidance Coverage	True 360°

[1] Skydio Connect 5G coming soon
[2] In optimal, controlled conditions; completely depleting a fully charged battery

X10 Controller

Controller Dimensions	10” x 5” x 3”
Dimensions	10.5” x 5” x 3”
Screen	6.6” Dynamic AMOLED touchscreen 120Hz Adaptive Refresh Rate Resolution: 2340 x 1080 pixels Brightness: 1750 nits (outdoor peak) 392ppi
Weight	1135 grams
Max Range	Connect SL: 12km / 7.5 miles
Operating Frequencies	Connect SL: 2400-2483.5MHz, 5150-5850MHz
Transmitter Power (EIRP)	Connect SL: 34.7dBmi (2.4GHz) Connect SL: 35.9dBmi (5GHz)
Ingress Protection Rating	IP54
Operating Time	Approx. 5 hours
Battery	9600mAH
GNSS	GPS + Galileo + GLONASS + BeiDou
Operational Temperature Range	-20C to +45C / -4F to 113F
Wired Outputs	HDMI & USB-C
Wireless Networking	WiFi, Cellular LTE/5G 1
Security	NDAA compliant AES-256 encrypted data link Encrypted internal disk storage Password protected Root of trust Trusted boot Secure update

[1] Skydio Connect 5G coming soon

VT300-Z Sensor Package

Angular Vibration Range	+/-0.01°
User Controllable Range	+/-90° pitch
Mechanical Range	+/-140° pitch, +/-90° yaw, +75° to -230° roll

VT300-L Sensor Package

Angular Vibration Range	+/-0.01°
User Controllable Range	+/-90° pitch
Mechanical Range	+/-140° pitch, +/-90° yaw, +75° to -230° roll
Flashlight Illumination	22 lux at 3 meters

Telephoto Camera (VT300-Z only)

Sensor	Sony 1/2” 48MP CMOS
Diagonal Field of View	13°
Focal Length	35 mm (190 mm equivalent)
Aperture	f/2.2
Focus	hybrid PDAF, 5 m to ∞
Exposure Compensation	+-3
Electronic Shutter Speed	1/30 to 1/8000
ISO Range	100 to 16000
Max Video Resolution	3840 x 2880
Max Photo Size	8000 x 6000

Wide Camera (VT300-L only)

Sensor	Sony IMX989 1” 50.3MP CMOS
Diagonal Field of View	93°
Focal Length	8 mm (20 mm equivalent)
Aperture	f/1.95
Focus	100% focus pixel, 1 m to ∞
Exposure Compensation	+-3
Electronic Shutter Speed	1/30 to 1/8000
ISO Range	100 to 16000
Max Video Resolution	3840 x 2880
Max Photo Size	8192 x 6144

Narrow Camera (VT300-Z and VT300-L)

Sensor	Sony 1/1.7” 64MP CMOS
Diagonal Field of View	50°
Focal Length	10 mm (46 mm equivalent)
Aperture	f/1.8
Focus	hybrid PDAF, 1 m to ∞
Exposure Compensation	+-3
Electronic Shutter Speed	1/30 to 1/8000
ISO Range	100 to 16000
Max Video Resolution	3840 x 2880
Max Photo Size	9248 x 6944

Thermal Camera (VT300-Z and VT300-L)

Thermal Imager	Flir Boson+ Uncooled VOx Microbolometer
Diagonal Field of View	41°
Focal Length	13.6 mm (60 mm equivalent)
Aperture	f/1.0
Focus	5 m to ∞
Thermal Sensitivity	<30mK NEDT
Infrared Temperature Measurement Accuracy	Larger of +- 5°C or 5%
Image Processing	Adreno 650 GPU accelerated ISP pipeline
Max Video Resolution	640 x 512
Photo Size	640 x 512
Photo Format	JPEG, RJPEG
Pixel Pitch	12 um
Temperature Measurement Method	Spot Meter, Region of Interest
Temperature Measurement Range	-40° to 150° C (-40° to 350° C low gain)
Palette	White hot Black hot Ironbow Rainbow

Vision Systems / Navigation Cameras

Configuration	6x cameras in trinocular configuration top and bottom
Sensor	Samsung 1/2.8” 32MP color CMOS
Light Sensitivity	Visible Light
Aperture	f/1.8
Diagonal Field of View	200°
Obstacle Sensing Range	20 meters
Environment Coverage	True 360°

Flight Battery

Capacity	8419 mAh
Voltage	18.55 V
Battery Type	Rechargeable Lithium Ion Polymer
Energy	156.17 Wh
Net Weight	1.56 lbs +/- 0.003 lbs
Operational Temperature Range	-20C to 60C
Storage Temperature Range	-20C to +45C (storage less than 3 months)
Charging Temperature Range	5C to 45C
Chemical System	Lithium Ion Polymer

Skydio Connect

Operating Frequency	Connect SL: 2400-2483.5MHz, 5150-5850MHz
Transmitter Power (EIRP)	Connect SL: 34.7dBmi (2.4GHz) Connect SL: 35.9dBmi (5GHZ)
Antenna Configuration	Connect SL: 2Tx, 4Rx

System Security

Wireless Encryption	Connect SL: AES-256
NDAA Compliance	NDAA Compliant
Root of Trust	HSM protected keys
System Integrity	Secure boot
Secure Update	AES-256 encrypted, signed, & verified
Internal Disk Storage	Encrypted
SD Cards	Unencrypted
Pairing	Secure wired pairing

X10 Dual Charger and Power Supplies

Dimensions	180 x 75 x 48mm
Weight (w/o Battery)	0.73 lbs
Charge Time 230W	1 hour (0-100%)
Charge Time 100W	1 hour 45 minutes (0-100%)
Weatherproofing	No ingress protection
Power input (100W USB-C)	5VDC, 3A / 20VDC, 5A (USB PD)
Power input (230W DC Barrel)	20VDC, 11.5A

Legal

This section covers

Skydio X10

Before operating Skydio X10, review the *Getting Started* information including the *Operator Manual* available at www.skydio.com/manuals. Retain documentation for future reference.

Safety
Review the *Skydio Safety and Operating Guide* available at www.skydio.com/safety.

Battery
Handle the battery with extreme care and refer to the Operator Manual and to the *Skydio Safety and Operating Guide* for additional information.

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Carefully dispose of batteries according to manufacturer's instructions and to your local environmental laws and guidelines.

Risque d'explosion si la batterie n'est pas correctement remplacée. Remplacer uniquement par un type identique ou équivalent recommandé par le fabricant de l'équipement. Jeter les batteries conformément aux instructions du fabricant et aux lois et directives environnementales locales.

Charging
Do not use the X10 Dual Charger near wet locations. To avoid the risk of electric shock, use only in dry locations. Do not allow anything to rest on the power cord. Do not locate this monitor where the cord will be abused by persons working on it. Do not overload wall outlets and extension cords as this can result into fire or electric shock.

N'utiliser pas le X10 Dual Charger à proximité d'endroits humides. Pour éviter tout risque de choc électrique, utiliser uniquement dans des endroits secs. Ne laisser rien reposer sur le cordon d'alimentation. Ne placer pas ce moniteur dans un endroit où le cordon pourrait être maltraité par les personnes travaillant dessus. Ne surcharger pas les prises murales et les rallonges car cela pourrait provoquer un incendie ou un choc électrique.

Skydio One (1) Year Limited Warranty
Skydio warrants the included hardware product against defects in materials and workmanship in hardware under normal use in accordance with published guidelines including but not limited to the *Terms of Use*, *Operator Manual* and the *Skydio Safety and Operating Guide* for one year from the date of delivery (the "Limited Warranty"). The Limited Warranty does not warrant against normal wear and tear or damage caused by accident or abuse and is not applicable to any software provided with the hardware product. The Limited Warranty is subject to the full terms and detailed information about how to obtain service available at *www.skydio.com/legal/limited-warranty*. If you submit a valid claim under this Limited Warranty, Skydio will either repair, replace, or refund your hardware product at its sole discretion. You may be required to furnish proof of purchase details when making a claim under this Limited Warranty.

Skydio Care
Skydio offers Skydio Care as a subscription service at an additional cost that provides protection from collisions, water damage, or lost drones which are not covered under the Limited Warranty. Skydio Care can be purchased as a one (1) year plan co-extensive with the Limited Warranty, or as a three (3) year plan, which includes a two (2) year extension to the one (1) year term of the Limited Warranty. Skydio Care is subject to the full terms and detailed information about how to obtain service available at *https://www.skydio.com/legal/skydio-care-terms-of-service*. If you submit a valid claim under Skydio Care, you may be eligible to purchase discounted drone replacements for otherwise uncovered damage or losses. The Skydio Care benefits are in addition to the rights provided under the Limited Warranty.

California Prop 65 Warnings
Skydio X10 uses lithium-ion batteries. Exposure to lithium-ion, containing cobalt lithium nickel oxide, and nickel, is known to the State of California to cause cancer and birth defects, or other reproductive harm. For more information visit:
www.P65Warnings.ca.gov

Skydio X10 Controller contains chemicals including cadmium, which is known to the State of California to cause cancer and birth defects, or other reproductive harm. For more information visit: www.P65Warnings.ca.gov

FCC Compliance Statement
These devices comply with Part 15 of the FCC Rules and with ISED Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) these devices may not cause harmful interference, and (2) these devices must accept any interference received, including interference that may cause undesired operation.

Ces appareils sont conformes aux normes RSS exemptes de licence d'ISDE Canada. Leur fonctionnement est soumis aux deux conditions suivantes: (1) ces appareils ne doivent pas causer d'interférences nuisibles, et (2) ces appareils doivent accepter toutes interférences reçues, y compris les interférences susceptibles d'entraîner un fonctionnement indésirable.

Changes or modifications not expressly approved by Skydio could void the user's authority to operate these devices.

These devices have been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when these devices are operated in a commercial environment. These devices generate, use, and can radiate radio frequency energy and, if not installed and used in accordance with the Operator Manual and Safety and Operating Guide, may cause harmful interference to radio communications. Operation of these devices in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numerique de classe A est conforme a la norme Canadienne NMB-003.

Legal

FAA Compliance Statement
Unless specifically exempt, this product complies with 14 CFR Part 89 regulations on Remote Identification per ASTM F3411-22a-RID-B and ASTM F3586–22.

Software License
The *Skydio Software End-User License Agreement* available at www.skydio.com/legal/eula governs the use of any Skydio software that is pre-installed, downloaded, installed, or otherwise provided in connection with any included hardware.

Additional Resources
For all the latest information about Skydio and our products visit: www.skydio.com

For Skydio legal information and product terms of use visit: www.skydio.com/legal

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