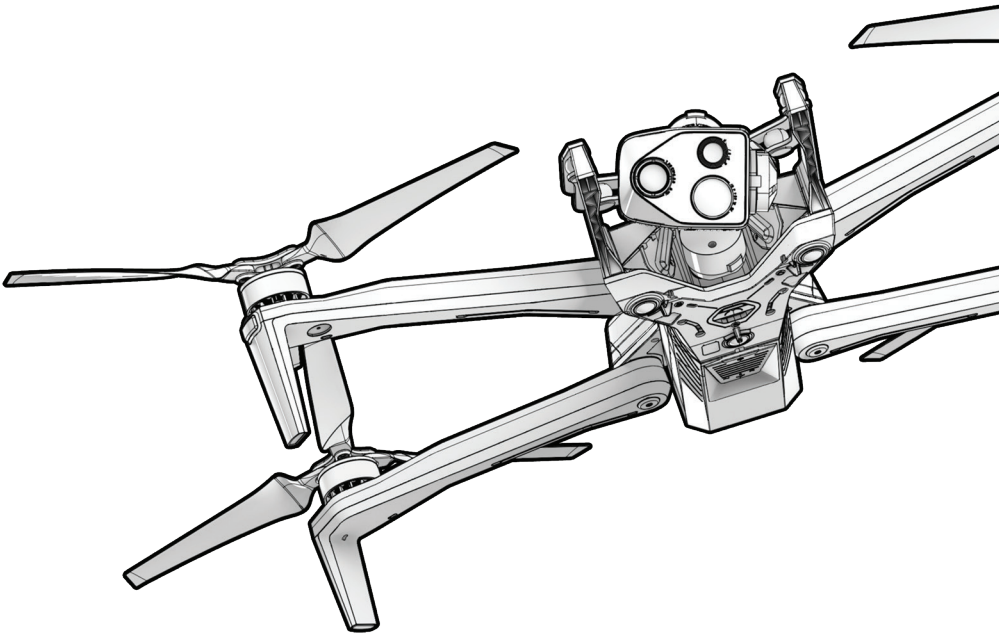
Skydio

Skydio X10

Quick Start Guide



Updated: November 2024

Table of Contents

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.*

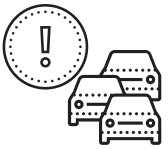
Safety Guidelines

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

Keep your fingers away from moving propellers at all times.

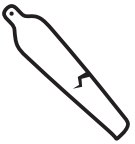
Use caution around reflective surfaces (e.g., still water or mirrors) and small obstacles (e.g., thin branches, utility lines, or chain link fencing)

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



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

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



Check your propeller blades for damage before flying.

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

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

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

Do not stare directly into the Spotlight attachment or a sensor package flashlight at any distance range for any period of time as it may cause serious eye injuries.

Skydio X10 Overview

Skydio X10 delivers the performance of a heavy-duty drone in a portable, backpack-friendly design. Weighing **under 4.7 pounds**, and measuring just 13.8 inches when folded, it's the most compact drone in its class – easily carried, set up, and flown by a single pilot. With a deployment time of **less than 40 seconds**, an **IP55 rating**, and a maximum flight speed of **45 mph**, the X10 is built for rapid, reliable performance in any environment.

As the first drone to integrate the **Teledyne FLIR Boson+ sensor**, the X10 achieves thermal resolutions of 640x512 with sensitvity down to ≤30mK. Powered by an onboard **NVIDIA Jetson Orin GPU**, it offers unmatched computing power to process complex tasks in real time. Six custom-designed navigation lenses provide 360° visibility, eliminating blind spots and enabling confident flight – even in **GPS-denied** or **high-EMI** environments.

Packing more megapixels and superior optics than any drone its size, the **modular X10 sensor packages** combine high-resolution visual and radiometric cameras. Four **attachment ports support tools** such as NightSense modules, Speaker, or Spotlight, with a maximum payload of 12 oz. Skydio X10 adapts swiftly to changing mission demands, making it the ultimate tool for any operation.

Software
Skydio X10 comes equipped with the following software features:

- 360° Obastacle 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
- Thermal Tools
- Track in Place (subject tracking)
- Visual Return-to-Home
- Waypoint Missions
- Zoom

In addition to these built-in capabilities, Skydio offers additional software applications—such as Remote Flight Deck for collaborative flight operations and 3D Scan for high-resolution, automated scanning—to further expand the functionality of Skydio X10.

Attachments and Sensor Packages
To adapt the X10 for specialized tasks, Skydio provides a range of attachments and sensor packages.

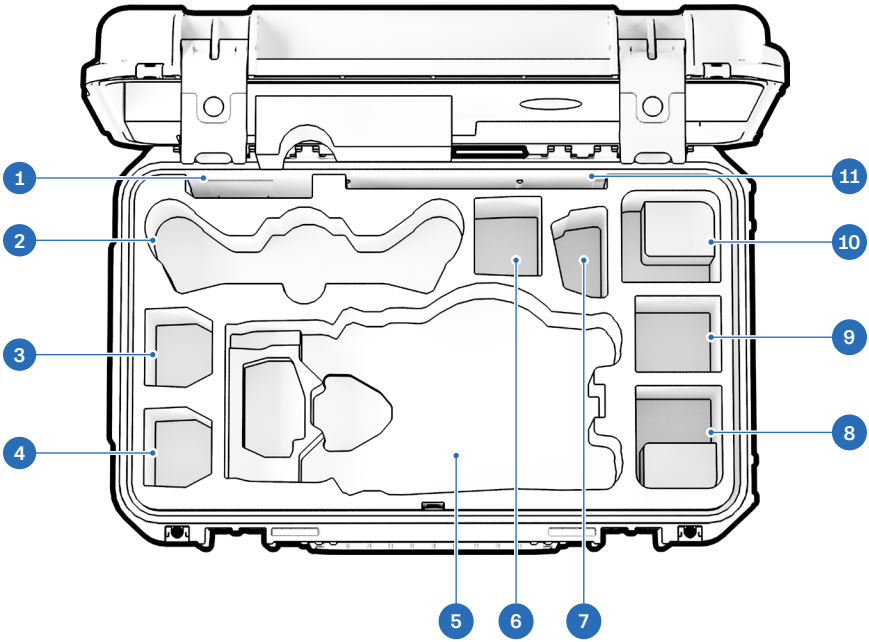
> **Attachments** are optional accessories that can be added to enhance the functionality of the drone, such as advanced lighting or communication tools. These add-ons allow you to customize X10 for unique mission requirements.
>
> **Sensor packages** are a combination of cameras and sensors mounted on the front of the drone, stabilized by a gimbal. These packages may feature thermal imaging or integrated flashlights to support various operational needs. Sensor packages are designed to capture precise data across various environments and applications.

Solution Bundles for Specific Use Cases
Skydio also offers pre-configured solution bundles tailored to specific applications. These bundles provide the ideal combination of hardware, software, and accessories for tasks like Drone as First Responder (DFR), bridge inspection, and utility management, ensuring you have the tools you need right out of the box.

Scan the QR Code for more information about the various software bundles and kits available for purchase.

Skydio X10 Starter Case Layout

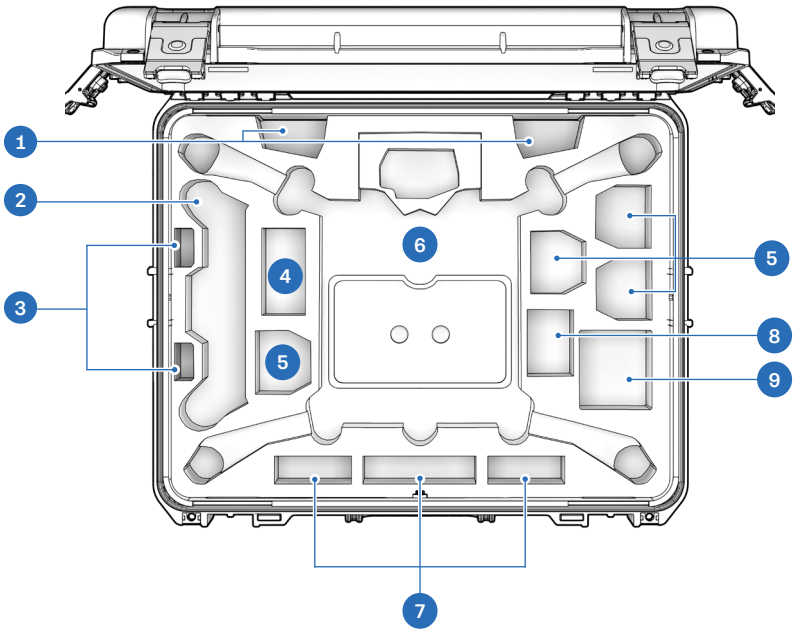
Your Skydio X10 Starter Case comes pre-packaged with all components and many slots are designed for specific items, however some slots are flexible.



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 Ready Case Layout

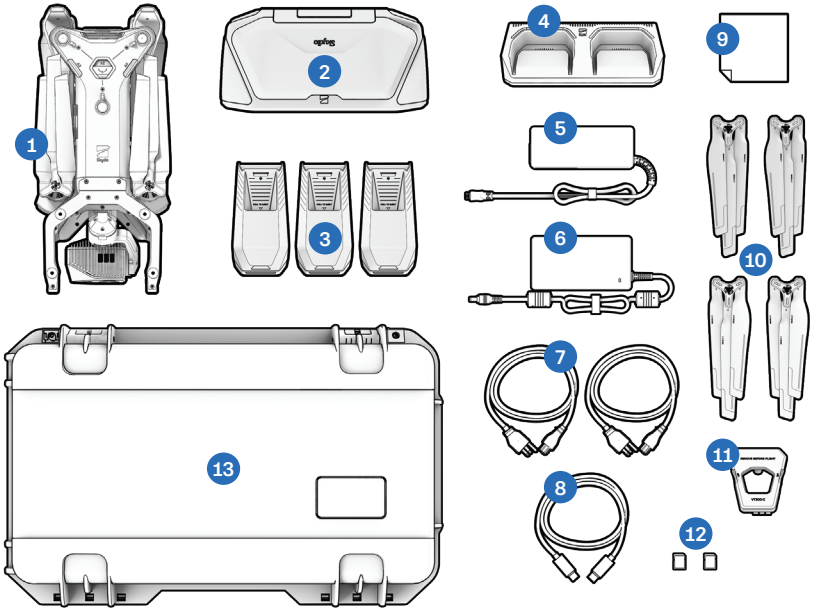
Your Skydio X10 Ready Case comes pre-packaged with all components and many slots are designed for specific items, however some slots are flexible.



1. X10 Dual Charger
2. X10 Controller
3. Spare propellers
4. 230W Power Supply
5. X10 Battery
6. Skydio X10 Drone
7. Flex space
8. 100W Power Supply
9. Flex space

NOTE: *You have the ability to remove the Ready Case lid for faster deployment.*

Skydio X10 Kit Contents

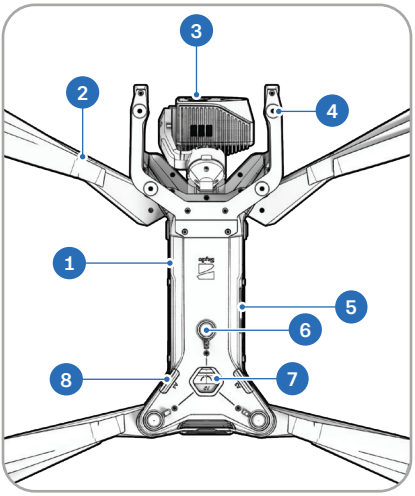


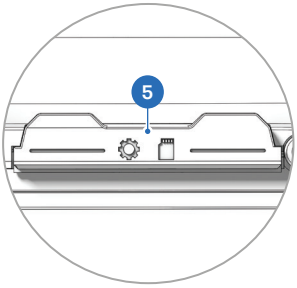
1. Skydio X10 and sensor package
2. Skydio X10 Controller
3. Batteries
4. Skydio X10 Dual Charger
5. 100 W USB-C power supply
6. 230 W fast power supply
7. Power cables
8. USB-C to USB-C pairing cable
9. Microfiber cleaning cloth
10. Spare propeller sets
11. Sensor package lock
12. 256 GB microSD cards,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

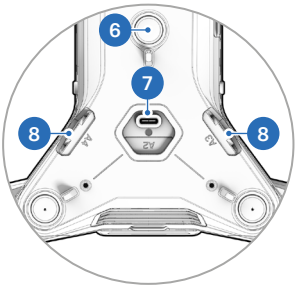
Scan the QR Code for more information about the kits available for Skydio X10.

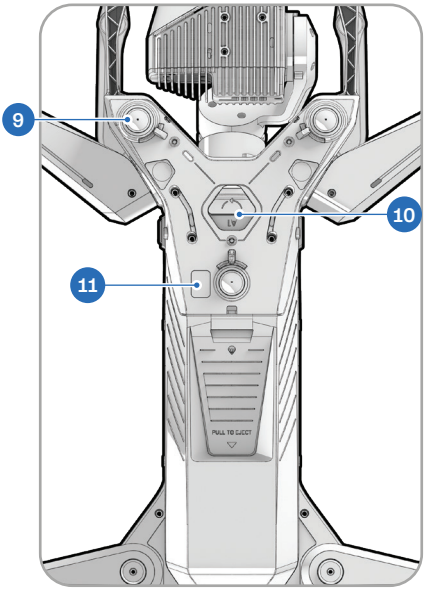
Skydio X10 Hardware

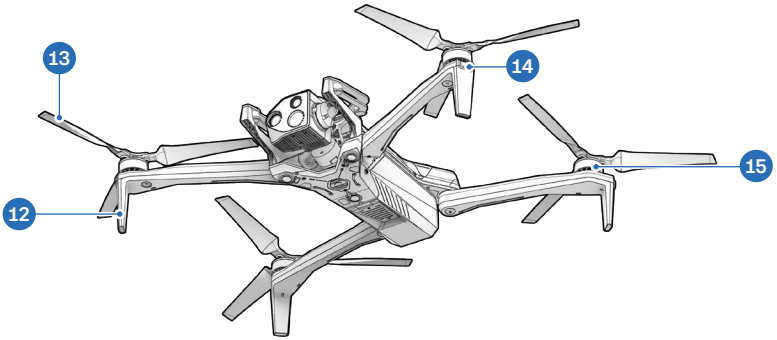
1. Chassis
2. Arm (4)
3. Sensor package
4. Sensor package frame
5. Log/Media card slots (2)
6. Top navigation cameras (3)
7. Top attachment bay (A2)
8. Side attachment bay (A3, A4)
9. Bottom navigation cameras (3)
10. Bottom attachment bay (A1)
11. Time of flight sensor

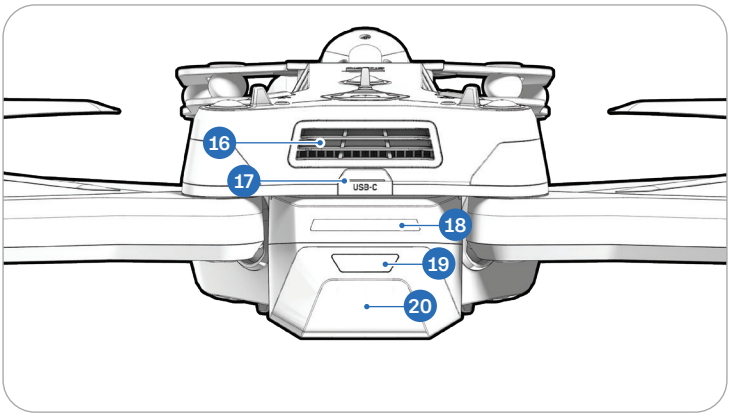










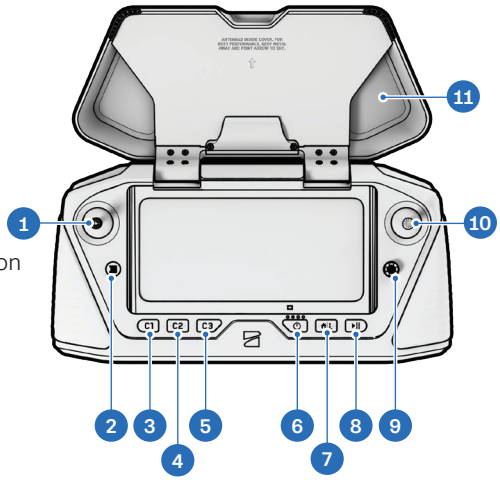


12. Landing foot/antenna
13. Propeller blades
14. RGB/strobe lights
15. Propeller motor
16. Cooling fan/outlet
17. USB-C charge port
18. Battery lights
19. Power button
20. Battery

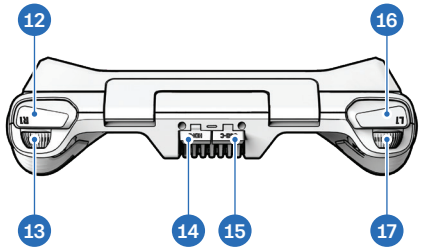
Scan the QR Code for more information about the sensor packages available for purchase.

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

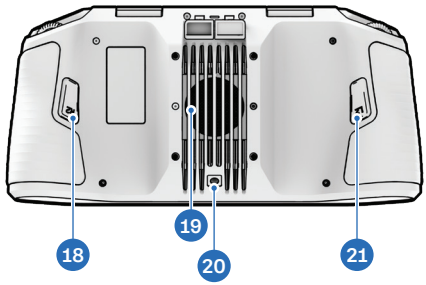


12. R1 button (Shutter)
13. Right wheel
14. HDMI port
15. USB-C charge port
16. L1 button (Boost)
17. Left wheel*



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*



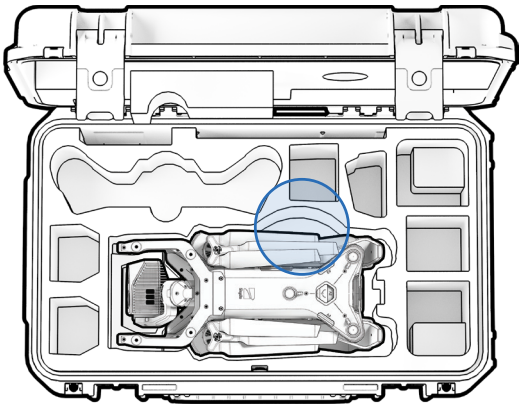
Unboxing Skydio X10

Scan the QR Code to watch a video demonstrating how to remove Skydio X10 from its case.

Step 1 - Remove Skydio X10 from the case

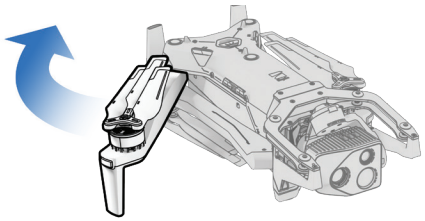
X10 Starter Case
Open the case. Reach down into the designated hand cutout (highlighted in the image below), grip Skydio X10 underneath by the chassis, and lift it upward to remove.

Do not lift X10 by the sensor package, arms, or rear.



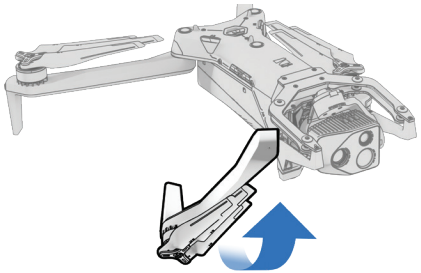
Step 2 - Unfold the rear arms

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.



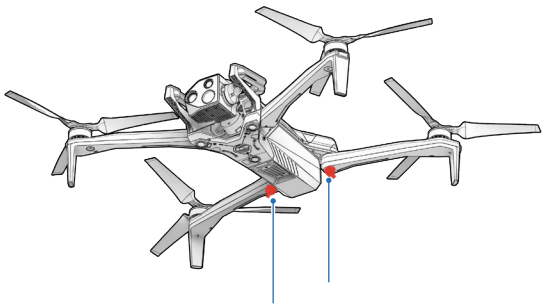
Step 3 - Unfold the front arms

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



Step 4 - Remove the red packaging stickers

There are red stickers located on the underside of each rear arm. Use the tab to gently lift and pull them off before flying.



Charging Skydio X10 Batteries

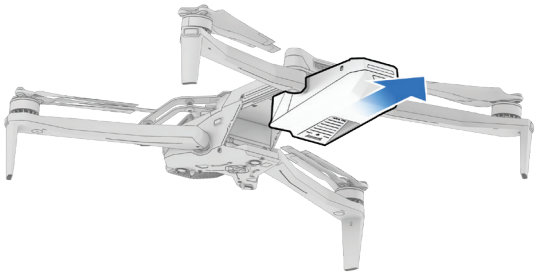
Scan the QR Code for more information about charging and battery maintenance.

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.

Step 1 - Remove battery from drone

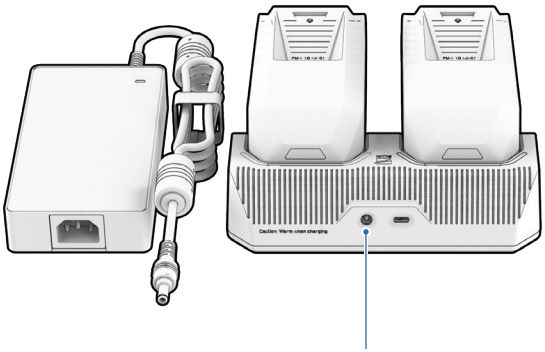
Skydio X10 batteries are held in place using a magnetic connection.

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



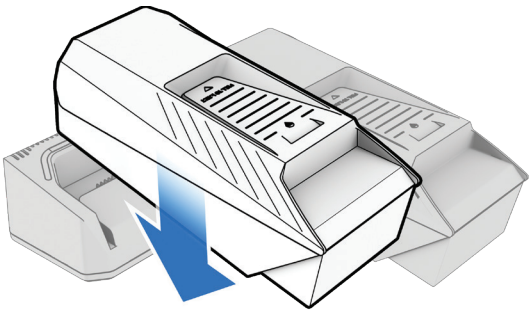
Step 2 - Connect the X10 Dual Charger to power

Connect the 230 Watt fast power supply to the X10 Dual Charger, then plug it into a power source.



Step 3 - Place batteries into the X10 Dual Charger

Gently push down to ensure the batteries are properly seated. Charging will begin once the battery is connected.



- The lights on the X10 Dual Charger will pulse blue while the corresponding battery is charging.
- Charging is complete when the lights are solid green.
- 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 whichever battery is inserted first.

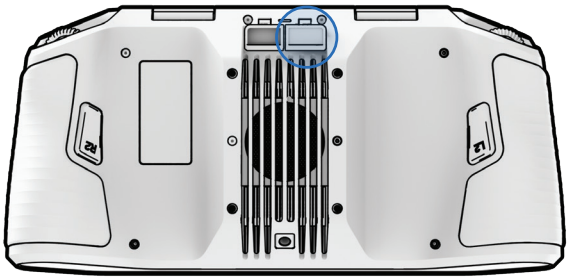
Battery Charge State	Light Behavior on X10 Dual Charger
Actively charging	Pulsing blue
Waiting to charge	Solid blue
Charging complete	Solid green

Power Supply	Charge Time
230 W	About 1 hour to charge a depleted battery
100 W	About 1 hour 45 minutes to charge a depleted battery

Charging the Skydio X10 Controller

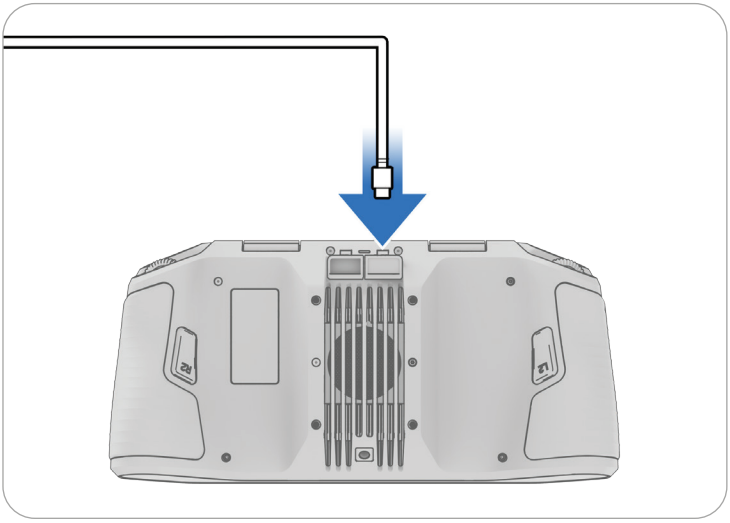
Step 1 - Locate the USB-C charge port

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.

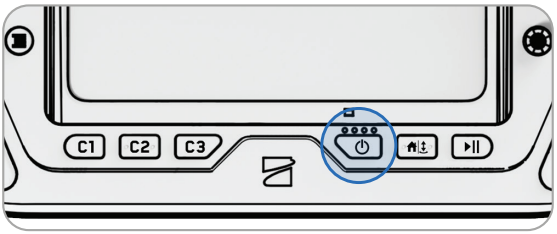


Setting Up and Pairing Your Devices

NOTE: *Before flying, you'll need to* ***set up your Skydio Cloud account****, add users, and claim devices in order to access Skydio Flight Deck and receive software updates. Scan the QR Code for setup instructions. This does not apply to Skydio X10D.*

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—continue holding the power button for the full 5 seconds until the controller powers on.



Step 2 - Set up Skydio Flight Deck

Skydio Flight Deck is the dedicated flight software on your controller.

1. Connect to a WiFi network and follow the on-screen prompts
2. Enter the email address that is associated with your Skydio Cloud account
3. Enter the activation code that is sent to your email
4. Set a password for your controller (optional)

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

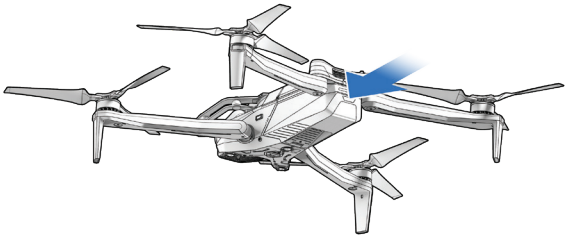
Step 3 - Insert the X10 battery

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 4 - Power on Skydio X10

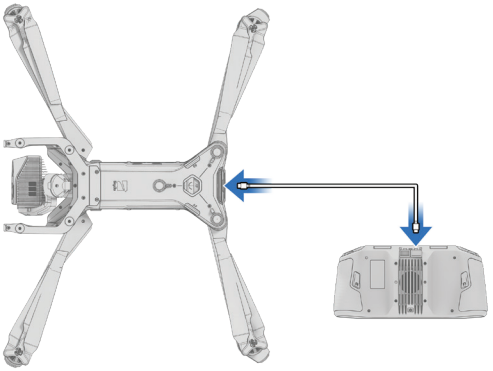
Press and hold the Power button on the battery for three seconds. The lights on the drone arms will turn blue as X10 powers on.



Step 5 - Pair the drone and controller

Use the USB-C pairing cable to connect your devices. Wait as pairing completes.

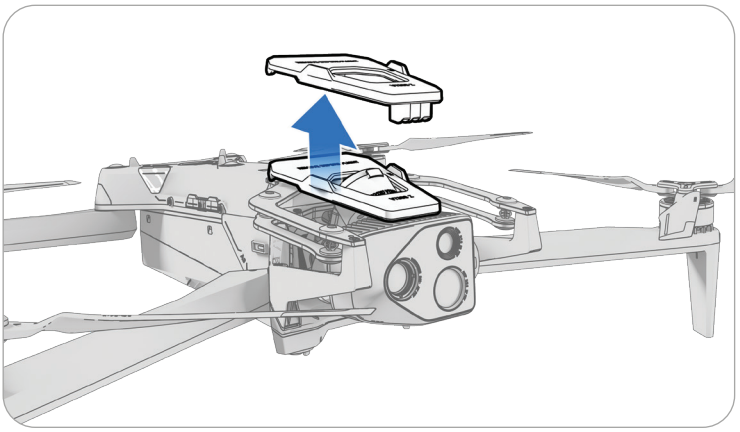
- The lights on the drone will turn solid blue and the name of your drone will appear on the screen when pairing is successful.
- Once paired, the drone and the controller will automatically connect before future flights.



Step 6 - Remove the gimbal stabilizer clip

Gently pull to remove from the top of your drone.

- Save this piece to reattach when storing or transporting



Updating Your Devices

Scan the QR Code for software update instructions.

For optimal performance, we recommend that you keep your Skydio system up-to-date. Skydio will notify you when an update is available for your Skydio X10 and X10 Controller.

If a software update is available, and your X10 Controller is connected to the internet, you will see the option to update your system in the **Global Settings** > **Information** menu. The entire update process is completed wirelessly.

Registering with the FAA

Skydio X10 is Remote ID (RID) compliant. You will see a label signifying RID compliance in the battery tray. United States federal law requires all drones operated under 14 CFR Part 107 to be registered.

1. **Create an account or log in** to FAA DroneZone
2. Navigate to Manage Device Inventory and **Add Device**
3. **Visibly display** your FAA registration number on your drone
4. **Carry your registration card** with you whenever you fly

Scan the QR Code for step-by-step instructions on how to register your drone at FAA DroneZone.

Preflight Inspection

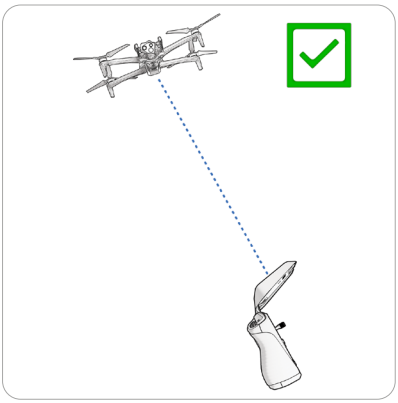
WARNING: *Carefully inspect your drone and environment before launching to ensure a safe flight.*

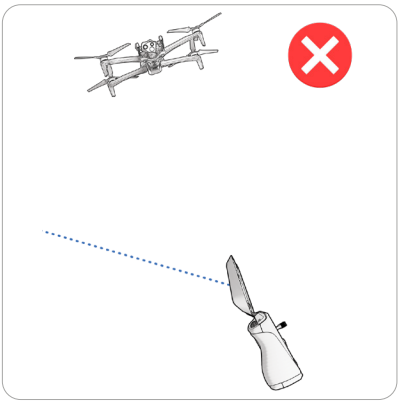
- **Verify batteries are fully charged** before flying.
- **Inspect the chassis** to ensure it is free of damage.
- **Inspect drone arms** and verify they are fully extended and free of damage.
- **Inspect the battery** and confirm it is securely seated prior to launching. Skydio X10 uses magnets to 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 Gensor Stabilizer Clip** 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 (only applies to Skydio Connect SL)

Maximum Wireless Performance (Skydio Connect SL)

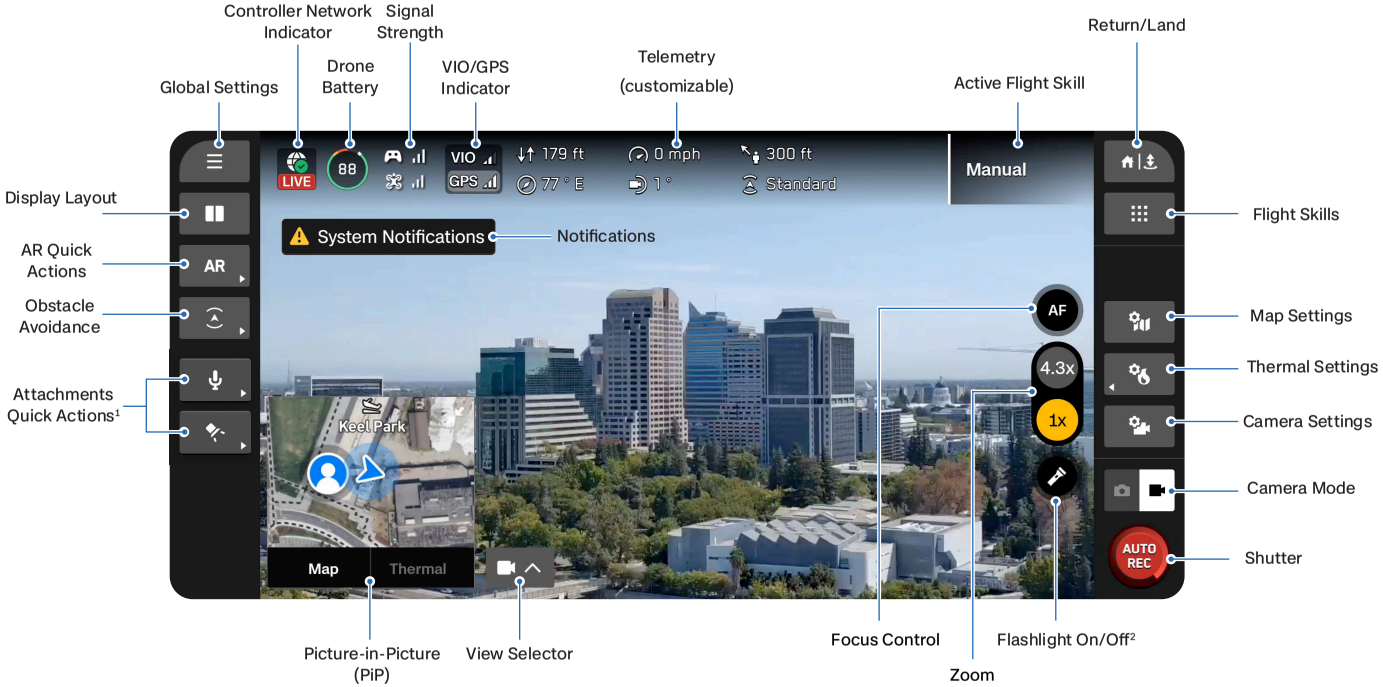
For maximum wireless performance when flying over a direct link, always maintain a direct line of sight between the controller and Skydio X10. Point the controller cover toward the drone, especially when flying at close range high altitude.

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





Flight Screen



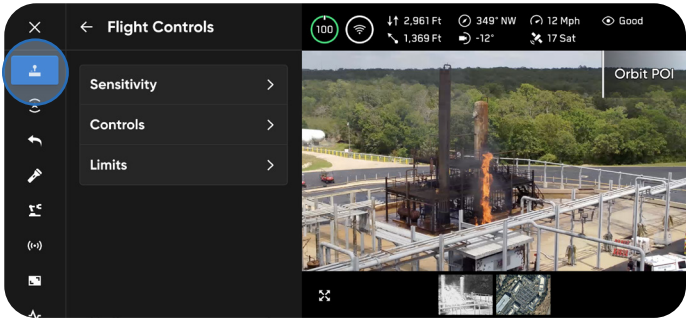
[1] *Only appears when you are currently using an attachment.*

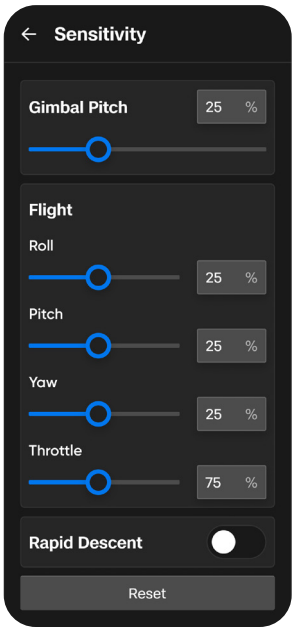
[2] *VT300-L or V100-L Only*

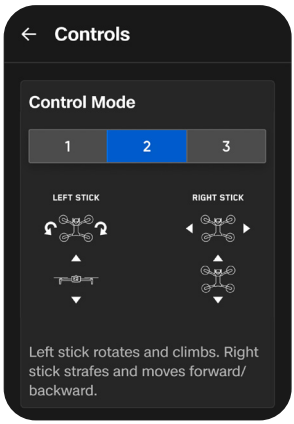
Flight Controls

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

Select Flight Controls in the Global Settings menu to configure your control sensitivity and change control mode.

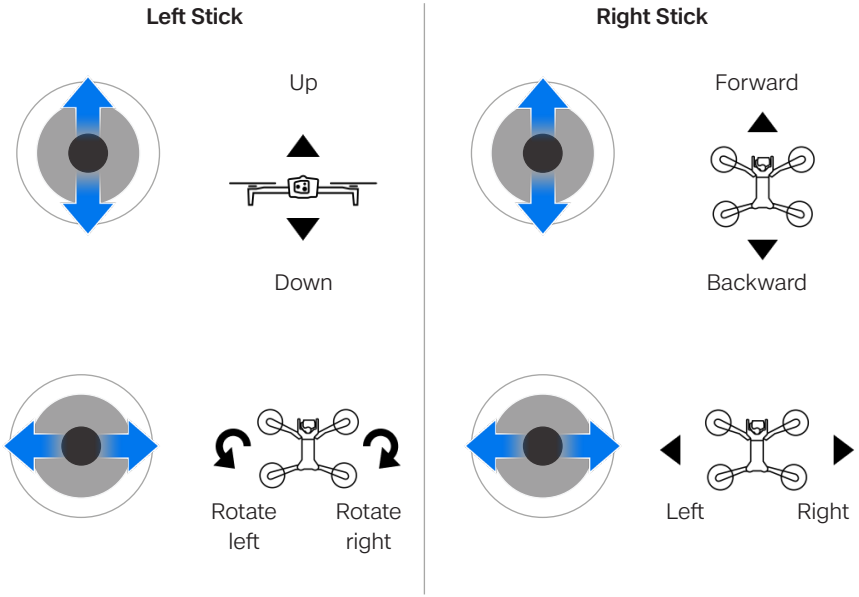


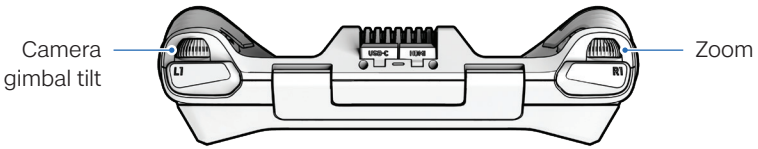




Control Mode 2

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.





Skydio Connect Network Selections

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.

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.

To fly over a cellular network, you will need to configure a few settings in Skydio Cloud and on your controller:

1. **Claim your drone** in Skydio Cloud
2. Enable **Remote Operations**
3. Set user roles to **Remote Pilot** or **Organization Admin**
4. Enable **Vehicle 5G Cellular** on your X10 Controller (Global Settings > Radio)

Scan the QR Code for step-by-step instructions on how to set up Connect 5G.

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.*

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

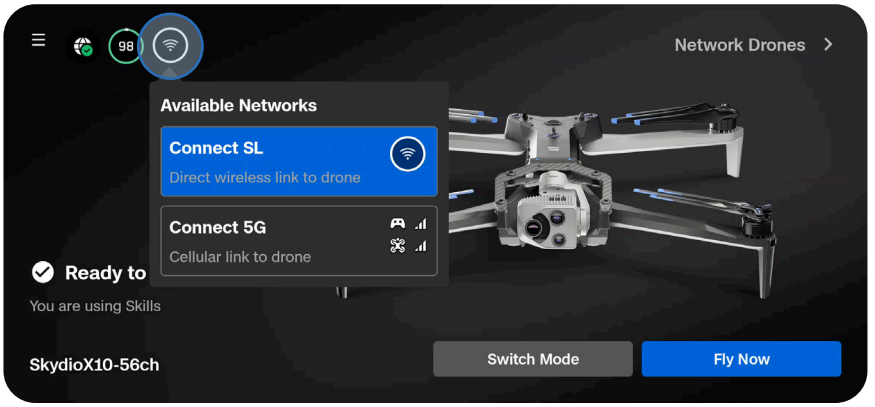
Step 1 - Find a clear, safe area to launch

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.

Step 2 - Choose your network (Connect 5G only)

Select the **Signal Strength** icon to view available networks. You also have the ability to switch between Connect SL and Connect 5G while actively flying.

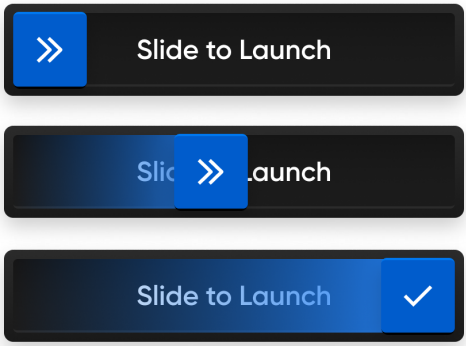
Once you have chosen your network, select **Fly Now**.



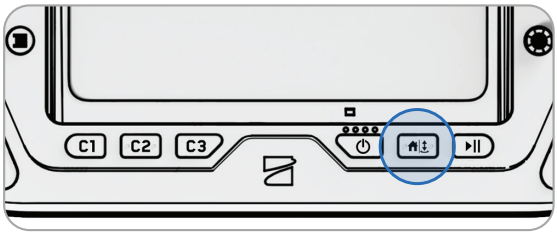
Step 2 - Launch

Your drone will rotate 360 degrees during launch to calibrate its Inertial Measurement Unit (IMU) and navigation system.

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



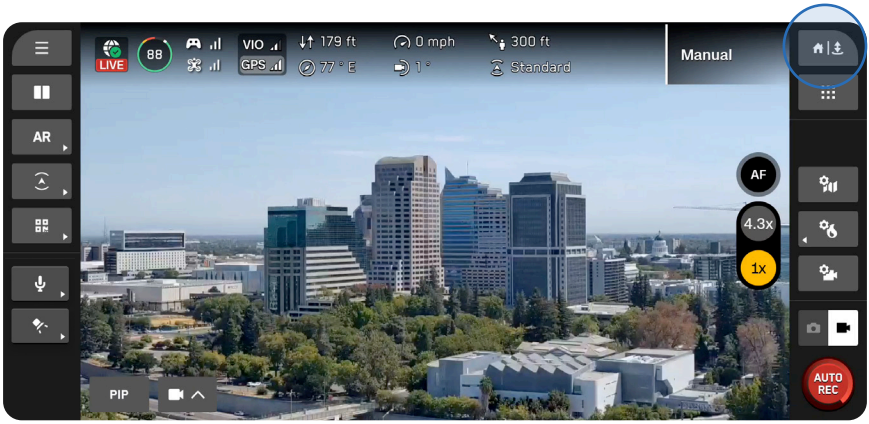
Option 2 - Press and hold the Launch/Land button on the controller
The drone will initiate launching when you see the on-screen check mark.

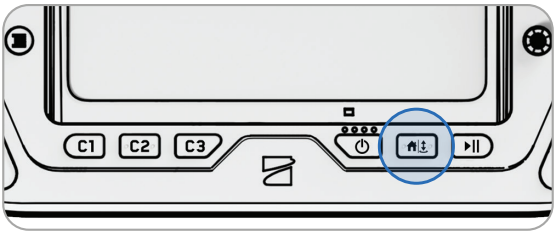


Returning

Scan the QR Code 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



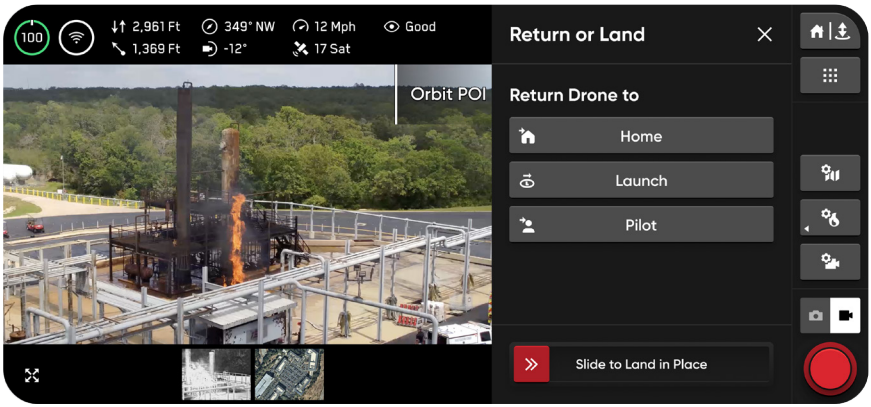


Step 2 - Choose your return location or land in place

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



By default, Skydio will ascend 65 ft (20 m) above its current altitude and return at 22 mph (26 km/h).

NOTE: *You can change this default return behavior in the* ***Global Settings*** *menu under* ***Return****. Scan the QR code on the previous page for more information.*

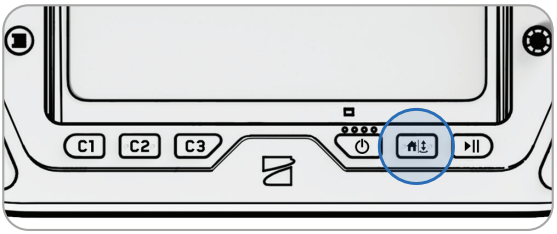
Landing

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.*

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.

Contingency Behaviors

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

Scan the QR Code 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's time to return and land. It is **strongly recommended you initiate a return or land at this time**.

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 that you will be unable to cancel**. You will maintain the ability to nudge the drone in roll, pitch, and yaw to avoid any obstacles.

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

Lost Connection

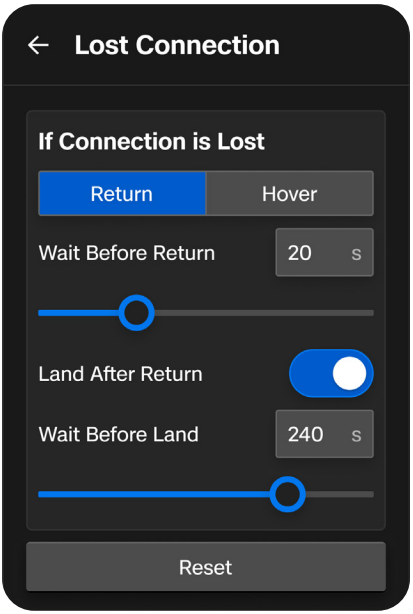
If connection is lost, Skydio X10 will default to the **Lost Connection** settings. Select between **Return** (default) and **Hover** upon lost connection.

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.

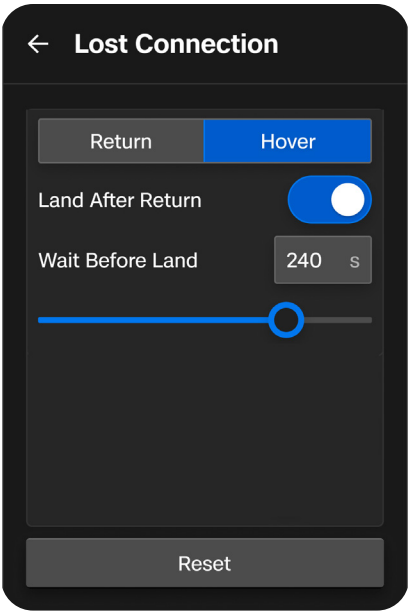
Wait Before Land - the amount of time between 0 to 300 seconds (default is 240 seconds) that you want your drone to wait above the landing location before landing. This setting is only enabled when Land After Return is toggled on.



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 are flying in GPS Flight, 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.

Attitude Mode and Emergency Landing

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

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.

NOTE: *You can toggle this setting off under **Global Settings** > **Flight Controls** > **Landing**. If toggled off, the drone will remain in Attitude Mode indefinitely under operator control while no navigation sources are healthy.*

Additional Resources

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

Scan the following 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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