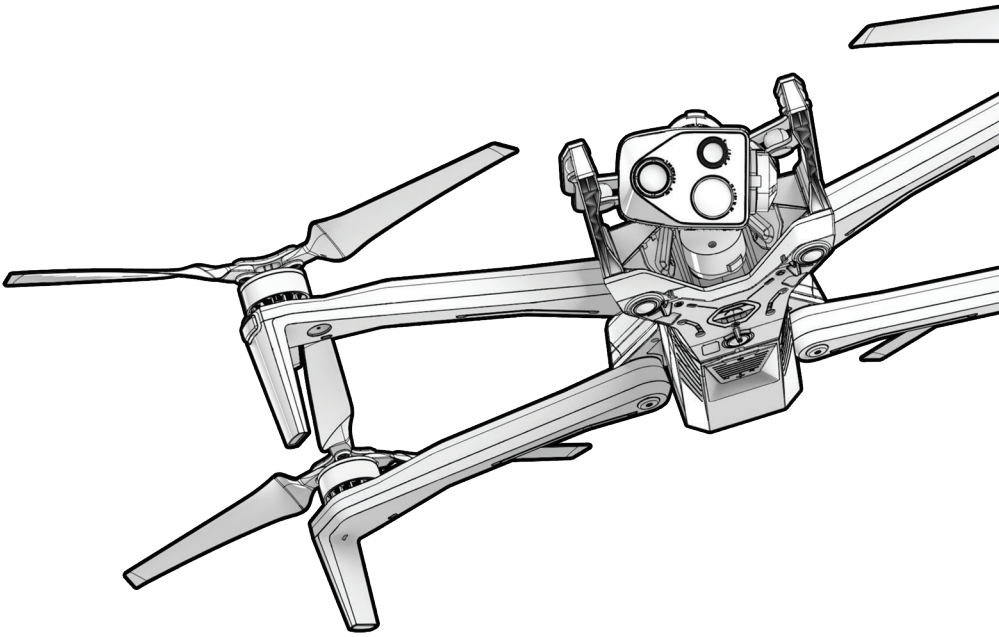
Skydio

Skydio X10D

Quick Start Guide



For use with:
Skydio X10D MH - Multiband
Skydio X10D SL - 5 GHz

Updated: January 2025

WARNING: *Please read all documentation provided with your Skydio X10D, including but not limited to the X10D 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.*

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Safety Guidelines

WARNING: *To avoid injury or damage to your Skydio X10D, 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 X10D obstacle avoidance can be impaired when in low light and poor visibility when flying without NightSense. Fly with extreme caution under these conditions.

Skydio X10D does not avoid moving objects (e.g., vehicles).

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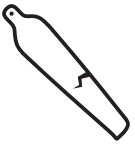
Clean all of the cameras so Skydio X10D can see clearly.



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 X10D is IP55 rated and able to fly in light to moderate precipitation with obstacle avoidance disabled. The Skydio X10D 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.

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Skydio X10D Overview

Skydio X10D 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 is the most compact drone in its class – perfect for one-person operation. With a deployment time of **less than 40 seconds**, an **IP55 rating**, and a maximum flight speed of **45 mph**, the X10D is built for rapid, reliable performance in any environment.

As the first drone to integrate the **Teledyne FLIR Boson+ sensor**, the X10D achieves thermal resolutions of 640x512 with sensitivity down to ≤30mK. Powered by **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.

The Skydio X10D is the offline variant of the X10 and shares hardware, sensor packages, attachments, and the ground control system Skydio Flight Deck software. However, there are features that make the X10D unique. X10D does not require network connectivity, ensuring that your data is always secure. Skydio X10D is an open, modular platform ready for additional payload options. RAS-A compliance and the MAVLINK protocol include manual vehicle control, autonomous missions, camera and payload control, flight skills, radio link and pairing configuration, and integration with third-party radios, controllers, and flight application software.

The X10D has two radio configurations:

Skydio X10D MH - Multiband

Skydio X10D SL - 5 GHz

Skydio X10 complies with 14 CFR Part 89 regulations on Standard Remote Identification per ASTM F3411-22a-RID-B and ASTM F3586–22. Skydio X10D is exempt from these regulations. Use of a Remote ID Broadcast Module may be required for operations with X10D.

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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 X10D.

Software features included:

- 360° Obstacle Avoidance
- Crosshair Coordinates
- 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

Attachments and Sensor Packages
To adapt the X10D 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 X10D for unique mission requirements.

Sensor packages are a combination of cameras and sensors mounted on the front of the drone and stabilized by a gimbal. These packages include multiple lenses that 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.

Scan the QR Code for more information about the attachments available for purchase.

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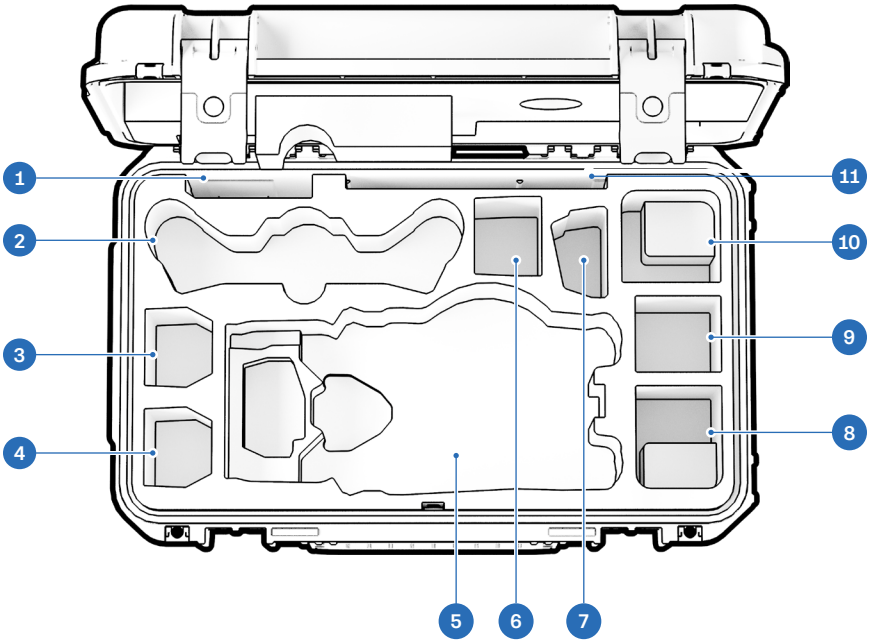
Skydio X10D Case Layout

Your Skydio X10D transport case is packed with all of the Starter Kit components. Many slots are designed for specific items, however some slots are flexible.



1. Spare Propellers
2. X10D Controller
3. X10D Battery
4. X10D Battery
5. Skydio X10D Drone with battery
6. Flex space: X10D Battery or 100 W Power Supply
7. X10D Dual Charger
8. Flex space: 100 W Power Supply or Attachment
9. Flex space: Attachment or 100 W Power Supply only (battery not recommended)
10. Flex space: 230 W Power Supply or Attachment
11. Quick Start Guide and other documents

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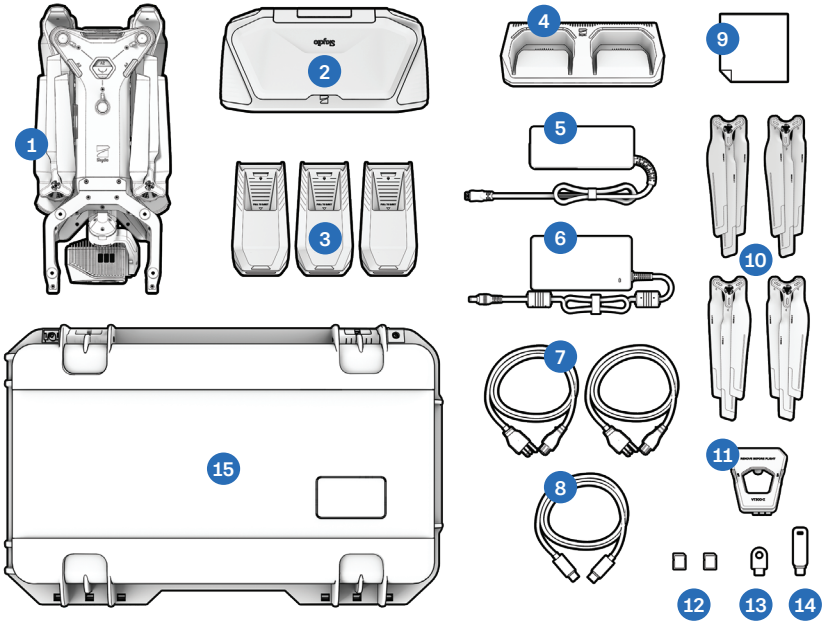
Skydio X10D Starter Kit



1. Skydio X10D and sensor package
2. Skydio X10D Controller
3. X10D Batteries
4. Skydio X10D Dual Charger
5. 100 W USB-C power supply
6. 230 W barrel jack power supply
7. Power cables
8. USB-C to USB-C pairing cable
9. Microfiber cleaning cloth
10. Spare propeller set
11. Gimbal stabilizer clip
12. 256 GB microSD cards, pre-installed
13. Encryption Key
14. USB-C memory drive
15. Transport case

Scan the QR Code for more information about the kits available for Skydio X10D.

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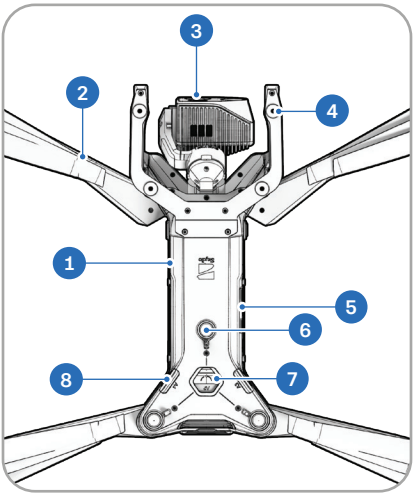
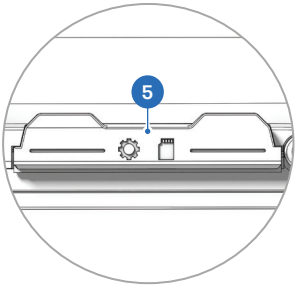
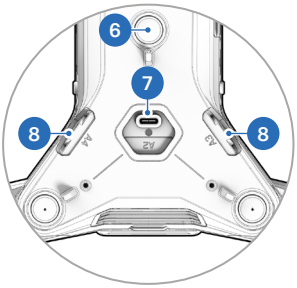
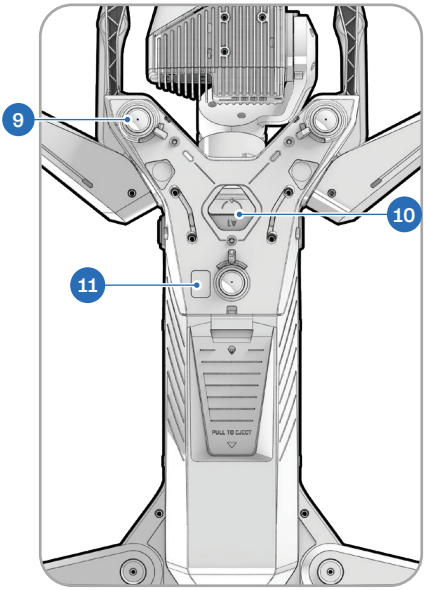
Skydio X10D Hardware

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









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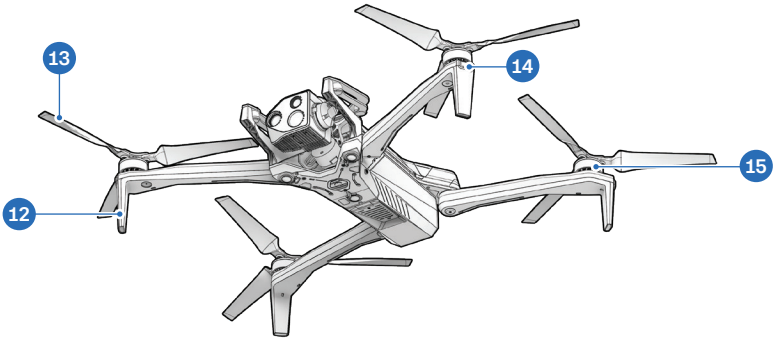

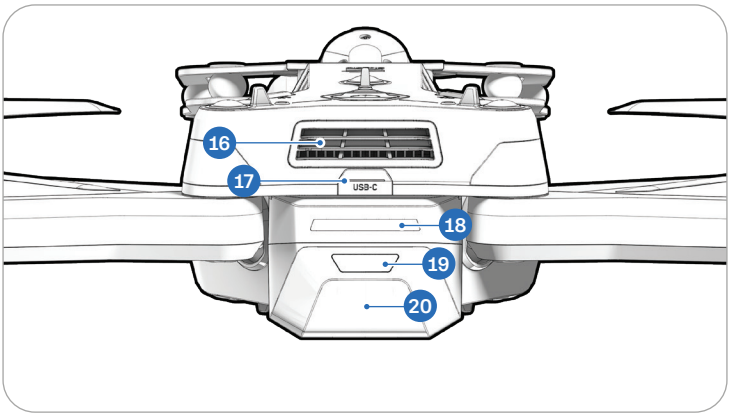

12. Landing foot/antenna
13. Propeller blades
14. RGB/strobe lights
15. Propeller motor
16. Cooling fan/outlet
17. USB-C charge port
18. Battery lights
19. Power button
20. Battery

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

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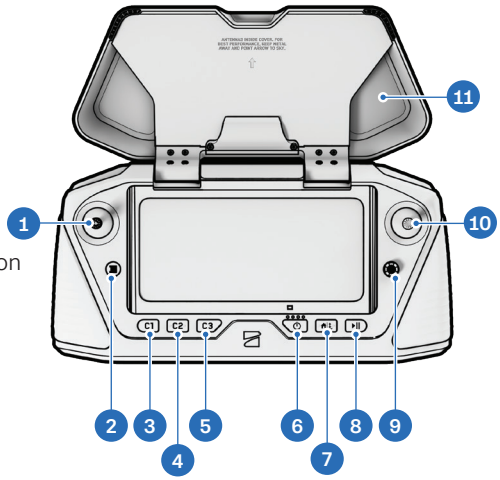
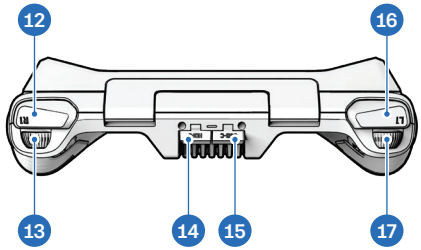
Skydio X10D Controller Hardware

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

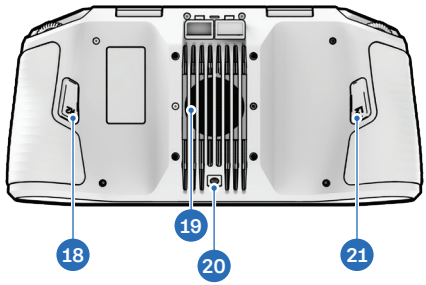


12. R1 button (Shutter)
13. Right wheel
14. HDMI port
15. USB-C charge port
16. L1 button (Boost)
17. Left wheel*



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*



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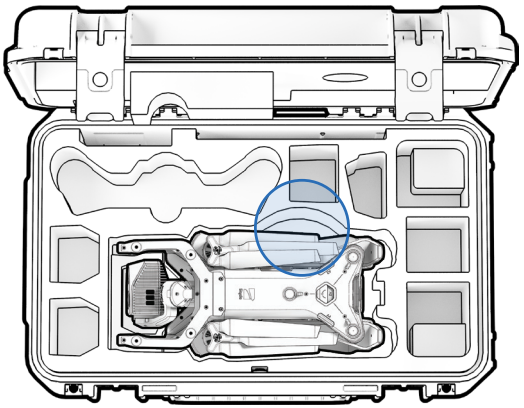
Unboxing Skydio X10D

Scan the QR Code to watch a video demonstrating how to remove Skydio X10D from its case.

Step 1 - Remove Skydio X10D from the case

Open your Starter Case. Reach down into the designated hand cutout (highlighted in the image below), grip Skydio X10D underneath by the chassis, and lift it upward to remove. Do not lift X10D by the sensor package, arms, or rear.



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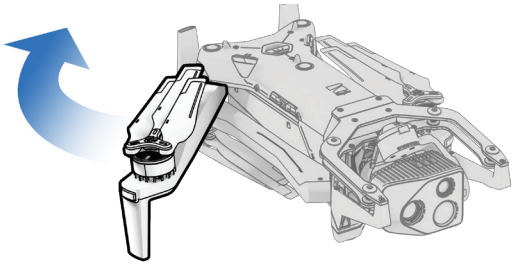
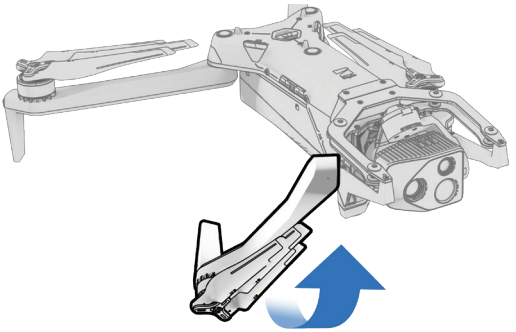
Step 2 - Unfold the rear arms

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.



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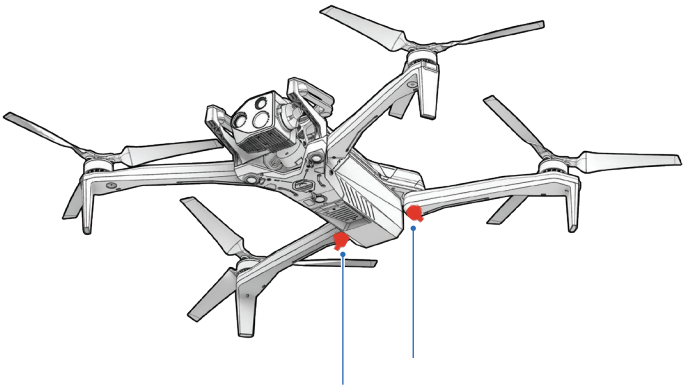
Step 4 - Remove and discard the red packaging stickers

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



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Charging Skydio X10D Batteries

*Scan the QR Code to visit **How to charge and maintain Skydio X10D batteries** for detailed instructions.*

Skydio X10D 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 X10D 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

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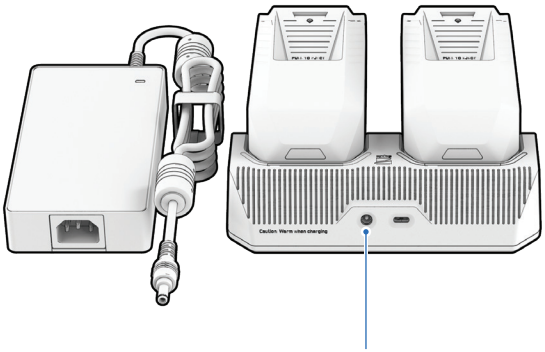
Step 2 - Connect the X10D Dual Charger to power

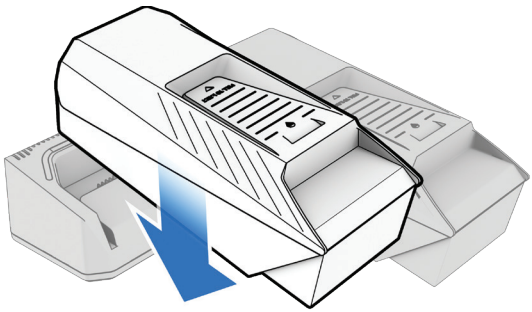
Connect the 230 Watt barrel jack fast power supply to the X10D Dual Charger, then plug it into a power source.



230 W barrel jack fast power supply

Step 3 - Place batteries into the X10D Dual Charger

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



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- The lights on the X10D Dual Charger will pulse blue while the corresponding battery is charging.
- Charging is complete when the lights are solid green.
- The Skydio X10D 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 X10D Dual Charger
Actively charging	Pulsing blue
Waiting to charge	Solid blue
Charging complete	Solid green

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

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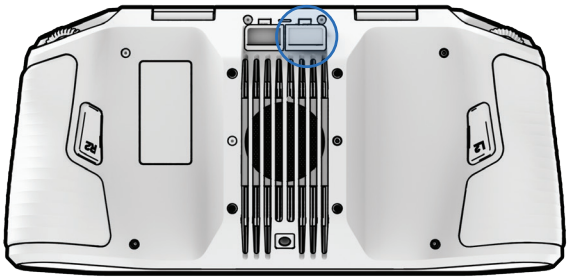
Charging the Skydio X10D Controller

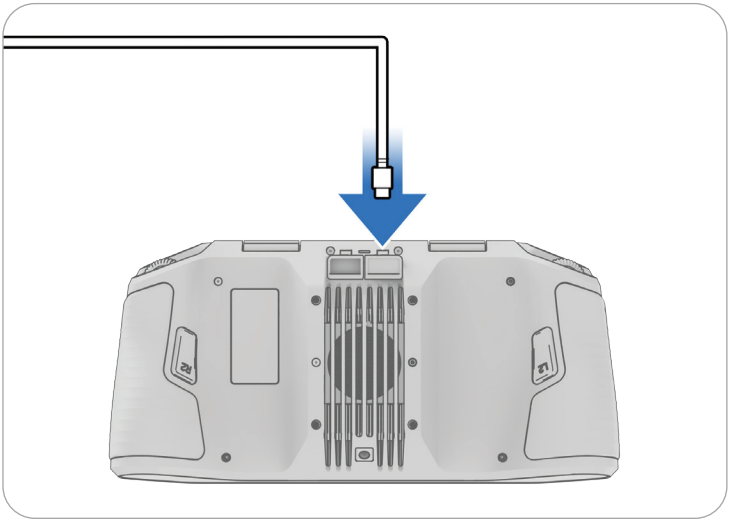
Step 1 - Locate the USB-C charge port

The USB-C charging port is located on the back of the controller.



Step 2 - Insert the 100 W USB-C power supply

Connect your Skydio X10D Controller to the power supply. Plug into a power source. The lights on the front of the controller will turn on and indicate the level of charge.



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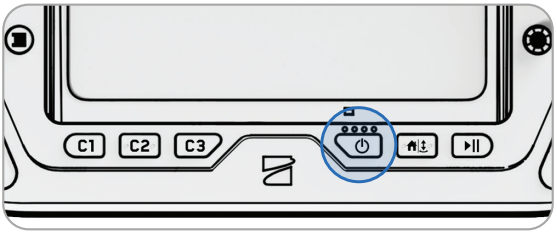
Setting Up and Pairing Your Devices

Step 1 - Power on the Skydio X10D Controller

Open the controller cover and hold the power button for five seconds to power the controller on.



WARNING: *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. Contact FedSupport@skydio.us for support.*

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
- Create a device password to unlock the controller
- The password will be required to unlock the controller when powering on or waking from a sleep state

To change password:

- Select the **Global Settings** and the **Information** menu
- Scroll down to **Change Password**
- Enter the current password
- Enter the new password
- Follow your organizations guidelines for password length and complexity

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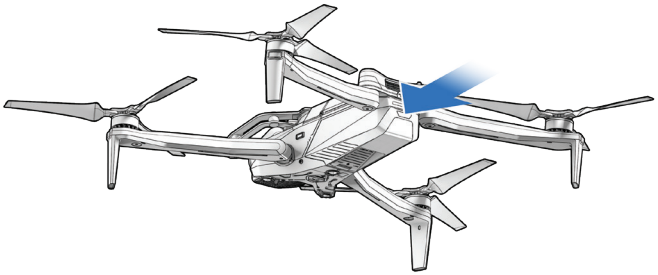
Step 3 - Insert the X10D battery

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 X10D

Press and hold the Power button on the battery for three seconds. The lights on the drone arms will turn blue as X10D powers on.



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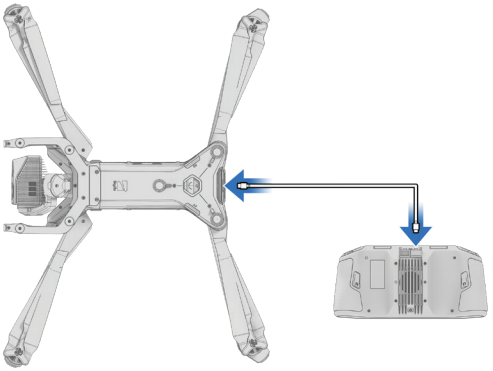
Step 5 - Pair the drone and controller

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

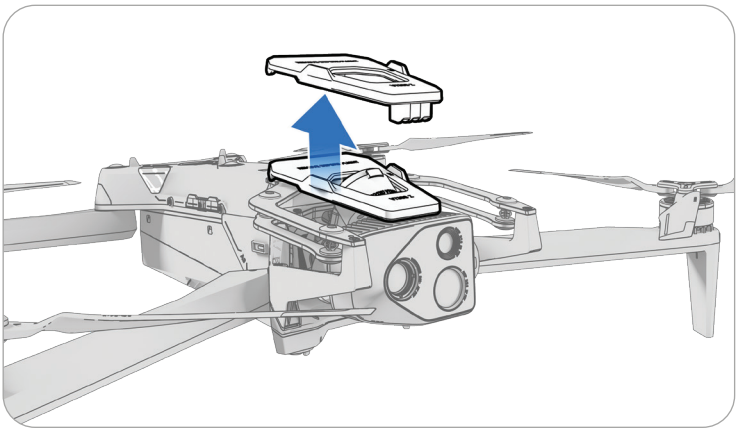
- The lights on the drone will turn solid blue and the name of your drone will appear in Flight Deck when pairing is successful.
- Once paired, the drone and the controller will automatically connect before future flights.



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



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Configure X10D MH Radio Settings

Select your radio settings prior to flight to ensure max performance:

- 1790-1850 MHz
- 2040-2110 MHz
- 2200-2300 MHz
- 2300-2390 MHz
- 2400-2500 MHz

The X10D is shipped in 2.4 GHz ETSI compliant mode to prevent unauthorized power levels in certain regions. Operating in low power will significantly impact radio and range performance.

To adjust the power level select **Global Settings** >**Information** >**Drone ID** under Devices >**Radio** >**2.4 GHz Power Level**

Dynamic Channel Switching helps operators monitor signal interference and move to a clearer channel to improve wireless transmission signal quality, ensuring reliable drone control and data transmission in both congested and contested airspace.

Configure X10D SL Radio Settings

Select your radio settings prior to flight to ensure max performance:

- 5170-5835 MHz

Dynamic Frequency Selection will automatically find the cleanest frequency or manually select the channel.

*Scan the QR Code to visit **How to change frequencies and channels on Skydio X10D** for detailed instructions.*

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Updating Your Devices

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 X10D and X10D Controller.

*Scan the QR Code to visit **How to update your Skydio X10D** for detailed instructions.*

Encrypting Your Media

An encryption key that enables you to encrypt your media is included with your Skydio X10D. You will need to pair that Encryption Key to your X10D and store it with your vehicle. You can enable and disable the encryption settings in the Skydio X10D Controller Flight Deck. When the media encryption is enabled, all images and videos captured by X10D will be encrypted and hidden in the Media Review tab. Pairing an Encryption Key assigns the key to that X10D. It is essential that you store the Encryption Key with the X10D.

*Scan the QR Code to visit **How to encrypt and decrypt your Skydio X10D media** for detailed instructions.*

Enabling WiFi

Set the Skydio X10D controller to Online mode to connect to a WiFi network. Toggle on to access updates, download maps, and stream a live video feed. Toggle off to retain flight security. Before using the WiFi on your X10D controller, you must add users, assign licenses, and claim vehicles in Fleet Manager for Offline Drones.

*Scan the QR Code to visit **How to access the WiFi on your Skydio X10D controller** for detailed instructions.*

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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 X10D 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 gimbal 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.

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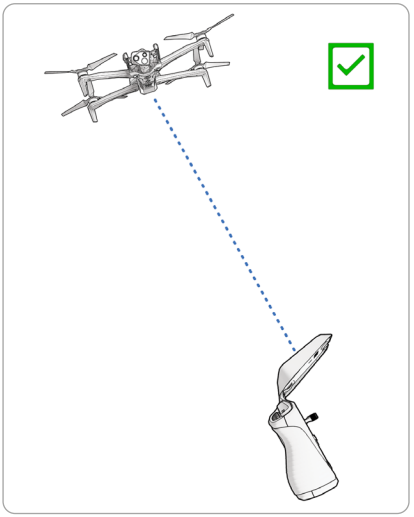
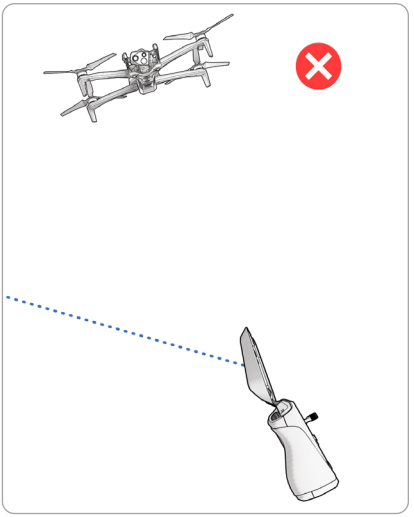
Maximum Wireless Performance

For maximum wireless performance when flying over a direct link, always maintain a direct line of sight between the controller and Skydio X10D. 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.





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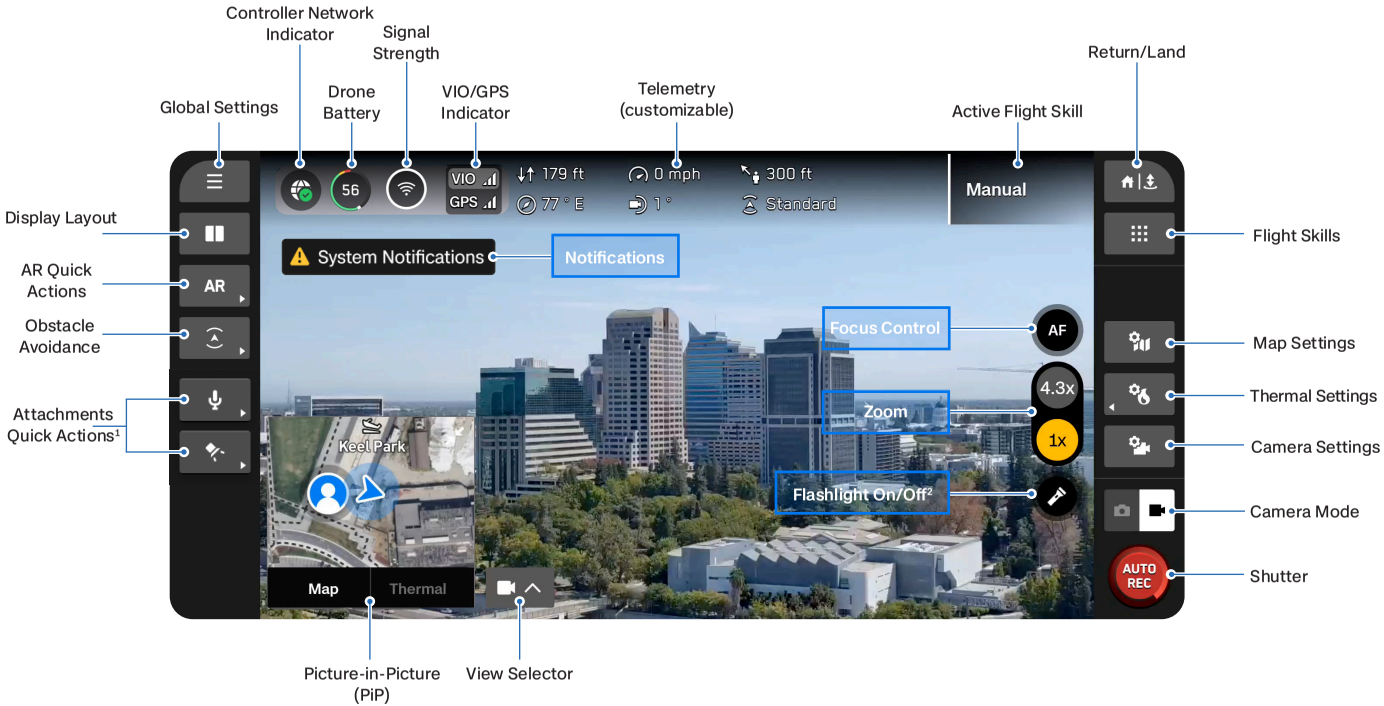
Flight Screen



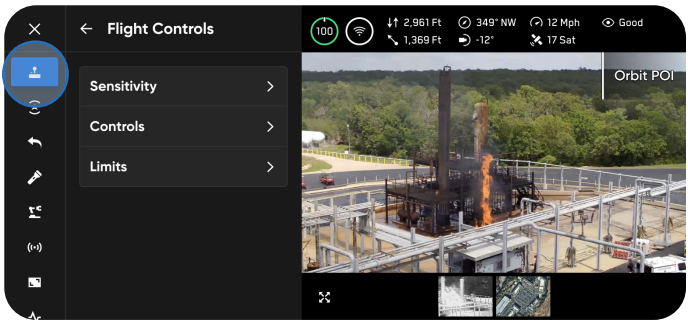
[1] *Only appears when you are using an attachment.*

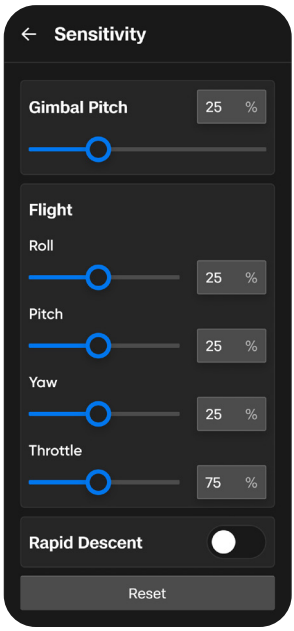
[2] *VT300-L or V100-L Only*

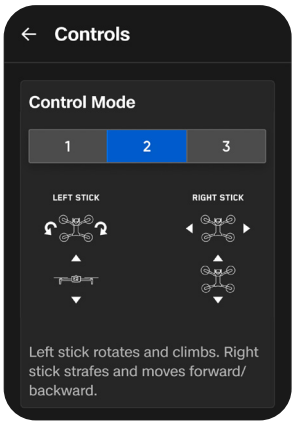
Flight Controls

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.







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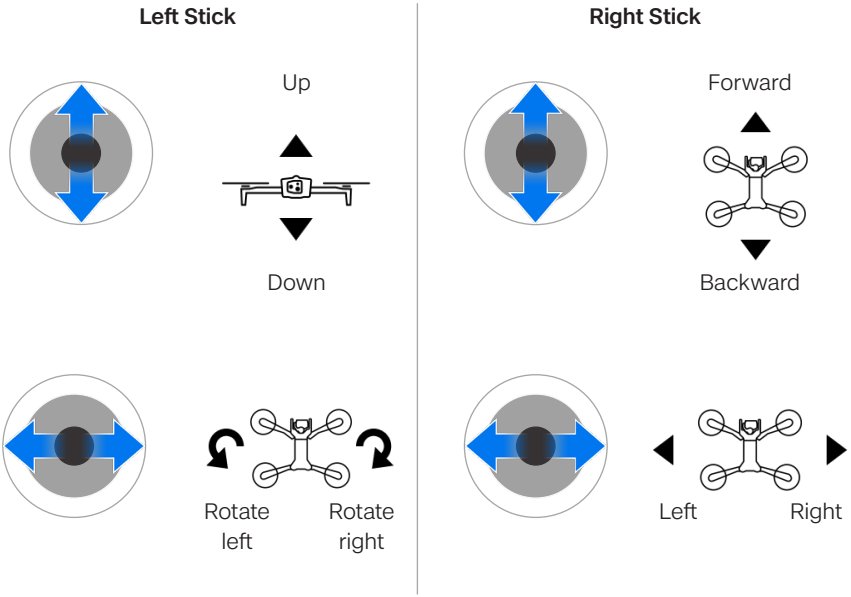
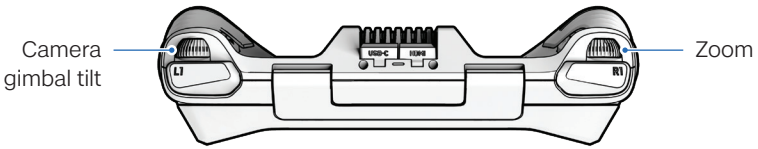
Control Mode 2

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.





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Launching

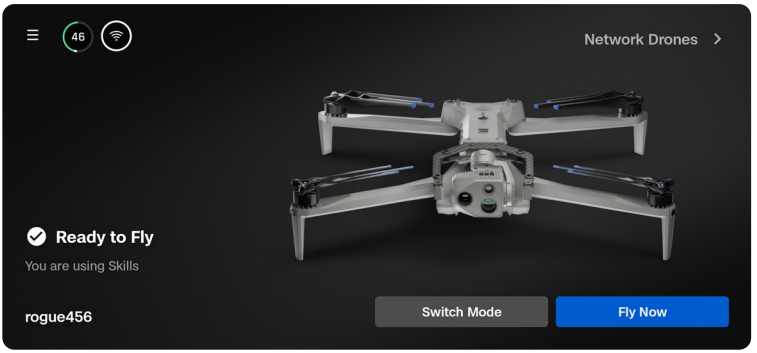
Note: Set your Return and Lost Connection Behaviors *(Global Settings > Return) before your first flight. Scan the QR Code for more information about Return and Lost Connection Behaviors.*

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 with 10 ft (3 m) of clearance in all directions.

Step 2 - Select Fly Now



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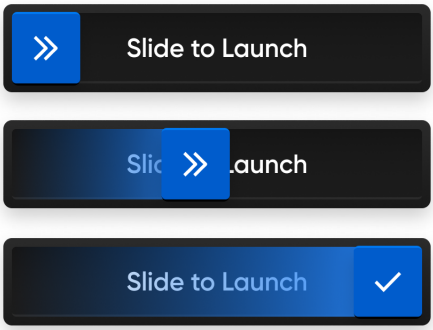
Step 3 - Launch

- Your drone will rotate 360° to calibrate its Inertial Measurement Unit (IMU) and navigation system.

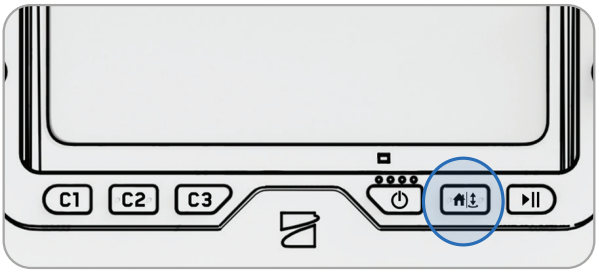
Option 1 - Drag the on-screen slider

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.



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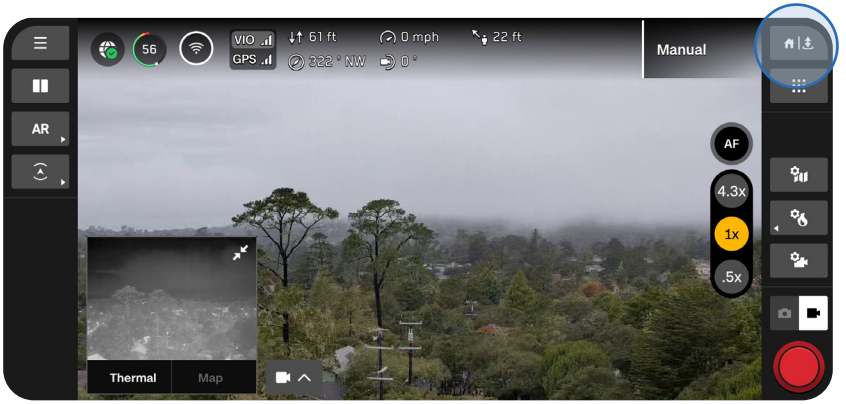
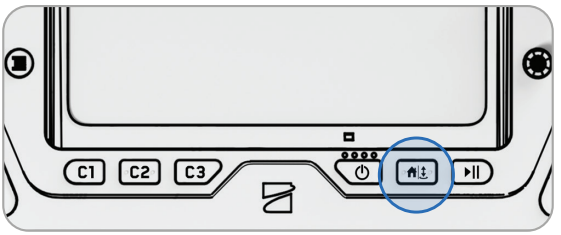
Returning

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





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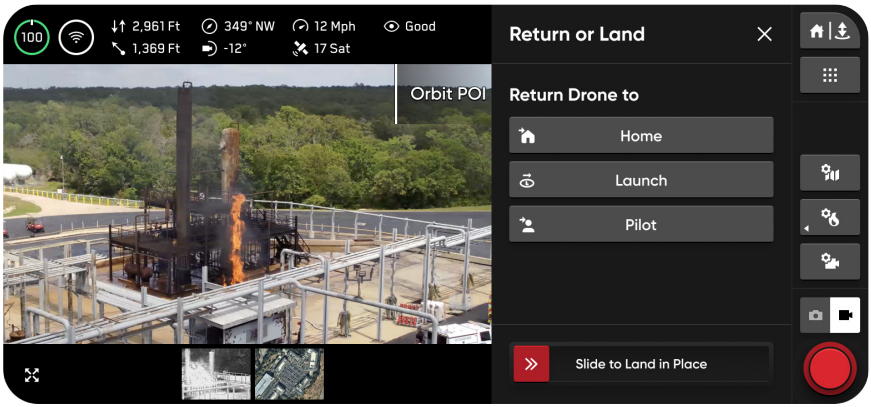
Step 2 - Choose your return location or land in place

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 X10D 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.*

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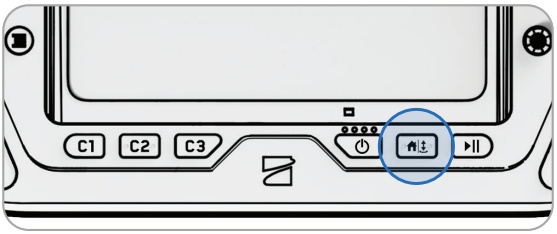
Landing

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.

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Contingency Behaviors

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

Scan the QR Code for more information about Contingency Behaviors.

Low Battery

Skydio X10D 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 X10D 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**).

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Lost Connection

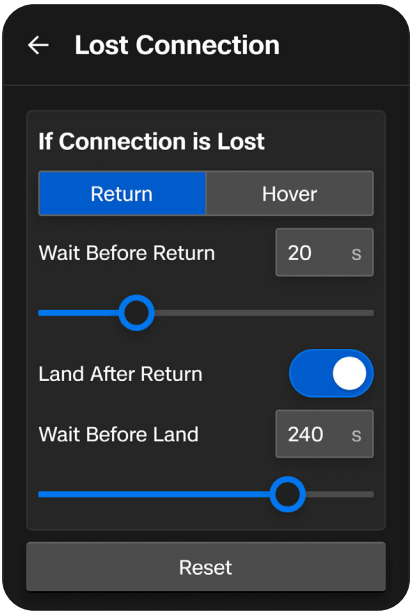
If connection is lost, Skydio X10D will default to the **Lost Connection** settings. Select between **Return** (default) and **Hover** upon lost connection.

Return (default)

Wait Before Return - set the amount of time you want Skydio X10D 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.



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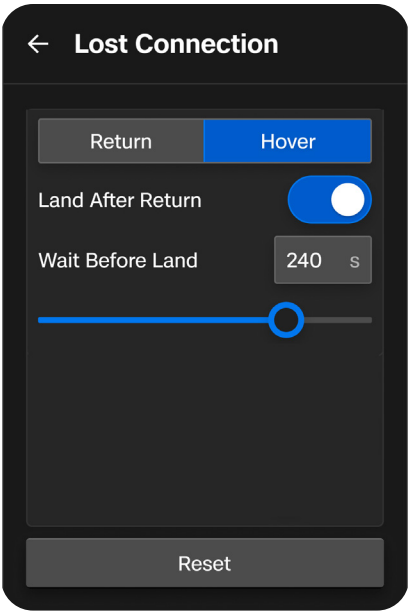
Hover

Land After Hover - when enabled, Skydio X10D 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 X10D 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

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Lost GPS

If Skydio X10D 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.

Emergency Landing

If Skydio X10D enters an unexpected state from which it cannot recover, it will automatically initiate an emergency landing (with optional pilot-assistance available if the controller is connected). Flight Deck will display an alert notification if the controller is connected.

- Skydio X10D will use navigation cameras and GPS to descend vertically
- If these are not available, the drone will quickly descend using only the barometer which may result in lateral drift

If the unexpected state is resolved the emergency landing will stop and you will regain control.

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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 X10D.

Getting Started with Skydio X10D

Flying with Skydio X10D

Skydio X10D Maintenance

Skydio X10D Safety and Operating Guide

Skydio Support

Skydio Legal
www.skydio.com/legal

NOTE: *For customer support or assistance with your X10D please reach out to FedSupport@skydio.us*

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