

codrone EDU

Updates, FAQs, and Best Practices

Aerial Drone Competition 2025 Summit

codrone EDU

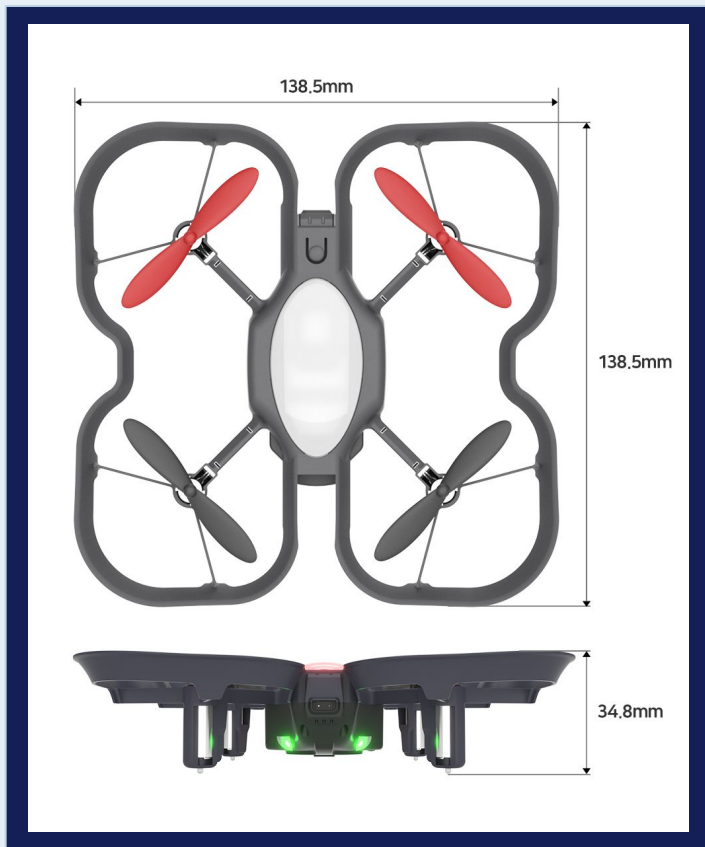


ROBOLINK 

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CoDrone EDU Overview

CoDrone EDU Specifications



Weight	54.8 grams
Max. payload	5 grams
Drone battery	3.7V 530mAh
Flight time	7-8 minutes
Charge time	60 minutes
Maximum velocity	2.5m/s (9km/h)
Communication Protocol	Radio Frequency 2.4GHz
Range	Up to 50 meters



Accelerometer

For sensing acceleration



Gyroscope

For sensing rotation



Barometer

For sensing height and pressure



Front range

For sensing obstacles ahead



Bottom range

For sensing distance to the ground



Color

For sensing surface colors

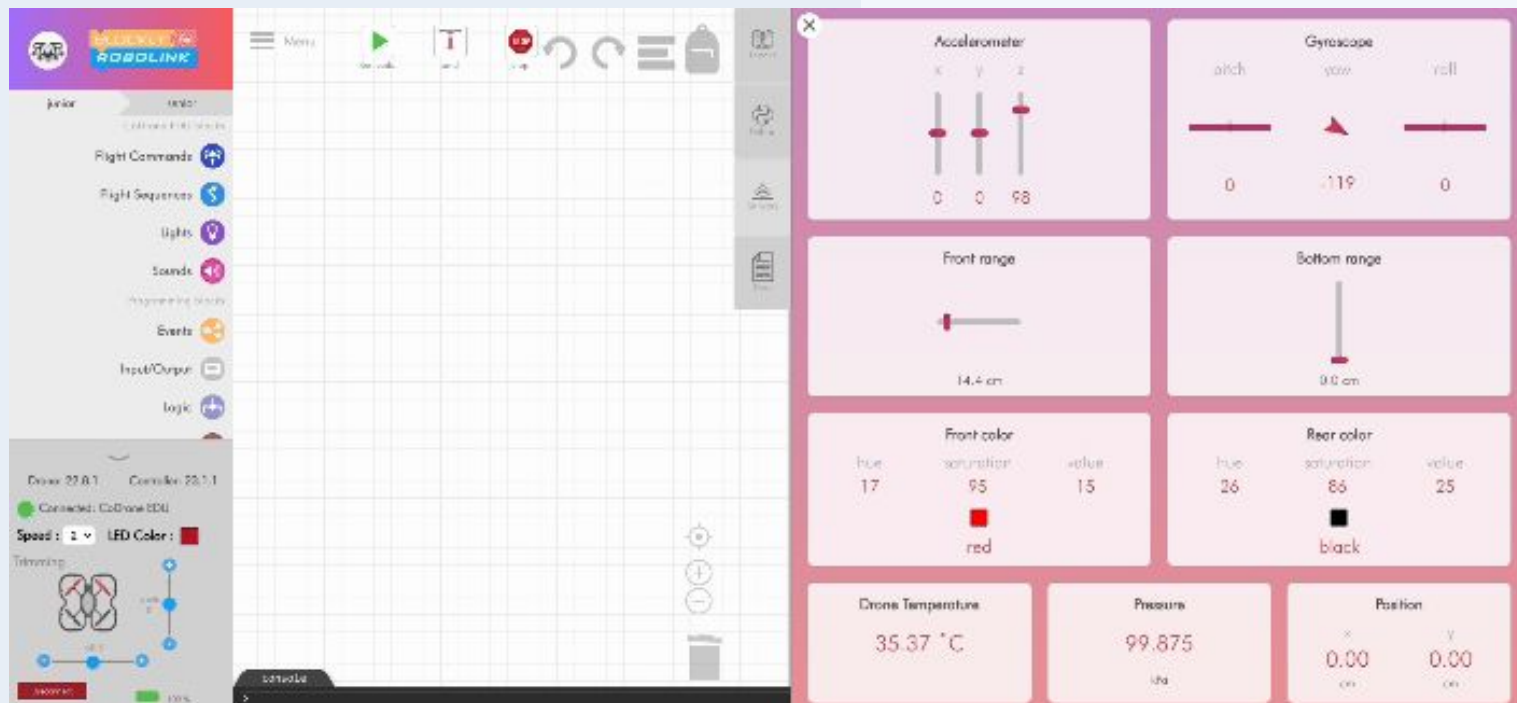


Optical flow

For sensing relative position [ROBOLINK](#)

Sensor Dashboard

See live sensor feedback directly from the browser!



Available in both **Blockly** and **Python**!

Package Contents

- User Guide
- CoDrone EDU
- Smart Controller
- 2 x drone batteries
- 1 x battery dual-charger
- 1 x Micro USB data cable
- 8 x color cards
- 4 x extra propellers
- 1 x propeller remover
- Set of labels for drone/controller
- Screwdriver
- 1 x Spare Controller Bolt

** Extra batteries, propellers, and motors are available on our website!



Package Contents (JROTC ed.)

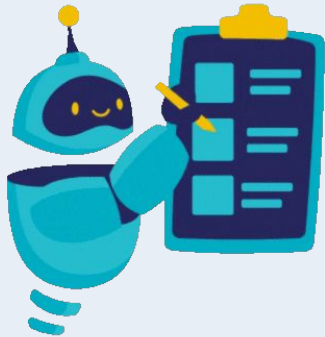
- User Guide
- CoDrone EDU (JROTC ed.)
- Smart Controller (JROTC ed.)
- 3 x drone batteries
- 1 x battery dual-charger
- 1 x USB-C cable
- 8 x color cards (* Calibration required)
- 4 x extra propellers (blue and red)
- 1 x propeller remover
- Set of labels for drone/controller
- Screwdriver
- 1 x Spare Controller Bolt

** Extra batteries, propellers, and motors are available on our website!

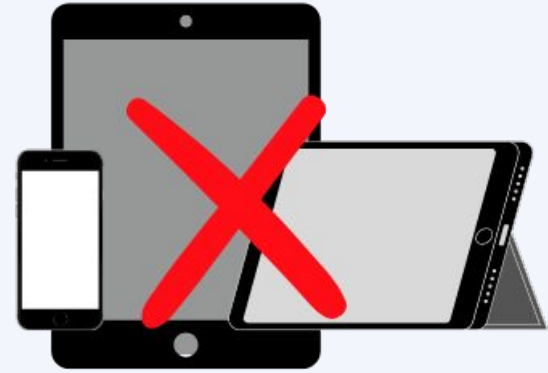


Device Compatibility

If you are using a laptop from your school or organization, please check with IT that you have access to:



- Serial communication over USB ports
- Robolink sites are whitelisted
- Optional: Ability to download and install Python/Pycharm

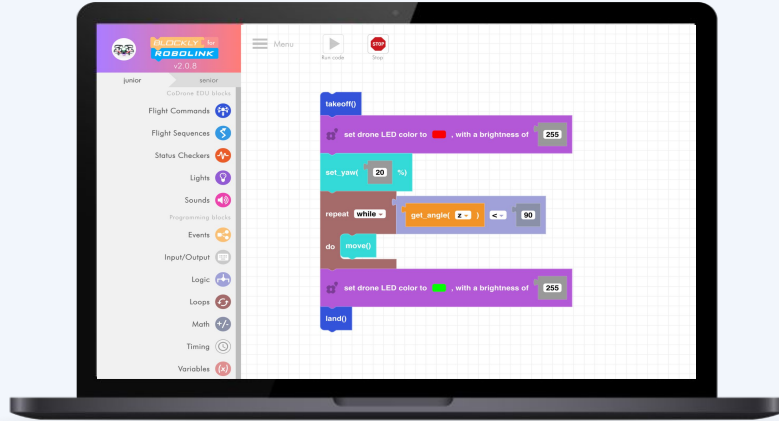


Not compatible with iPads, Tablets, or Cell Phones

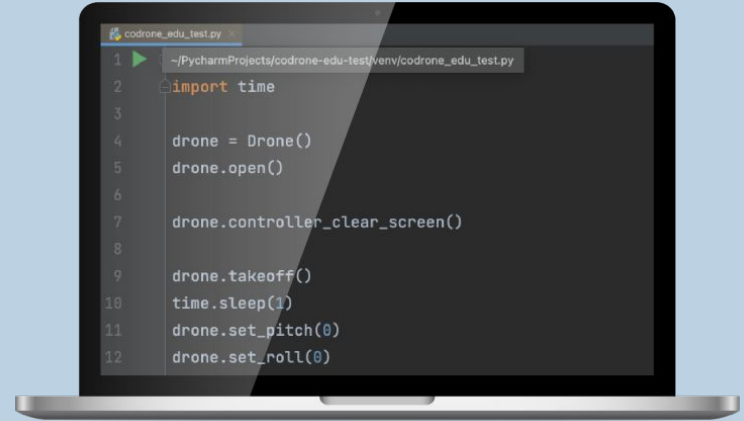


Compatible with Chromebooks, Macs, and PCs

Languages



- **Mac, Windows, Chromebook**
- Visual programming
- Elementary/middle school or first-time coders
- No installation required, runs in web browser

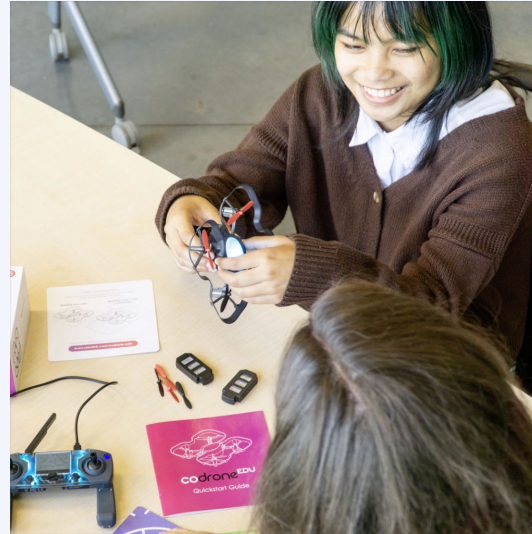


- **Mac, Windows, Chromebook**
- Text-based language
- Suitable for 6th grade and above
- Desktop PyCharm and web Based Python for RoboLink

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Where to Start

User Manual



Welcome to your CoDrone EDU journey!

We recommend **everyone** go through our "Getting Started" course online. It will give you an in-depth look into everything in this manual.



learn.robolink.com/codrone-edu

We recommend keeping the manual as a quick reference, but information on our Basecamp will be the most up-to-date information.

Getting Started

learn.robolink.com/product/codrone-edu/

- Lesson plans
- Videos
- FAQ
- Function documentation



CoDrone EDU

Specs:

138.5 x 138.5 x 34.8 cm | 57 g / 2 oz | 7-8 min flight | 60 min charge | 50 m RF range

The CoDrone EDU is a programmable drone, meant for learning in the classroom. Code it in Python or start from the basics with block-based coding. Unique to this drone are its color sensors, a front range sensor, a bottom range sensor, among others—all usable in code. With a durable and safe frame, programmable lights, and access to its 7 sensors. It's an excellent learning tool and a great way to learn coding and engineering skills.



Teacher Resources



Videos



Help



Functions Guide

Welcome! Get started here.

We recommend everyone to go through the Getting Started course, even if you've used drones before.



Getting Started with CoDrone EDU

Whether you are a seasoned pilot or a beginner, this course will go through all of the drone basics, including safety and maintenance.

Start Learning



Getting Started with CoDrone EDU (JROTC edition)

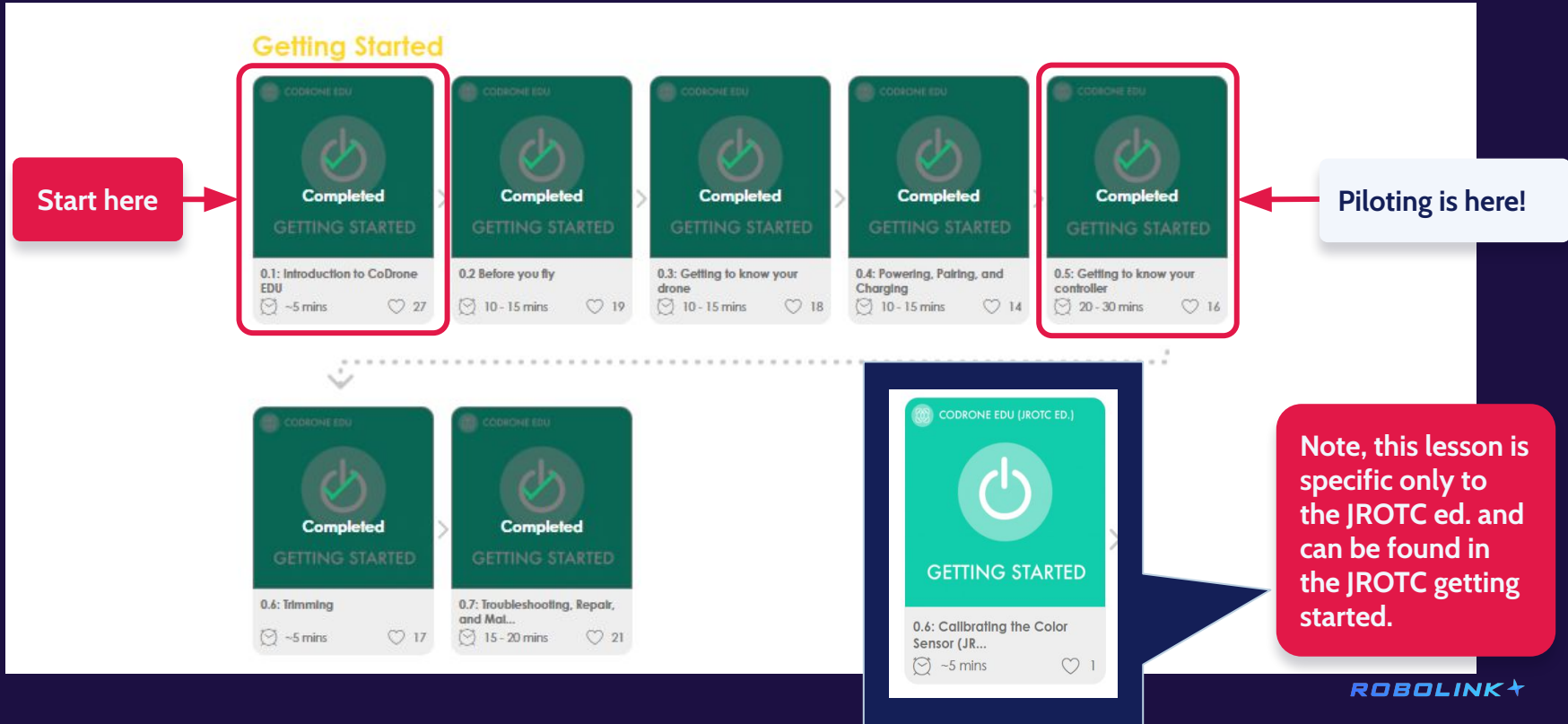
Whether you are a seasoned pilot or a beginner, this course will go through all of the CoDrone EDU (JROTC ed.) basics, including safety and maintenance.

Start Learning

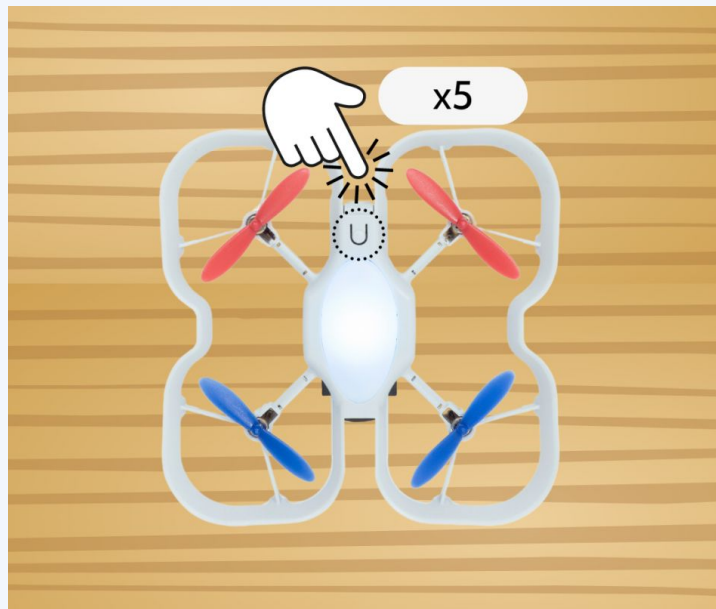
Every coach, teacher, and student should start here.

Getting Started Course

learn.robolink.com/product/codrone-edu/



Color Calibration for CoDrone EDU (JRRTC ed.)



Note: Calibration is a separate process from adding a color data set in Blockly.

Steps for success

- 1 Complete the Getting Started course on Basecamp.
- 2 Complete pre-flight checks. Cleaning propellers is a must!
- 3 Follow all safety and flight rules outlined in the manual and Basecamp
- 4 Watch all videos in our CoDrone EDU playlist
- 5 Treat hardware with care and store it properly.





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New updates for Season '24-'25

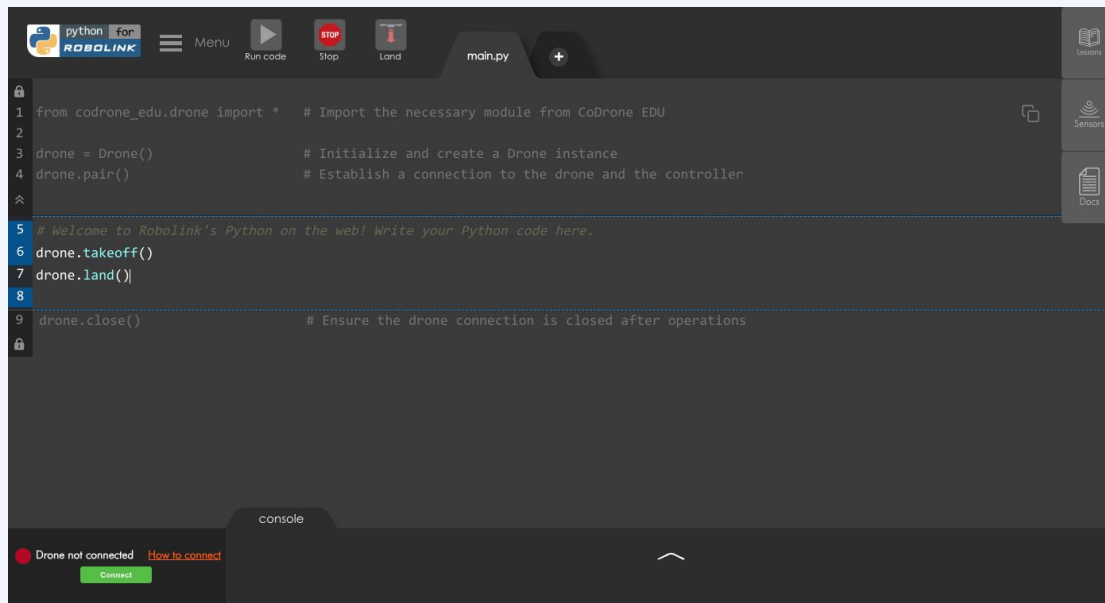


Python for Robolink



Go beyond Blockly and teach students text-based coding for CoDrone EDU!

- Expands access to Python with CoDrone EDU to Chromebook users 🎉
- Runs in the browser (Chrome recommended)
- Start learning on Basecamp [Lesson | Getting Started with Python for Robolink](#)
- Adding new color data sets (for autonomous skills missions) will be release **late October**

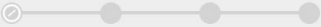


Link: <https://codrone.robolink.com/edu/python/>

Online firmware updater

Update your firmware directly from the browser. You can also check for the latest firmware release here!


CoDrone EDU Firmware Updater



Select Connect Update Done!


Power off both your drone and controller, then select which device you are updating. This updater is also compatible with CoDrone EDU (JROTC edition).

CoDrone EDU



Latest Version : 22.8.1
Release date : 2022.8.8


Drone



Latest Version : 23.1.1
Release date : 2023.1.3


Controller

CoDrone EDU (JROTC edition)



Latest Version : 24.2.12
Release date : 2024.2.15

Drone



Latest Version : 23.12.11
Release date : 2023.12.20

Controller

ROBOLINK ★

Link: <https://codrone.robolink.com/edu/updater/>

New documentation site

- Find resources on “How to use Blockly” or “How to use *Python* for Robolink”
- See function documentation on both Blockly and Python
- View version changelogs and release notes
- Find the user manuals, firmware information, and technical specifications
- **Open examples directly from the documentation site!**

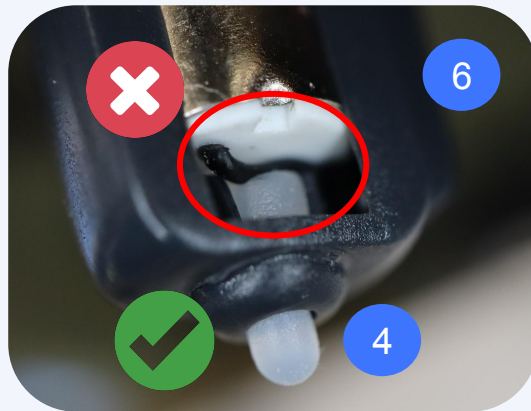
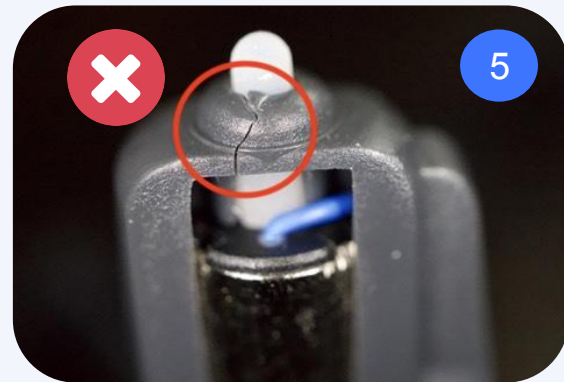
The screenshot shows the Robolink documentation website. The header includes the Robolink logo, a language dropdown set to 'English', a search bar, and a 'Go to Lessons' button. The left sidebar contains a navigation menu with categories: Blockly (with sub-items 'How to use Blockly' and 'Junior Block Documentation'), Python (with sub-items 'Setup and Installation', 'Updating the Library', 'Function Documentation', 'Python Changelog', and 'Python for Robolink Changelog'), and Resources (with sub-items 'Digital User Manual', 'Firmware', and 'Technical Specifications'). The main content area is titled 'Returns' and shows 'None'. Below this is an 'Example' section with a sequence of four blue blocks: 'take off', 'land', 'take off', and 'land'. A button labeled 'Open in Blockly' is positioned to the right of these blocks. The 'emergency stop' section shows a single blue block labeled 'emergency stop'. The 'Description' section is currently empty. On the right side, there is a sidebar with sections for 'Flight Commands' (listing 'take off', 'land', 'emergency stop', 'hover for [seconds] seconds', 'go [direction] for [seconds] seconds at [power] % power', 'turn [direction] [degrees] degrees', and 'turn [direction] for [seconds] seconds at [power] % power'), 'Flight Sequences' (listing 'flip [direction]'), 'Lights' (listing 'set drone LED color to [color], with a brightness of [brightness]', 'turn drone LED off', 'set controller LED to [color], with a brightness of [brightness]', and 'turn controller LED off'), 'Sound' (listing 'play this note [note] for [duration] seconds on drone' and 'play this note [note] for [duration] seconds on controller'), and 'Lists' (listing 'create empty list', 'create list with', and 'create list with item [item] repeated [number] times'). The footer contains the Robolink logo, address (5075 Shoreham Pl, Ste 110, San Diego, CA 92122), phone number (+1 (858) 876-5123), and links for 'Robolink Help', 'Terms of use', and 'Privacy'.

Link: <https://docs.robolink.com>

Motor care updates

We've updated our help article on motor care to keep your drones flying! Here are some reasons your motors may fail.

- 1 Severe impact or crash (accidents happen!)
- 2 Motor overheating without a cooldown period
- 3 Motor stalling or not spinning
- 4 Missing silicone bumpers
- 5 Cracked frame
- 6 Pinched motor wires

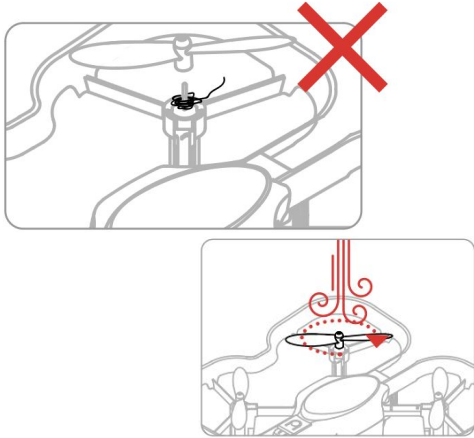


[Help article: How to take care of your motors](#)

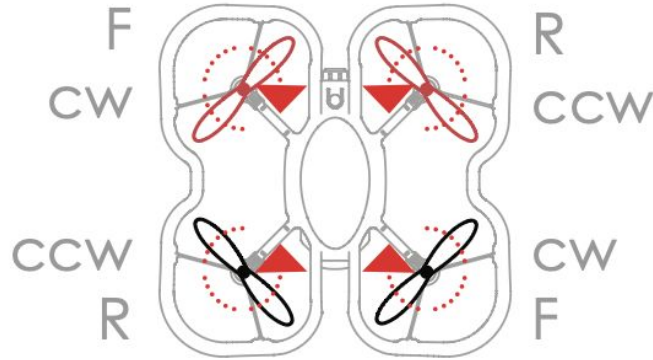
CoDrone EDU Care

Propellers

Propellers with debris or damaged propellers will affect flight. It can even prevent takeoff!

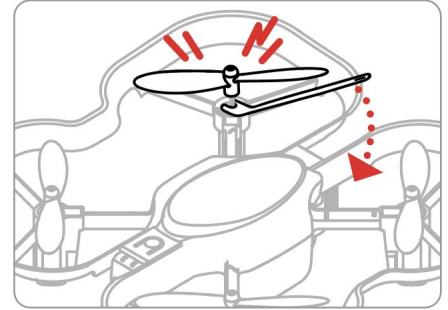


Clean and inspect propellers before each class or after a crash.



Propellers must be in the proper orientation to fly.

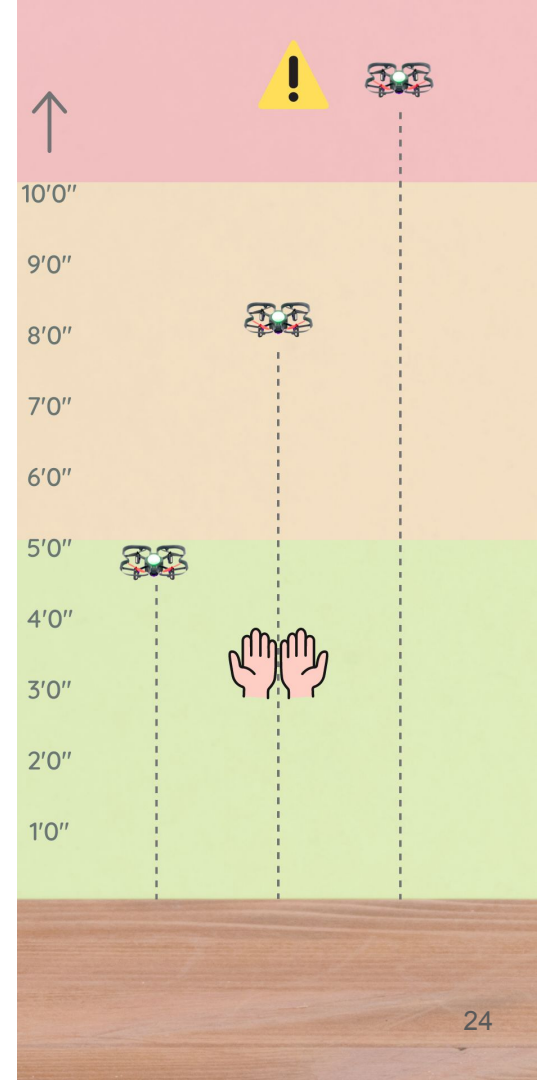
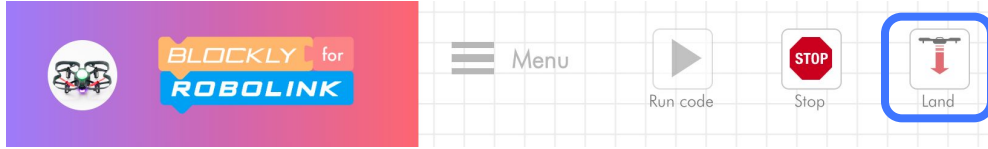
****Color** is not an indicator of propeller direction.



Replace any propeller that is bent, chipped, or hitting the guards

Drone care tips

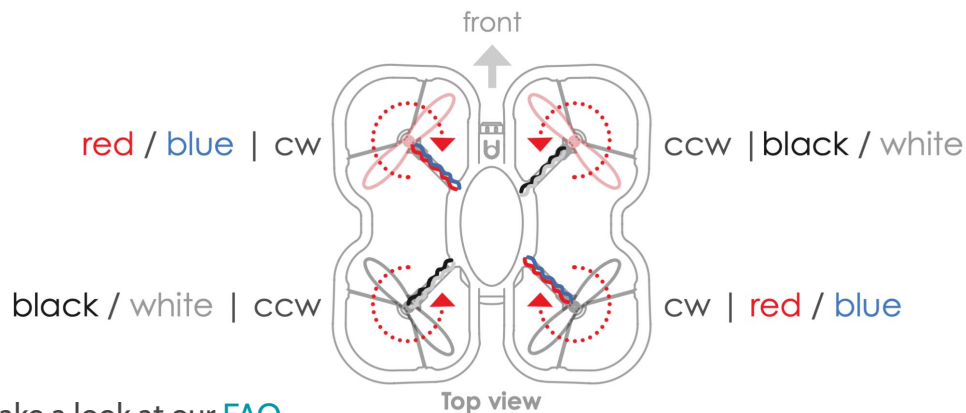
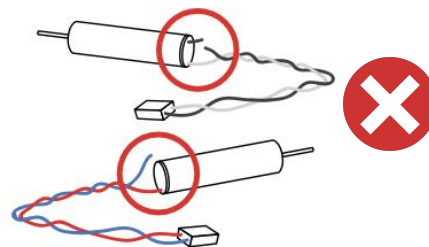
- 1 Use the “land” and avoid using emergency stops unless necessary.
- 2 Try to catch a drone whenever possible.
- 3 Fly over mats or a light, patterned carpet and avoid hard surfaces.
- 4 Build a [DIY drone cage](#)
- 5 Use caution when flying in auditoriums or gymnasiums with high ceilings.



Motor care tips

- 1 **Inspect** motors before each class or after a crash.
- 2 When replacing a motor, replace the motor with the **correct orientation**.
- 3 Be careful when disconnecting a motor. The wires are delicate!
- 4 If your drone gets stuck, shut off motors immediately.

! If you have a broken or cracked motor base, please take a look at our [FAQ article](#) and reach out to our support team.



Controller care

- 1 Fold the antenna and arms when not in use.
- 2 Disconnect any cables when storing the controller.
- 3 Pull the USB cable (gently) straight out when disconnecting.
- 4 Carry the controller in your hand (not by the cable!)



Need more help?

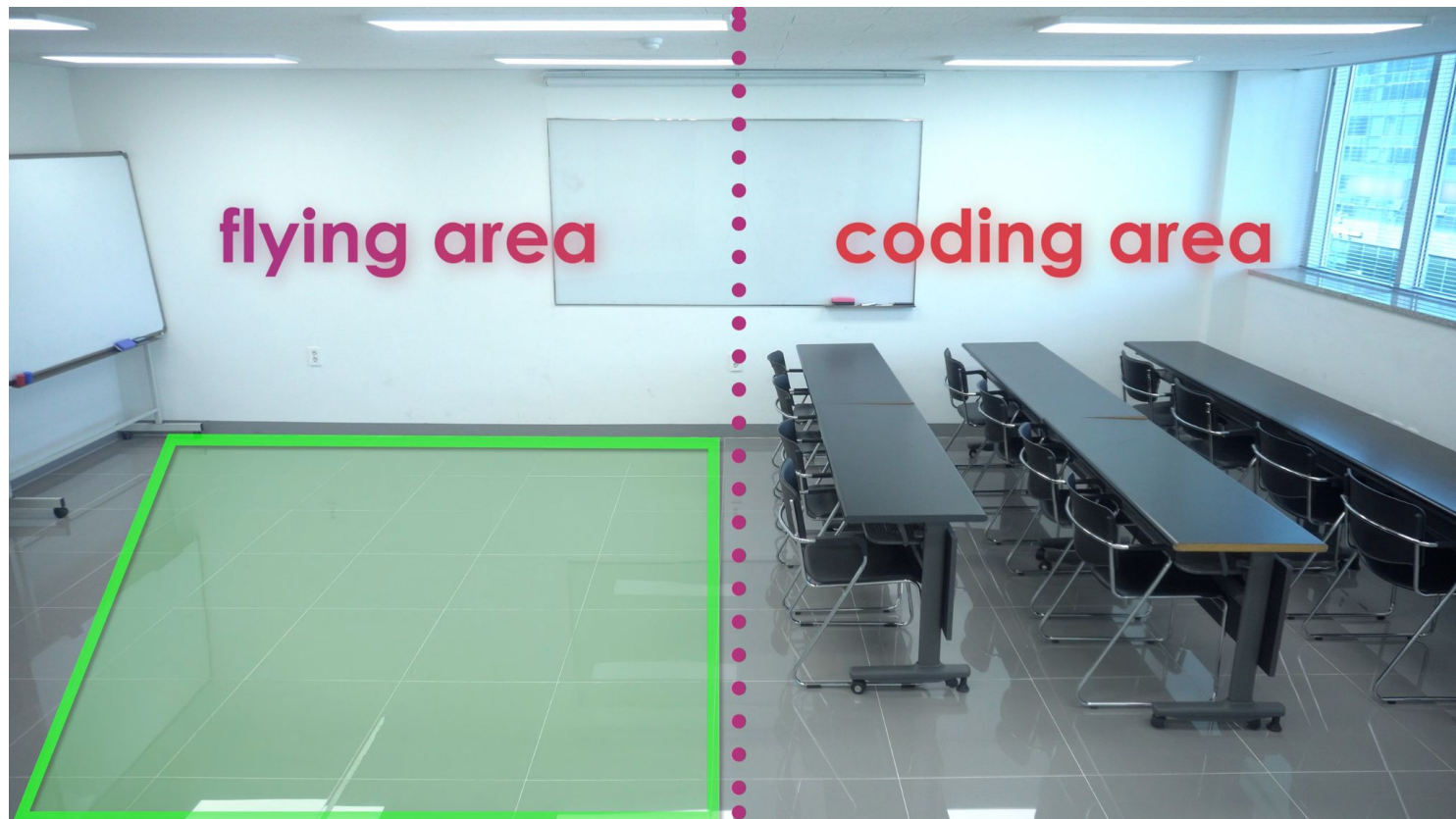
Most common issues can be avoided with proper care and maintenance. Here are some resources if you get stuck.

- 1 Reference the Getting Started Course or [User Manual](#)
- 2 Did you perform the pre-flight checks ([Lesson 0.2](#))? It doesn't hurt to check again.
- 3 Do any motor, prop, or frame replacements if necessary.
- 4 Search your question in our [Helpdocs FAQ](#).
- 5 If you can't find the answer, email support@robolink.com



Classroom Tips

How do I setup my classroom?



Battery management

Set up a charging station!

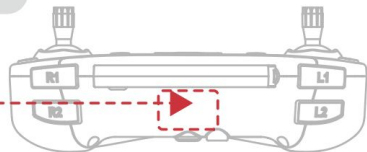
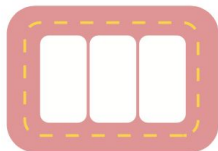
- Invest in a **USB power strip** to connect batteries ([Example](#), pictured right).
- ~2 Amp per port for each multi-charger



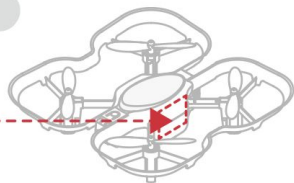
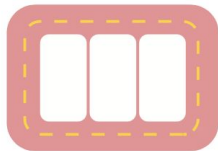
Labeling

Keep your controller and drone together with these labels

Top of Controller



Side of CoDrone EDU



- Keep drone and controller pairs together for easy pairing next class
- **Tip:** Keep a “check-out” log
- Be creative! Give names to all the drones based on a theme.
- Other suggestions include using colorful stickers (smiley faces, stars, etc)
- Keep any stickers or labels away from the bottom sensors.



Approved for the
AERIAL DRONE
COMPETITION

x20

x20

x2

x2

x2



**“Intermediate”
4-hour PD course**



**2-year
extended warranty**

Approved for the
AERIAL DRONE
COMPETITION

x20

x20

x2

x2

x2



**“Intermediate”
4-hour PD course**



**2-year
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Resources

Resources

User Manual

Find getting started info and troubleshooting guides

[User Manual](#)

Basecamp

Free, online lessons for Blockly and Python with resources for teachers

<https://learn.robolink.com/>

Web Updater

Update your drone and controller using a web browser

<https://codrone.robolink.com/edu/updater/>

Blockly

Program using block-based programming

<https://codrone.robolink.com/edu/blockly/>

Python for Robolink

A web-based solution for programming in Python

<https://codrone.robolink.com/edu/python/>

Documentation

Functions guide for Python and Blockly

<https://docs.robolink.com/>

Help Docs FAQs

Visit <https://help.robolink.com/>

Need help?

Email us at support@robolink.com



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Questions