

codrone EDU

Introduction to CoDrone EDU

Including: Getting Started with Programming
Tuesday, October 22nd - 6:30pm CT

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CoDrone EDU Overview

codrone EDU



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!



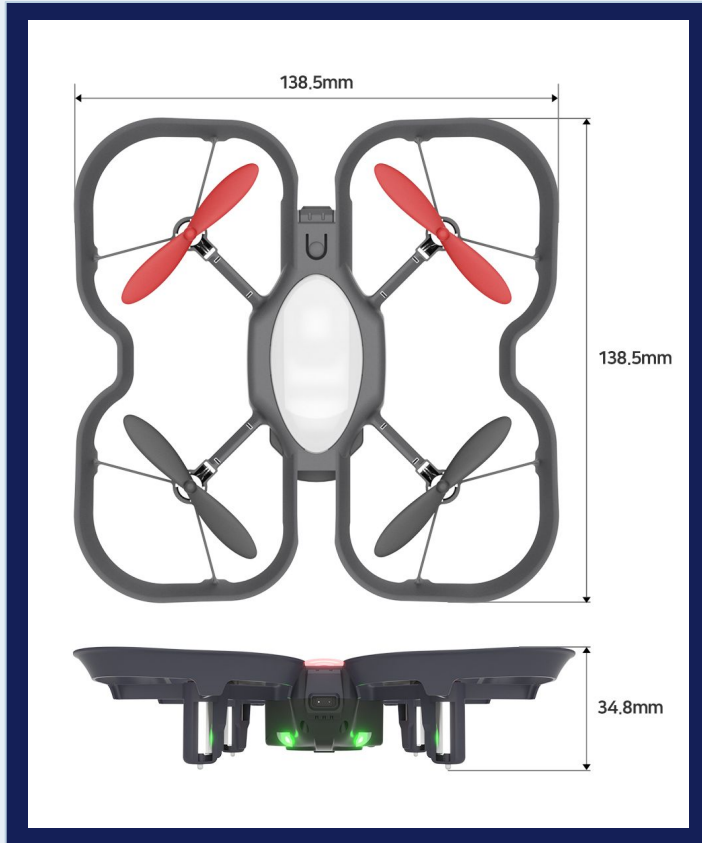
Package Contents (JROTC ed.)

- 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!



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!

The screenshot displays the RoboLink Sensor Dashboard interface. On the left, there is a sidebar with navigation options: Home, Right Commands, Right Sequences, Lights, Sounds, Programming blocks, Events, Input/Output, and Logic. Below the sidebar, there is a status bar showing 'Drone 22.8.1', 'Console 22.1.1', and 'Connected: CoDrone EDU'. The main area features a grid of sensor data and controls. A 'Speed' dropdown is set to '2' and 'LED Color' is set to 'red'. A 'Trimming' section shows a diagram of a drone with control points. The sensor data is presented in a grid of panels:

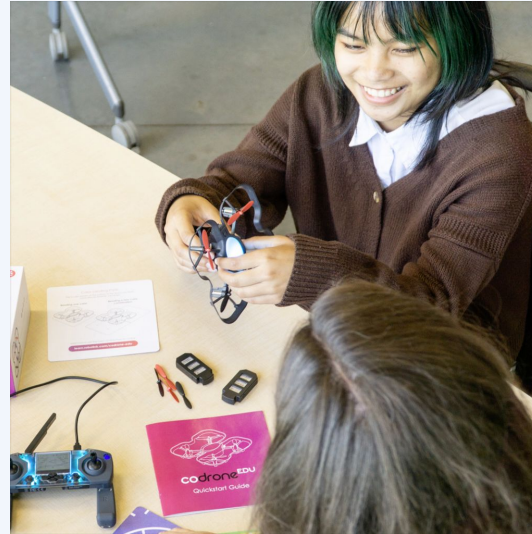
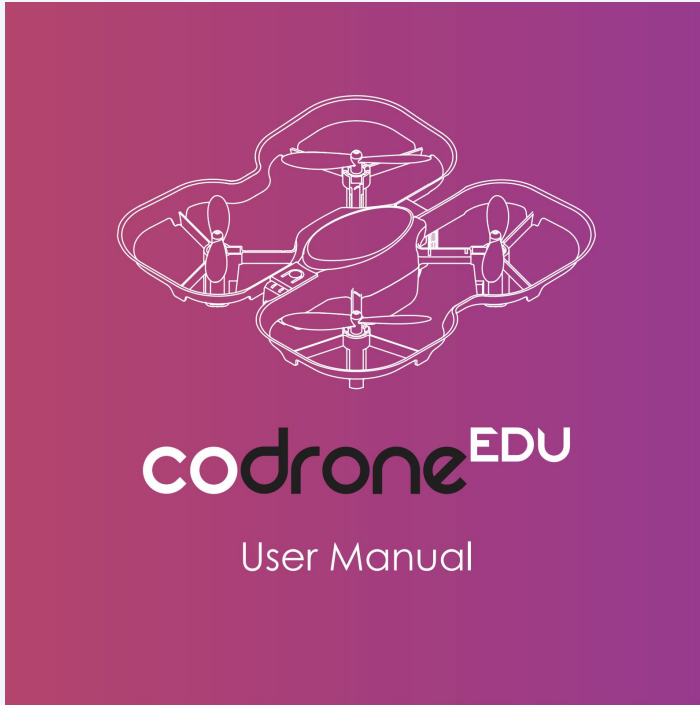
- Accelerometer:** X: 0, Y: 0, Z: 98
- Gyroscope:** pitch: 0, yaw: -119, roll: 0
- Front range:** 14.4 cm
- Bottom range:** 9.0 cm
- Front color:** hue: 17, saturation: 95, value: 15, color: red
- Rear color:** hue: 26, saturation: 86, value: 25, color: black
- Drone Temperature:** 35.37 °C
- Pressure:** 99.875 hPa
- Position:** X: 0.00 cm, Y: 0.00 cm

Available in both [Blockly](#) and [Python](#)!

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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.robotlink.com/codrone-edu

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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/

ROBOLINK

English ▼ Register / Login

< Back

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.

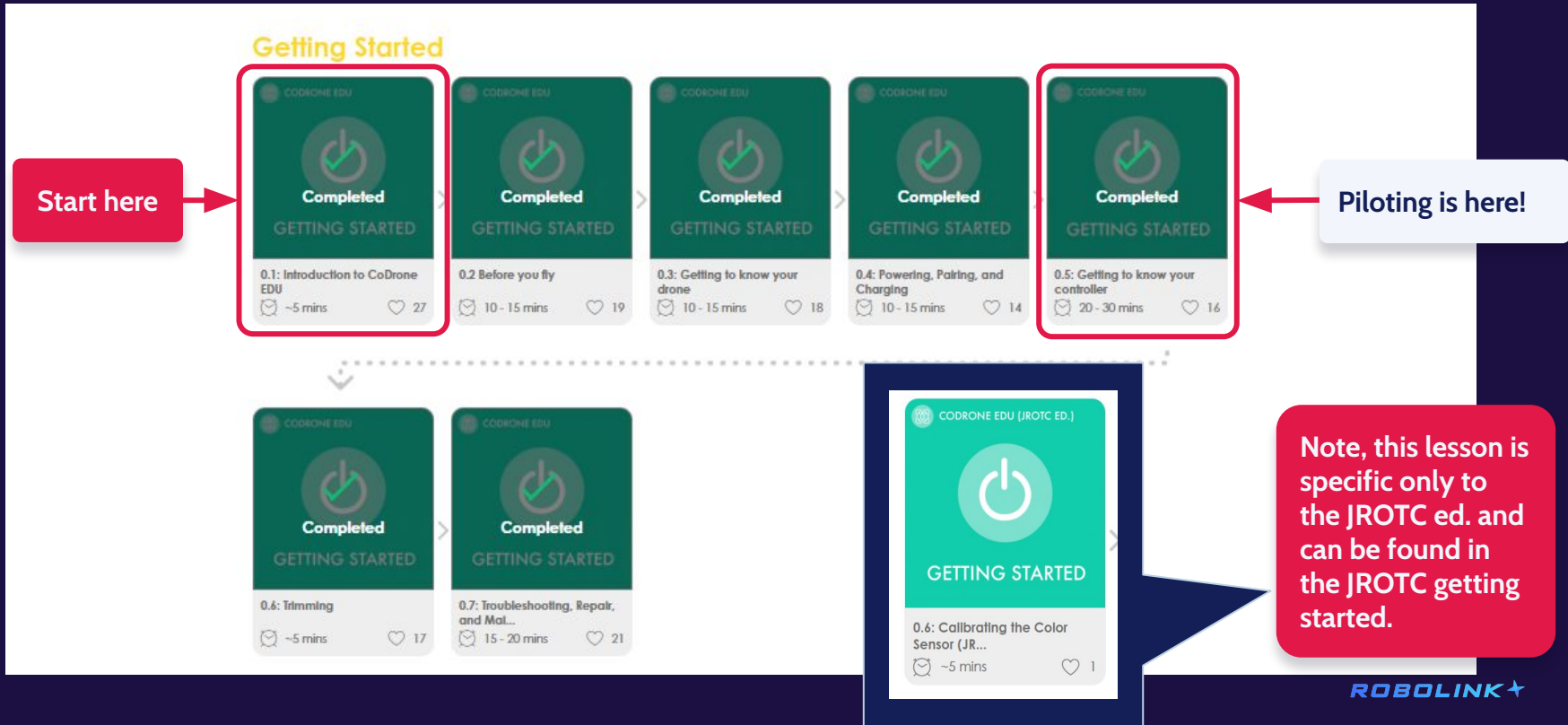
Start Learning

- Lesson plans
- Videos
- FAQ
- Function documentation

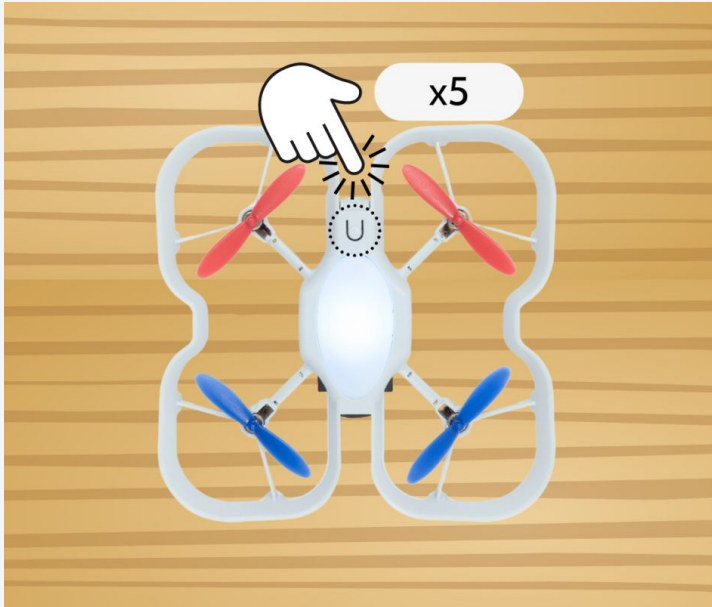
Every coach, teacher, and student should start here.

Getting Started Course

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



Color Calibration for CoDrone EDU (JROTC 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 (including checking for updates!)
- 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.


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



Stay up-to-date

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


CoDrone EDU Firmware Updater

 Help

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

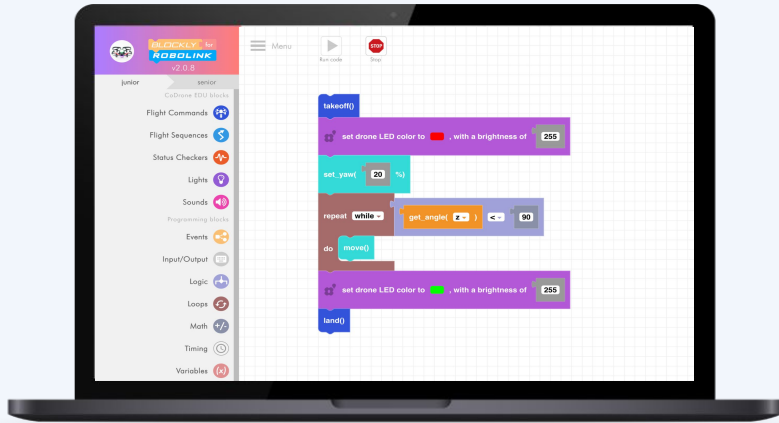
ROBOLINK 

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

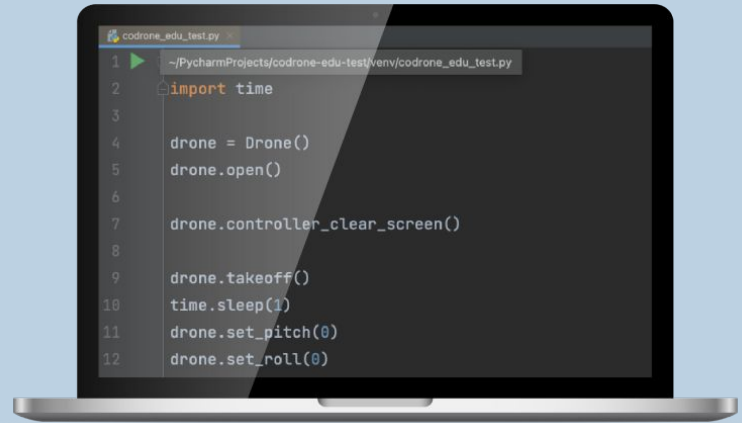
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Programming

Languages



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



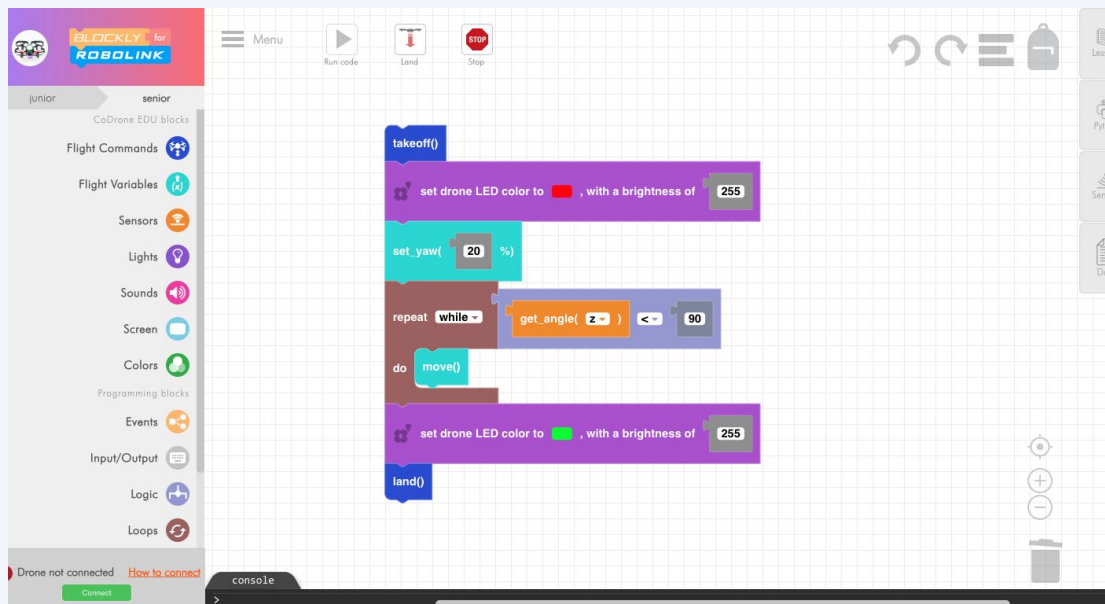
- **Mac, Windows, Chromebook**
- Text-based language
- Suitable for 6th grade and above
- PyCharm installation required or run in the browser (no installation)

Blockly for Robolink



Drag-and-drop programming platform.

- Runs in the browser (Chrome recommended)
- No installation required
- Start learning on Basecamp [Lesson | Getting Started with Blockly for Robolink](#)
- Focus on core drone and programming concepts instead of text-based syntax



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

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) is **not** available yet (use Blockly or PyCharm)

A screenshot of the Python for Robolink web interface. The top navigation bar includes the logo, a menu icon, and buttons for 'Run code', 'Land', and 'STOP'. The main area is a code editor with a dark background and light blue line numbers. The code is as follows:

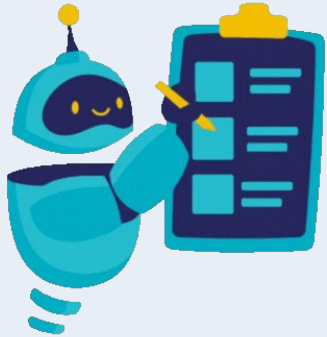
```
1 from codrone_edu.drone import *
2
3 drone = Drone()
4 drone.pair()
5 # Welcome to Python for Robolink! Write your Python code below.
6 drone.takeoff()
7 drone.land()
8
9
10 drone.close()
```

On the right side of the editor, there are icons for 'Lessons', 'Sensors', and 'Docs'. Below the code editor is a 'console' tab. The console shows a red error message: 'Drone not connected' with a 'How to connect' link and a green 'Connect' button.

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

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



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Demo

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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/>

Robolink FAQs

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

Need technical support?

Email us at support@robolink.com

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 displays the Robolink documentation website. The header includes the Robolink logo, a language selector set to 'English', a search bar, and a 'Go to Lessons' button. The left sidebar contains a navigation menu with categories: 'CoDrone EDU', 'Blockly' (with sub-items 'How to use Blockly', 'Junior Block Documentation', 'Senior Block Documentation', and 'Blockly Changelog'), '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 vertical stack of four Blockly 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' block is highlighted in the 'Block' section. The 'Description' section is partially visible at the bottom. On the right side, there is a table of contents for other documentation sections: 'Flight Commands' (take off, land, emergency stop, hover for [seconds] seconds, go [direction] for [seconds] seconds at [power] % power, turn [direction] [degrees] degrees, turn [direction] for [seconds] seconds at [power]% power), 'Flight Sequences' (flip [direction]), 'Lights' (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], turn controller LED off), 'Sound' (play this note [note] for [duration] seconds on drone, play this note [note] for [duration] seconds on controller), and 'Lists' (create empty list, create list with, create list with item [item] repeated [number] times).

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



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Questions