How to fly

After connecting the battery, the speakers in the FC, ESC, and motors should play a sound, indicating that they are on and configured correctly.

On the RC, press and hold the power button for 2 – 3 s for it to start up and it will play a welcome sound.

If you get a warning (Throttle or Switch Warning), you need to make sure:

- The switches marked B, C, E, and F are in the correct position. With the RC in your hands, they should all be up / away from the pilot, as far as possible.
- The throttle stick, which is the lefthand joystick, should be as far down as possible, i.e., minimal throttle.

Check that the red LED on the RC receiver is solid, indicating that the RC and UAV have a radio connection. If the controller is too close to the receiver the connection between them will be dropped.

If you are connected with QGroundControl, e.g., via the USB cable to a laptop. Check that there are no warnings via the “Speaker” icon button below. If you have warnings, check what they are and solve any issues (usually, recalibration of sensors, low battery, no RC signal, etc.)

Always have one finger ready on the Kill-switch, switch E. Be ready to press this downward to kill all motors immediately in case the vehicle flips, is close to collision, etc.

Avoid giving the vehicle full throttle, unless otherwise needed:

Depending on the configuration, weight, etc. the vehicle will lift off the ground at approximately 65% throttle. The throttle stick can then be centered to hold the same altitude (depending on flight mode).

To start flying, press the C switch to the desired flight mode as configured in QGroundControl (Manual or Altitude) → Press the F switch to arm the vehicle (**WARNING: motors will start spinning!**) → Slowly push the Throttle stick upwards to increase the motor RPM.

As you are slowly giving the vehicle more throttle, carefully watch the vehicle if it starts to lean on any of its axes and adjust accordingly.

For example, if the vehicle is starting to roll to the left, correct and adjust by slowly and carefully pressing the roll right, i.e., opposite direction, to level the vehicle during takeoff.

Adjust the direction (roll/pitch/yaw) as needed until the vehicle is airborne at some altitude set by the throttle.

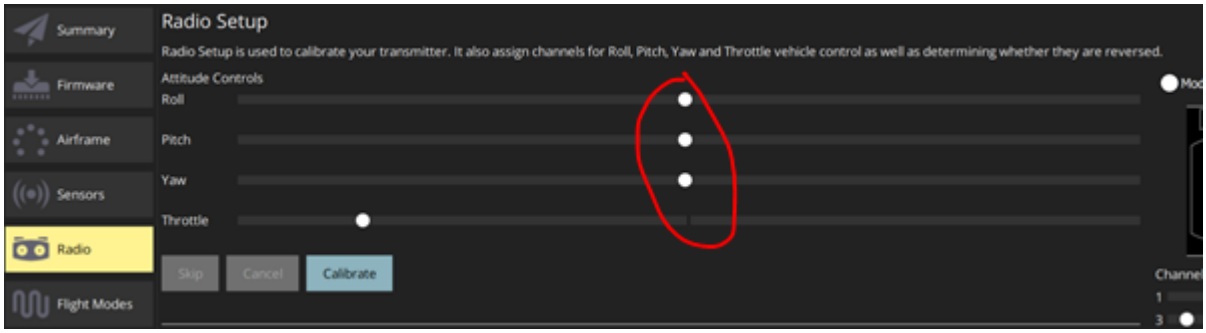
To land the vehicle, adjust the position of the vehicle (via pitch, roll, yaw) and slowly lower the throttle until the vehicle is landed. After safely on the ground, disarm the vehicle and/or press the Kill-switch:

Warning: Do not lower the throttle too aggressively, or it will drop in the air. Do not press the kill switch (unless otherwise needed) while the vehicle is flying.

Whilst in the air or even before the flight, it is possible to use the “Trimming” buttons to adjust vehicle drift. If the drone is drifting to the right (for example, indoors where there is no wind), you press the trim (and hold depending on how much) in the opposite direction, i.e., the left trim button on the RC controller. The same applies if the drone is drifting in some other direction.

The same applies to all kinds of drift (roll, pitch, yaw, throttle).

Depending on the behavior, the trims should optimally be centered, as seen in QgroundControl:



When you are finished, disconnect the main UAV battery and turn the RC off by holding the power button for 2 – 3 seconds and press the enter key on the RC if the receiver is still on.

It is important to frequently check the UAV battery so it does not discharge too much, causing it to not be chargeable again. We have chargers for both the main UAV battery and the RC batteries.

Reference: https://docs.px4.io/main/en/flight_modes_mc/altitude.html and https://docs.px4.io/main/en/flight_modes_mc/manual_stabilized.html and https://docs.px4.io/main/en/flying/