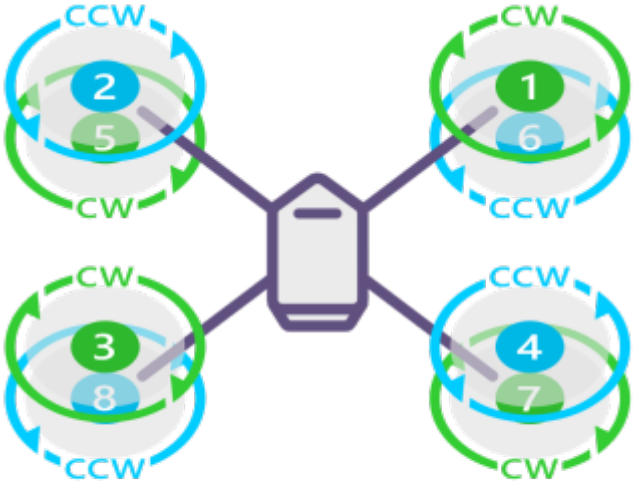
Cargo Drone

Project Description

[To be added]

Frame type

The cargo drone is based on the Octo Quad H frame. The diagram below shows the motor order for this tpe:



OCTO QUAD H

Source: https://ardupilot.org/copter/docs/connect-escs-and-motors.html#motor-order-diagrams

Model

Dimensions

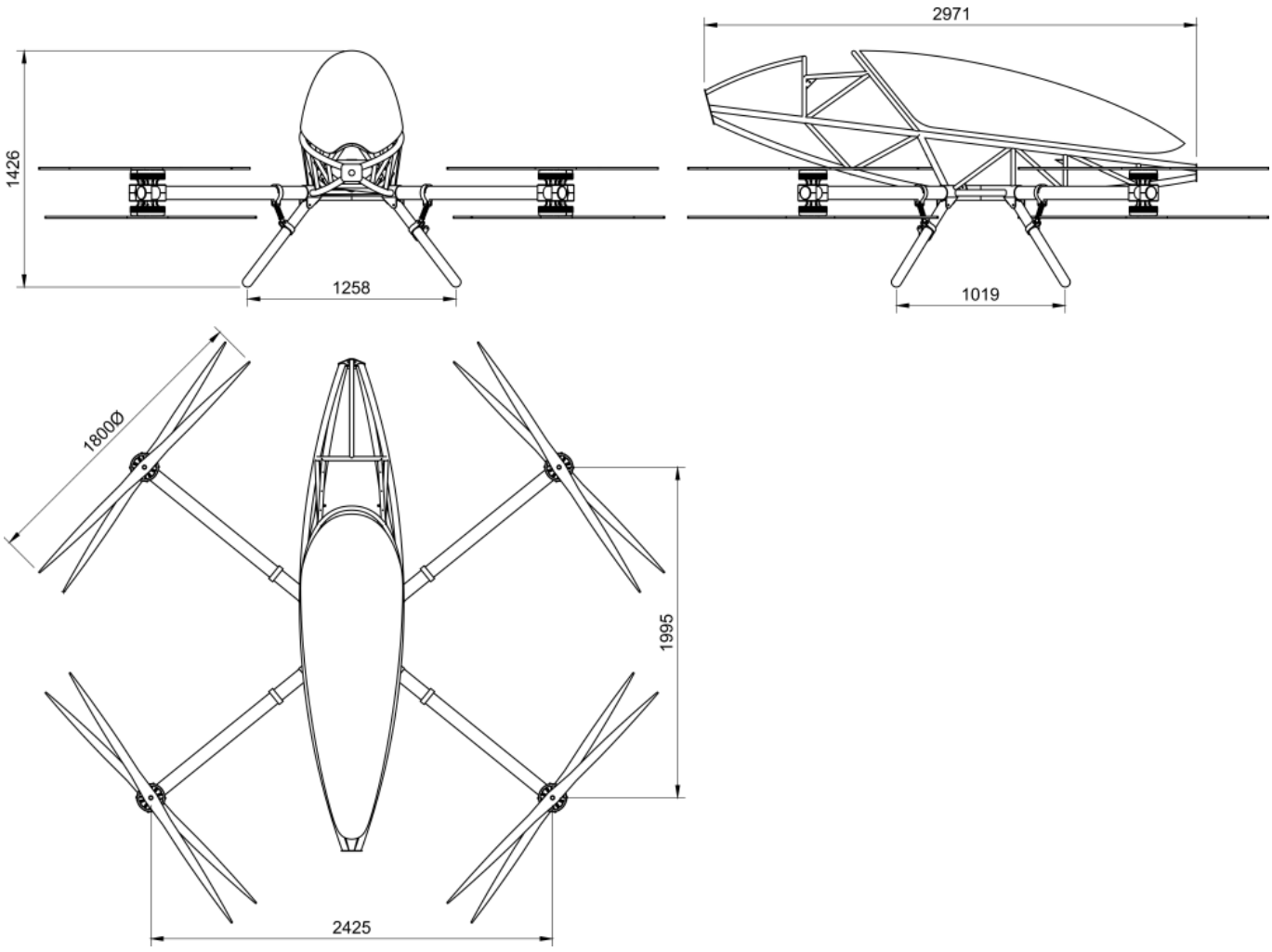
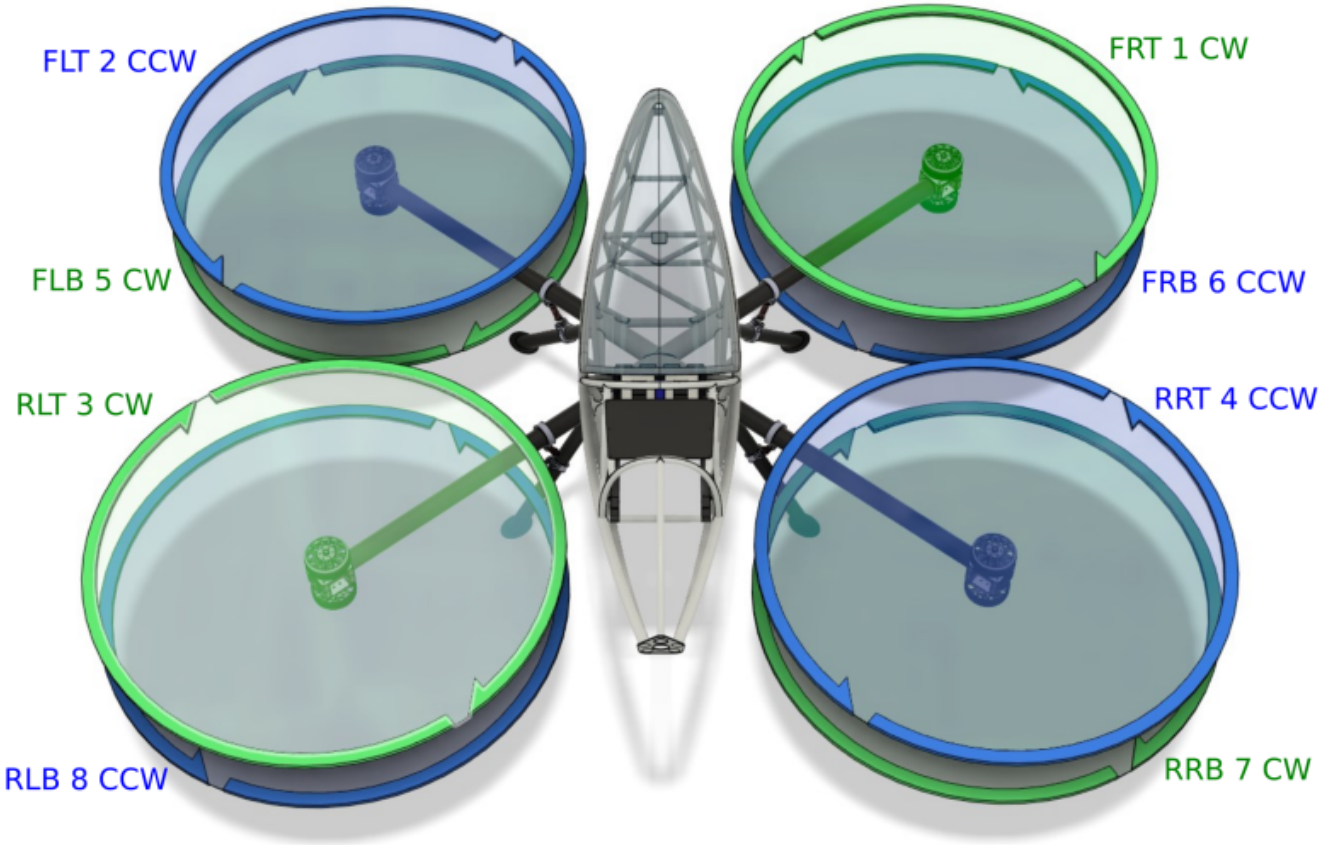


Figure: Cargo drone dimensions in mm

Motor distribution

The image below shows the Cargo drone model with the motor order and labels:



- The first three digits in the labels indicate the position of the motor:
  F / R - Front / Rear
  R / L - Right / Left
  T / B - Top / Bottom
- The number indicates which output pin from the flight controller should be connected to each motor ESC.

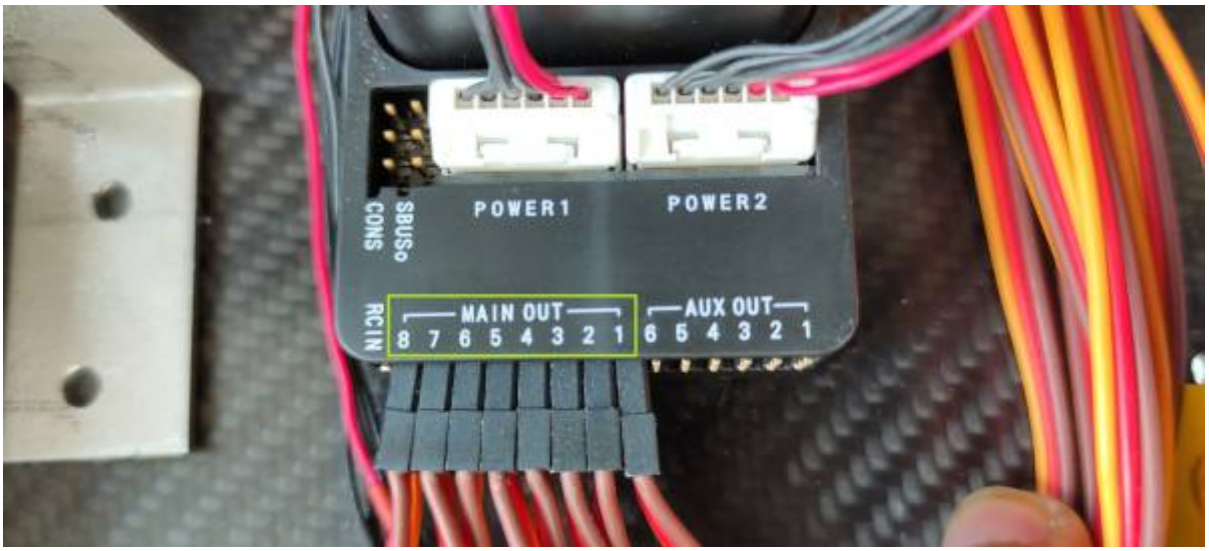


Image: Pixhawk output pins.

- The last digits indicate the direction of rotation of the motor:
  CW - ClockWise

CCW - CounterClockWise

Propellers

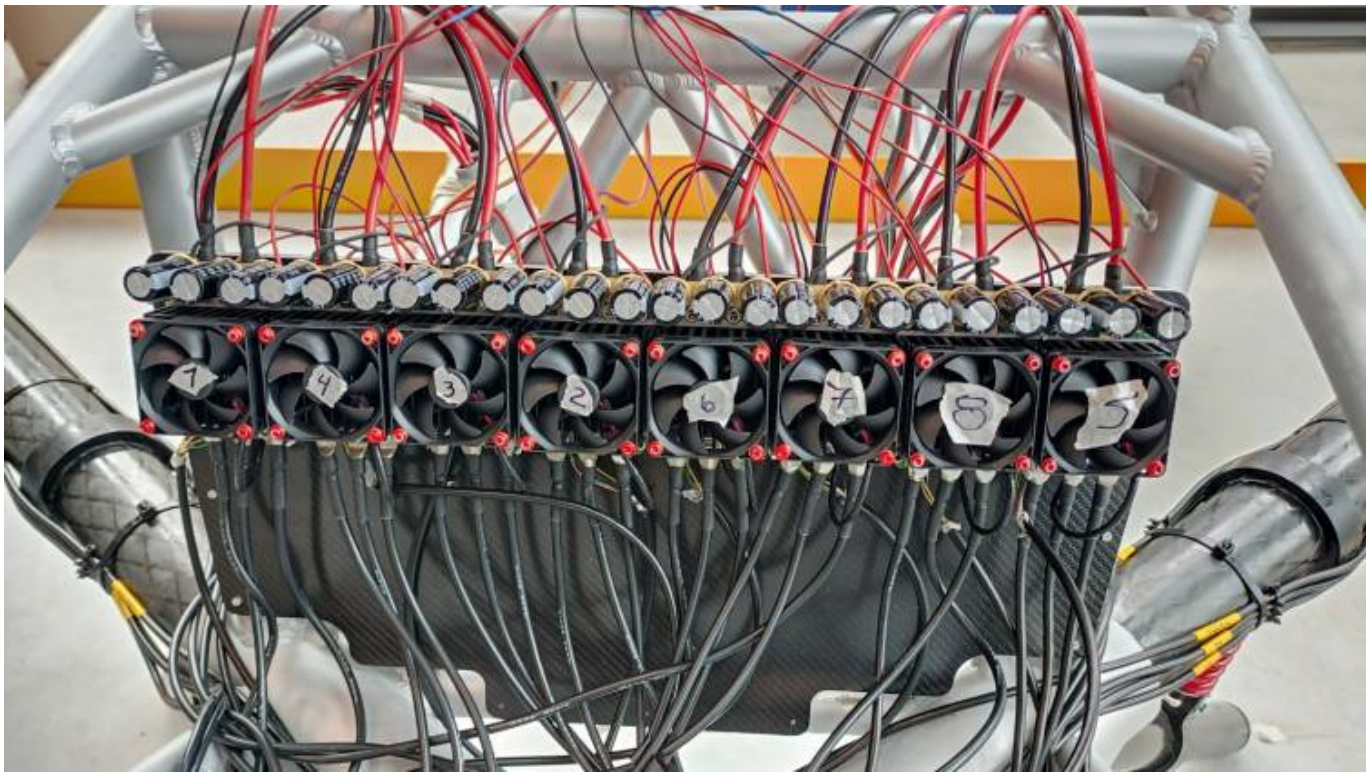
Helix H25F 1.80m
H25F 1.80m R-LES-04-2
H25F 1.80m L-LES-04-2

Motors

RET 30
The motors were properly labeled.

Electronic Speed Controller (ESC)

HBC 18063-3
Labeled with the numbers for the flight controller pin connections.



Flight controller

Hex Cube Black Flight Controller

Battery, Electronics, and Power Distribution Cables

[To be added]

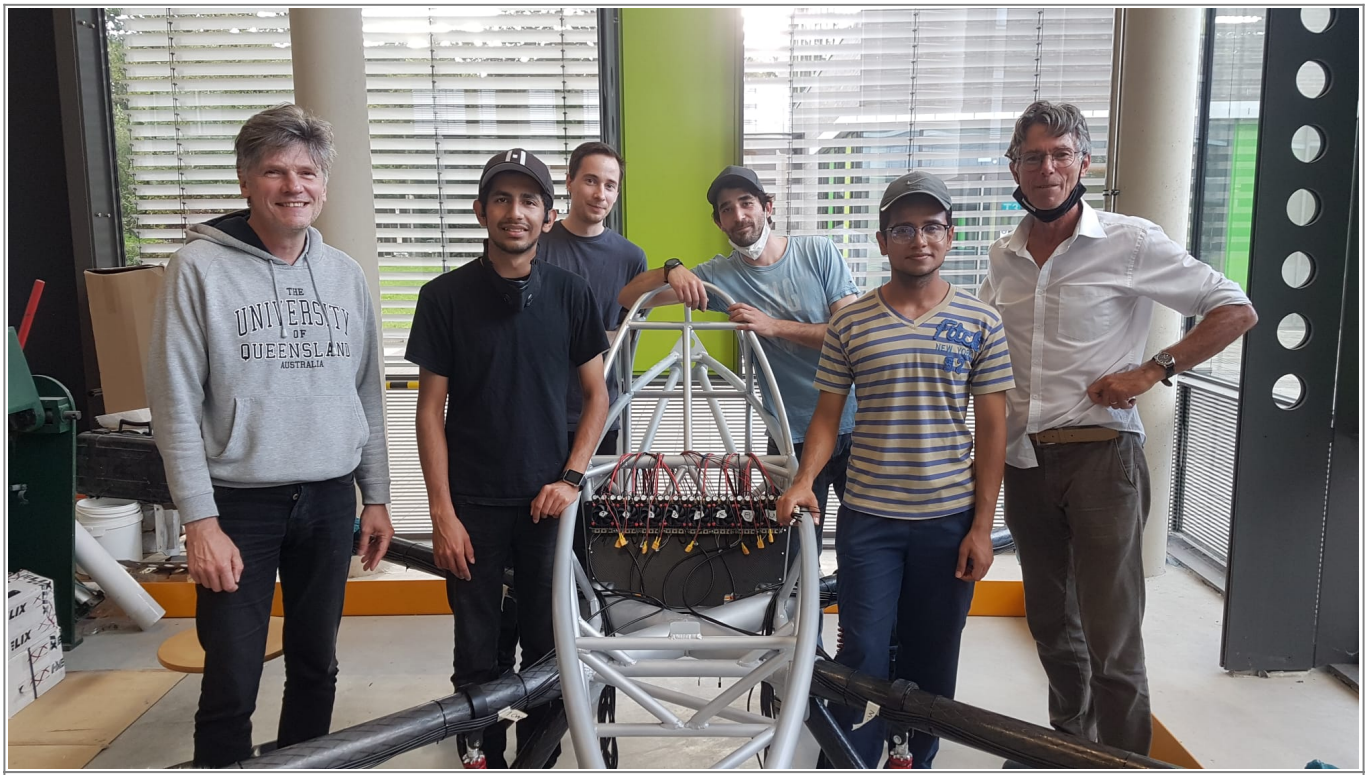
Tests

Test 1

Date: 09.sept.2021
Place: FabLab HSRW Kamp-Lintfort, Germany
Carried out by: Jefferson Sandoval and Harley Lara

CargoDrone-Test1
Video: Testing ESC + motors reaction and direction of rotation

The Team



From left to right: Rolf Becker, Harley Lara, Henrik Schoofs, Stefan Schmitz, Jefferson Sandoval, Winfried Rijssenbeek (Sept. 2021)