starcopter

THE HIGHDRA
SYSTEM OVERVIEW

1 System Overview

2 Descriptions of Components

According to the HIGHDRA Operating Manual v1.1

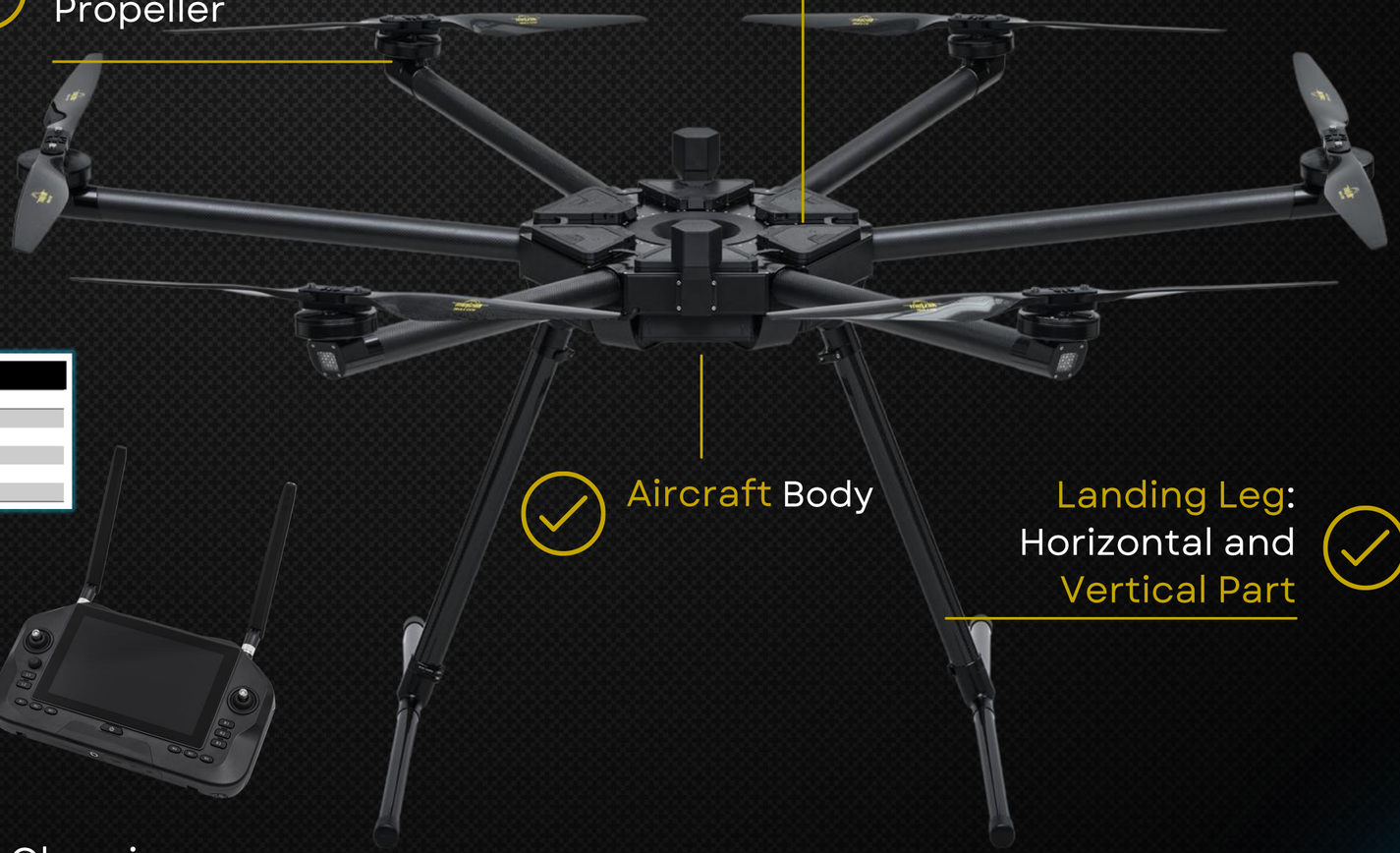
System Overview

2.1 Delivery Scope

Items	Quantity
Aircraft Body	1
Arm, incl. Propeller	6
Propeller Transport Safeguards	6
Landing Leg Vertical Part	2
Landing Leg Horizontal Part	2
Remote Control (RC)	1
Remote Control Charging Cable (Mircro USB)	1
Powerbank (for the Remote Control)	1
Battery Set (6 individual batteries)	1
Battery Charging Station	1
EASA Information Notice	1

2.2 Specifications

Items	Unit (g)	Quantity	Subtotal (g)
Body	3,700	1	3,700
Arm, incl. Propeller	750	6	4,500
Landing Leg	300	2	600
Battery	1,450	6	8,700
Total			**17,500**



In-house Battery Set:
6 individual batteries

Arm, including Propeller

Aircraft Body

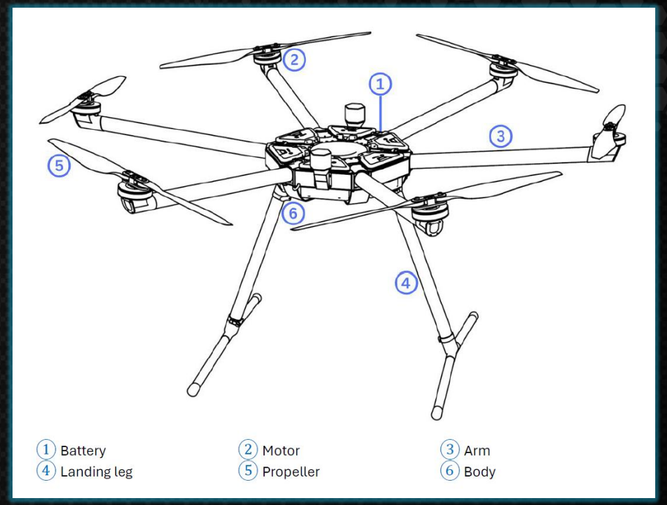
Landing Leg:
Horizontal and
Vertical Part

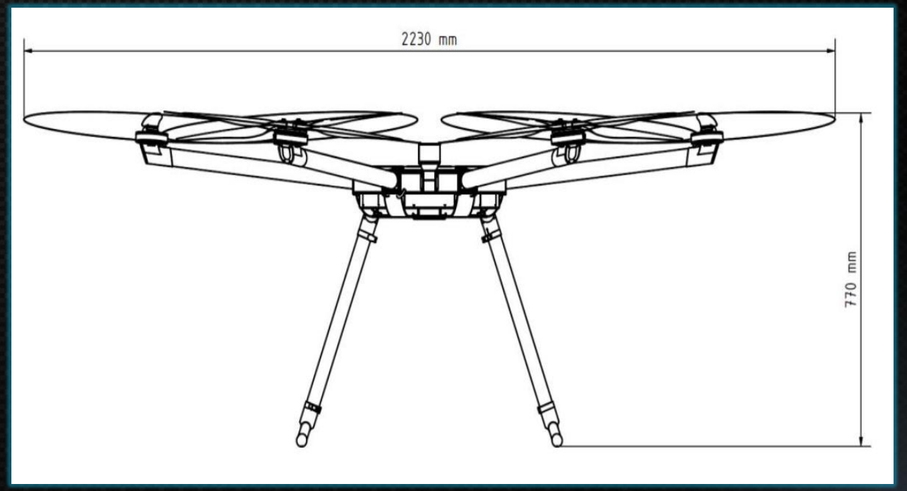
Remote, Control (RC)

Battery, Charging Station

Description of Components

- Battery
- Motor
- Arm
- Landing Leg
- Propeller
- Body

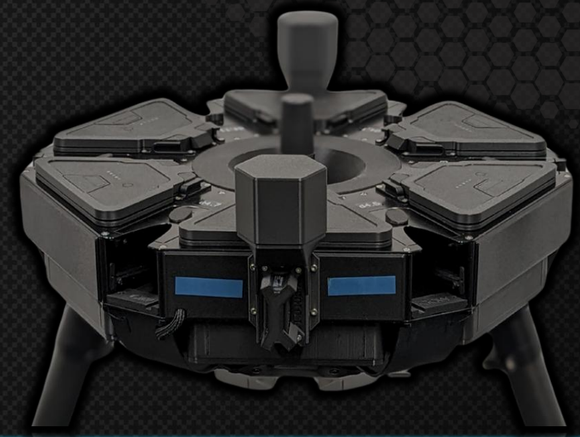


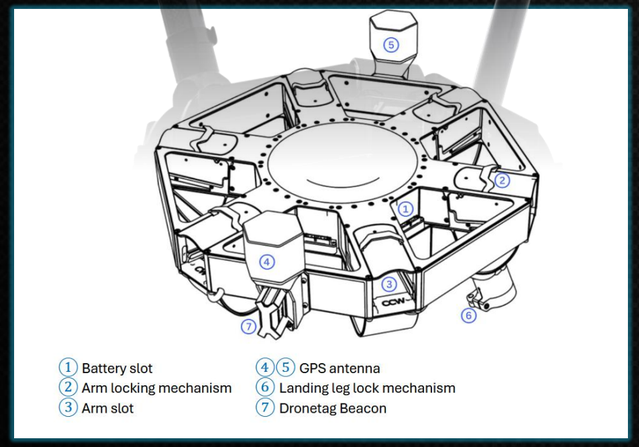


Body

A.I. ready body
Powered by Auterion

Compatible with various sensors for different missions





HIGHDRA	
UAS Class	C3
Operating Area in the Open Category	A3
Max. Takeoff Mass	24.99 kg
Dimensions	223.0 (W) x 202.6 (D) x 77.0 (H) cm
Max. Flight Time	60 min without payload 30 min, with max. Takeoff Mass
Max. Tilt Angle	36°
GNSS	GPS, GLONASS, Galileo and BDS
Hovering Accuracy Range	Vertical: ±20 cm (with GPS position) Horizontal: ±30 cm (with GPS position)
Guaranteed Sound Power Level	104 dBA
Max. Altitude (AMSL)	3500m with up to 2.5 kg Payload 1500 m with MTOM
Altitude Line of Sight	749 m

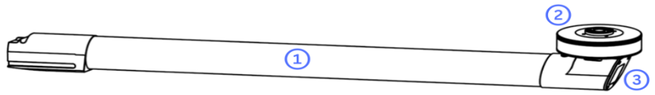
Arm, Propeller and Landing Leg

Modular
legs & arms

2.3.2 Arm

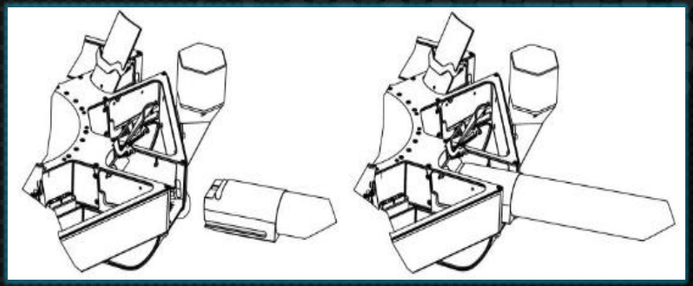
The arm is constructed from a combination of aluminum and carbon-fiber tubing. It incorporates an integrated brushless AC motor and a navigation light system. The color of the navigation light corresponds to the arm's position on the UAV body and changes sequentially.

The navigation and conspicuity light patterns are outlined in 2.3.2.1 Navigation and Conspicuity Lights.



① Arm ② Motor ③ Navigation and conspicuity light

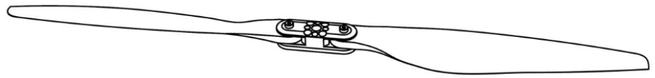
Aluminium and
Carbon-fiber
tubing



Quick-Locking
Mechanism

2.3.3 Propeller

The UAV uses 28-inch Mejzlik propellers made of carbon fiber, which have been factory balanced for optimal performance. The drone is equipped with six foldable propellers in total: three rotate clockwise (CW) and three rotate counterclockwise (CCW)

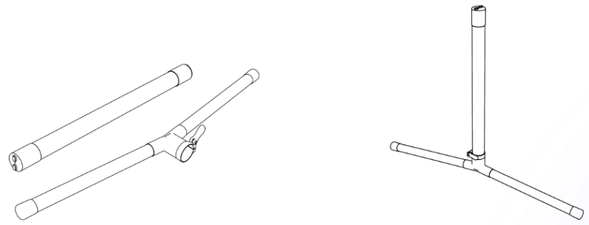


Mejzlik
carbon fiber
propellers

Quick-Release
Mechanism

2.3.4 Landing Leg horizontal and vertical part

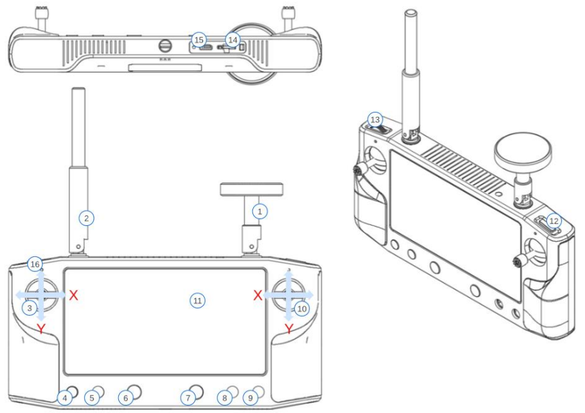
The starcopter HIGHDRA is equipped with two landing legs, each of which can be detached using a quick-release mechanism for easy removal and replacement.



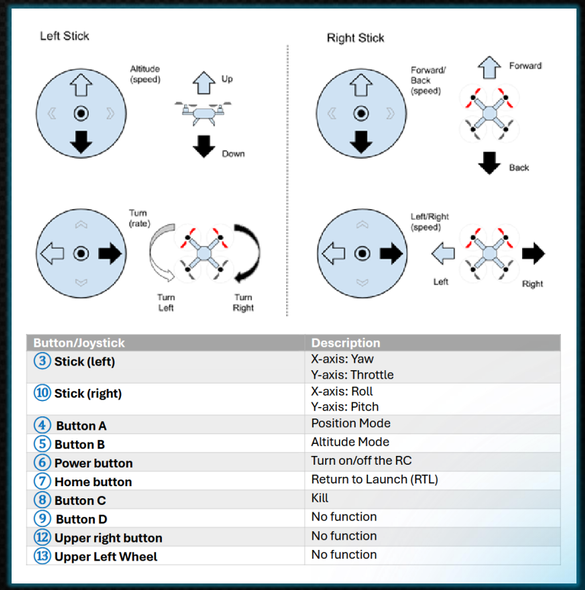
Remote Control (RC)

CubePilot
Remote Control

Pre-installed
Auterion Mission
Control



① Directional antenna
② Omni-directional antenna
③⑩ Joystick
④ Button A
⑤ Button B
⑥ Power button
⑦ Home button
⑧ Button C
⑨ Button D
⑪ LCD screen
⑫ Upper right button
⑬ Upper Left Wheel
⑭ Micro SD card slot
⑮ Micro USB
⑯ Status LED

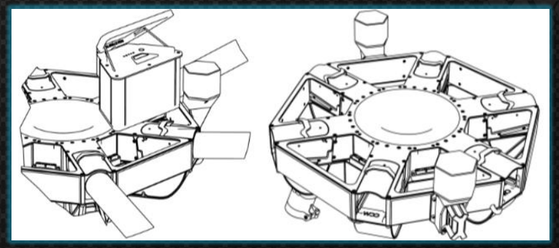


Button/Joystick	Description
③ **Stick (left)**	X-axis: Yaw Y-axis: Throttle
⑩ **Stick (right)**	X-axis: Roll Y-axis: Pitch
④ **Button A**	Position Mode
⑤ **Button B**	Altitude Mode
⑥ **Power button**	Turn on/off the RC
⑦ **Home button**	Return to Launch (RTL)
⑧ **Button C**	Kill
⑨ **Button D**	No function
⑫ **Upper right button**	No function
⑬ **Upper Left Wheel**	No function

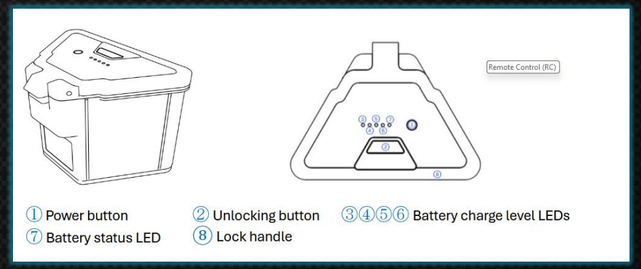
Do not perform any software updates on the remote control yourself.

Battery

A set of Six independent 24 V Highdra Power Packs



Internally managed by Highdra BMS circuity and software



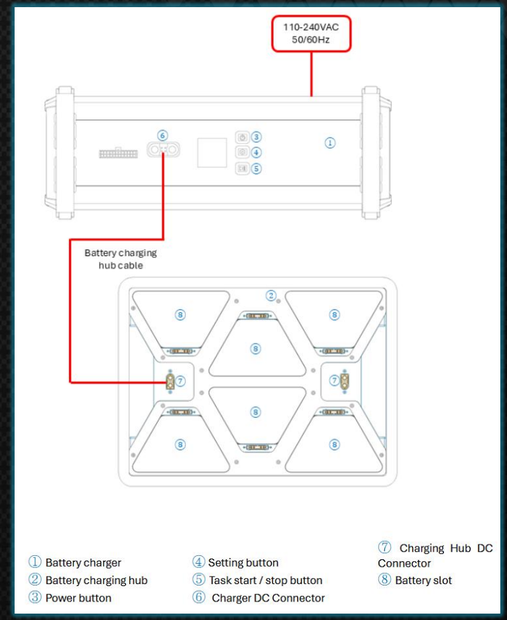
Battery	
Battery Capacity	272 Wh
Voltage	24.0 VDC
Charging Voltage Limit	25.2 VDC
Battery Type	Li-Ion 6S
Weight	1,450 g
Charging Environment Temperature	Max. 40 °C

Never mix batteries with different Set-IDs or color-codes.

Battery Charging Station

Simultaneous charging of 6 batteries

Easy Plug and Charge principle



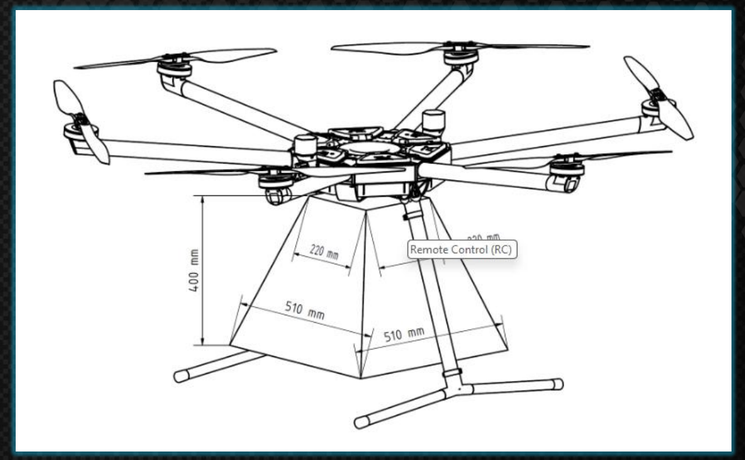
Battery Charger	
Input voltage	110~240 VAC
Output voltage	20~58 VDC
Max. input current	AC 16 A
Max. charging power	3000 W (@220 VAC)
Max. discharging power	200 W
Charging current	1.0~52.0 A (Max)
Discharging current	0.5~5.0 A (Max)
Working temperature	0°C to 40 °C
Storage temperature	-20°C to 60 °C
Size	35.6 × 13.68 × 16.41 cm
Weight	about 3973 g
Charging Duration	Six (6) batteries @ 55 A – 1 hours

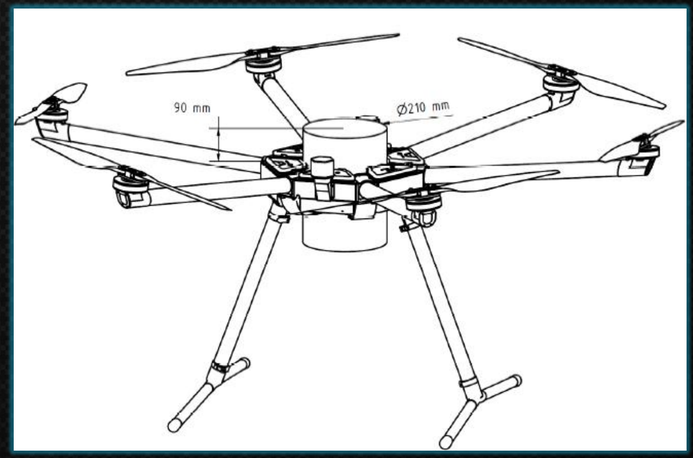
When using the **Fast Charge Mode,** no other devices must be plugged into the same Power Outlet. The maximum power could be exceeded resulting in tripping the fuse.

Payload

Standalone
payload system
accommodation

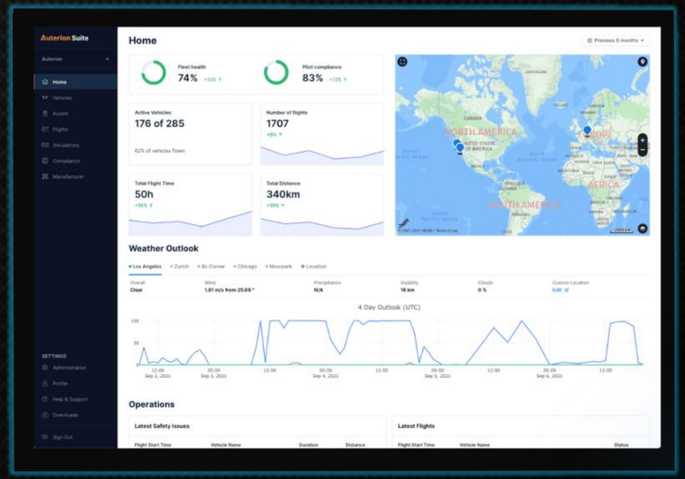
Individual request
Integration of
payload system





Parameter	Value
Max. Weight	7.49 kg

SOFTWARE UPDATES AND UAV UPGRADES



2.4 Software Updates and UAV Upgrades by starcopter

starcopter will exclusively manage all software updates for you. In case of critical safety updates, starcopter will notify you via email, perform a guided update with you and handle all occurring software update issues.

starcopter

The Highdra

starcopter.com