

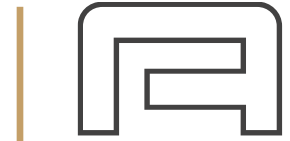


# ZOE SPECIFICATIONS AND OPERATING LIMITS

## MARCH 2018



# SPECIFICATIONS



## DIMENSIONS

Frame dimensions	(lwxh) 700x700x495mm 700x300x270mm (folded)
Diameter with propellers	1310 mm
Height up to payload quick release	355 mm

## POWERPLANT

Number of motors	4
Motor type	Direct Drive 3-phase BLDC outrunner
Operating voltage	Up to 50V
Motor max continuous Power	800 W
Idle speed	380 RPM/V

Electronic Speed Controller(ESC)	
Max continuous current draw	50A
Input voltage	6-35V

## PROPELLER

Material	Carbon Fiber Reinforced Plastic (CFRP) with foamed core
Propeller setup	2 CW and 2 CCW props
Propeller type	18 x 16.5 inch foldable propeller

## POWER SOURCE

Battery	Lithium Polymer	
Recommended make and models	Gens Ace 4400mAh and higher 4500mAh up to Tattu 16000mAh	Tattu
Nominal battery voltage	22.2 V / 6S	
Maximum battery size (2 packs)	210 x 150 x 65mm	
Minimum battery quantity	2 battery packs parallel	
Battery connectors	2x XT90*	
Min discharge rate	150A / 300A burst	

*\* Upon request the battery connectors can be customized*

## WEIGHTS

Maximum Gross for takeoff	11.95 kg/ 26.35 lbs
Maximum useful load	8.06 kg/ 17.77 lbs
Maximum payload	6.5 kg/ 14.33 lbs
Minimum standard empty weight	3.89 kg/ 8.58 lbs

## FLIGHT CONTROLLER

Model name Pixhawk 2.1 \*

Key points

- Built-in IMU heating system, allowing flights at extreme temperature. (below ice point)
- Robust DF17 interface connectors, enhance drop and shock resistance
- Airframes: VTOL, Plane, Multicopter, Traditional Helicopter, Rover, Boat, Sub, General Robotics

Pixhawk 2 cube

Isolated and Dampened IMU:

- Separated IMU and FMU system, effectively reducing interference to sensors.
- Foam effectively filter high frequency vibration, reducing noise to IMU measurements.

Triple Redundant IMU system:

- 3x Accelerometer
- 3x Gyroscope
- 3x Magnetometer
- 3x Barometer

Modular Flight Controller:

- Modular cube design for simplicity. All inputs/outputs in one single DF17 connector so user may use different carrier board for specific application or design and make their own carrier board with ease.

Pixhawk 2 carrier board

- ADC port
- Dedicated Spektrum RX port
- I2C port
- S.Bus in and out, PPM in
- 8 dedicated opto capable PWM out
- 2 CAN port
- 2 Telemetry port

- 2 power port
- 8 GPIO that can also be used for PWM

*\* The FC can be upgraded with suitable expansions like the Here+ RTK GNSS Kit for Pixhawk 2 for example*

## LIGHTING AND INDICATION

Orientation lights	3-Watt LED
Orientation light color (front)	Cold White*
Orientation light color (back)	Red*

*\* Upon request the orientation lights can be customized*

## PILOT RADIO COMMUNICATION

Make and model	Futaba FMT-02
Radio frequency	2,4GHz
Channels	12 proportional, 2 switched
Battery	6V 1800mAh NiMH battery pack
Functions	<ul style="list-style-type: none"> <li>○ Compatible with FASSTest, FASST and S-FHSS protocols</li> <li>○ FASSTest telemetry compatible with Futaba telemetry sensors (sold separately)</li> <li>○ Free user-updatable software</li> <li>○ 30-model memory</li> <li>○ 10-character user naming</li> <li>○ 10-character model naming</li> <li>○ Airplane, helicopter and glider programming</li> <li>○ Large, 1.75 x 3 in backlit LCD screen with 128 x 64 resolution</li> <li>○ SensorTouch programming</li> <li>○ Compatible with secure digital memory cards for external storage of model setups and software updates (32MB-2GB or HC (High-Capacity) 4GB-32GB)</li> <li>○ Left and right assignable slider switches</li> <li>○ Two assignable rotary knobs</li> <li>○ Six assignable three-position switches</li> <li>○ One assignable momentary two-position switch</li> <li>○ One assignable two-position switch</li> </ul>

- Comfortable rubber grips on the sides and back
- Wide top switch spacing
- Adjustable stick tension
- Dual ball bearing gimbals
- 4 vibration warning types
- Home/Exit; User Menu/Servo Monitor buttons
- Audio earphone jack (for telemetry alarms)
- User stick calibration
- Trainer system
- Servo speed adjust
- 5 programmable mixes
- V-tail, Ailvator, winglet, motor mixing
- Trim mix
- Logic switch (condition switch only)
- Internal programmer for S.Bus servos
- User menu
- Servo monitor (neutral and moving tests)
- 2 count up/countdown timers
- Integral timer
- Model timer
- Quick model select

## ISOLATION SYSTEM

Vibration isolation system  
Damping variation

Rubber damper system  
Variable through type of dampers

## PAYLOAD MOUNTING

Mounting locations  
Mounting system  
Battery rack

Top and bottom mounting possibility  
Gremsy circular quick release  
Top of centerpiece or below on quick release

## CAMERA STABILIZER

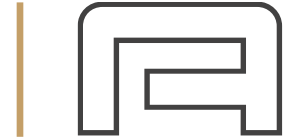
Recommended make and model

Gremsy T1, T3, H3 and H7

## CERTIFICATION

CE approved

# LIMITATIONS



These limitations are advisory in nature and do not extend or restrict limitations provided by Governing Aviation Authorities.

## OPERATIONAL LIMITATIONS

Temperature operation range	-10°C to 45°C (14°F to 113°F)
Maximum wind conditions	35 knots (18 m/s)
IP rating	IP43

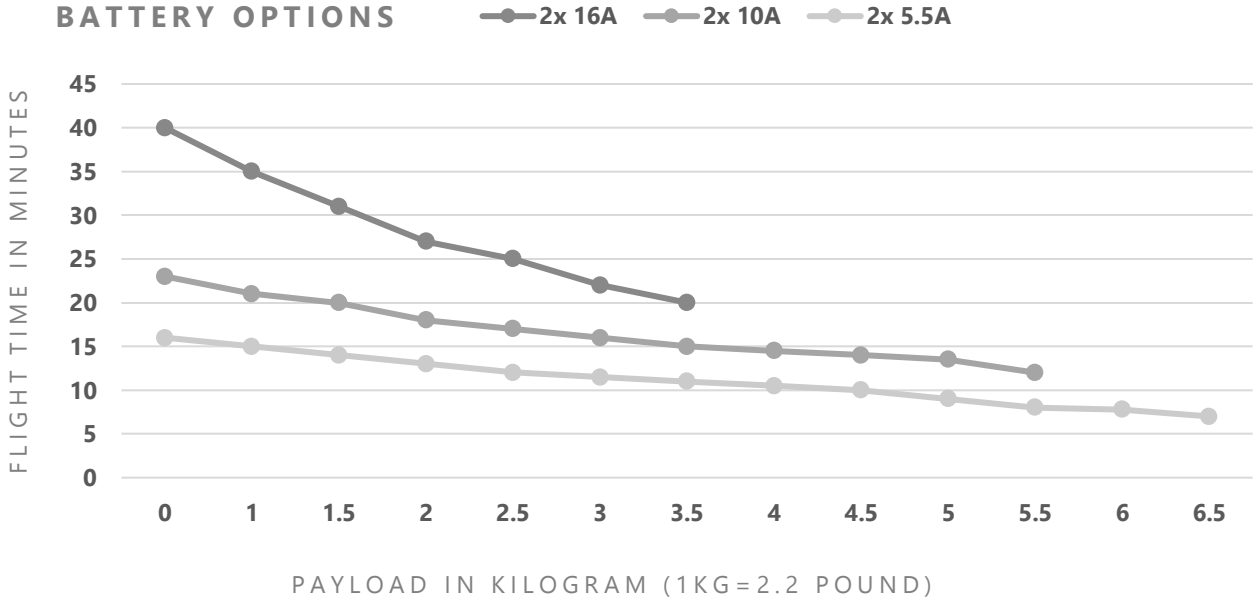
## POWERPLANT LIMITATIONS

Maximum battery voltage	26.1V
Minimum average battery voltage	21.3V

# FLIGHT TIMES



These flight times are representations of the typical flight time in normal conditions and are depending on several factors. The conditions in which these flight times have been tested are at 20°C ambient temperature, a nominal wind speed of 8 knots while hovering at a height of 5 meters above ground. The ZOE is put back on the ground with 10 percent battery capacity left.



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