ACECORE

ZOE SPECIFICATIONS AND OPERATING LIMITS
JULY 2017

ACECORE TECHNOLOGIES

SPECIFICATIONS

DIMENSIONS

Frame dimensions	(lxwxh) 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
Protection	IP20
Electronic Speed Controller(ESC)	
Max continuous current draw	60A
Input voltage	12-26.1V

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 Tattu 4500mAh up to Tattu 16000mAh
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 kg/ 17.64 lbs
Maximum payload	6.5 kg/ 14.33 lbs
Minimum standard empty weight	3.95 kg/ 8.71 lbs

FLIGHT CONTROLLER

Model name	DJI A3*
Max power consumption	8W
Operating temperature	-10°C(14°F) to + 45°C(113°F)
Built-in functions	

- Built-in PMU
- Intelligent flight modes
- Low voltage protection
- DJI Smart battery protection
- External SBUS receiver
- Motor overload detection
- Lightbridge 2 receiver
- 8 function channels (including 4 configurable direction channels)
- SDK

SDK

- Mobile SDK
- Onboard SDK

SDK Port	API/CAN2
PWM I/O Port	F1-F4 ports for output F5-F8 ports for I/O function
iOSD Data Storage	Built-in data recorder
Ground station	It can be realized in DJI GO APP With Lightbridge 2, and in PC Ground Station with Lightbridge 2 or DATALINK PRO

Intelligent Flight modes

(with Lightbridge 2)	Point of Interest, Waypoints, Home Lock and Course Lock
Remote parameter adjustment	It can be realized in DJI GO APP With Lightbridge 2
PC Assistant	DJI ASSISTANT 2, support simulator
Recommended Radio	Lightbridge 2, S-BUS or D-BUS
Other DJI Products Supported	Z15,Ronin-MX,S900,S1000+,iOSD,D-RTK, DATALINK PRO etc.
Motor Fail Protection	Minimum 6 axis
Propulsion protection	Motor Overload
No Fly Zones	Supported
Low Battery Voltage Warning	Supported

** Can be expanded with the A3 PRO and/or D-RTK*

LIGHTING AND INDICATION

Status indicator light	DJI-LED
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 or DJI Lightbridge 2

FUTABA FMT-02

Radio frequency	2,4GHz
Channels	12 proportional, 2 switched
Battery	6V 1800mAh NiMH battery pack
Functions	- Compatible with FASSTest, FASST and S-FHSS protocols - FASSTest telemetry compatible with Futaba telemetry sensors (sold separately)

- Free user-updatable software
- 30-model memory
- 10-character user naming
- 10-character model naming
- Airplane, helicopter and glider programming
- Large, 1.75 x 3 in backlit LCD screen with 128 x 64 resolution
- SensorTouch programming
- Compatible with secure digital memory cards for external storage of model setups and software updates (32MB-2GB or HC (High-Capacity) 4GB-32GB)
- Left and right assignable slider switches
- Two assignable rotary knobs
- Six assignable three-position switches
- One assignable momentary two-position switch
- One assignable two-position switch
- 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

DJI LIGHTBRIDGE 2

Transmitting frequency	920.6 MHz ~ 928 MHz (Japan) 5.725 GHz ~ 5.825 GHz 2.400 GHz ~ 2.483 GHz
EIRP	100 mW@2.4GHz

GROUND SYSTEM

Dimensions	182mm x 167mm x 104mm (L-W-H)
Weight	810 g
Antenna Gain	3.5 dBi @ 2450 MHz
Built-in Battery	7.4 V, 6000 mAh
Operating Current	900 mA
Operating Temperature	14° to 104° F (-10° to 40° C)
Charging Temperature	32° to 104° F (0° to 40° C)
Video Output Port	HDMI, SDI, USB

COMPATIBLE DJI PRODUCT

DJI Gimbal System	Z15-GH4, Z15-5D III, Z15-A7, Z15-BMPCC
Flight Controller	A3, A2, N3, WooKong-M
Aerial Systems	S1000+, S1000, S900, S800 EVO, F550, F450

SUPPORTED VIDEO OUTPUTS

HDMI	720p50, 720p60, 1080i50, 1080i60, 1080p24, 1080p30, 1080p50, 1080p60
SDI	720p50, 720p60, 1080i50, 1080i60, 1080p24, 1080p30, 1080p50, 1080p60

AIR SYSTEM

Dimensions (without antennas)	68mm x 48mm x 21mm (L-W-H)
Weight (without antennas)	70 g
Antenna Gain	2 dBi @ 2450 MHz
Operating Voltage	9-12 V
Operating Current	650 mA @12 V
Operating Temperature	14° to 104° F (-10° to 40° C)
Antenna Connector	MMCX Male

BATTERY CHARGER

Output Voltage	17.4 V
Rated Power	57 W

SUPPORTED VIDEO INPUTS

AV	PAL25, NTSC30
HDMI	720p50, 720p60, 1080i50, 1080i60, 1080p25, 1080p30, 1080p50, 1080p60

ISOLATION SYSTEM

Vibration isolation system	Rubber damper system
Damping variation	Variable through type of dampers

PAYLOAD MOUNTING

Mounting locations	Top and bottom mounting possibility
Mounting system	Gremsy circular quick release
Battery rack	Top of centerpiece or below on quick release

CAMERA STABILIZER

Recommended make and model	Gremsy T1, T3 and H3

ENVIRONMENTAL

IP rating	IP43

LIMITATIONS

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

OPERATIONAL LIMITATIONS

Do not fly the AceCore ZOE in temperatures exceeding 45°C* (113°F) or below -10°C(-4°F) or in wind conditions exceeding 35 knots

** When using the DJI lightbridge 2 the maximum temparture is 40°C (104°F)*

POWERPLANT LIMITATIONS

Maximum battery voltage	26.1V
Minimum average battery voltage	21.3V

FLIGHT CONTROLLER LIMITS

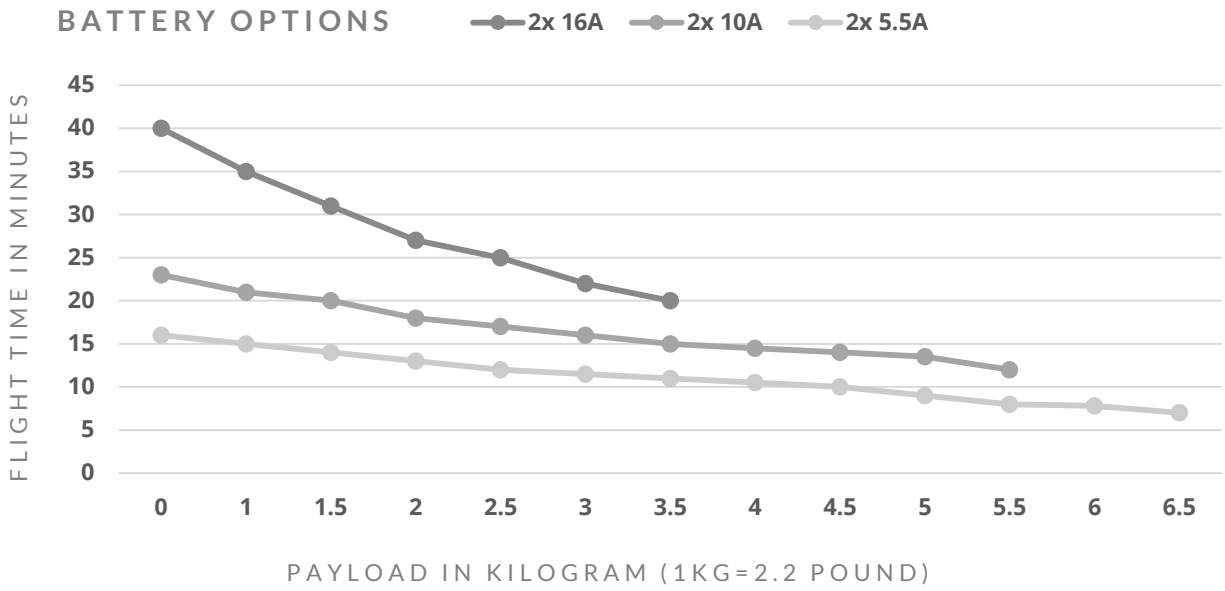
Maximum Pitch/Roll Angle	35° from horizontal
Maximum Yaw rate	150°/second
Maximum ascent	5m/s
Maximum Descent	4m/s

FLIGHT CONTROLLER PERFORMANCE

Hovering Accuracy	Vertical: 0.5m
	Horizontal: 1.5m
D-RTK GNSS	Vertical: 0.02m + 1ppm
	Horizontal: 0.01 + 1ppm

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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