



ACECORE TECHNOLOGIES

ZOE M4

SPECIFICATION SHEET



Section 01 Product Description

DESCRIPTION

The Acecore Zoe M4 is a military, configurable quadcopter covering a range of tactical capabilities. Zoe carries payloads up to 5kg/ 11lbs useful (pay)load in weather conditions up to 10mm/h rain, 29 knts wind, 50°C outside temperature. Windows-based military graded ground control station with mission control, payload control and standard integrated 1780Mhz - 2290Mhz Doodle Labs datalink.

Zoe achieves 47 minutes flight time untethered with a data range of 20+ kilometers.



GENERAL FEATURES

Lightweight carbon fiber frame

Up to 47 minutes endurance

All-weather proof

Rugged ground control station

ISR

Triple redundant autopilot

STANAG 4609 video stream

Quadcopter

MOTS

ITAR-Free

Anti-spoofing and anti-jamming GPS



Section 02 Product Specifications

SPECIFICATIONS

WEIGHTS

Maximum gross for takeoff	10.5 kg/ 23.15 lbs
Maximum payload*	5 kg / 11 lbs
Minimum standard empty weight*	4.2 kg / 9.26 lbs

DRIVE

Energy type	Electrical
Number of motors	4
Motor type	Direct Drive 3-phase BLDC out runner
Operating voltage	Up to 50V
Motor max continuous Power	800 W
Idle speed	380 RPM/V
Number of ESCs	4
Max continuous current draw	55A

PROPELLER

Material	Carbon Fiber Reinforced Plastic (CFRP) / foamed core 3K Twill weave
Propeller setup	2 CW and 2 CCW propeller
Propeller type	21x6.5-inch fixed propeller

PAYLOAD

Vibration isolation system	Quad damper system
Battery rack	Top of centerpiece below canopy

*True maximum payload based on 3x 4.500mAh battery pack. With 2x 17.000mAh flight time will be longer, but maximum payload is limited to 2.8kg.

Section 02

Product Specifications

AVIONICS

Flight controller	Cube flight controller
Version	Orange
Operating temperatures	-40°C (-40°F) to + 8v5°C (185°F)

FLIGHT BATTERY

Energy type	Electrical
Battery	Lithium Polymer
Recommended make and models	Tattu 4500mAh, 10000mAh, 17000mAh,
Nominal battery voltage	22.2 V/ 6S
Minimum battery quantity	2 battery packs parallel
Maximum battery voltage	25.2V
Minimum average battery voltage	21.0V

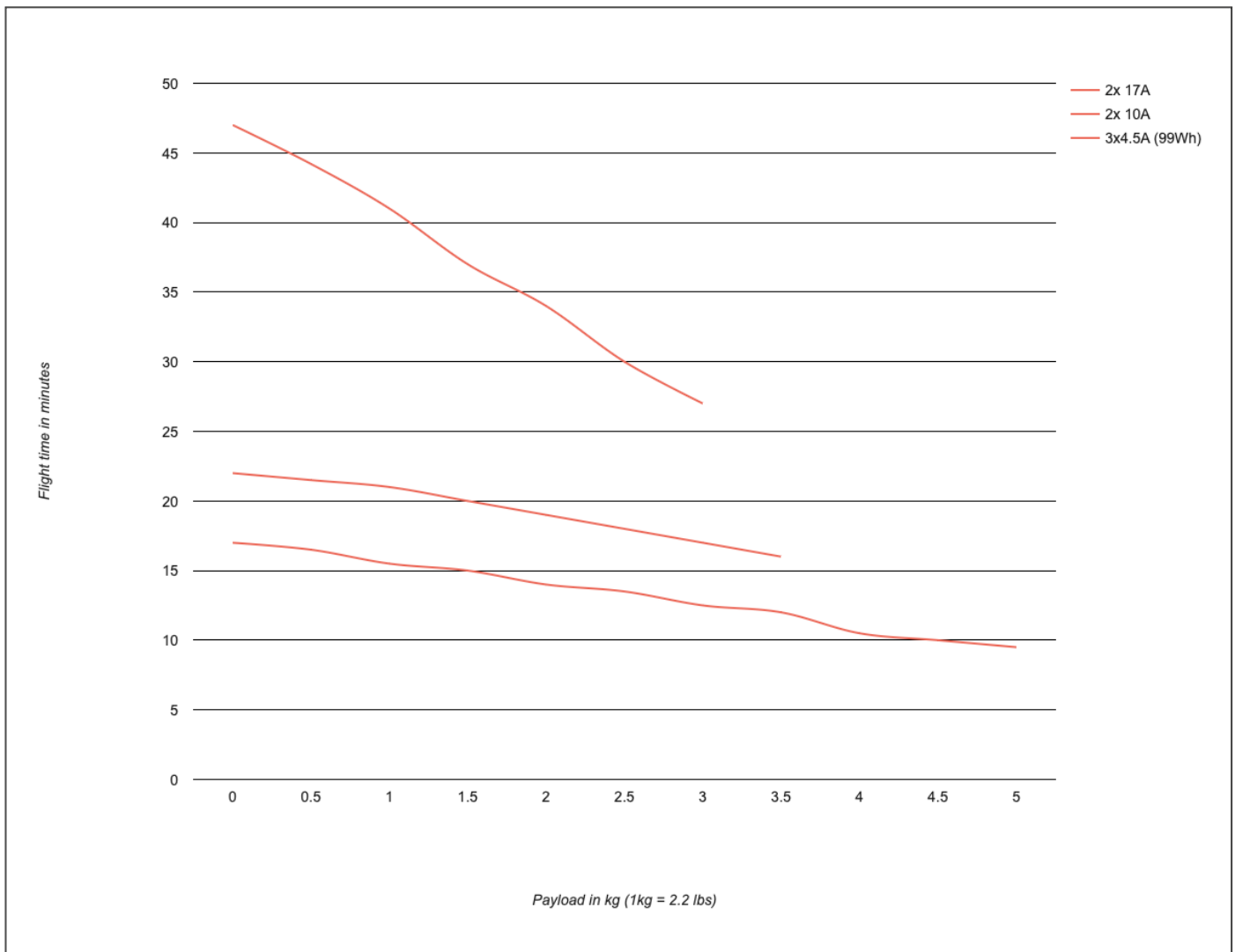
GPS/ ANTENNA

Module	u-blox F9P high precision Multi-band navigation
Chip	STM32H7
Frequency support	L1, L2, E5
GNSS systems	BeiDoe, Galileo, GLONASS, GPS, QZSS
Anti-jamming	Active CW detection and removal
Anti-spoofing	Onboard band pass filter Advanced anti-spoofing algorithms

Section 03 Flight table

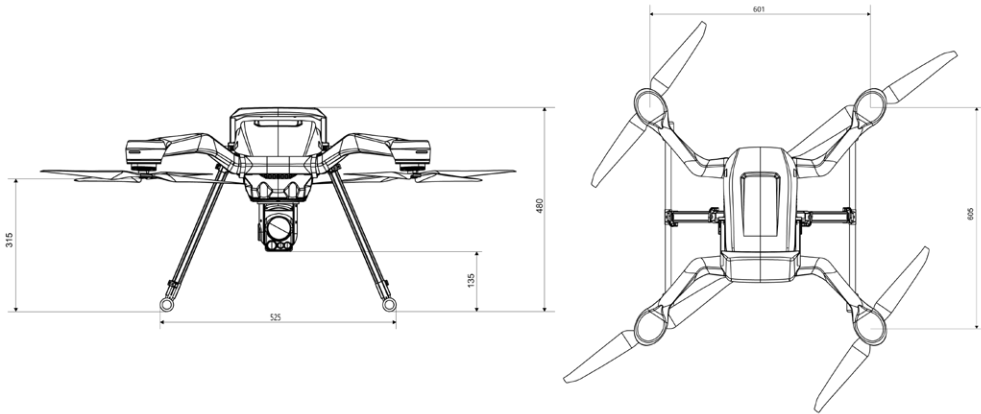
FLIGHT TIMES

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.



Section 04

Physical



DIMENSIONS

Frame dimensions	(lwxh) 693x682x480 mm
Rotor to rotor diagonal	970 mm
Diameter with propellers	1310 mm
Height up to payload quick release	202 mm
Ground clearance to propeller	315 mm

WEATHER LIMITATIONS

Maximum operating temperature	+50°C
Minimum operating temperature	-15°C
Maximum flight endurance	47 min
Maximum wind speed	29 knots / 14.9 m/s continuous
Maximum wind gusts	33 knots
Maximum precipitation	Moderate rain conditions, although it is recommended to fly in dry conditions.
Maximum downfall	10 mm/h, 30mm/3h

Section 05 Flight limitations

FLIGHT LIMITATIONS

Maximum pitch/ roll angle	45 Degrees from horizontal
Maximum yaw rate	150 Degrees a second
Maximum flight speed	91km/h horizontal
Flight modes	GPS mode – Atti tude mode – Auto mode – Brake – Stabilize
Typical ascent	5m/s
Typical descent	4m/s
Hovering accuracy	Vertical 0.05m/ Horizontal 0.05m
RTL cruise speed	Variable from 3 m/s to 9 m/s



Section 06

GCS and Radio

GROUND CONTROL STATION

Make	Panasonic
Model	Toughpad FZ-M1
Weather Resistance	IP65
Operating System	Windows 10
RAM	8GB
Battery	Hot-swappable

RADIO OPTIONS

Doodle Labs smart radio	900 + 1626 - 2510 + 5800 MHz
Silvus Streamcaster	900 - 928 + 1350 - 5975 MHz
Persistent Systems MPU5	1350 - 6000 MHz
Available Bands	S and L band
Network Type	Mesh

