



ALTA 8

SPECIFICATIONS

DIMENSIONS

Unfolded Diameter
(does not include Props) 1325 mm

Folded Diameter
(does not include Props) 660 mm

Height to base of Toad In The Hole
(TITH) 263 mm

POWERPLANT

Number of Motors 8

Motor Type Direct Drive 3-Phase PMAC
Outrunner

Motor Make and Model Freefly F45

Motor Max Continuous Power Output	350 W
Motor Max Instantaneous Peak Power Output	950 W
Max RPM (flat rated)	6300 RPM
Equivalent Kv	384
Electronic Speed Controller	Freefly Silent-Drive Sine Wave ESC

PROPELLERS

Make and Model	Freefly ALTA Propeller
Material	Carbon fiber with balsa core
Propeller Orientation	(4) CW and (4) CCW Props
Propeller Type	18 x 6 Folding

BATTERY

Nominal Battery Voltage	6S / 22.2V
Maximum Battery Size	240 x 180 x 80 mm
Maximum Battery Quantity	2 Battery Packs (Parallel)
Minimum Battery Quantity	2 Battery Packs (Parallel)
Battery Connectors	2x EC5 (Parallel)
Required Minimum Battery Discharge Rating	250A / 500A Peak

WEIGHTS

Maximum Gross for Takeoff ¹	18.1 kg (40.0 lbs)
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Maximum Useful Load² 12.0 kg (26.4 lbs)

Maximum Payload³ 9.1 kg (20.0 lbs)

Typical Standard Empty Weight 6.2 kg (13.6 lbs)

WARNING

Always refer to the following aircraft limitations section for complete information on allowable maximum gross weights at different altitudes and temperatures before any flight.

SPECIFIC LOADINGS

Typical Specific Power⁴ 145 W/kg

Thrust Ratio at Max Takeoff Weight (MTOW)¹ 1.85 : 1

FLIGHT CONTROLLER

Model Name Freely SYNAPSE Flight Controller

Flight Modes Manual

Height Hold Mode

Position Mode

Return-To-Home

Autoland

Supported Inputs DSMX, DSM2, S.Bus, S.Bus2, PPM, FPV SD

Supported Radios Futaba S.Bus & S.Bus2

DSMX, DSM2 (Spektrum/JR)

PPM, PPM Invert, PPM Graupner

Supported Radio Controller Telemetry Systems Futaba w/ built-in voltage sense port

Minimum Radio Controller Channels Required	>5
Supported GNSS	GPS, GLONASS, Galileo
Supported SBAS	QZSS, WAAS, EGNOS, MSAS
First-Person View System Video Formats	NTSC, PAL
Supported First-Person View Transmitters	Skyzone BOSCAM Immersion RC Fatshark
Supported First-Person View Cameras	Ready Made RC
First-Person View OSD Telemetry	User Configurable
Installed Transceivers	Wi-Fi
Data Logging Rate	25 Hz

LIGHTING AND INDICATION

Status Light	1-Watt Red, 1-Watt White LED
Orientation Lights	3-Watt RGB LED
Orientation Light Color	Red, Yellow, Blue, Green, White

ISOLATION SYSTEM

Vibration Isolation System	Silicone O-Rings
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ISOLATION SYSTEM OPTIONS:

1. Soft/Light Payloads	Red O-Rings
2. Medium/Mid Payloads	Teal O-Rings

3. Stiff/Heavy Payloads Black O-Rings

PAYLOAD MOUNTING

Mounting Locations	Bottom and Top Mount
Mounting System	Freely Toad In The Hole (TITH) Quick Release
FPV Camera Mount	Between booms 8 & 1
FPV Transmitter Mount	Boom 2

NOTE

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

POWERPLANT LIMITATIONS

Maximum RPM	6300 RPM
Maximum Battery Voltage	25.2 Volts
Minimum Average Battery Voltage	19.2 Volts

ENVIRONMENTAL LIMITATIONS

Do not fly ALTA 8 in temperatures exceeding 45°C (113°F) or below -20°C(-4°F).⁵

FLIGHT CONTROLLER LIMITS

Maximum Pitch/Roll Angle	45°
Maximum Yaw Rate	150° / second

- 1 At sea level, standard conditions.
- 2 Top and bottom mount. Includes batteries.
- 3 Payload weight top or bottom mount. Battery weight not included and

mounted on opposite side from payload in typical configurations.

- 4 At maximum takeoff weight, sea level, standard conditions.
- 5 Must additionally observe battery temperature ratings.