

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
Maximum 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 × 6 Folding

BATTERY

Nominal Battery Voltage	6S / 22.2V
Maximum Battery Size (GroundView)	240 × 175 × 80 mm
Maximum Battery Size (SkyView)	220 x 156 x 64 mm
Maximum Battery Quantity	2 Battery Packs (Parallel)
Minimum Battery Quantity	2 Battery Packs (Parallel)
Battery Connectors	2× EC5 (Parallel)
Required Minimum Battery Discharge Rating (Per Pack)	250A / 500A Peak

WEIGHTS

Maximum Gross for Takeoff ¹	18.1 kg (40.0 lbs)
Maximum Useful Load ²	12.0 kg (26.4 lbs)
Maximum Payload ³	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 Power ⁴	145 W/kg
Thrust Ratio at MTOW ¹	1.85 : 1

¹ At sea level, ISA. Refer to the Weight Limitations section for complete loading information.

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.

⁴ At MTOW, sea level, ISA.

FLIGHT CONTROLLER

Model Name	Freefly SYNAPSE flight controller
Flight Modes	Manual, Height Mode, Position Mode (Classic, Kinematic), Return-to-Home (RTH), Autoland, Orbit Mode
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, ImmersionRC, Fat Shark
Supported First-Person View Cameras	Ready Made RC (RMRC-700XVN Recommended)
First-Person View OSD Telemetry	User Configurable
Installed Transceivers	Wi-Fi 2.4 GHz b/g/n
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 Options	Red, Yellow, Blue, Purple, Green, White, Off

ISOLATION SYSTEM

Vibration Isolation System	O-Rings
Option 1: Soft / Light Payloads	Red O-Rings
Option 2: Medium / Medium Payloads	Teal O-Rings
Option 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

LIMITATIONS

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

⁵Battery temperature ratings must be observed.

WEIGHT LIMITS

Maximum Payload

9.1 kg (20.0 lbs)

Maximum Takeoff Weight

See following table

ALTA 8 ALLOWABLE GROSS WEIGHT

As altitude and temperature increase, the density of the air decreases. Consequently, ALTA 8's thrust will decrease. The following table describes maximum gross weight limits with respect to altitude and temperature.

Press Alt	0°C (32°F)		10°C (50°F)		20°C (68°F)		30°C (86°F)		40°C (104°F)	
	Maximum Gross Weight (lb)	Maximum Gross Weight (kg)	Maximum Gross Weight (lb)	Maximum Gross Weight (kg)	Maximum Gross Weight (lb)	Maximum Gross Weight (kg)	Maximum Gross Weight (lb)	Maximum Gross Weight (kg)	Maximum Gross Weight (lb)	Maximum Gross Weight (kg)
Sea Level	40.0	18.1	40.0	18.1	39.3	17.8	38.0	17.2	36.8	16.7
305m (1000ft)	40.0	18.1	39.3	17.8	37.9	17.2	36.7	16.6	35.5	16.1
610m (2000ft)	39.2	17.8	37.8	17.2	36.6	16.6	35.4	16.0	34.2	15.5
914m (3000ft)	37.8	17.2	36.5	16.5	35.2	16.0	34.1	15.5	33.0	15.0
1219m (4000ft)	36.4	16.5	35.2	15.9	34.0	15.4	32.8	14.9	31.8	14.4
1524m (5000ft)	35.1	15.9	33.9	15.4	32.7	14.8	31.6	14.3	30.6	13.9
1829m (6000ft)	33.8	15.3	32.6	14.8	31.5	14.3	30.5	13.8	29.5	13.4
2134m (7000ft)	32.6	14.8	31.4	14.2	30.3	13.8	29.3	13.3	28.4	12.9
2438m (8000ft)	31.3	14.2	30.2	13.7	29.2	13.2	28.2	12.8	27.3	12.4
2743m (9000ft)	30.2	13.7	29.1	13.2	28.1	12.7	27.2	12.3	26.3	11.9
3048m (10000ft)	29.0	13.2	28.0	12.7	27.0	12.3	26.1	11.9	25.3	11.5