

Light Show Formation Drone PRO

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Overview

The Light Show Formation Drone PRO is a compact, long-endurance, and highly reliable quadcopter platform designed specifically for synchronized aerial light shows. It features a **carbon fiber and aluminum alloy composite structure** and integrates advanced systems, including the **FC-2M dual-redundant flight control system**, multi-frequency RTK module, dual-redundant data transmission modules, a high-efficiency propulsion system, and a high-brightness RGB lighting module.

Key Features

Portability: Compact size for easy transport and rapid deployment.

Expandability: Supports accessories like sky lanterns, smoke sticks, and fireworks.

Safety: Fully enclosed propeller design for enhanced operational safety.

High Reliability: FC-2M dual-redundant flight control system with backup gyroscopes, accelerometers, and magnetometers.

Precision Positioning: Multi-frequency RTK module with **1 cm + 1 ppm CEP** real-time accuracy¹.

High-Speed Performance: Maximum horizontal flight speed of **10 m/s**.

Environmental Resilience: Operates in winds ≤ 10 m/s and temperatures from **-20°C to 60°C**.

Extended Show Time: Up to **14 minutes** of performance flight time.

Anti-Interference: Dual-redundant data links with dual-band operation ensure reliable communication up to **3 km²**.

Automation: Auto-status checks with LED indicators; remote wake/sleep via ground station software.

Dynamic Lighting: 24W high-power RGB LED module with **millions of color combinations**.

Technical Specifications

Aircraft

Parameter	Details
Dimensions	416 × 416 × 181 mm
Wheelbase	283 mm
Standard Takeoff Weight	657 g
GNSS	184-channel: GPS L1C/A L2C, GLO L1OF L2OF, GAL E1B/C E5b, BDS B1I B2I, QZSS L1C/A L1S L2C, SBAS L1C/A
Positioning Accuracy ¹	1 cm + 1 ppm CEP
Max Ascent Speed	6 m/s
Max Descent Speed	6 m/s
Max Horizontal Speed	10 m/s
Max Takeoff Altitude	4000 m
Max Wind	10 m/s

Parameter	Details
Resistance	
Max Endurance³	20±1 min
Max Show Flight Time	14 min
Light Module Power	24W
Operating Temperature	-20°C to 60°C
Operating Humidity	≤85% RH (non-condensing)
Storage Temperature	0°C to 40°C
Storage Humidity	65±20% RH
Communication	Dual-redundant data link + Wi-Fi
Max Communication Range²	3 km

Battery

Parameter	Details
Type	LiPo 4S1P
Capacity	2250 mAh
Voltage	15.4 V
Energy	34.65 Wh
Weight	188 g
Charge Time	1–1.5 hours
Charge Temperature	0°C to 45°C
Storage Temperature	<3 months: -10°C to 45°C; ≥3 months: 23±5°C
Storage Humidity	65±20% RH

Notes

Positioning Accuracy: Depends on weather, baseline length, multipath effects, satellite visibility, and location.

Communication Range: Tested under interference-free, unobstructed conditions.

Endurance: Measured at 101.325 kPa, 20°C, in static air, cruising at 5 m/s outside ground effect until 3 minutes of remaining flight time.

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