EMO5

Outdoor Formation Drone · Model HG-B07 — Product Data Sheet

Doc. ref. EMO5-DS-V1 · Compiled from *EMO5 User Manual V1.1 (EN)* · 2026-09-30 · HIGH GREAT drone show product line



EMO5 — portable outdoor formation drone with box-based take-off, landing & fast charging

820 g	60 W	29 min	1.5 m	±10 mm	6 / box
AIRFRAME WEIGHT (±5 g)	RGBW LED · 2,300 lm	FLIGHT TIME (HOVER)	MIN. FLIGHT SPACING	RTK HORIZONTAL (FIX)	INTELLIGENT STORAGE BOX

KEY HIGHLIGHTS

- **Box-based take-off, landing & fast charging.** The Intelligent Storage Box holds 6 drones, charges and communicates with all 6 simultaneously, and supports precise in-box take-off & landing plus stackable transport — charging time matches flight duration for non-stop shows.
- **50% power boost.** Faster overall response and more stable flight attitude let EMO5 perform highly difficult, complex formation moves with a remarkable upgrade in control performance.
- **Intelligent connectivity at scale.** Distributed data management raises network efficiency ×6 and supports offline take-off preparation for formations of tens of thousands; Extreme Link tech lifts prep efficiency by 50%; redundant dual-network (2.4/5.8 G Wi-Fi + multi-band radio) keeps communication stable.
- **Removable 4S smart Li-ion, 29 min.** Wide-voltage adaptive design; charges in the takeoff box or via the charging cabinet; flexible switching between takeoff box, ground placement and payload / non-payload configurations.
- **200% brighter 360° light.** 0–60 W dimmable full-colour RGBW LED, automatically adjusting brightness to ambient temperature, delivers 360° all-round stunning visual effects.
- **Waterproof & cold-resistant.** Rated IP54 with a built-in body heating system — stable flight in drizzle and frigid temperatures, down to −30 °C with heating mode enabled.
- **High-precision positioning.** Built-in multi-band GNSS achieves centimetre-level positioning within seconds, concurrently receiving GPS, GLONASS, Galileo and BDS with fast convergence and strong anti-interference.
- **Comprehensive safety architecture.** Dual-safety flight system (visual + RTK); Global Swarm Remote Control lets one remote take over the entire fleet with one click; stall / low-battery / flyaway / physical protection and electronic fences; Abnormal Landing Alarm.
- **Auto Fill.** The system automatically fills vacant positions in real time when individual drones drop out of service — the show goes on.
- **Mid-Air Pause & Resume.** FlyDance can make the airborne swarm hover and pause on site, and resume flight at any time for flexible performance arrangement.
- **Dedicated FlyDance software.** Custom-developed formation control with highly integrated, full-process intelligent operation — one-click formation programming, automatic in-box numbering, easy even for beginners.
- **Wind resistance up to Level 6.** Wind-tunnel tested under hovering conditions, for dependable outdoor shows in stronger wind.

DRONE SPECIFICATIONS — HG-B07

Weight	820 g (±5 g)	**Wheelbase**	227.69 × 227.69 mm (diagonal)
Dimensions	339 × 339 × 143.95 mm	**Motor / Propeller**	2008 · 6-inch propeller
Wind resistance	≤ Level 6 (hover, wind-tunnel tested)	**Max takeoff altitude**	Not specified in User Manual V1.1 ①
Positioning	Vision + RTK dual-mode	**Positioning accuracy**	RTK: H ±10 mm, V ±15 mm (Fix); Vision: H ±0.5 m, V ±1 m
Battery	Smart Li-ion 4S · 14.4 V · 5,000 mAh (rated) / 4,850 mAh (design) · ≈353 g · removable	**Box charging**	5–80% ≈35 min, 5–99% ≈45 min (adapter); in-box quick charge 5–80% ≈20 min
Flight time	29 min (hover, 2 m, lights off)	**Suggested show duration**	≤ 20 min
Max flight speed	18 m/s H · 6 m/s up · 6 m/s down	**Dance-step speed (max)**	8 m/s H · 6 m/s up · 6 m/s down
Light	RGBW full-colour LED · 60 W max · 2,300 lm	**Min. flight spacing**	1.5 m
Takeoff method	Takeoff box or ground placement	**Max tilt angle**	40°
Communication	Radio / WiFi · Radio ≤ 1.5 km, WiFi ≤ 1,000 m	**Working temperature**	−10 ~ 45 °C (−30 °C w/ heating mode)
Protection rating	IP54	**Noise (ground obs.)**	83–86 dB(A) (hover / 3 m/s) ②

① Max takeoff altitude is not stated in EMO5 User Manual V1.1 (EMO MINI and RIFF list 3,000 m). Confirm with the factory before high-altitude operations. ② Tested on an open outdoor area with concrete ground. All data measured in a standard experimental environment; figures may vary in different environments.

EMO5 — Supporting Systems & Specifications (continued)

INTELLIGENT STORAGE BOX (TAKEOFF BOX)

Capacity	Up to 6 drones; simultaneous charging + communication for 6; Power-protection / Fast-charge switch; precise in-box take-off & landing; stackable	**Input / Output**	EMO5 Battery / Power Bank / Adapter · 48 V, 50 A in · 48 V out
Charging current	Quick Charge 12 A · Power Protection 0.5 A	**Full load power**	2,300 W
Operating temp.	−10 ~ 45 °C	**Weight**	9.33 kg (±0.02)
Dimensions	1,450 × 900 × 206 mm (±3)		
Charging time	Dual EMO5 Battery ≈1.5 h (power protection + debug) · Power Bank quick charge 5–80% ≈20 min / 5–99% ≈35 min · Adapter 5–80% ≈35 min / 5–99% ≈45 min (6 drones loaded, lights off, 25 °C)		

BATTERY CHARGING BOX (CABINET)

Input	90–264 V AC, 47–63 Hz, 8.5 A max @ full load	**Full load power**	2,000 W
Capacity	Charges up to 32 × 4S batteries simultaneously; ≈2 h full charge from zero	**Operating temp.**	0 ~ 40 °C (best in air-conditioned room)
Dimensions	633 × 502 × 227 mm (±3)	**Weight**	≈13.22 kg (±0.1)

RTK BASE STATION

GNSS	Mosaic-X5 — BDS / GPS / GLONASS / Galileo / SBAS / QZSS, full-frequency	**Radio range**	SubGHz 1,438–1,444 MHz ≤1,500 m · 2.4–2,483.5 MHz ≤1,000 m · WiFi 2.4/5.8 GHz ≤300 m
Power	DC 20 V 3.25 A; built-in 11.1 V 7,000 mAh; PD fast charge ≈4 h (65 W max)	**Endurance**	Tri-band simultaneous operation ≈6 h
Operating temp.	−10 ~ +50 °C	**Protection**	IP54 · Aluminum alloy case · 1.95 kg

RADIO & WIFI OPERATING FREQUENCIES (PER REGION)

WiFi	2.412–2.472 GHz <10 mW/MHz (MIC) · 5.725–5.850 GHz <14 dBm (CE) · 5.725–5.829 GHz ≤30 dBm (SRRC) · 5.745–5.825 GHz ≤30 dBm (FCC)
Radio — CN	2,400–2,476 MHz · 1,430–1,444 MHz
Radio — EU / US	EU 863.15–869.85 MHz · US 902.5–927.5 MHz
Radio — other	AU 915.6–927.6 · JP 920.6–928 · BR 902.4–906.8 & 915.6–927.6 · RU 806–826 MHz

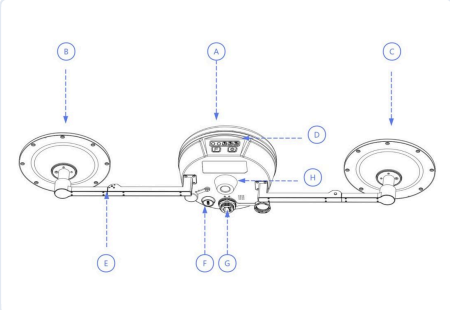
SOFTWARE & SAFETY

- **FlyDance.** Dedicated formation-control software: one-click programming, automatic in-box numbering, mid-air pause/resume, Auto Fill.
- **Part of HIGH GREAT's suite.** Works within the company's FlyDance / SkyShow / SkyShow3D / Butterfly AI formation-control ecosystem.
- **Dual-safety flight system.** Visual positioning + RTK dual-mode navigation with strong anti-interference.
- **Global Swarm Remote Control.** One remote takes over the entire fleet with one click for emergency protection.
- **Full-round safety mechanisms.** Stall / low-battery / flyaway / physical protection and electronic fences.
- **Abnormal Landing Alarm.** ESCs trigger an alarm and force lights on automatically after an abnormal landing.

IP54 waterproof | **Heating mode −30 °C** | **Wind Level 6** | **RTK cm-level** | **Auto Fill** | **FlyDance** | **Mosaic-X5 GNSS**







Intelligent Storage Box (6-drone takeoff/charging) · Battery Charging Cabinet (32 batteries) · RTK Base Station