

Survey Drone with Accessories

1. Aircraft

Weight

- **Takeoff Weight (Standard Propellers):** 1219 g
- **Takeoff Weight (Low-Noise Propellers):** 1229 g
- **Max Takeoff Weight:**
 - Standard Propellers: 1420 g
 - Low-Noise Propellers: 1430 g

Dimensions

- **Folded:** $260.6 \times 113.7 \times 138.4$ mm
- **Unfolded:** $307.0 \times 387.5 \times 149.5$ mm
- *Maximum dimensions exclude propellers.*

Payload

- **Max Payload:** 200 g
- **Propeller Size:** 10.8 in
- **Diagonal Wheelbase:** 438.8 mm

Flight Performance

- **Max Ascent Speed:** 10 m/s
- **Max Ascent Speed (with accessories):** 6 m/s
- **Max Descent Speed:** 8 m/s
- **Max Descent Speed (with accessories):** 6 m/s
- **Max Horizontal Speed:**
 - 21 m/s forward
 - 18 m/s backward
 - 19 m/s sideways
- **Max Altitude:** 6000 m
- **Max Operating Altitude (with payload):** 4000 m
- **Max Flight Time:**
 - 49 min (standard props)
 - 46 min (low-noise props)
- **Max Hover Time:**
 - 42 min (standard props)
 - 39 min (low-noise props)
- **Max Flight Distance:**
 - 35 km (standard props)
 - 32 km (low-noise props)
- **Max Wind Resistance:** 12 m/s
- **Max Pitch Angle:** 35°
- **Operating Temperature:** -10°C to 40°C

GNSS

- GPS + Galileo + BeiDou + GLONASS
- *GLONASS only when RTK module enabled.*

Hovering Accuracy

- Vision System: ± 0.1 m
- GNSS: ± 0.5 m
- RTK: ± 0.1 m

RTK Accuracy

- Horizontal: 1 cm + 1 ppm
- Vertical: 1.5 cm + 1 ppm

Ports

- **E-Port:** 1 (official & PSDK devices; no hot-swap)
- **E-Port Lite:** 1 (USB connection to tuning software & some PSDK devices)

Propeller Models

- Standard: 1157F
- Low-Noise: 1154F

Beacon

- Built-in

2. Camera Systems

- **Wide:** 1/1.3" CMOS, 48 MP
- **Medium Tele:** 1/1.3" CMOS, 48 MP
- **Telephoto:** 1/1.5" CMOS, 48 MP

Lens Specifications

- FOV: 82°
- 24 mm equivalent
- f/1.7
- Focus: 1 m – ∞

Medium Tele

- FOV: 35°
- 70 mm equivalent
- f/2.8
- Focus: 3 m – ∞

Telephoto

- FOV: 15°
- 168 mm equivalent
- f/2.8
- Focus: 3 m – ∞

ISO Range

Normal Mode

- ISO 100–25600

Night Scene Mode

- Wide: ISO 100–409600
- Medium Tele: ISO 100–409600
- Tele: ISO 100–819200

Shutter Speed

- 2–1/8000 s

Max Photo Resolution

- Wide: 8064×6048
- Medium Tele: 8064×6048
- Tele: 8192×6144

Video

- **Codec:** H.264 / H.265
- **Resolution:**
 - 4K 3840×2160 @ 30 fps
 - FHD 1920×1080 @ 30 fps
- **Max Bitrate:**
 - H.264: 60 Mbps
 - H.265: 40 Mbps
- **Format:** MP4

Digital Zoom

- Telephoto: 16× (112× hybrid)

3. Infrared Thermal Camera Sensor

- Uncooled VOx
- **Resolution:** 640×512
- **Pixel Pitch:** 12 μm

- **Frame Rate:** 30 Hz

Lens

- DFOV: 45°
- Equivalent focal length: 53 mm
- f/1.0
- Focus: 5 m – ∞

Sensitivity

- ≤ 50 mK @ f/1.0

Temperature Measurement

- **High Gain:** -20°C to 150°C
- **Low Gain:** 0°C to 550°C
- **Accuracy:**
 - High Gain: $\pm 2^{\circ}\text{C}$ or $\pm 2\%$
 - Low Gain: $\pm 5^{\circ}\text{C}$ or $\pm 3\%$

Formats

- Photo: JPEG (8-bit), R-JPEG (16-bit)
- Video:
 - 1280×1024 @ 30 fps (Super Resolution ON)
 - 640×512 @ 30 fps

Digital Zoom

- 28×

4. Gimbal

Type

- 3-axis (tilt, roll, pan)

Mechanical Range

- Tilt: -140° to 113°
- Roll: -52° to 52°
- Pan: -65° to 65°

Controllable Range

- Tilt: -90° to 35°
- Pan: Not controllable

Max Control Speed

- $100^{\circ}/\text{s}$

Angular Vibration

- $\pm 0.007^{\circ}$

5. Sensing System

Type

- Omnidirectional binocular vision + downward 3D infrared

Obstacle Sensing Ranges

- Forward/Backward: 0.4–22.5 m
- Lateral: 0.5–32 m
- Downward: 0.3–18.8 m

Obstacle Avoidance Speed

- ≤ 21 m/s (horizontal)
- ≤ 10 m/s (downward)

6. Video Transmission

Live View

- 1080p @ 30 fps

Frequencies

- 2.4 GHz
- 5.8 GHz
- 5.15–5.25 GHz (CE)

Max Transmission Distance

- 25 km (FCC)
- 12 km (CE/SRRC/MIC)

Max Download Speed

- 20 MB/s

Latency

- ~130 ms

Antenna

- 8 antennas, 2T4R

7. Storage

- **Internal:** None
- **microSD:** U3/Class10/V30 or above
- **Recommended Cards:** Lexar 1066x, Kingston Canvas Go! Plus (512 GB)

8. Battery (Intelligent Flight Battery)

- **Capacity:** 6741 mAh
- **Voltage:** 14.76 V
- **Energy:** 99.5 Wh
- **Weight:** 401 g

- **Charging Temp:** 5°C–40°C
- **Cycle Count:** 200
- **Max Charging Power:** 1.8C

9. Charging Hub

Input: USB-C (5–20 V, up to 5 A)

Rated Power: 100 W

Charging Method: Sequential (one battery at a time)

Charging Modes:

- **Standard Mode:** Charges all batteries to 100%
- **Ready-to-Fly Mode:** Charges each battery to 90% for faster turnaround

Battery Slots: 4

Safety Features:

- Over-voltage protection
- Over-current protection
- Short-circuit protection
- Temperature protection

Indicators: LED status indicators

Use Case: Field operations requiring continuous battery rotation

9. 100W USB-C Power Adapter

Input: 100–240 V AC, 50/60 Hz

Output:

- USB-C PD up to **100 W**
- Features:**
- Fast charging
 - Over-current, over-voltage, and temperature protection

10. RC Plus 2 Enterprise Controller

Display:

- **7.02-inch** touchscreen
- **1920 × 1200** resolution
- **1400 nits** brightness (sunlight-readable)
- **60 fps** refresh rate

Transmission System:

- Max range: **25 km (FCC)**
- 1080p @ 30 fps live view
- 8-antenna system (2T4R)

Batteries:

- **Internal:** 6500 mAh
- **External:** WB37 (optional hot-swap)

Operating Time:

- Internal only: **3.8 hours**
- With external WB37: **3.2 hours additional**

Ports:

- HDMI 1.4
- USB-C (OTG + PD 65W)
- USB-A
- microSD slot