

# P4 Multispectral

## Aircraft

- **Takeoff Weight**
  - 1487 g
- **Diagonal Distance (Propellers Excluded)**
  - 350 mm
- **Max Service Ceiling Above Sea Level**
  - 19685 ft (6000 m)
- **Max Ascent Speed**
  - 6 m/s (automatic flight); 5 m/s (manual control)
- **Max Descent Speed**
  - 3 m/s
- **Max Speed**
  - 31 mph (50 kph) (P-mode); 36 mph (58 kph) (A-mode)
- **Max Flight Time**
  - Approx. 27 minutes
- **Operating Temperature**
  - 0° to 40° C (32° to 104° F)
- **Operating Frequency**
  - 2.4000 GHz to 2.4835 GHz (Europe, Japan, Korea)
  - 5.725 GHz to 5.850 GHz (Other countries/regions)<sup>[1]</sup>
- **Transmission Power (EIRP)**
  - 2.4 GHz: < 20 dBm (CE / MIC / KCC)
  - 5.8 GHz: < 26 dBm (FCC / SRRC / NCC)
- **Hover Accuracy Range**
  - RTK enabled and functioning properly:
    - Vertical: ± 0.1 m; Horizontal: ± 0.1 m
  - RTK disabled:
    - Vertical: ± 0.1 m (with vision positioning); ± 0.5 m (with GNSS positioning)
    - Horizontal: ± 0.3 m (with vision positioning); ± 1.5 m (with GNSS positioning)
- **Image Position Compensation**

- The relative positions of the centers of the six cameras' CMOS and the phase center of the onboard D-RTK antenna have been calibrated and are recorded in the EXIF data of each image.

## Mapping Functions

### • Ground Sample Distance (GSD)

- $(H/18.9)$  cm/pixel, H indicates the aircraft altitude relative to the area mapped (unit: m)

### • Rate of Data Collection

- Max operating area of approx. 0.63 km<sup>2</sup> for a single flight at an altitude of 180 m, i.e., GSD is approx. 9.52 cm/pixel, with a forward overlap rate of 80% and a side overlap ratio of 60%, during a flight that drains the battery from 100% to 30%.

## GNSS

### • Single-Frequency High-Sensitivity GNSS

- GPS + BeiDou + Galileo<sup>[2]</sup> (Asia); GPS + GLONASS + Galileo<sup>[2]</sup> (other regions)

### • Multi-Frequency Multi-System High-Precision RTK GNSS

- Frequency Used

GPS: L1/L2; GLONASS: L1/L2; BeiDou: B1/B2; Galileo<sup>[2]</sup>: E1/E5

First-Fixed Time: < 50 s

Positioning Accuracy: Vertical 1.5 cm + 1 ppm (RMS); Horizontal 1 cm + 1 ppm (RMS).

1 ppm indicates error with a 1 mm increase over 1 km of movement.

Velocity Accuracy: 0.03 m/s

## Gimbal

### • Controllable Range

- Tilt: -90° to +30°

## Vision System

### • Velocity Range

- ≤ 31 mph (50 kph) at 6.6 ft (2 m) above ground with adequate lighting
- **Altitude Range**
  - 0 - 33 ft (0 - 10 m)
- **Operating Range**
  - 0 - 33 ft (0 - 10 m)
- **Obstacle Sensory Range**
  - 2 - 98 ft (0.7 - 30 m)
- **Operating Environment**
  - Surfaces with clear patterns and adequate lighting (> 15 lux)

## Camera

- **Sensors**
  - Six 1/2.9" CMOS, including one RGB sensor for visible light imaging and five monochrome sensors for multispectral imaging.  
Each Sensor: Effective pixels 2.08 MP (2.12 MP in total)
- **Filters**
  - Blue (B): 450 nm ± 16 nm; Green (G): 560 nm ± 16 nm; Red (R): 650 nm ± 16 nm; Red edge (RE): 730 nm ± 16 nm; Near-infrared (NIR): 840 nm ± 26 nm
- **Lenses**
  - FOV (Field of View): 62.7°  
Focal Length: 5.74 mm (35 mm format equivalent: 40 mm), autofocus set at ∞  
Aperture: f/2.2
- **RGB Sensor ISO Range**
  - 200 - 800
- **Monochrome Sensor Gain**
  - 1 - 8x
- **Electronic Global Shutter**
  - 1/100 - 1/20000 s (visible light imaging); 1/100 - 1/10000 s (multispectral imaging)
- **Max Image Size**
  - 1600×1300 (4:3.25)
- **Photo Format**
  - JPEG (visible light imaging) + TIFF (multispectral imaging)
- **Supported File Systems**
  - FAT32 (≤ 32 GB); exFAT (> 32 GB)

- **Supported SD Cards**

- microSD with a minimum write speed of 15 MB/s. Max Capacity: 128 GB. Class 10 or UHS-1 rating required

- **Operating Temperature**

- 0° to 40° C (32° to 104° F)

## Remote Controller

- **Operating Frequency**

- 2.4000 GHz to 2.4835 GHz (Europe, Japan, Korea)
- 5.725 GHz to 5.850 GHz (Other countries/regions)<sup>[1]</sup>

- **Transmission Power (EIRP)**

- 2.4 GHz: < 20 dBm (CE / MIC / KCC)
- 5.8 GHz: < 26 dBm (FCC / SRRC / NCC)

- **Max Transmission Distance**

- FCC / NCC: 4.3 mi (7 km)
- CE / MIC / KCC / SRRC: 3.1 mi (5 km)(Unobstructed, free of interference)

- **Built-in Battery**

- 6000 mAh LiPo 2S

- **Operating Current / Voltage**

- 1.2 A @ 7.4 V

- **Mobile Device Holder**

- Tablets and smartphones

- **Operating Temperature**

- 0° to 40° C (32° to 104° F)

## Intelligent Flight Battery (PH4-5870mAh-15.2V)

- **Capacity**

- 5870 mAh

- **Voltage**

- 15.2 V

- **Battery Type**

- LiPo 4S

- **Energy**

- 89.2 Wh
- **Net Weight**
  - 468 g
- **Operating Temperature**
  - -10° to 40° C (14° to 104° F)
- **Charging Temperature**
  - 5° to 40° C (41° to 104° F)
- **Max Charging Power**
  - 160 W

## Intelligent Flight Battery Charging Hub (PHANTOM 4 CHARGING HUB)

- **Voltage**
  - 17.5 V
- **Operating Temperature**
  - 5° to 40° C (41° to 104° F)

## AC Power Adapter (PH4C160)

- **Voltage**
  - 17.4 V
- **Rated Power**
  - 160 W

## NOTE

- - [1] To comply with local laws and regulations, this frequency is not available in some countries or regions.
  - [2] Support for Galileo is coming soon.