



# PHANTOM 4 MULTISPECTRAL

## Plant Intelligence for Targeted Action.

A high-precision drone with a seamlessly integrated multispectral imaging system.

### AIRCRAFT

<b>Take-off Weight:</b>	1 487 g	<b>Diagonal Distance:</b>	350 mm
<b>Max Service Ceiling:</b>	6 000 m Above Sea Level	<b>Max Ascent Speed:</b>	6 m/s (automatic flight) 5 m/s (manual control)
<b>Max Descent Speed:</b>	3 m/s	<b>Max Flight Time:</b>	Approx. 27 minutes
<b>Max Speed:</b>	50 km/h [P-mode] 58 km/h [A-mode]	<b>Operating Temperature:</b>	0° to 40°C
<b>Operating Frequency:</b>	2.400 GHz to 2.483 GHz (Europe, Japan, Korea) 5.725 GHz to 5.850 GHz (United States, China)	<b>Transmission Power (EIRP):</b>	
		2.4 GHz < 20 dBm	CE/MIC/KCC
		5.8 GHz < 26 dBm	FCC/SRRC/NCC
<b>Hover Accuracy Range:</b>	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 on-board D-RTK antenna have been calibrated and are recorded in the EXIF data of each image.

### MAPPING FUNCTION

**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

<b>Single-Frequency, High-Sensitivity GNSS Module:</b>	GPS, BeiDou, Galileo (Asia)   GPS, GLONASS, Galileo (other regions)
<b>Multi-Frequency Multi-System High-Precision RTK GNSS:</b>	GPS (L1/L2) ; GLONASS (L1/L2) ; BeiDou (B1/B2) ; Galileo (E1/E5a)
<b>First-Fixed Time:</b>	< 50 s
<b>Velocity Accuracy:</b>	0.03 m/s
<b>Positioning Accuracy:</b>	Vertical 1.5 cm + 1 ppm (RMS) Horizontal 1 cm + 1 ppm (RMS)

### GIMBAL

**Controllable Range:** -90° to +30°

### VISION SYSTEM

<b>Velocity Range:</b>	≤ 50 km/h at 2 m above ground with adequate lighting	<b>Altitude Range:</b>	0 - 10 m
<b>Operating Environment:</b>	Surfaces with clear patterns and adequate lighting (> 15 lux)	<b>Operating Range:</b>	0 - 10 m
		<b>Obstacle Sensing Range:</b>	0.7 - 30 m

#### OPTRON (Pty) Ltd

Tel: +27 12 683 4500  
Email: [info@optron.com](mailto:info@optron.com)  
Website: [www.optron.com](http://www.optron.com)

Lakefield Office Park (Building C)  
272 West Avenue, Centurion 0157  
SOUTH AFRICA

**OPTRON**

## CAMERA

<b>Sensors:</b>	Six 1/2.9" CMOS	Each Sensor: Effective pixels 2.08 MP (2.12 MP in total)	
	(1x RGB sensor for visible light imaging / 5x monochrome sensors for multispectral imaging)		
<b>Filters:</b>	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	
<b>Lenses:</b>	FOV (Field of View):	62.7°	
	Focal Length:	5.74 mm (35 mm format equivalent: 40 mm), autofocus set at ∞	
	Aperture:	f / 2.2	
<b>RGB Sensor ISO Range:</b>	200 – 800	<b>Monochrome Sensor Gain:</b>	1 - 8x
<b>Electronic Global Shutter:</b>	1/100 - 1/20000 s (visible light imaging); 1/100 - 1/10000 s (multispectral imaging)		
<b>Photo Format:</b>	JPEG (visible light imaging)	<b>Max Image Size:</b>	1600×1300 (4:3.25)
	TIFF (multispectral imaging)		
<b>Supported File Systems:</b>	FAT32 (≤ 32 GB)   exFAT (> 32 GB)	<b>Operating Temp Range:</b>	0° to 40°C
<b>Supported SD Cards:</b>	MicroSD Max Capacity: 128 GB. Class 10 or UHS-1 rating required Write speed ≥15 MB/s		

## REMOTE CONTROLLER

<b>Operating Frequency:</b>	2.400 GHz to 2.483 GHz (Europe, Japan, Korea)	<b>Transmission Power (EIRP):</b>	2.4 GHz CE < 20 dBm (CE/MIC/KCC)
	5.725 GHz to 5.850 GHz (United States, China)		5.8 GHz SRRC < 26 dBm (FCC/SRRC/NCC)
<b>Max Transmission Distance:</b>		<b>Built-in Battery:</b>	6000 mAh LiPo 2S
FCC/NCC:	7 km	<b>Operating Temperature:</b>	0° to 40°C
SRRC / CE / MIC / KCC:	5 km	<b>Operating Current/Voltage:</b>	1.2 A @ 7.4 V
<b>Mobile Device Holder:</b>	Tablets and Smartphones		

## INTELLIGENT FLIGHT BATTERY (PH4 – 5870 mAh - 15.2V)

<b>Capacity:</b>	5870 mAh	<b>Voltage:</b>	15.2 V
<b>Battery Type:</b>	LiPo 4S	<b>Energy:</b>	89.2 Wh
<b>Net Weight:</b>	468 g	<b>Operating Temperature:</b>	-10° to 40°C
<b>Max charging Power:</b>	160 W		

## INTELLIGENT FLIGHT BATTERY CHARGING HUB (PHANTOM 4 CHARGING HUB)

<b>Voltage:</b>	17.5 V	<b>Operating Temp:</b>	5° to 40°C
-----------------	--------	------------------------	------------

## AC POWER ADAPTER (PH4C160)

<b>Voltage:</b>	17.4 V	<b>Rated Power:</b>	160 W
-----------------	--------	---------------------	-------

### OPTRON (Pty) Ltd

Tel: +27 12 683 4500  
Email: [info@optron.com](mailto:info@optron.com)  
Website: [www.optron.com](http://www.optron.com)

Lakefield Office Park (Building C)  
272 West Avenue, Centurion 0157  
SOUTH AFRICA

# OPTRON