# PHX

## Efficient Fixed-Wing Drone for Precision Data Capture

The Sentera PHX is a multi-role fixed-wing drone, specifically engineered for broad-area data collection. With up to 59 minutes of flight time and a cruise speed of 35 miles per hour, the PHX maximizes productivity by reducing time spent in the field. When paired with payloads such as the Sentera Double 4K and 65R sensors, the PHX offers a wide range of data collection capabilities to meet the needs of various applications, such as crop health monitoring, mapping, and surveying. Its rugged construction using expanded polypropylene, polycarbonate, and carbon fiber makes PHX easy, forgiving, and affordable to operate and maintain, making it a reliable and cost-effective tool for professionals.

## Key Benefits

- **Efficient Data Collection:** The PHX's ability to fly for nearly an hour at 35 mph allows for the capture of orthomosaic-quality data over 300 acres per battery.
- **High Precision:** Optional RTK GPS capabilities enable up to 3cm accuracy for critical mapping and survey applications.
- **Durability and Reliability:** Built to withstand harsh conditions, the PHX's durable design using expanded polypropylene, polycarbonate, and carbon fiber ensures long-term use and easy maintenance.
- **User Friendly:** The Fly PHX flight application has been tailor made to make operating PHX a breeze. With guided flight planning features, boundary import, live camera status, and a simple pre-flight checklist.
- **Quick Setup:** With snap-in plug-and-play payloads, the PHX can be assembled, powered on, and in the air in just minutes without the need for tools.
- **Comprehensive Support:** Sentera offers extensive online documentation, videos, U.S.-based customer support, and an online store for spare parts. SenteraCare extended warranties are also available for added peace of mind.

Transport Canada

NDAA COMPLIANT

ID

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## Key Features

- Up to 59-minute flight time
- Plug and play swappable payloads
- 2+ mile range MicroHard digital data link
- NDAA compliant
- Remote ID enabled
- 35 mph cruise speed
- Smart battery
- Live HD video
- Time of capture geotagging

## Key Use Cases

- Crop health monitoring, plant counting, and disease detection
- High-resolution imaging for detailed surveys and 3D reconstructions
- Elevation mapping, volumetrics, and monitoring of natural resources
- Infrastructure inspection
- Disaster assessment and response
- Surveying large conservation or remote areas

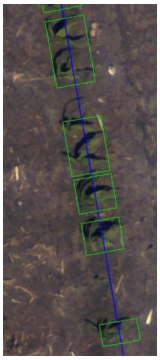

## PAYLOADS*

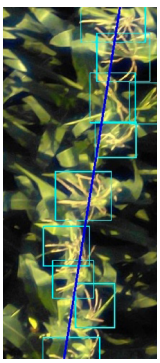
| Payload Sensor | Resolution (per imager) | Spectral Configuration (per imager) | HFOV (per imager) | Typical Use Cases |
|---|---|---|---|---|
| Sentera 65R* | 65MP Global Shutter | RGB | 58° | High-Resolution Mapping, Precision Agriculture, DSM / DEM |
| Sentera Double 4K NDVI/NDRE | 12MP<br>12MP | Red + NIR (NDVI)<br>Red Edge + NIR (NDRE) | 60°<br>60° | Crop Health Analysis, NDVI / NDRE Mapping |
| Sentera Double 4K Analytics | 12MP<br>12MP | Zoom RGB<br>Red + NIR (NDVI) | 15°<br>60° | NDVI Mapping, Yield Estimates, Stand Count, Tassel Count |
| Sentera Double 4K Ag+ | 12MP<br>12MP | RGB<br>Red + NIR (NDVI) | 60°<br>60° | RGB Mapping, NDVI Mapping |
| Sentera Double 4K Multispectral | 12MP<br>12MP | Red + Green + Blue<br>Red Edge + NIR (NDRE) | 60°<br>60° | 5-Band Multispectral Mapping, NDVI, NDRE, GNDVI, CIRE, CIG, NDWI, GLI |

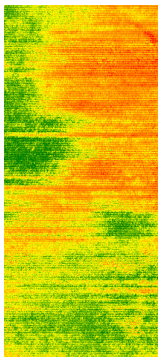
*Visit senterasensors.com/hardware/sensors/65r/ to learn more about this sensor

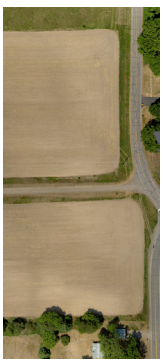
## DATA PRODUCTS

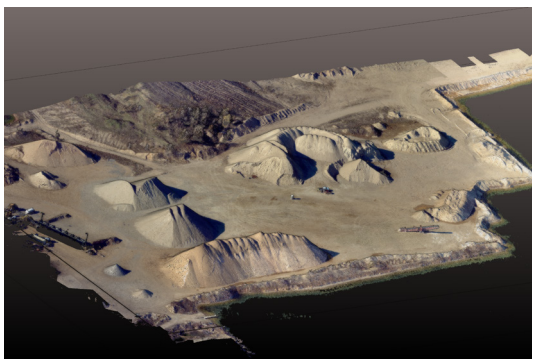

DEM/DSM/ Elevation


Stand Count


Tassle Count


Crop Health


RGB


Volumetrics/3D Reconstructions

# Fly Fast, Fly More, Fly PHX

## All-Inclusive Carry Case

- Nanuk 990 hard case with custom liner, capable of holding the aircraft, batteries, charger, and datalink
- Weighs only 26lbs fully loaded

## Real-Time Camera Connection

- Live camera status during flight, monitoring photo count, storage capacity, and GPS type
- Live HD video feed for real-time monitoring

## Flight Planning Made Easy

- Guided flight planning with import capability for SHP, KML, or FieldAgent
- Built-in camera presets with custom options
- Offline map support for planning flights from remote locations
- Flight plans can be shared across devices

## Maintenance and Warranties

- Designed for user-maintenance to avoid downtime
- Spare parts readily available online for fast, transparent access
- SenteraCare extended warranty includes access to loaner aircraft and a $0 deductible for first-time repairs

## SPECIFICATIONS**

PHX

| | |
|---|---|
| Wingspan | 54in / 137cm |
| Length | 30in / 76cm |
| Weight | 4.4lbs / 2kg |
| Material | Expanded Polypropylene, Polycarbonate, Carbon Fiber |
| Cruise Speed | 35 mph / 16 m/s |
| Flight Time | Up to 59 minutes |
| Battery | PHX Smart Battery, 99Wh, 3S |
| Autopilot | Sentera Senthawk Autopilot |
| Software | Custom PX4 |
| Flight Modes | Mission, Hold, Return to land |
| I/O | Ethernet, Serial, 5V, 12V |
| Datalink | Custom MicroHard pDDL2450, 2.4GHz, AES-128 Encryption |
| Datalink Range | 2+ Miles / 3.2+ Kilometers |
| Wind Resistance | 28 mph / 12.5 m/s |
| Temperature Limits | 14°F to 120°F / -10°C to 49°C |
| RTK Capable | Yes, up to 3cm |
| Remote ID Enabled | Yes |
| Case Size | 47.1in x 17.3in x 6.6in, Nanuk 990 with Custom Foam Liner |

**Specifications are subject to change without notice

## COVERAGE

| **Sensor** | **Max Flight Time** (with 20% battery reserve) | **Max Coverage @ 400 ft / 120 m** (70% overlap) |
|---|---|---|
| Sentera 65R | 45 minutes | 320 ac @ 0.55in/px<br>130 ha @ 1.4cm/px |
| Sentera Double 4K (NDVI / NDRE, AG+, Multispectral) | 50 minutes | 360 ac @ 1.3in/px<br>142 ha @ 3.4cm/px |
| Sentera Double 4K Analytics | 50 minutes | 360 ac @ 1.3in/px<br>142 ha @ 3.4cm/px<br>580 ac* @ 0.1in/px<br>235 ha* @ 0.28cm/px |

*Stand & Tassel Count (150ft AGL, approximately one image per acre)

# Double 4K Sensor

## Dual-Lens Innovation for Enhanced Crop Insights

Sentera's Double 4K sensor is a lightweight compact dual-imager mapping payload designed for UAS applications. The dual-lens flexibility offers the ability to capture RGB and multispectral data in a single flight. Offered in several standard lens and filter configurations, the Sentera Double 4K is ideal for diverse mapping and remote sensing applications. The Sentera Double 4K is designed to be adaptable to nearly any drone system, providing additional capabilities to the drone you already own. With a capture rate of up to two images per second the Sentera Double 4K allows the drone to fly faster and cover more area each flight. This sensor is tailor made for providing actionable, efficient, and affordable data.

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## Key Features & Benefits

- Multiple spectral band and lens configurations
- Simultaneously captures RGB and crop health maps
- Supports advanced spatial analytics (stand and tassel count)
- Ultra-high-definition 4K video at 30FPS
- Standard Metadata tags for compatibility with common image processing tools
- Time of capture geotagging

## Key Use Cases

- NDVI/NDRE crop health analysis
- RGB and multispectral mapping
- Precision agriculture (stand and tassel count)

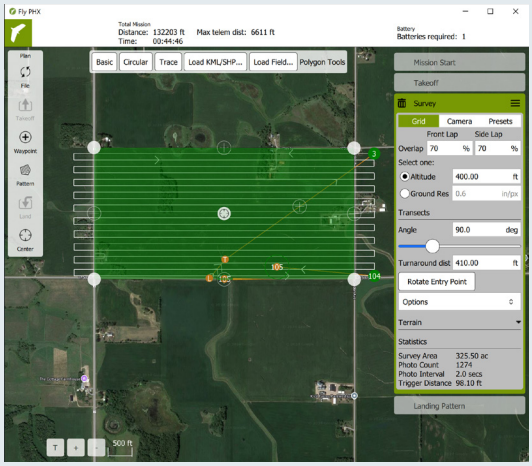
## SPECIFICATIONS** Double 4K Sensor

| | |
|---|---|
| Resolution | 2x 12MP RGB |
| Sensor | Sony Exmor R IMX377 |
| Dimensions | 2.32in x 1.61in x 1.75in |
| Weight | 80g |
| Power | 8W Typical, 12W Max |
| Field of View | 60° HFOV |
| Data Capture | 12MP Stills, 4K Ultra HD Video |
| Interfaces | Ethernet, USB 3.0, GPIO |
| Storage | 64GB SD Card, Standard Removable |

**Specifications are subject to change without notice

## Fly PHX: Flight Planning App

The Fly PHX app simplifies mission planning and flight management for the Sentera PHX. Designed for ease of use by both beginners and experienced operators, Fly PHX offers intuitive tools to ensure smooth, efficient mission execution and reliable data collection. Whether you're capturing high-resolution imagery or performing multispectral analysis, Fly PHX provides everything you need to plan, manage, and adjust your missions with confidence. Available on iPad and Windows.




## Key Features

- **Guided Flight Planning:** Streamlined mission planning with built-in camera presets or custom options. Import boundaries using SHP, KML, or directly from FieldAgent.
- **Offline Maps:** Plan your missions from anywhere, even without an internet connection, using offline map support.
- **Real-Time Camera Connection:** View imagery and monitor live camera status, including photo count, storage capacity, folder name, and GPS type, all in real-time during the flight.
- **Flight Plan Sharing:** Seamlessly share flight plans between devices to ensure consistency and collaboration across teams.
- **In-Flight Adjustments:** Modify flight plans mid-flight to adapt to changing conditions and mission needs.