



65R

Global Shutter High-Resolution Sensor

The Sentera 65R Sensor offers 65-megapixel global shutter RGB imagery optimized for drone integration. Its compact, lightweight design extends flight times, enhancing efficiency. With a resolution of 9344 x 7000 pixels, multiple lens variants, and live video, it ensures exceptional detail. The 65R can be integrated either as a stand-alone sensor or with a stabilizing gimbal, offering plug-and-play compatibility with popular drone platforms, making it ideal for surveying, mapping, inspection, and analytics. It empowers professionals to make informed decisions with high-resolution data, significantly reducing the number of images needed for comprehensive coverage.

Key Benefits

- **Maximize Productivity:** Global shutter, fast 3 FPS capture rate, real-time video, and gimbal stabilization enable quicker and longer flights without compromising data quality
- **Ease of Use:** Plug-and-play integration, time-of-capture geo-tagging, and ample internal storage reduce training requirements and streamline workflows
- **Easy Integration:** The 65R is compatible with many popular UAS platforms and integrates easily with other systems using standard interfaces and I/O options
- **High Accuracy:** Equipped with 65 million pixels of global shutter image capture, integrated pulse-per-second (PPS) synchronization, and time-of-capture geo-tagging, the 65R ensures high-accuracy data right out of the box
- **Exceptional Color Quality:** Large sensor size and high-quality lens system capture rich details and accurate colors, ensuring controlled color quality without creative or artistic modes
- **Live Video:** Monitor real-time footage, ensuring optimal positioning to capture critical moments. This feature enhances situational awareness, enables instant decision-making, and facilitates adjustments mid-flight, leading to more precise and comprehensive data collection.

More Pixels, Fewer Images

The Sentera 65R captures a higher number of pixels per image, allowing for detailed coverage with fewer images needed, reducing both flight and post-processing time compared to other sensors in the market.

25% REDUCTION IN IMAGE COUNT

120 images vs 160 images

Lightweight Design, Enhanced Performance

The Sentera 65R on a gimbal is about 43% lighter than similar sensors, allowing for longer flights, greater endurance, and more coverage per mission with less battery use.

43% LESS WEIGHT

0.6kg vs 1kg

Setting a New Benchmark in Resolution

The Sentera 65R's 65MP resolution isn't just an incremental improvement—it represents a 36% leap beyond the 45MP standard that has dominated the industry.

36% GREATER RESOLUTION

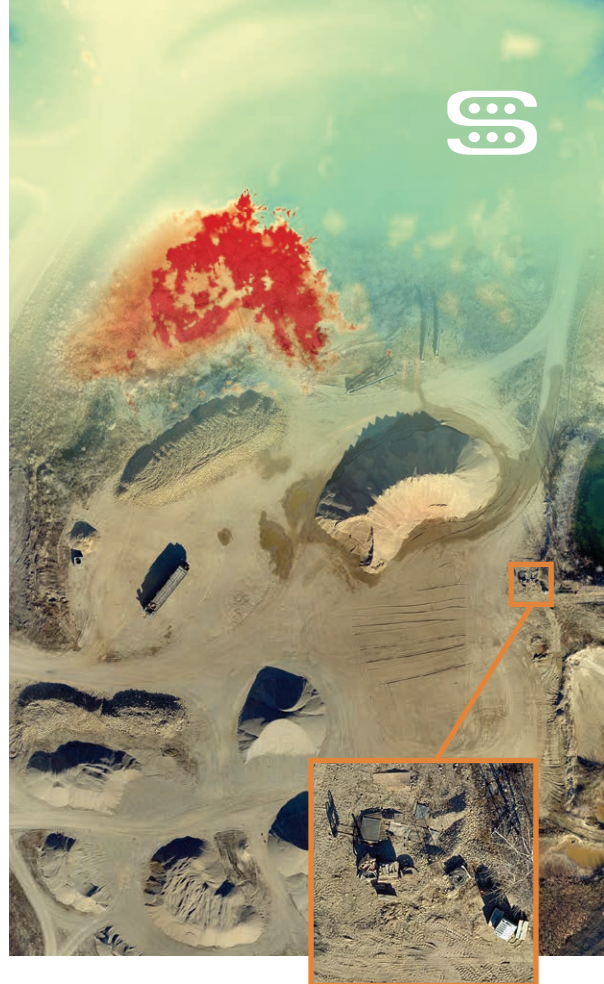
65 MP vs 45 MP



SHARED SPECIFICATIONS**

65R

Resolution	9344px by 7000px
Shutter Type	Global
Sensor	Gpixel GMAX3265
Power Input	10.5 - 26V
Power Consumption	12W Typical, 15W Max
Capture Rate	3 FPS (0.333s)
Storage	512 GB NVMe SSD
Interfaces	USB-C 3.0, Gigabit Ethernet, PPS, Serial, Discrete I/O
Supported Protocols	DJI Skyport, MAVLINK, Custom
Image Format	JPEG
Video	H.264 via RTSP, 960 x 720 @ 18FPS, 3mbps Bitrate
Weight (Sensor only)	330g
Weight (With gimbal)	Skyport: 580g Smart Dovetail: 588g Gremesy T3/S1: 564g
Dimensions (Sensor Only)	3.5mm x 70.6mm x 106.4mm
Dimensions (With gimbal)	101mm x 144.8mm x 150.6mm



VARIANT SPECIFIC SPECIFICATIONS**

Focal Length	27mm	60mm
GSD @200ft (60m)	0.28in (0.7cm)	0.12in (0.3cm)
GSD @400ft (120m)	0.55in (1.4cm)	0.25in (0.6cm)
Field of View	58° HFOV	27° HFOV

The Sentera 65R delivers high-resolution RGB imagery with unparalleled detail and color fidelity, ideal for comprehensive site analysis and planning. DEM and RGB images of a gravel pile yard surveyed at 120m altitude with the 27mm lens.

COMPATIBILITY**

Fully Integrated:

DJI	M350, M300, M210, M200
Inspired Flight	IF800 Tomcat, IF1200
Freefly	Astro
Sentera	PHX

Custom Integration Options:

Gimbal Interfaces:	
Freefly	Smart Dovetail
Gremesy	Hyper Quick

Non-Gimbal Interfaces:	
JST GH	Serial, Power In, Ethernet, PPS PWM
USB-C	USB
Barrel Jack	Power In
2-56 Threaded Mounting Holes	Mounting 8 Locations



65R 60mm

**Specifications are subject to change without notice

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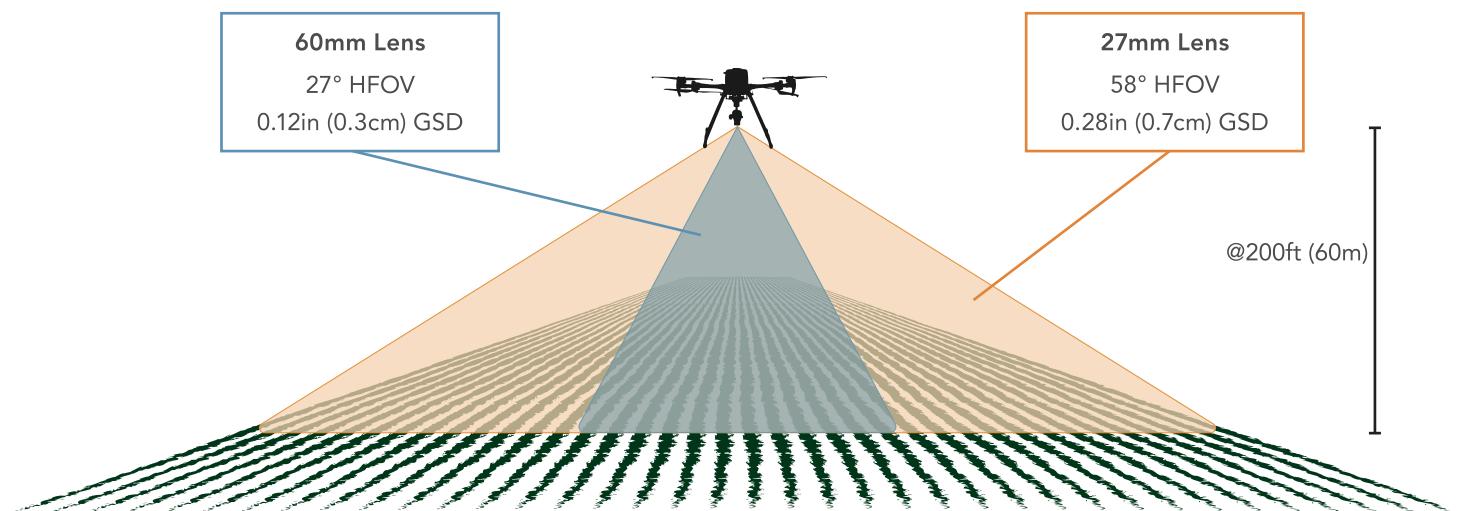
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Key Features

- Equipped with a high-resolution 65-megapixel global shutter
- Complete metadata tagging with geolocation and image characteristics
- Captures images at a rate of 3 FPS (0.333s)
- Open and standardized data formats
- User-configurable onboard image processing pipeline
- Controlled color quality without creative or artistic modes
- Live video (960x720 @ 18 FPS)
- NDAA compliant

Lens Field of View Comparison: 27mm vs. 60mm



This diagram illustrates the difference in field of view (FOV) and ground sampling distance (GSD) between the 27mm and 60mm lens options. The 27mm lens, with its wider FOV, is ideal for large-area mapping and broad coverage applications, reducing the number of images needed per flight. The 60mm lens, with its narrower FOV and finer GSD, is best suited for high-detail imaging in infrastructure inspections, surveying, and precision measurements where accuracy at a distance is critical.



High Res, High Speed, High Impact

The Advantage of a Global Shutter

No Mechanical Wear, No Failures

Unlike mechanical shutters, which degrade over time, the 65R's global shutter has no moving parts, ensuring consistent performance and a longer lifespan for UAV-based imaging.



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Distortion-Free Imagery at Any Speed

Rolling shutters introduce motion artifacts in high-speed flight, distorting linear features like power lines and roads. The 65R's global shutter captures every pixel simultaneously, eliminating skew and ensuring precise geospatial accuracy.

Optimized for High-Frequency Data Collection

Designed for thousands of captures per flight, the 65R excels in high-speed, high-volume applications like surveying, infrastructure inspection, and precision mapping—without risk of shutter degradation.

Why It Matters

- **No shutter wear:** Reliable, long-term operation
- **Distortion-free imaging:** No motion blur or skew
- **Fast, precise data capture:** Ideal for UAV-based mapping & inspection

With the 65R, operators get uncompromised image clarity, reliability, and efficiency, making it the ideal choice for high-performance aerial imaging.



65R 27mm

USE CASE-BASED LENS RECOMMENDATIONS

Industry	Use Case	Recommended Lens
Surveying & Mapping	Large-area coverage, DSM/DEM generation	27mm
Infrastructure Inspection	Bridges, power lines, detailed structural analysis	60mm
Forestry & Agriculture	Crop monitoring, plant counting, phenotyping	27mm (monitoring), 60mm (counting)
Energy & Utilities	Solar panels, wind turbines, pipeline inspections	60mm
Environmental Monitoring	Coastal erosion, disaster assessment	27mm
Mining & Construction	Stockpile volume calculations, terrain modeling	27mm

These recommendations serve as a general guide and do not cover all possible use cases. For specialized applications, consult with our team to determine the best fit for your needs

Key Use Cases

- Surveying and inspection
- Mapping larger areas
- 3D reconstruction and volumetrics
- Elevation mapping (DSM/DEM)
- Precision phenotyping
- Plant counting
- Crop health, damage, disease detection, nutrient status, and stress