6X Thermal

Synchronized thermal, multispectral, and high-resolution RGB imagery in one flight

With four 3.2MP multispectral imagers, a 20MP RGB imager, and a FLIR Boson 320 thermal imager, the 6X Thermal ensures precise data. Its ultra-lightweight, gimballed design, high capture rate, and 512GB internal SSD storage maximize productivity. Ideal for advanced analytics, it supports seamless data integration into common software platforms for informed decision-making. The Sentera 6X Thermal empowers agronomists, researchers, and industry professionals to make informed decisions based on precise and accurate data.

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Key Benefits

- **Maximize Productivity:** Light weight, fast capture rate, synchronized image capture, and gimbal allow for faster & longer flights without sacrificing data quality
- **Ease-of-use:** Plug and play integration, rig processing support, time of capture geo-tagging, and large internal storage streamline your workflow
- **Easy Integration:** 6X Thermal is already compatible with many popular UAS platforms and is easy to integrate with other systems using the common interfaces and I/O options
- **Accuracy:** Paired with an incident light sensor, calibrated reflectance panel, and gimbal, 6X Thermal is ready to produce radiometrically accurate data out of the box

Key Features

- Four 3.2MP global shutter multispectral imagers, one 20MP RGB imager, and one 320 radiometric FLIR Boson imager
- Synchronized image capture for all channels; supports rig processing
- Full metadata tagging with geolocation and image characteristics
- Open and standardized data formats
- Incident light sensor and calibrated reflectance panel included
- NDAA Compliant

The spectral resolution of the 6X Multispectral + RGB + Thermal Sensor
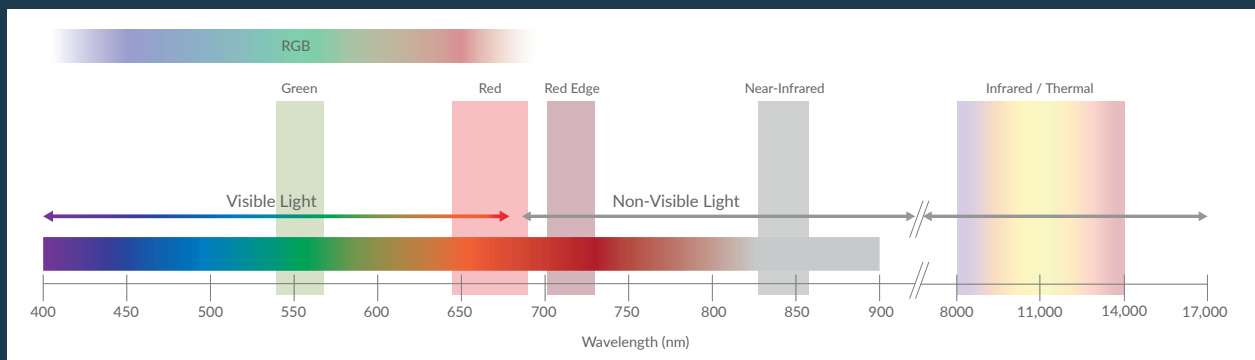
SPECIFICATIONS**

6X Thermal

Resolution	2048px by 1536px (Multispectral) 5184px by 3888px (RGB) 320px by 256px (Thermal)
Shutter Type	Global (Multispectral) Electronic Rolling Shutter (RGB) Shutterless (Thermal)
Sensor	Sony IMX147 (RGB) Sony IMX265 (Multispectral) FLIR Boson 320R (Thermal)
Power Input	10.5 - 26V
Power Consumption	15W Typical, 18W Max
Capture Rate	5 FPS (0.2s interval)
Storage	512 GB Internal SSD
Filter/Sensitivity (custom filtering is available)	Green: 550nm CWL x 20nm Red: 670nm CWL x 30nm Red Edge: 715nm CWL x 10nm NIR: 840nm CWL x 20nm RGB: IR cut 650nm Thermal Infrared: Radiometric: 8um to 14um
Interfaces	USB-C 3.0, Gigabit Ethernet, PPS, Serial, Discrete I/O
Supported Protocols	DJI, MAVlink V1 & V2, Custom
Image Format	8-bit JPEG (RGB), 12-bit TIFF (MSP), 16-bit TIFF (Thermal)
Weight (Sensor only)	280g
Weight (With gimbal)	Skyport: 495g Smart Dovetail: 515g Gremsy Hyper Quick: 490g ILS adds 58g to total
GSD @200ft (60m)	1.0in / 2.6cm (MSP), 0.4in / 1.0cm (RGB), 6.9in / 17.5cm (LWIR)
Field of View	47° HFOV (MSP and RGB) 50° HFOV (Thermal)
Dimensions (Sensor Only)	79.5mm x 66mm x 67.5mm
Dimensions (With gimbal)	111.8mm x 126.2mm x 106.4mm

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COMPATIBILITY**

Fully Integrated:

DJI	M350, M300, M210, M200
Inspired Flight	IF800 Tomcat, IF1200A
Freefly	Astro

Custom Integration Options:

Gimbal Interfaces:

Freefly	Smart Dovetail
Gremsy	Hyper Quick

Non-Gimbal Interfaces:

JST GH	Serial, Power In, Ethernet, PPS PWM
USB-C	USB
2-56 Threaded Mounting Holes	Mounting 6 Locations

Key Use Cases

- Irrigation system management and scheduling
- Water stress prediction and monitoring
- Mapping: Multispectral, RGB, DSM/Elevation, Thermal
- Residue cover, carbon monitoring, and conservation practice verification
- Crop health, damage, disease detection, nutrient status, and stress
- Forest fire detection, active flame identification
- Soil and vegetation moisture levels

**Specifications are subject to change without notice
**With appropriate post-processing