Gimballed WIRIS Enterprise

Data Sheet

Revision A.0
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Vision Aerial

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GIMBALLED WIRIS ENTERPRISE

Advanced Thermal Visualization System

The Gimballed WIRIS Enterprise sensor features comprehensive data logging, including gimbal angle and geotagged images in various supported image formats, ensuring detailed data capture. The WIRIS OS and integrated sensors provide unprecedented aerial imaging capabilities for a range of commercial drone applications, including thermal inspections and mapping, security applications, firefighting, ecological and environmental research and more.

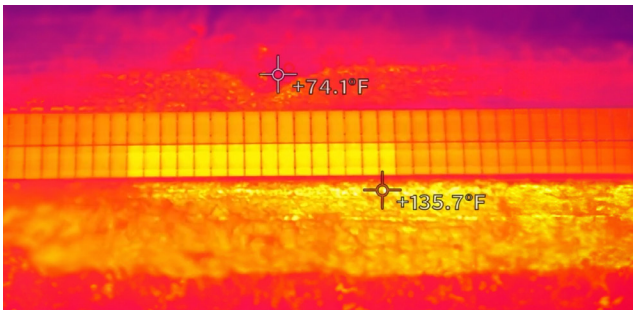
The payload's compact, user-friendly design paired with Workswell's advanced technology ensures easy operation. Utilizing the sensor's built-in features including temperature alarms and a laser rangefinder allows for precise detections and reporting. Additionally, access to Thermolab software provides robust tools for in-depth thermal data analysis, making it an invaluable tool for industrial drone operations.

What's Included?

- Camera integrated with camera-specific gimbal and data logging device
- Waterproof Pelican transport case with custom foam insert
- Wireless keyboard

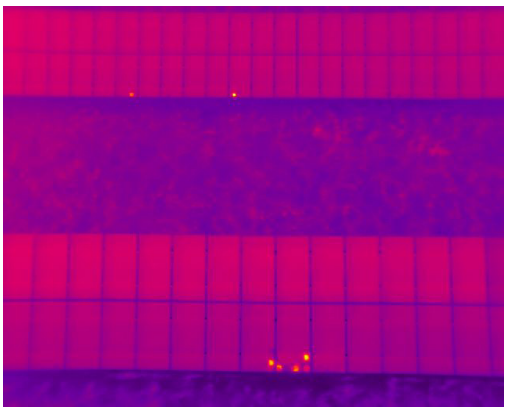
Key Features

- Gimbal Angle Logging
- Super Resolution Mode
- 30x Optical Anti-Vibration Zoom
- Integrated Laser Rangefinder
- In-Camera Geotagged Images
- GCS-Integrated Camera and Gimbal Controls
  - Set Gimbal Tilt Position
  - Single Image Camera Triggering
  - Video Recording
  - Configure Display Layout and Color Palate
  - Data/Image Configuration Options



Measure Temperatures In Real Time

Detect Temperature Anomolies



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AMERICAN-MADE DRONES

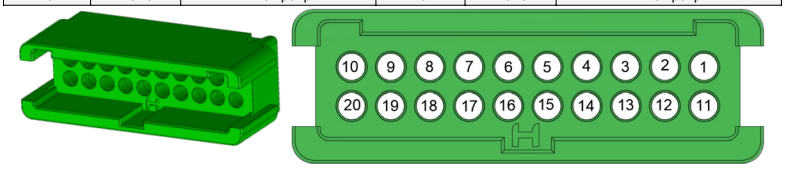
Easily Integrate With Vision Aerial Aircraft

Out of the box, the gimballed WIRIS Enterprise is compatible with both of Vision Aerial's aircraft platforms. A pre-installed male Payload Connection System (PCS) insert allows for quick installation on either system and use of the standardized, magnetic electrical connector ensures a quick and reliable connection.

System version compability requirements

System	Minimum Version
Vector	Mk 2.3.2
SwitchBlade-Elite	Mk 2.3.4
Flight Deck	V2.4.2

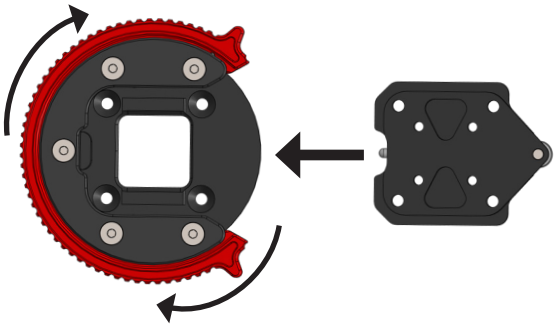
Gecko Pin	Description	PixHawk	Gecko Pin	Description	PixHawk
1	12V GND		11	12V GND	
2	5V GND		12	5V GND	
3	Unused		13	Unused	
4	Unused		14	Unused	
5	Unused		15	Unused	
6	Unused		16	Unused	
7	Telem2 Tx	MAVlink Transmit Signal	17	Unused	
8	Telem2 Rx	MAVlink Receive Signal	18	Unused	
9	5V Power	2A Max per pin	19	Unused	
10	12V Power	2A Max per pin	20	12V Power	2A Max per pin



Primary harness pinout for custom integrations

For Custom Integrations

Have an existing platform and simply need the inspection solution? A female PCS lock ring and primary harness adapter can be provided for interoperability with other aerial or ground systems.



Interaction of the PCS insert with the PCS lock ring

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Payload Specifications

Integration and Environment	
Payload Mass	1.3 kg (2.9 lbs)
Payload External Dimensions	165 x 153 x 185 (mm)
Sensor	Workswell Wiris Enterprise
Gimbal	Gremsy Pixy-WE
IR Lens	13 mm, 45° FOV
Controllable Rotation Ranges	**Pan:** N/A **Tilt:** +90° to -45° **Roll:** N/A
HDMI Resolution	1280 x 720 pixels (720p), Aspect ratio 16:9
Temperature Ranges	**Operating:** 0 °C to +50 °C (32 °F to 122 °F) **Storage:** -30 °C to +60 °C (-22 °F to 140 °F)
Image and Video Format Options	16Mpx high resolution camera JPEG Optical zoom camera Full HD JPEG Radiometric IR JPEG and IR TIFF Pix4D and Agisoft compatible Digital camera HD video Radiometric full-frame IR video
Data Storage	**Sensor SSD:** 256GB **Sensor Micro SD Card:** 32GB **Logger Micro SD Card:** 32GB

Gimbal	
System Type	3-Axis camera stabilizer
Input Voltage	14-52 VDC
Working Current	**Static Current:** 400mA (@12V) **Dynamic Current:** 800mA (@12V) **Stall Current:** 4.0A (@12V)
Angular Vibration Range	± 0.02°

Thermal Camera	
IR Camera Resolution	640 x 512 pixels with radiometric data
IR Super Resolution Mode	1266 x 1010 pixels (improvement of native resolution up to 1.3 Mpx) Takes 1266 px Radiometric image in one shot
FPA Active Sensor Size	1.088 x 0.8705 cm
Temperature Ranges	-25 °C to +150 °C (-13 °F to 302 °F) -40 °C to +550 °C (-40 °F to 1022 °F) opt. temp. range +50 – 1000 °C (122 °F to 1832 °F) opt. temp. range +400 – 1500 °C (752 °F to 2732 °F)
Temperature Sensitivity	Standard 0.05 °C (50 mK) or optional 0.03 °C (30 mK)
Accuracy	±2 % or ±2 °C (in temperature range -10 °C to +150°C and 0 °C to +550°C, after stabilization, climate chamber and black body testing for all products)
Thermal Image Digital Zoom	1 – 12x steps

Digital RGB Camera	
High Resolution Fixed Camera	**Resolution:** 4656 x 3496 pixels (16 Mpx), 1/2.8” IMX298 sensor **Field of view:** extra wide DFOV 73.2°, focal 4.35mm **Settings:** configuration and stream in advanced auxiliary menu
30x Optical Zoom Camera	**Resolution:** 1920 x 1080 pixels (Full HD), 1/2.8” EXMOR R CMOS sensor **Field of view:** 30x optical zoom with vibration compensation and image stabilization, ultra-zoom HFOV 2.3° - extra wide 63.7°, focal 129.0 mm - 4.3 mm