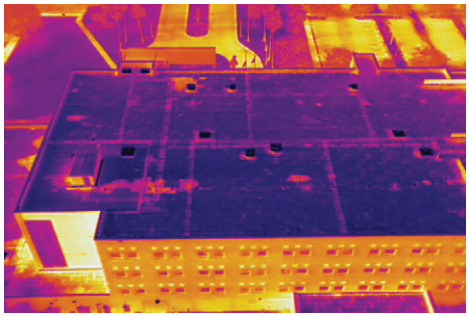
FLIR Duo™ Pro R

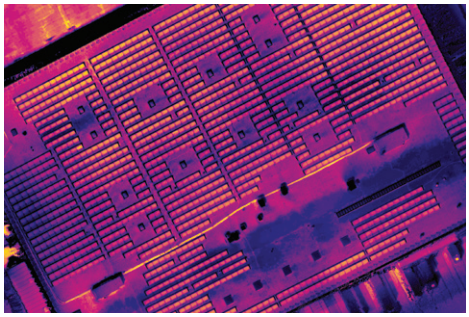
High-Resolution Thermal and Visible-Light Imager for sUAS

The new FLIR Duo™ Pro R transforms any airframe into an industrial tool, expanding its value and uses. It is a powerful dual-sensor thermal and visible-light imager designed for a wide range of high-performance commercial, industrial, and public safety drone applications. Featuring thermal and a high-definition 4K color video camera in a single integrated package, Duo Pro R gives professional operators the ability to capture actionable thermal and visible data in a single flight.

Beyond its class-leading imaging performance, Duo Pro R includes an on-board sensor suite to create a self-contained airborne mapping package. These fully integrated sensors provide an on-board source for all the vital data needed to create accurate maps and 3D models from an airborne platform. By geo-tagging each captured image within the camera Duo Pro R eliminates the complexity, data loss, and latency that can come from integrating to external flight control systems.



Find problems with buildings like water and insulation damage in roofs.



Use the on-board sensor suite to make more accurate orthomosaics of large installations like this solar farm.

Duo Pro R is an invaluable tool for fire fighters and other first responders.

High resolution thermal and 4K visible-light imaging and recording in a rugged, compact package

Capture video & still imagery in both thermal and video simultaneously for improved understanding of every scene

- Airborne dual sensor thermal and video imaging and recording in a single component
- Wide 5-26 VDC power input range
- MSX blending for greater image detail in daylight conditions
- Live analog or digital (micro-HDMI) video output

Fully-integrated thermal and visible airborne mapping system

Get accurate metadata, including GPS, temperature, and altitude, for every image

- On-board GPS receiver, IMU, temperature, humidity, and altitude sensors
- Tightly coupled integration ensures the most accurate image geo-tagging possible
- Convenient integration to MAVLink-compatible flight controllers

Flexible, powerful camera control and configuration options

Multiple thermal resolution and lens options give you the optimal configuration for your missions

- Control camera functions with PWM inputs – imagery color palettes, recording start/stop, still image capture, or video streaming switch (thermal, visible, MSX, PIP)
- Configure your camera's recording and control settings over Bluetooth with the FLIR UAS mobile app
- Field-upgradeability make sure you'll always have the latest features

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Specifications

Overview	Duo Pro R 640	Duo Pro R 336
Thermal Imager	Uncooled VOx Microbolometer	
Spectral Band	7.5 – 13.5 µm	
Thermal Sensitivity	< 50 mK	
Thermal Sensor Resolution Options	640 x 512	336 x 256
Thermal Lens Options	13 mm: 45° x 37°	9 mm: 35° x 27°
	19 mm: 32° x 26°	13 mm: 25° x 19°
	25 mm: 25° x 20°	19 mm: 17° x 13°
Thermal Frame Rate	30 Hz	
Visible Sensor Resolution	4000 x 3000	
Visible Camera FOV's	56° x 45°	56° x 45°
Radiometry		
Measurement Accuracy	+/- 5 C or 5% of readings in the -25°C to +135°C range +/- 20 C or 20% of readings in the -40°C to +550°C range	
Physical Attributes		
Size	85 × 81.3 × 68.5 mm 85 × 86.5 × 68.5 mm (640/25 mm lens only)	
Weight	325 g 375 g (640-25 mm only)	325 g
Image Processing & Display Controls		
Imaging Modes	IR-only, Vis-only, Picture-in-Picture (IR in Vis)	
MSX Image Enhancement?	Yes	
Multiple Color Palettes?	Yes – Adjustable in App and via PWM	
IMU Sensor		
GPS?	Yes (GPS, GLONASS)	
Other Sensors	Accelerometer, Gyroscope, Magnetometer, Barometer	
Interfaces		
USB 3.0	Power in, USB Mass Storage	
10-Pin Accessory Port	Power in, Analog Video Out, PWM, MAVLink	
Micro-HDMI	Digital Video Out	
Input Voltage	5.5 - 26.0 VDC (10-pin JST Port)	
	5.0 VDC (USB-C Port)	
Power Dissipation (avg)	10 W	10 W
Remote Control?	Yes - PWM (3 channels), MAVLink	
MAVLink interface?	Yes	
Digital Video Output	1080p60, 1080p30, 720p60	
Mounting Features	1/4"-20 TPI Tripod Mounts (qty 2, bottom surface)	
Environmental		
Operating Temperature Range	-20°C to +50°C	
Storage Temperature Range	-20°C to +60°C	
Operational Altitude	+38,000 feet