

TAU® 2

Longwave Infrared Thermal Camera Module

The ITAR-free Tau 2 thermal imaging cameras offer an unmatched combination of features and reliability, making them well-suited for demanding applications including unmanned vehicles, thermal sights, and handheld imagers. Improved electronics provide powerful image processing modes that dramatically improve detail and contrast through continuous histogram equalization in both 640 and 336 resolutions.

Available in Commercial, Performance, and Industrial variants, each with unique sensitivity and pixel operability thresholds to meet operational requirements. Radiometry is an optional feature for Performance-grade cameras, and standard feature with Industrial-grade. All Tau 2 configurations and resolutions share electrical, mechanical, and optical interfaces allowing integrations to be designed that work seamlessly with all formats.

APPLICATIONS

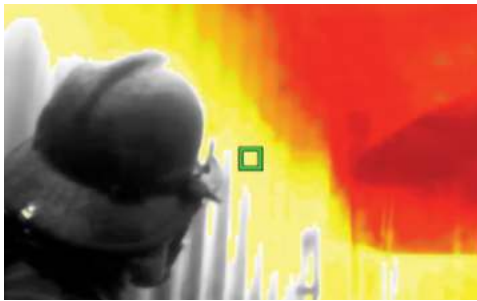
- UNMANNED VEHICLES
- HANDHELD IMAGERS
- SECURITY CAMERAS
- MARITIME CAMERAS
- THERMAL SIGHTS



TAU 2



WFOV & NFOV lens options available from 7.5mm to 100mm



RELIABLE PERFORMANCE WITH ACCURATE TEMPERATURE MEASUREMENT

Deployed in products worldwide requiring radiometry and analytics

- Radiometry available in Performance and Industrial grades
- Adjustable isotherm thresholds colorize temperatures of interest
- Comprehensive product documentation



ADVANCED IMAGE PROCESSING AND FEATURE SET

Advanced electronics and image processing provide clearer imagery, edge sharpening, and contrast

- 640 x 480 and 336 x 256 resolutions
- Advanced Detail Enhancement (ADE)
- Information Based HEQ automatically adjusts AGC
- Shutterless NUC for continuous image improvement



DESIGNED FOR INTEGRATORS

Shared interface and access to US-based Technical Services team reduce development risk and shorten time to market

- Commercial interfaces including USB, CMOS, Camera Link, or Ethernet
- Simple optical interface accommodates integrator-designed optics and industry's widest variety of lens options available
- Highly qualified Technical Services team available to support integration

For more information visit:
www.flir.com/tau-series

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SPECIFICATIONS

System Overview		TAU 2	
System Type	Uncooled LWIR Thermal Imager		
Tau 2 640	640 x 512 VOx Microbolometer		
Tau 2 336	336 x 256 VOx Microbolometer		
Pixel Pitch	17 µm		
Spectral Band	7.5 - 13.5 µm		
Sensitivity (NEΔT)	Industrial: <30 mK; Performance: <40 mK; Commercial: <50 mK		
Outputs			
Analog Video	640 x 480 (NTSC); 640 x 512 (PAL)		
Exportable Frame Rates	30 Hz (NTSC); 25 Hz (PAL);		
Tau 2 640	<9Hz option for export (factory set)		
Tau 2 336	30/60 Hz (NTSC); 25/50 Hz (PAL) ;		
	<9Hz option for export (factory set)		
Digital Video	8- or 14-bit serial LVDS; 8- or 14-bit parallel CMOS; 8-bit BT.656		
Operation & Control			
Image Control	<ul style="list-style-type: none"> Invert, Revert Continuous digital zoom Dynamic zoom & pan Digital zoom preset Polarity False color or monochrome, Isotherms Automatic Gain Correction (AGC), second generation 	<ul style="list-style-type: none"> Image optimization (BPR, Non-Uniformity Correction (NUC) - & AGC'd video) Smart Scene Optimization (SSO) Settable splash screen Advanced Detail Enhancement (ADE) Active Contrast Enhancement (ACE, Information Based Histogram Equalization (IBHEQ) 	
Camera Control	Manual via SDK & GUI		
Signal Interface	<ul style="list-style-type: none"> Camera Link (Expansion Bus Accessory Module) Discrete I/O controls available, RS-232 compatible (57,600 & 921,600 baud) 	<ul style="list-style-type: none"> External sync input/output, Power reduction switch (removes analog video) 	
FFC Duration	<0.5 sec		
Physical Attributes			
Size	1.75" x 1.75" x 1.18" (Standard Version), 1.5" x 1.5" x 1.18" (Compact and Shutterless)		
Mounting Interface	6 attach points in lens mount, M2 x 0.4 on 3 sides, 2 per side (sealable bulkhead mounting feature on lens barrel [M29 x 1.0], WFOV only)		
Power			
Input Voltage	4.0 – 6.0 VDC		
Primary Electrical Connector	50-pin Hirose		
Power Dissipation	~ 1.0 W (Tau 2 336); <1.2 W (Tau 2 640);		
Time to Image	<5 seconds (Tau 2 640); <4 seconds (Tau 2 336)		
Environmental			
Operating Temperature Range	-40 °C to +80 °C external temp		
Storage Temperature Range	-55 °C to +95 °C external temp		
Scene Temp Range	High gain: -40°C to +160°; Low gain: -40°C to +550°		
Shock	200 g shock pulse with 11 msec sawtooth		
Temperature Shock	5°/min		
Vibration	4.3 g 3 axes, 8 hours each		
Humidity	5 - 95% non-condensing		
Operational Altitude	12 km (40,000 ft) altitude equivalent		
ROHS, REACH, and WEEE	Compliant		

Specifications are subject to change without notice. For the most up-to-date specs, go to www.flir.com/tau-series

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21-0923-OEM-COR-TAU2-Datasheet-LTR

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