TELEDYNE FLIR

TAU® 2

Longwave Infrared Thermal Camera Module

Made in USA, 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

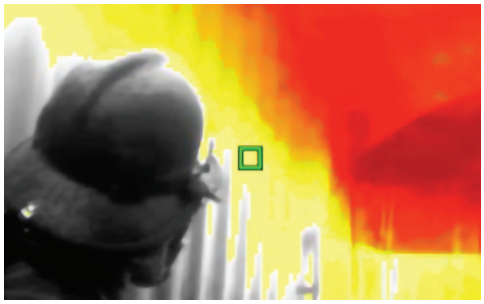
SECURITY CAMERAS

MARITIME CAMERAS

THERMAL SIGHTS

TAU 2

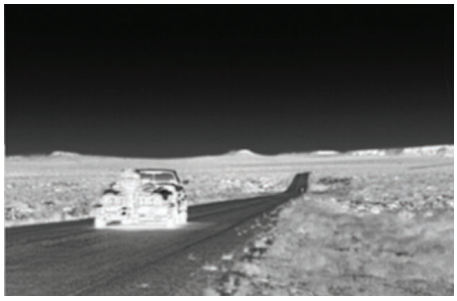
WFOV & NFOV lens options available from 7.5mm to 100mm



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:
https://www.flir.com/tau-series

www.teledyneflir.com

10/07/2021 REV1

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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 Size	17 µm	
Spectral Band	7.5 - 13.5 µm	
Sensitivity (NEdT)	Industrial: <30 mK; Performance: <40 mK; Commercial: <50 mK	
Outputs		
Analog Video	640 x 480 (NTSC); 640 x 512 (PAL)	
Exportable Frame Rates Tau 2 640	30 Hz (NTSC); 25 Hz (PAL); <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	• Invert, Revert • Continuous digital zoom • Dynamic zoom & pan • Digital zoom preset • Polarity • False color or monochrome, • Isotherms • Automatic Gain Correction (AGC), second generation	• 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	• Camera Link (Expansion Bus Accessory Module • Discrete I/O controls available, • RS-232 compatible (57,600 & 921,600 baud)	• 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	+40,000 feet	
ROHS, REACH, and WEEE	Compliant	

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

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