

Tau™

**The Smallest, Lightest, Lowest-Power
IR Camera Core - Period.**

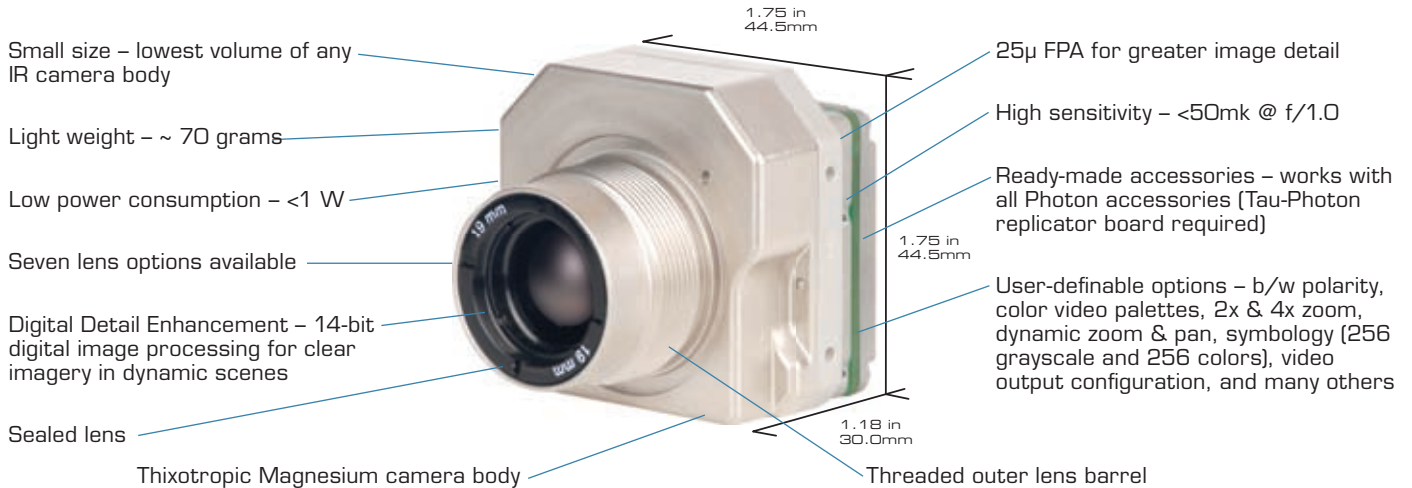


FLIR's Tau is the smallest, lightest, lowest power longwave thermal camera core in its class.

Its fusion of small size, light weight, miniscule power consumption, and outstanding imaging performance make it the ideal thermal camera core for the most demanding applications.

For handheld thermal cameras and unmanned vehicle vision systems; for firefighting imagers and thermal sights, Tau is the best choice for applications that demand light weight, small size, and low power utilization.

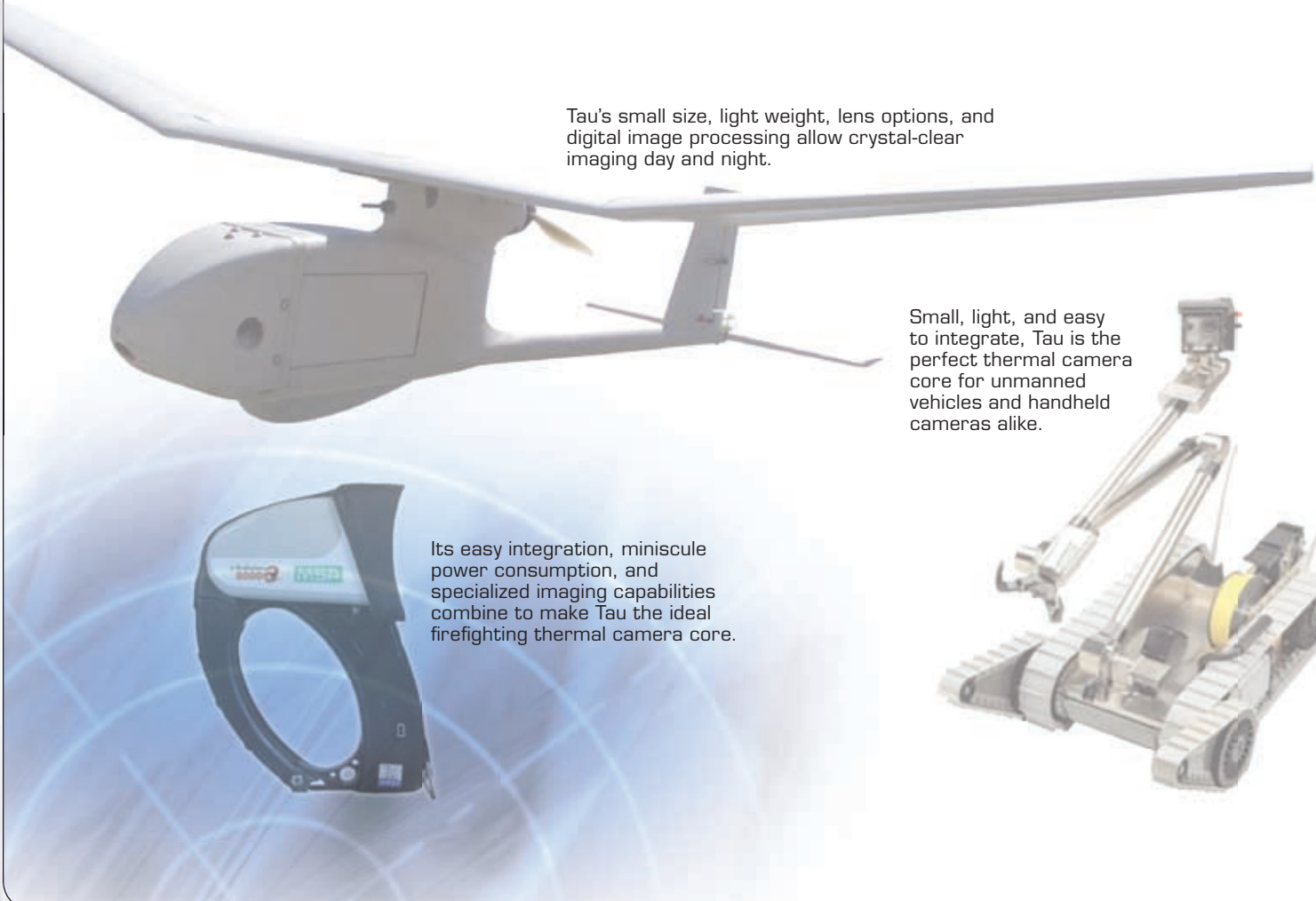
Tau is the first uncooled thermal camera core to combine all of these attributes into one affordable, high-performance package.



Tau's small size, light weight, lens options, and digital image processing allow crystal-clear imaging day and night.

Small, light, and easy to integrate, Tau is the perfect thermal camera core for unmanned vehicles and handheld cameras alike.

Its easy integration, miniscule power consumption, and specialized imaging capabilities combine to make Tau the ideal firefighting thermal camera core.



The Tau Family

Besides being small, light, and miserly with power, Tau cameras provide all of the features and functions operators have come to expect from FLIR.

- 14 bit and 8 bit digital video options, including CMOS, BT-656, and the legacy Photon LVDS
- Polarity control and 2x/4x e-zoom functions
- Pseudo RS-232, high-speed camera communication
- SDK & GUI for camera configuration
- User-definable splash screens
- User authentication
- Discrete I/O control and set-up
- Frame capture



5mm, 9mm, 13mm, and 19mm

But Tau is more than just a single imager. The Tau family is actually an assortment of camera configurations addressing a wide variety of applications.



Tau P – Providing the greatest performance and flexibility, Tau P features:

- Higher sensitivity for extraordinary image detail
- Digital Detail Enhancement 14-bit digital image processing
- Color palettes and symbology
- Dynamic zoom & pan
- Support for lens-less configuration



Tau F – Designed to meet the demands of firefighting applications, Tau F provides:

- The ability to image a greater range of temperatures
- Temperature isotherms
- Color palettes and symbology



Tau D – The affordable, high performance thermal imaging option, Tau D provides:

- Fully digital interfaces and video outputs
- Economical thermal imaging for countless new applications

Alternate configurations

For OEM customers, Tau is available in several additional factory configurations:

- For applications with especially tight volume constraints, a shutter-less version of Tau is available (1.5"x1.5").
- Tau also supports a split architecture allowing the single electronics board to be located up to 8" away from the camera.
- The Tau P is available as a lens-less core.

User configurability

The Tau offers complete configuration and integration flexibility with the powerful Tau GUI and SDK. Through our new XP bus interface¹, users can:

- Directly command the camera through configurable discrete inputs for such control as zoom, polarity, frame/video capture, etc. (up to nine commands selectable).
- Select composite video type – NTSC or PAL.
- Select the optimal digital data interface – 8/14-bit serial LVDS, 8/14-bit parallel CMOS, and BT.656 (now an input into many LCDs).
- Load custom splash screens.
- Field upgrade to the latest camera software and firmware.

Accessories

There are several Tau-specific accessories:

- The Photon Replicator Board gives users backward compatibility with the Photon camera².
- VPC (video/power/communication) breakout module.
- The Tau XP (expansion) board reference design module.
- The software SDK.
- A tripod adapter.



Split architecture: electronics board can be up to 8" away.

¹ The XP bus interface is a single 50-pin Hirose connector (DF12-50DS-0.5V(86))

² Will not work with Photon Ethernet Module

Tau Lens Data

Tau cameras have seven lens choices available, giving integrators supreme flexibility when designing their installations. The four wide field of view lenses (5, 9, 13, and 19mm) are integrated directly into the Tau's camera body for improved durability and performance. These lenses are sealed, meet IP-67, and are hard carbon coated for long life. The longer-range 25, 35, and 60mm lenses will be available on the Tau P camera in July '09.

Tau P Only

	5mm	9mm		13mm		19mm		25mm	35mm	60mm
Resolution	160x120	160x120	320x240	160x120	320x240	160x120	320x240	320x240	320x240	320x240
FoV (HxV)	43° x 35°	25° x 20°	48° x 37°	17° x 14°	34° x 26°	12° x 10°	24° x 18°	18° x 14°	13° x 10°	7.6° x 5.7°
F/#	1.25	1.25		1.25		1.1		1.4	1.4	1.25
IFoV (mr)	5.000	2.778	2.778	1.923	1.923	1.316	1.316	1.000	0.714	0.417

Specifications

Imager Features & Performance

Thermal Imager	Uncooled VOx Microbolometer
FPA Formats	320x256 or 160x128
Size	1.75"x1.75"x1.18" (camera body)
Weight	~70 grams
Input Power	4.0 - 6.0 VDC
Power Dissipation	1.0W
Sensitivity	<50mk f/1.0, or <60mk f/1.0 (configuration dependant)
Time to Image, FFC Interval	<2 sec, <0.5 sec
DDE	Advanced, Tunable, On-Board 14-bit Digital Image Processing

Usability Features & Performance

Digital zoom	2x & 4x
9hz/7.5hz Exportable Version	Available on all variants
Gamma Correction	Available on P & F variants
Power reduction switch	Available on all variants

Environmental

Operating Temperature Range	-40°C to +80°C or -10°C to +50°C (Tau D)
Non-operating Temperature Range	-55°C to +85°C
Temperature Shock	5°/ min
Operational Altitude	up to 40,000 feet
Humidity	non-condensing between 5% and 95%
Vibration	4.3gs three axis, 8 hrs each
Shock	70g shock pulse w/ 11msec saw tooth
EMC Radiation	CE/FCC Class A



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