ThermaCAM™ Merlin™

Affordable infrared camera with InSb detector for high-end Research and Development applications and non-destructive testing.

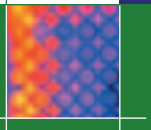
- Extremely sensitive (0.018°C) InSb detector for midwave infrared applications
- Temperature measurement from 0°C up to +2,000°C
- 320 x 256 FPA for high resolution images
- 50 Hz frame rate for real-time applications
- Compatible with ThermaCAM Researcher™ software

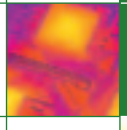
ThermaCAM™ Merlin™ is tailored for high-end Research and Development and non-destructive testing applications

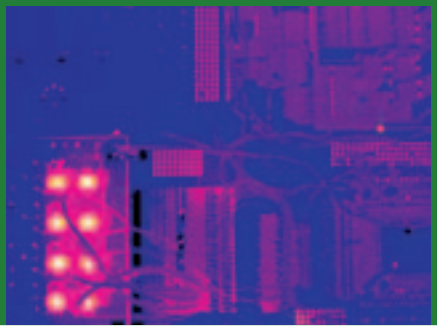
The FLIR Systems ThermaCAM Merlin provides an unparalleled combination of factory-optimized and field-customizable features, including imaging optics, variable integration time and data processing software. This means that the Merlin can be perfectly tailored to your most demanding applications.

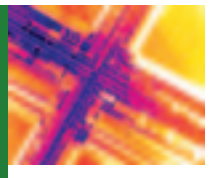
Featuring an cooled InSb detector, the Merlin provides high-resolution midwave imaging performance, outstanding thermal sensitivity and image uniformity from 0°C up to +2,000°C. Unmatched accuracy and reliability make the Merlin ideal for a wide variety of thermal, test- and measurement applications.

The Merlin operates in the 3-5 μm waveband (1.5 - 5.0 μm optionally). This makes the ThermaCAM Merlin perfectly suited for high-end Research and Development applications and for looking at plastics, glass, and high temperature targets.









ThermaCAM Merlin:

- 320 x 256 FPA for high resolution images
- Measurement range from 0°C up to +2,000°C
- Extremely sensitive InSb detector for midwave infrared applications
- Sees temperature differences as small as 0.018°C
- Variable integration time
- 50 Hz frame rate for real-time applications
- Low-noise electronic design for high-sensitivity applications
- Compatible with ThermaCAM Researcher™ software
- Choice of thermographic or imaging camera systems

Extremely sensitive InSb detector delivers unmatched image quality

Temperature differences as small as 0.018°C are easily detected by the cooled InSb (Indium Antimonide) sensor in the Merlin. A very sensitive sensor not only allows you to see the smallest of temperature differences, as well as the best possible image quality that can not be achieved by less sensitive detectors.

High signal-to-noise ratio

ThermaCAM Merlin has the ability to run in reduced frame rate modes of 25 or 12.5 Hz. This allowes additional flexibility for customers who do not require the full 50 Hz output.

Filter wheel for spectroscopy and signature analysis

With the ThermaCAM Merlin LN_2 system, an optional filter wheel can be installed holding up to four spectral or bandpass filters, which can be used for accurate materials analysis or viewing and measuring high temperature targets. In this configuration the Merlin is the ideal choice for spectroscopy and signature analysis applications.

Removable button panel

For those applications where the infrared camera and the PC are a distance away from each other, the Merlin has an removable button panel. With a few buttons, conveniently placed at the top of the camera, you can control most features.

Choice of thermographic or imaging camera

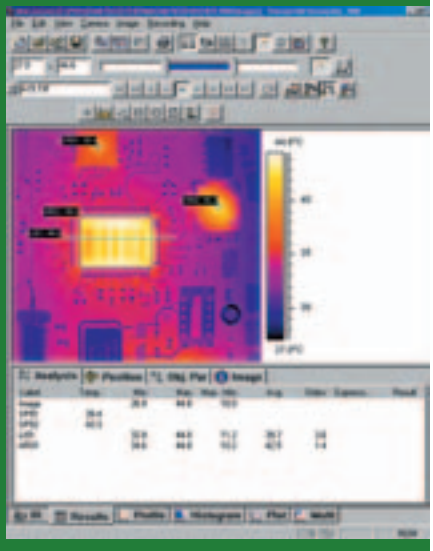
For those applications that require only an infrared image but no temperature measurement a non-thermographic version of the ThermaCAM Merlin is available.

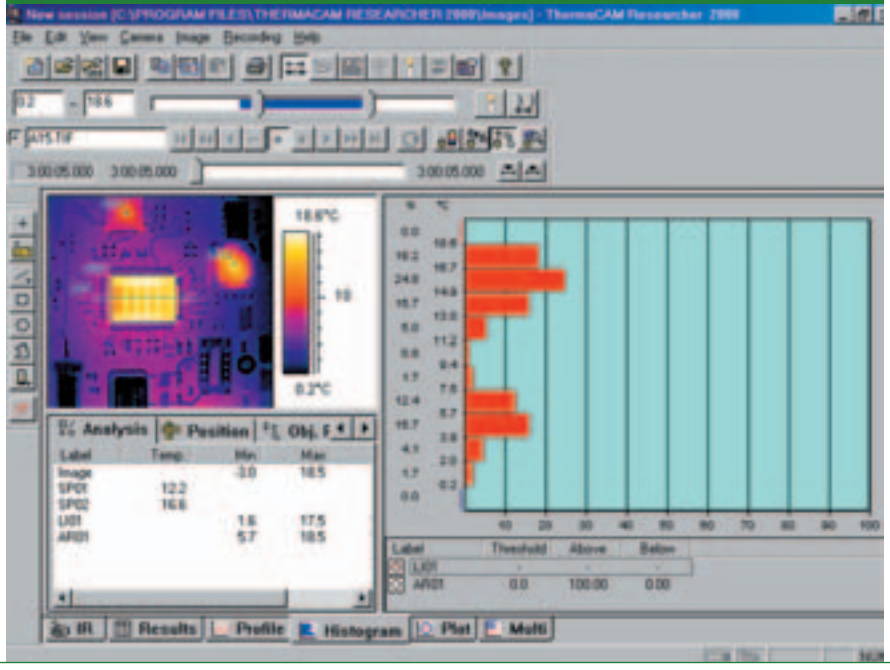
Compatible with ThermaCAM Researcher™ software

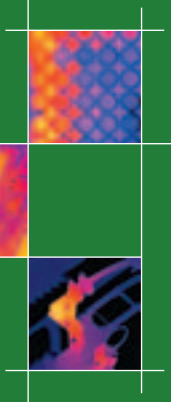
The Merlin feeds real-time data directly to your notebook or desktop PC for recording and analysis. Coupled with FLIR Systems ThermaCAM Researcher software, the Merlin allows in-depth, extensive thermal analysis including 50 Hz real-time digital recording and evaluation of high-speed events.

ThermaCAM Researcher has been especially developed for Research an Development professionals, scientists that want a detailed static or real-time analysis of thermal processes. Windows Based and extremely versatile to use ThermaCAM Researcher adds a new level of power and flexibility to thermal imaging by offering extensive analysis capabilities as well as high speed data acquisition.

ThermaCAM Researcher offers powerful built-in measurement and analysis functions for fast and extensive temperature analysis including isotherms and spot measurement, line profiles, area histograms, image subtraction capability and many more.







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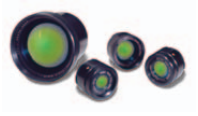
TECHNICAL SPECIFICATIONS

IMAGING PERFORMANCE	
Thermal sensitivity	0.025°C (0.018°C typical)
Image frequency	50 Hz non interlaced
Camera f/#	2.5 or 4.1
Focus	Manual
DETECTOR	
Type	InSb (Indium Antimonide)
Array format	320 x 256
Integration time	5 µs - 16.5 ms
Spectral range	1.5 - 5.0 µm (3-5 µm set by cold filter)
Detector cooling	Integral Stirling or LN_2
Pixel pitch	30 x 30 µm
Temperature measurement	0 - 350 °C standard 300 - 2,000 °C (extended)
IMAGE PRESENTATION	
Video output	Analog video @25 Hz S-video Digital video 50, 25, 12.5 Hz, 12-bit corrected/uncorrected Digital video output: RS-422
MEASUREMENT	
Temperature range	0°C to +350°C (standard) +300°C to +2,000 (extended)
Accuracy	± 2°C, ± 2 % of reading
Measurement mode	User specified
LENSES AND FILTERS (OPTIONAL)	
13 mm (41 x 31° FoV) 25 mm (22 x 16° FoV) 50 mm (11 x 8° FoV) 100 mm (5.5 x 4.1° FoV) Microscope, 1x, 2.5x and/or 4x	
50/250 mm Dual Field of View: 50 mm (11° x 8° FoV) 250 mm (2.2° x 1.8° FoV)	
60/180/500 mm Triple Field of View: 60 mm (9.1° x 7.3° FoV) 180 mm (3.1° x 2.4° FoV) 500 mm (1.1° x 0.9° FoV)	
PHYSICAL CHARACTERISTICS	
Weight	4.3 kg (9 lbs)
Size	140 x 127 x 248.2 mm (5.5 " x 5.0" x 9.8 ")
Tripod mounting	Standard
INTERFACE	
Remote control options	Button panel & RS-232

A WIDE RANGE OF OPTICS

As with all its products FLIR Systems supports the ThermaCAM™ Merlin™ with a number of lenses and accessories. All optics have been designed to match the wavelength response and back working distance of the FPA in the camera. Lens extender rings are available.