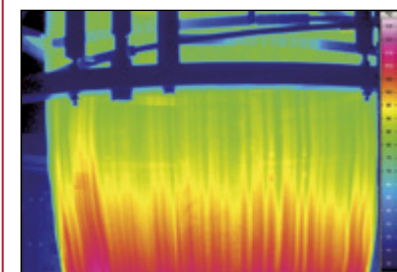


VarioTHERM® InSb

Infrared Camera for Spectral Thermography

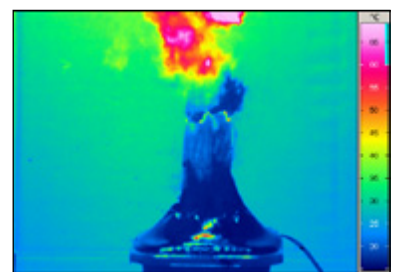
Measurements of thin plastic foils



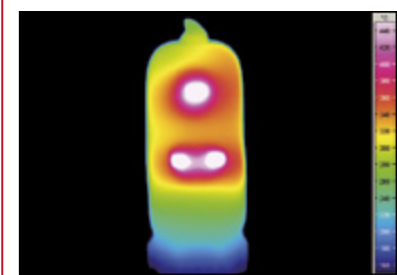
Developments in electronics



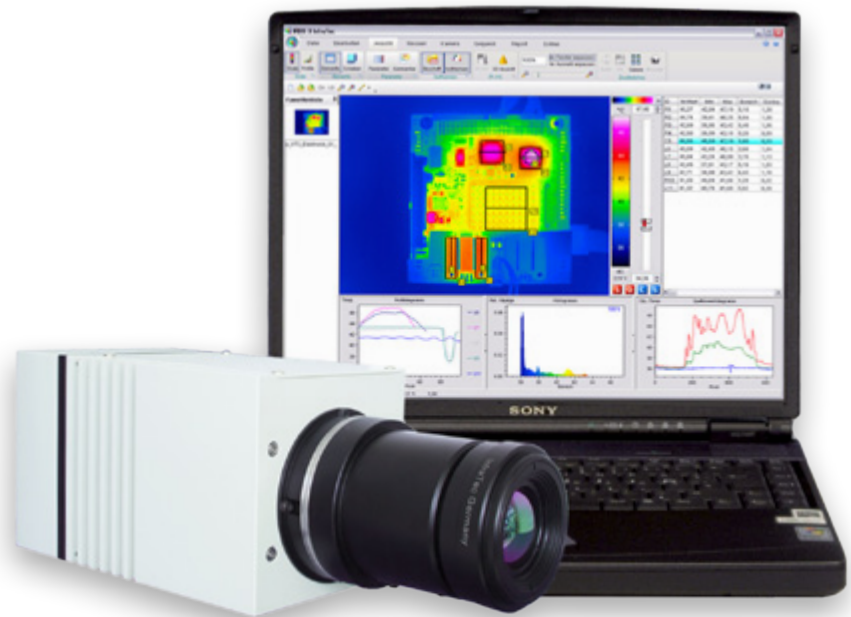
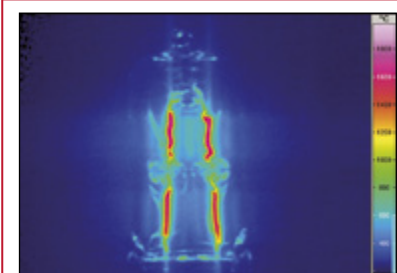
Gas detection



Glass surface measurements



Through glass measurements



Features

- long-time stabilized InSb FPA detector with (640 x 512) IR pixels
- excellent thermal resolution < 0.02 K
- high image homogeneity and measurement accuracy
- wide standard measurement range
- real-time digital interface IEEE 1394/GigE*
- compact design for optimal integration
- broad spectral range (2 ... 5) μm for variety of spectral thermographic applications
- motorized filter wheel with four positions
- manifold automatic functions
- variety of accessories
- lens range: wide-angle, telephoto, close-up and microscopic

* Depending on the particular camera configuration.

VarioTHERM® InSb

Infrared Camera for Spectral Thermography

Technical specifications

Spectral range	(2 ... 5) μm
Detector	cooled Focal Plane Array, Stirlingkühler
Detector format (pixel)	(640 x 512)
Temperature measurement range	(-40 ... 1,200) $^{\circ}\text{C}$, optional > 2,000 $^{\circ}\text{C}$
Measurement accuracy	$\pm 2 \text{ K}$, $\pm 2 \%$
Temperature resolution @ 30 $^{\circ}\text{C}$	better than 0.02 K
IR-frame rate	50/60 Hz
Focus	manual
Filter wheel	Motorized, remotely controllable with 4 positions for optional spectral filters
Dynamic range	16 Bit
Integrated functions	Control of filter wheel, auto-range, auto-image, freeze, auto-NUC, image filters
Corrective functions	Emissivity value, distance settings, transmissivity, environmental temperature
Interfaces	FireWire (IEEE 1394), GigE*, RS232, S-/C-Video*, VGA*
Power supply	(9 ... 24) VDC
Operation temperature, encapsulation	(-15 ... 50) $^{\circ}\text{C}$; IP 54, IEC 529
Dimensions (without lenses)	(102 x 100 x 181.5) mm
Weight (without lenses)	ca. 3.0 kg

Design and specifications subject to change without prior notice.

The infrared camera system VarioTHERM® InSb provides highest precision in thermographic measurements. It operates in the spectral range of (2 ... 5) μm and it is especially suitable for thermographic measurements of special materials like metals, plastic foils, glass as well as gases and flames. VarioTHERM® InSb can be equipped with up to four spectral filters to be motorically swiveled in. The filters allow for an optimal adaptation to spectral emissivity and transmission properties of the measurement objects. The InSb FPA detector technology stands for high long-time stability, image homogeneity and measurement accuracy. It also allows for an excellent image quality based on an outstanding thermal resolution of 0.02 K even of measurement objects with a very low temperature gradient.

The high geometrical resolution of (640 x 512) IR pixels takes care of the identification of smallest details. Combined with high-value special lenses VarioTHERM® InSb is suited for applications in R&D with most demanding temperature measurement needs. The wide range of lenses provides for long distance measurements with telephoto lenses as well as for measurements of a μm size using precision microscopic lenses. The especially small design of the VarioTHERM® InSb together with its modern interface concept low for an easy integration in complete solutions.

Lenses and close-up-lenses

Lens	Focal distance	FOV ($^{\circ}$)
Wide angle lens	12 mm	(42 x 30.5)
Standard lens	25 mm	(22 x 16)
Telephoto lens	50 mm	(11 x 8)
Telephoto lens	100 mm	(5.5 x 4)
Close-up lenses	Focus	Field of view (mm ²)
Close-up for Telephoto lens 100 mm	460 mm	(48 x 35)
Microscope 1.0x	195 mm	(9.6 x 7.2)
Microscope 3.0x	22 mm	(3.2 x 2.4)



* Depending on the particular camera configuration.

Produced by