

Intelligent cameras

Introducing a new miniature infrared camera that boasts an extremely high resolution, and a USB camera that combines infrared capability with real-time imaging

▶▶ The latest additions to Micro-Epsilon's miniature infrared camera range are the thermoIMAGER 400 and 450 models, which offer extremely high optical resolution of 382 x 288 pixels. A new detector enables the cameras to achieve a maximum thermal sensitivity of 80mK or 40mK, allowing the detection of even smaller temperature changes. The cameras are available in four versions, with temperature ranges from -20°C to +1,500°C.

Currently, Micro-Epsilon offers 30°C or 13°C angle of view. These new cameras offer more than four times the number of pixels of conventional infrared cameras and the resolution of the infrared image is therefore much sharper. In addition, tiny objects with surface areas down to just 0.8mm² can be reliably detected. The thermoIMAGER TIM 400 offers an integrated process interface for input and output of analog and digital signals, as well as alarms and temperature values. Furthermore, an image frequency of 80Hz enables infrared acquisition to occur in real time, such as in the monitoring of dynamic, fast-moving processes.

With dimensions of 46 x 56 x 88mm, the thermoIMAGER TIM400 is one of the smallest USB thermal imaging cameras on the market. The IP67 protected housing is tested for industrial applications under harsh environmental conditions. Micro-Epsilon is able to offer a water-cooling jacket for ambient temperatures up to 240°C.

In a separate development from Micro-Epsilon, the company's new thermoIMAGER TIM 200 camera has been designed to operate by using new bi-spectral technology that combines two images into one. The compact USB infrared camera in the TIM 200 is equipped with an



Above: The TIM400 is one of the smallest USB thermal imaging cameras on the market

Left: The TIM200 functions by using bi-spectral technology that combines two images into one

additional visual camera. As well as infrared images, this second, high-technology camera enables real-time images to be recorded at the same time. The camera can evaluate temperatures between -20°C and +900°C. A special version of the sensor that can measure maximum temperatures of up to 1,500°C has also been developed by engineers at Micro-Epsilon.

The user can either change between the IR camera view and the real-time image, or overlay the two images. A key advantage to this arrangement is the ease with which

the camera can be adjusted. Critical temperature ranges or limits can also be easily set up on request.

The new thermoIMAGER TIM 200 is ideal for applications where two separate cameras are being used. As a consequence, typical measurement tasks include early warning fire-detection systems for large open spaces and in storage pits, or for temperature control of bulk shipping or cargo.

With dimensions of 45 x 45 x 62mm, the infrared camera with USB interface is one of the most compact currently available on the market. The thermoIMAGER TIM

200 operates with an image frequency of 128Hz and offers a resolution of 160 x 120 pixels. The synchronous real-time camera operates at 32Hz and at a resolution of 640 x 480 pixels. The camera is operated and supplied via a USB 2.0 interface. ©

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