# optris® PIX Connect
SOFTWARE

Comprehensive IR camera software

- No additional costs or licensing restrictions
- Modern software with intuitive user interface
- Remote control of camera
- Display of numerous images in different windows
- Compatible with Windows 7, 8 and 10
- Two Software Development Kits for Windows and Linux included
- Various language options, incl. translation function
- Temperature display in °C or in °F

*Real-time temperature information in main window, as digital display or as graphic*
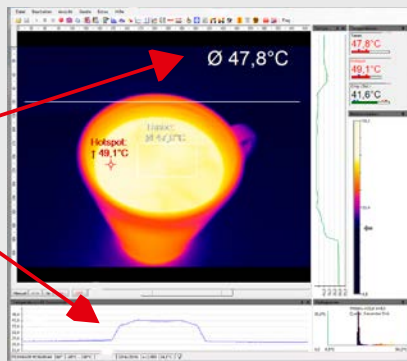
Our layouts – as individual as your applications

Pre-defined layouts make it quick and easy to start with your applications. And because we know that every measurement task has its own individual requirements, we have ensured that it is quite easy to adapt the preset layout to suit your individual requirements.

The user interface of the PIX Connect software can also be adapted to suit your personal workflow: Software windows can be easily arranged using drag & drop; in the toolbar you can save shortcuts for functions relevant to your application – or even remove links which you do not need.

Regardless of whether you are working on a desktop PC or a tablet, the user interface can be adapted.
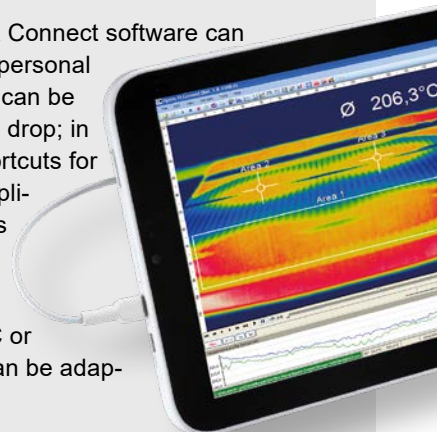
The PIX Connect software makes a wide range of preset color palettes available. This allows optimal depiction of thermal contrasts. The pre-defined color palettes can be individually adapted to be able to cater for the specific requirements of your respective application.

Associated temperature groups (isotherms) can be identified by color markers and highlighted. It is also possible to define temperature values in advance; pixels above, below, or between these values are highlighted in color.
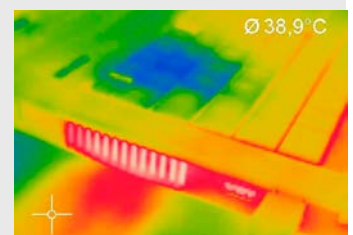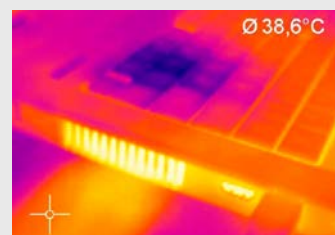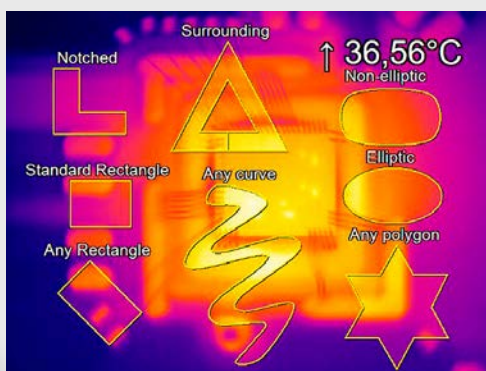
The right color palette for every application
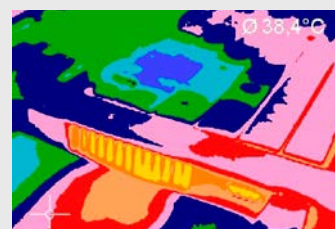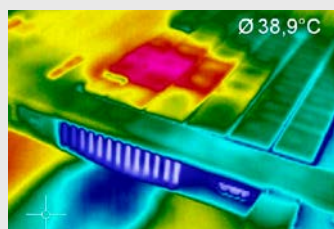
Measuring areas

It is not just a matter of size, but also depends on the content: designing a suitable measurement area

The size and shape of measurement area can be freely designed and moved. For an easy introduction, a large selection of pre-defined measurement area shapes is available.

You can set up as many measurement areas as you like in the camera's field of view. To do this, it is possible to make a distinction between main and ancillary fields.

Various modes can be set in a measurement area, such as minimum value, maximum value, or average value, or you can rule out the detection of hot or cold spots.

The separate setting of the emissivity for measurement areas allows various material surfaces to be monitored with a single camera.

Differences and averaging between different measurement areas are easy to calculate with the PIX Connect software.

Saved measurement areas can be displayed as an image, a digital display or a diagram and can then be saved for further analysis.
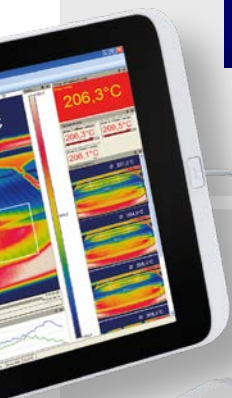
Graphic display of the temperature values
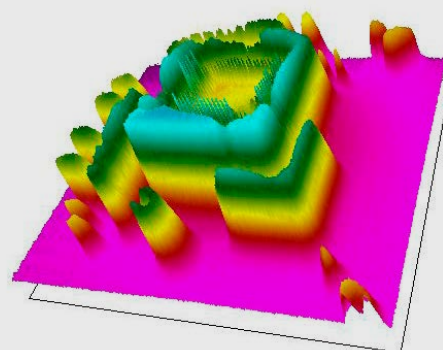
Temperature values can be shown along a straight line as temperature profiles as well as as 3D diagrams.

A temperature/time diagram can be used to analyze the temperature development over time. Individual time sections can be lifted out of the diagram and be analyzed in detail by zooming in and out.

Diagrams defined in this way can be exported from the software and be saved in Excel for further analysis.

optris® **PIX Connect**
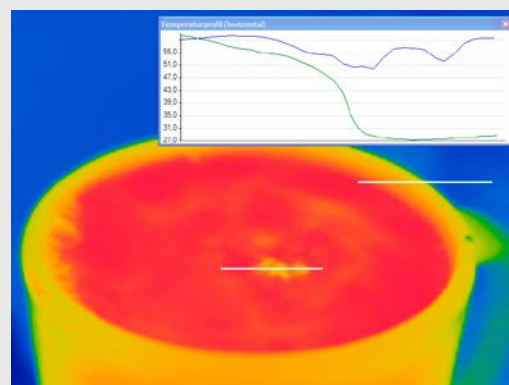
Recording and display

Recording video sequences for later analysis and documentation
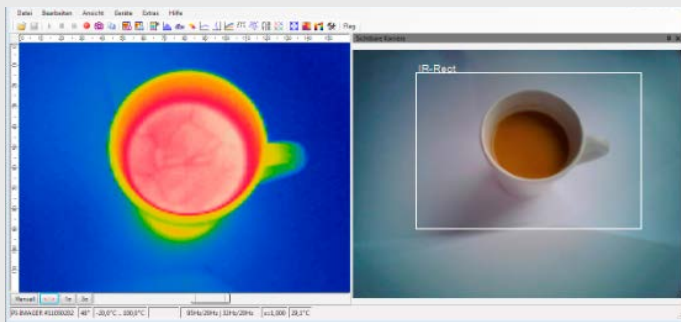
The software can be used to save the recording from the thermal imaging camera as video sequences which can then be saved for analysis later on. The video sequence is recorded for every pixel including all temperature information. An integrated screen capture function makes it simple to retrospectively generate videos in wmv format.

BI-SPECTRAL video analysis where both an IR as well as a VIS image are recorded makes it easy to highlight critical temperature ranges.

Videos recorded can be processed retrospectively. For example, individual sections can be cut out of a recording and can be saved as an independent sequence.

Saved video recordings are available for analysis. The sequences can be played back in slow motion or time lapse for this purpose. It is also possible to play back as a continuous loop.


The snapshot option works like a screenshot; an individual image is recorded from the live picture. This snapshot is a radiometric image (*.tiff), where all the temperature and measurement area information at the time of the recording is saved for every pixel.

Saving and exporting the image for further analysis in Excel is possible thanks to the option of saving the temperature matrix in text format, e.g. as comma-separated values (.csv format). It is also possible to continue processing the image data with standard programs such as Photoshop or Windows Media Player.
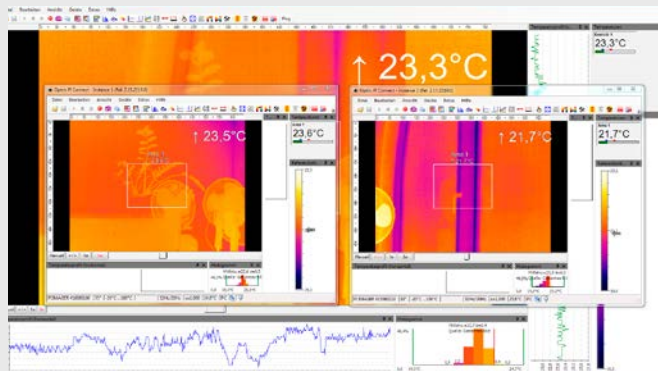
Sections of the saved image can be zoomed in to get a closer look. 3D display is also possible.
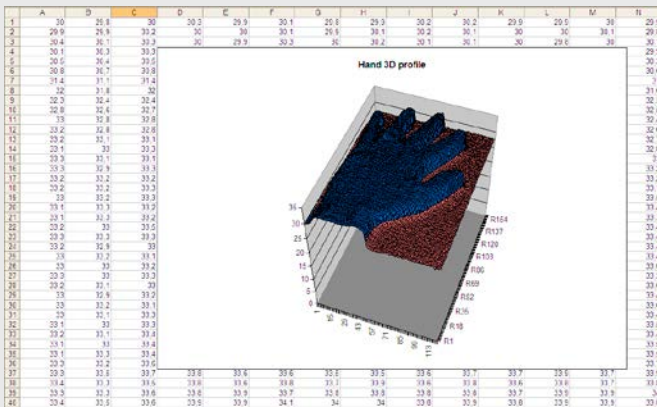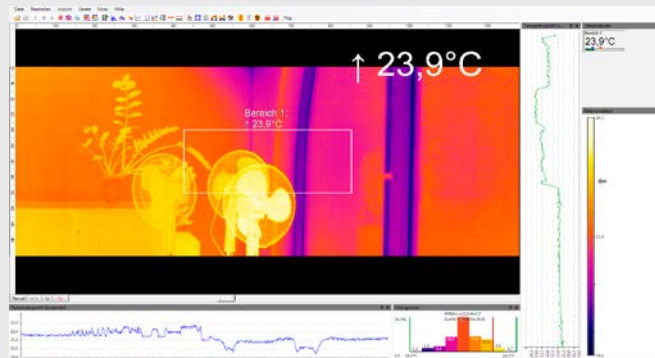
Snapshots – all temperature information in one picture
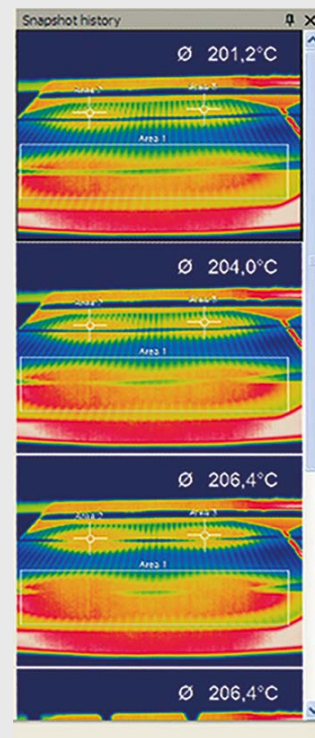
Merging

The fields of vision of three cameras (top) are converted into one single image via the merging function (right)

The merging function combines several camera angles together in a single picture

The PIX Connect software gives you the option of grouping together several cameras within a software instance, i.e. the field of view of several infrared cameras are merged together to make a single picture. For processes with several control points in particular, it is helpful to concentrate the various angles on one screen. Merging several cameras also makes it possible to get an all-round view of a 3D object.

You can merge several cameras either using a direct USB connection or via Ethernet. While in the first case, every camera needs to have its own USB port; for the second option, one Ethernet connection is enough. The cameras here are each connected to the Ethernet switch on the PC via a USB Server Gigabit 2.0.

Alarms

Temperature dependend alarms for freely definable measurement areas as well as the internal temperature of the camera can be chosen via the software. Apart from minimum and maximum values, it is also possible to set so-called advance alarms. These will emit a warning when the measured temperature approaches the defined minimum or maximum value, therefore giving you more options and time to react.

If the measured temperature reaches one of these previously defined values, then the software will trigger an alarm. In addition to that, the critical event can be easily documented as a snapshot or video recording and be used for analysis later on.

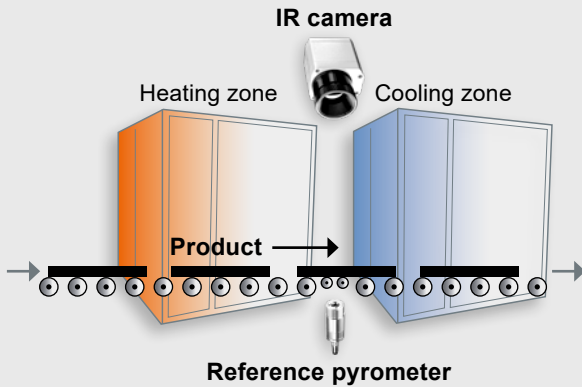**Defining several alarm values allows quick intervention**

optris® PIX Connect
LINESCANNER
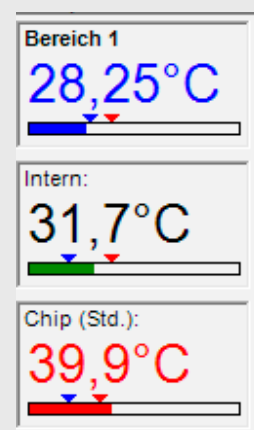
For the measurement of moving objects

The optris® PIX Connect software is equipped with a line scan camera function. The line scanner is primarily used for processes involving moving measurement objects, like rotary kiln measurements or large quantities on conveyor belts (batch process).

Application example:
rotary kiln in the chemical industry

The advantages

Simple monitoring of precesses with limited visual access

IR camera

Heating zone **Cooling zone**

Product →

Reference pyrometer

Indirect visualization of heat distribution in ovens via camera installation at oven exit

640 pixels → **800 Pixel**

Increase in the number of pixels, e.g. from 640 pixels to 800 pixels by using diagonal screen measurement

Lines have FOV of up to 111° for detailed process analysis, e.g. on wide conveyer belts

111°

800 Pixel Any number of lines →

Up to 32 Hz data recording* of unlimited lines which in turn produce a thermal image of any given resolution.
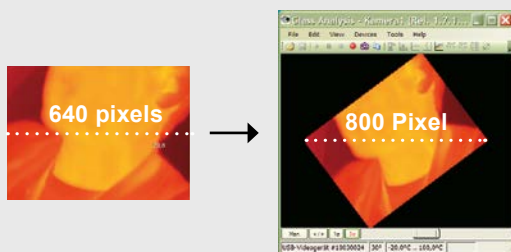

Only 3 steps to initialize the function

Step 1
Activation of the line scan camera function (continous, self-triggered, external trigger) and definition of the position of the lines in the thermal image. For this the camera itself serves as an orientation aid.
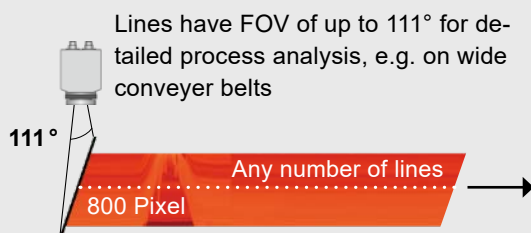
Step 2
Configuration of line scan function, e.g. numberof lines displayed or set trigger for automatic saving of images.
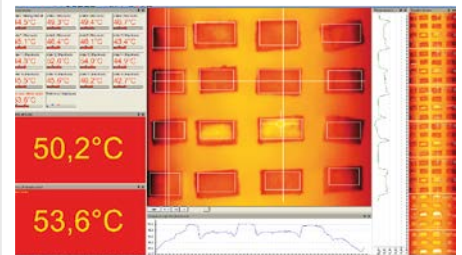
Step 3
Definition of individual layouts, e.g. display of saved images in the snapshot process.

Layout example for display of line scan camera function

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*Up to 125 Hz data recording when using 90° in subframe mode (640 x 120)