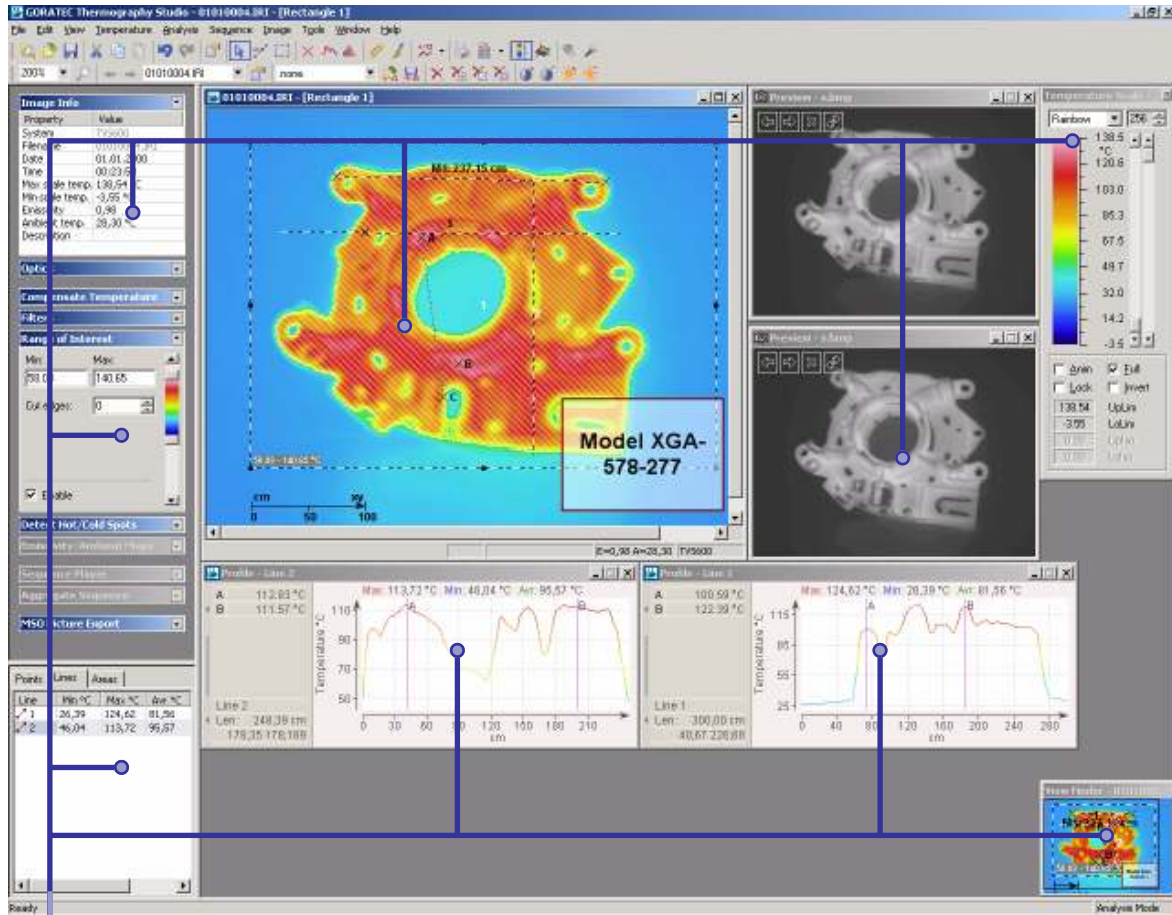


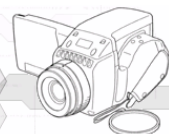
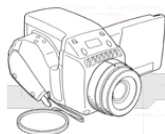


GORATEC

2007 Thermography Studio



- Easy to use, straightforward and highly organized **user interface**.
- Wide range of **flexible tools** for reliable and accurate thermographic analysis.
- Variety of comprehensive, **presentable diagrams**, including profiles, histograms and trends.
- Fast **report generation system** based on templates allows to present inspection results in the best form and in the quickest time frame.
- Real-time **image acquisition** and **online image analysis**.
- Friendly to other applications by having various **export possibilities**.



GORATEC Thermography Studio 2007

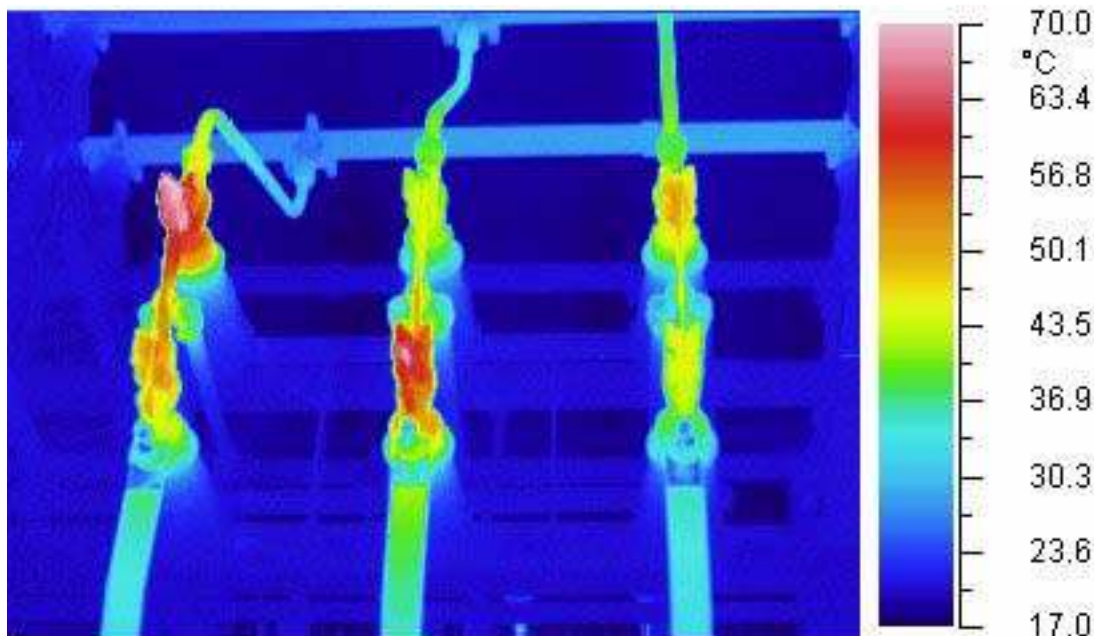


General

Last generation of Infrared Cameras can record, on memory cards or directly on the PC with the IEEE-1394 interface, thousands of images in very short time. GORATEC **Thermography Studio with the versions GTS Report, GTS Professional, GTS Realtime and GTE Explorer XL** has been designed to handle this amount of data in a quick and easy way. The analysis of sequence and report generations are two operation that can be time consuming.

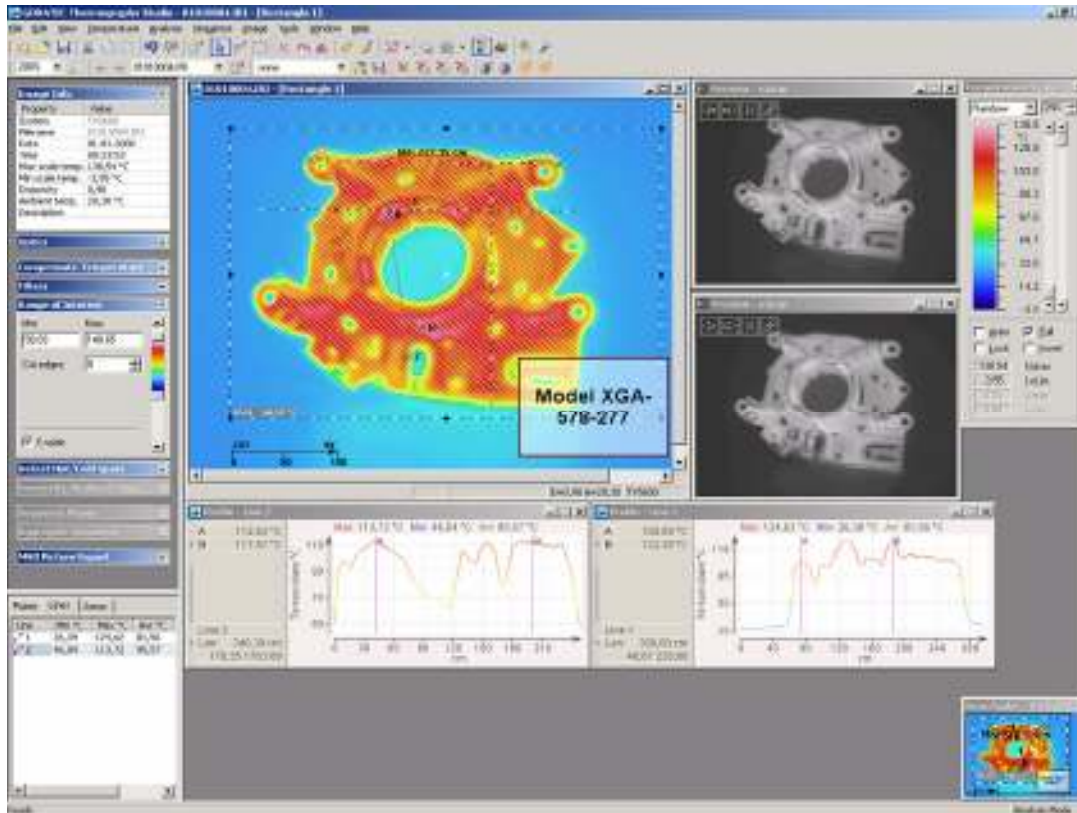
With GORATEC **Thermography Studio** the operator can analyse a file of sequence images, with only two operations; selection of the images and analysis function set only on the first image. The software will show directly the result of all the sequence analysis in multiple diagram functions or with data to export in ASCII or Excel file. Analyze and save a live sequence of images with the realtime recording functionality.

GORATEC **Thermography Studio** can quickly create report pages containing the diagrams, histograms and images you are working on at the time. A report is an effective way to present your data in a printed format. Because you have control over the size and appearance of everything on a report, you can display the information the way you want to see it. Create fast and easy single-page-reports in HTML-format or comprehensive high quality multi-page-reports in MS Access or MS Word format, for an easy exchange of reports between operators



GORATEC Thermography Studio 2007

Simple Handling



An important feature of **GORATEC Thermography Studio** is the clearly structured and easy-to-use user interface. Each function is controlled by Windows-like menus and/or icons on the tool bar. The new Navigation Panel gives direct access to the most used information and function windows. Operators need only minutes to learn the handling of the software.

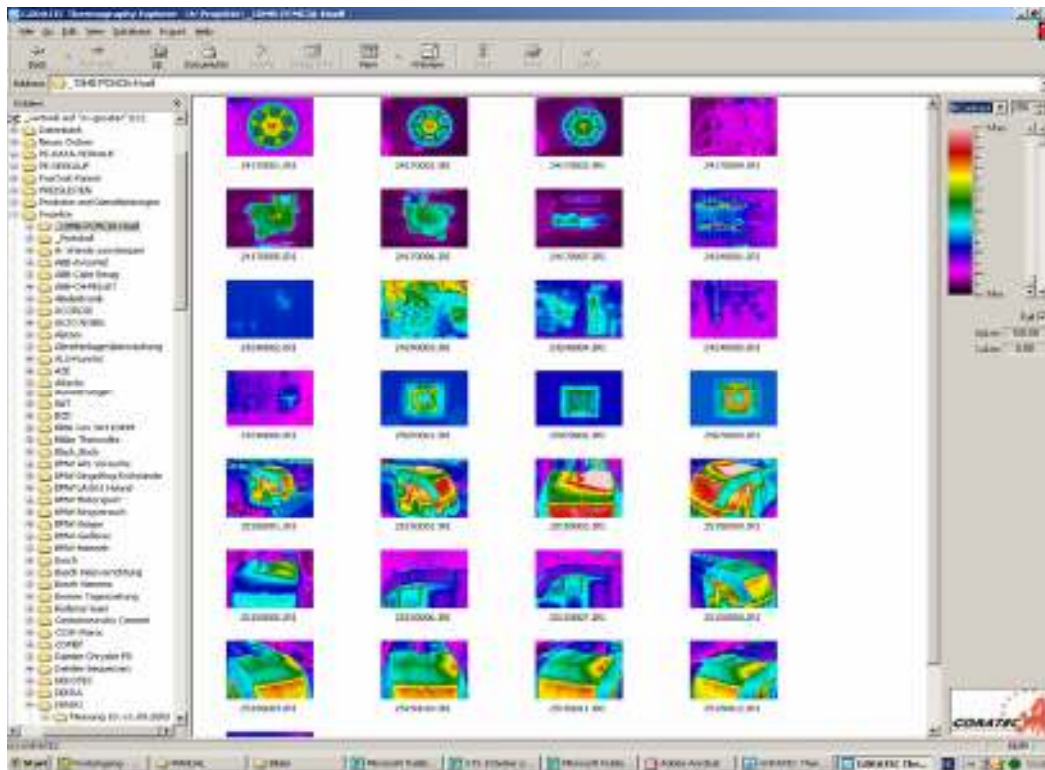
GTS is designed for the following Operating Systems:

- Windows 95/98/Me
- Windows NT 4.0 (with Service Pack 4 or later)
- Windows 2000
- Windows XP.

Another important feature is the extended compatibility with different software for data export in various formats. With GTS you can export images, profiles, histograms and trends in JPEG-, BMP- or Windows Enhanced Metafile format or all image and temperature data in ASCII formats (*.txt or *.csv) for simple data exchange with software like MS-EXCEL, LAB-VIEW, MAT-LAB, etc. Easy data exchange with Microsoft Office products is available with clipboard function or MSO export function.

GORATEC Thermography Studio 2007

Thermography Explorer



GORATEC **Thermography Explorer GTE** is a Windows Explorer like tool specially designed to help you organize infrared and visual images, collections, voice files and to link them to each other. There are also format conversion and printing functions.

Key features:

- Full functionality of *Windows Explorer* operations like rename, copy, move and delete
- Drag and drop support
- Thumbnails preview for infrared and visual images (image gallery)
- Copy to the Clipboard, export from infrared to JPEG and Bitmap
- Printing
- Viewing and changing camera information for one image and for complete sequence of images
- Sequence export to JPEGs, Bitmaps and AVI movie clips
- Detailed image preview with point temperature measurement
- **Image Database** function: link your infrared images with visual, attach collections to them
- Movie function
- Voice recording
- Integration with GORATEC **Thermography Studio**



Report Generation

Single-page-report in HTML format

Creating a Report page can require more time than doing the inspection in the field. Using **GTS**, you can quickly create a single-page-report containing diagrams and images you are working on at the time. Clicking "Report Page" in the "Tools" menu creates a single-page-report in HTML format ready to be sent by e-mail.

REPORT: 34030001.IRI

TVS Information	
System	TVS700
Date	03.04.2003
Time	10:23:34
Emissivity	1,00
Ambient Temp.	13,5
Max Scale Temp.	19,9
Min Scale Temp.	2,5
Sensitivity.	0,04

Profile:

MAX: 14,9 °C MIN: 6,1 °C AVE: 10,7 °C

Points	
A	8,85°C
B	8,85°C
C	9,99°C
D	8,40°C
E	7,59°C
F	14,51°C

Histogram:

MAX: 17,4 °C MIN: 4,5 °C AVE: 10,1 °C

GORATEC Thermography Studio 2007



Report Generation

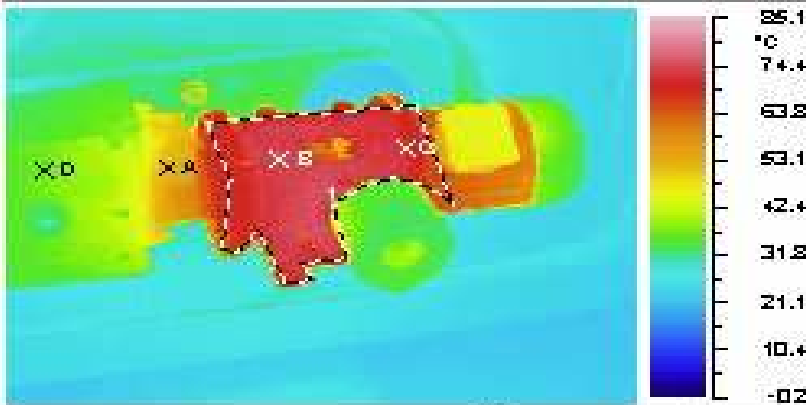
Multi-page-report in MS ACCESS format

Using GORATEC **Thermographie Studio** you can create comprehensive multi page reports in MS Access in a few seconds. To save space on the hard disk the software uses collection files. Collections contain information about created objects, their sizes, emissivity values, analysis, filters and so on.

Thermographic inspection report


GORATEC

Customer :		Date :	
City :	Operator :		
Camera :	Lens :		
P 6 130003.1 RI			

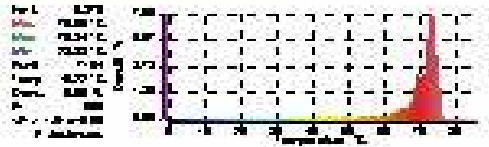


A:	51,47 °C
B:	73,8+ °C
C:	71,23 °C
D:	35,69 °C

P 6 00009.jpg



Location:	
Plan:	
Device:	
N. of identification:	
Phase:	
Wind Speed:	
Emissivity:	0,87
Load:	
Ambient Temp.:	32,70 °C
Normal Temp. of Device:	
Max Temp.:	85,09 °C
Over Temp. At actual load:	
Over Temp. at normal load:	
Distance:	

Min: 0,00 °C Max: 78,84 °C Avg: 38,87 °C Temp. of Device: 51,47 °C Temp. of Ambient: 32,70 °C Emissivity: 0,87	
---	---

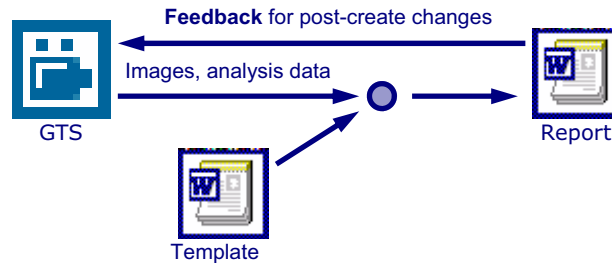
Class of defect

dT > 35 °C . Requires urgent repair
dT = 10 °C < 35 °C . Keep under observation
dT = 5 °C < 10 °C . Control at next thermographic inspection



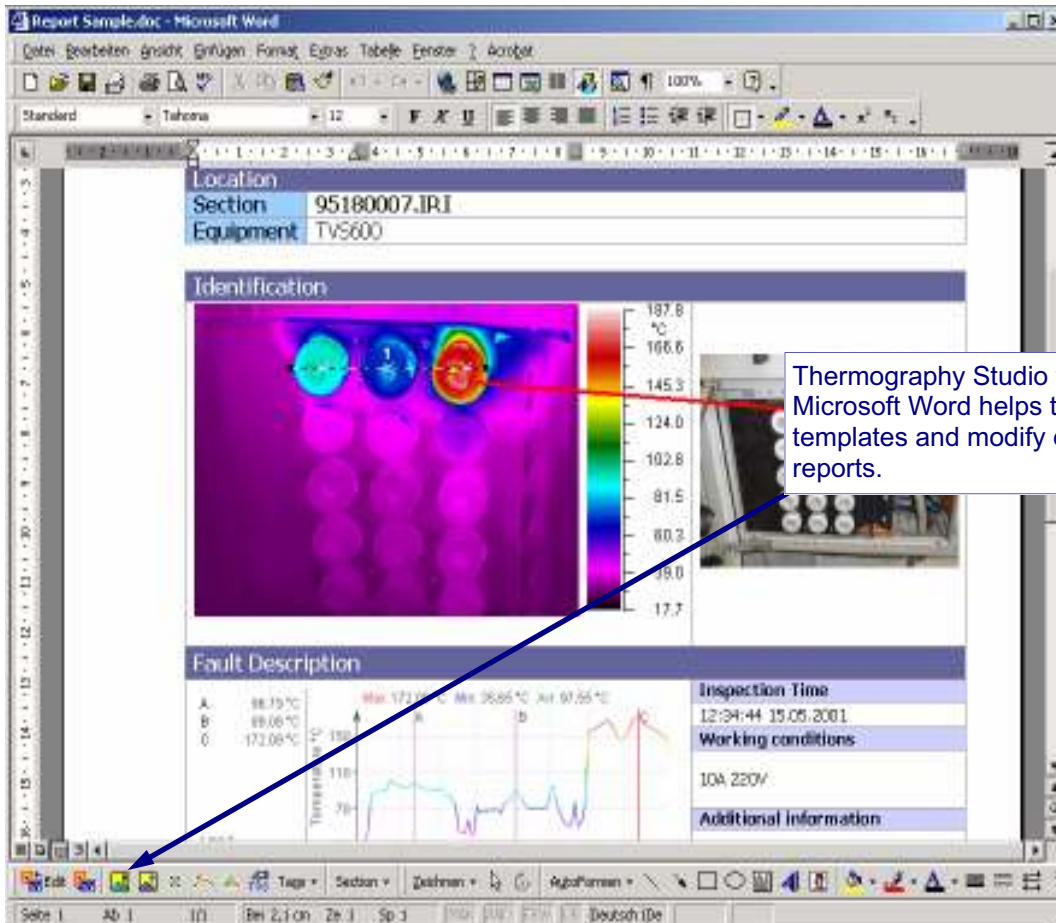
Report Generation

Multi-page-report in MS WORD format



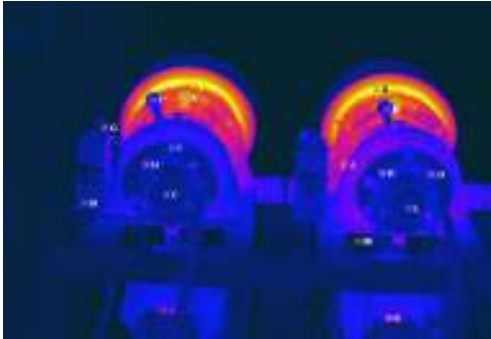
Benefits:

1. Reports are presented in the wide spread **Microsoft Word** file format.
2. All the report information is stored in a **single document file**, ready to be delivered to a customer.
3. **Automatic** one-page and multi-page report generation based on templates.
4. Reports are created from within MS Word, while analysis is made in the convenient environment of *GORATEC Thermography Studio*.
5. Report document keeps links to the actual infrared images and analysis objects, allowing to **make changes after the report is created**.
6. MS Word 97/2000/XP is supported.



GORATEC Thermography Studio 2007

Software Functions



Punkt	T °C	Emis.	Tu °C
A	76,9	0,97	29,8
B	37,2	0,97	29,8
C	34,4	0,97	29,8
D	100,3	0,97	29,8
E	57,7	0,97	29,8
F	35,9	0,97	29,8
G	54,9	0,97	29,8
H	47,5	0,97	29,8
I	40,6	0,97	29,8
J	65,0	0,97	29,8
K	47,9	0,97	29,8
L	36,1	0,97	29,8
M	26,1	0,97	29,8
N	34,5	0,97	29,8
O	48,3	0,97	29,8

Points.

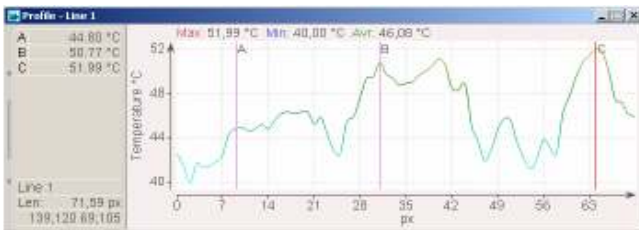
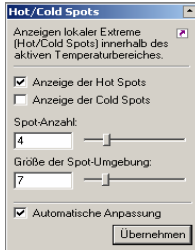
Place up to 286 measurement points on the image. It is possible to change the point emissivity and to add temperature.



Punkt	T °C	Emis.	Tu °C
a	105,1	0,97	29,9
b	103,9	0,97	29,9
c	99,1	0,97	29,9
d	99,0	0,97	29,9

Hot Spots/Cold Spots

A HOT SPOT (COLD SPOT) is defined as point with the highest (lowest) temperature value inside an area (neighbourhood). You can define the number of spots displayed and the size of the spot neighbourhood.



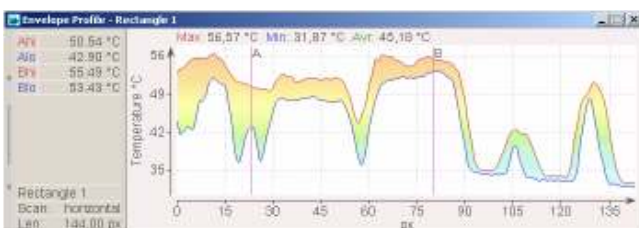
Profile

A profile shows temperature values along a defined line.



Histogram

A histogram displays the temperature distribution in a selected area. It indicates also the max. min. and medium value of temperatures in the selected area.

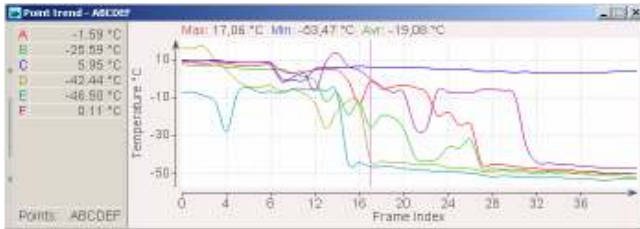


Envelope Profile

An *envelope profile* displays min and max temperature for every vertical or horizontal line of an rectangular area.

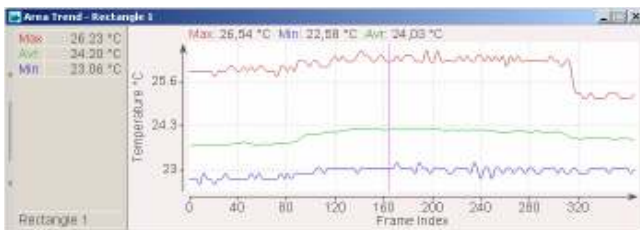
GORATEC Thermography Studio 2007

Software Functions



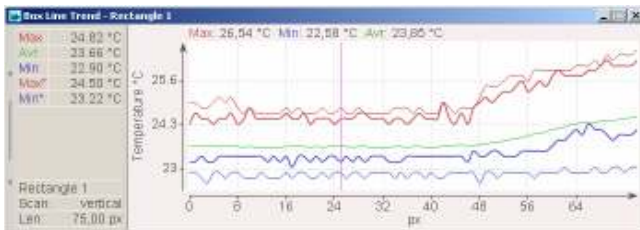
Point Trend

A point trend shows how the temperature at some point is changing over the time (sequence).



Area Trend

An area trend is build up by an area and shows how minimum, average and maximum temperatures are changing with the time (sequence).



Box-Line Trend

A box-line trend shows min, max and average temperature for every line of an rectangle. The values are taken from every frame of a sequence.

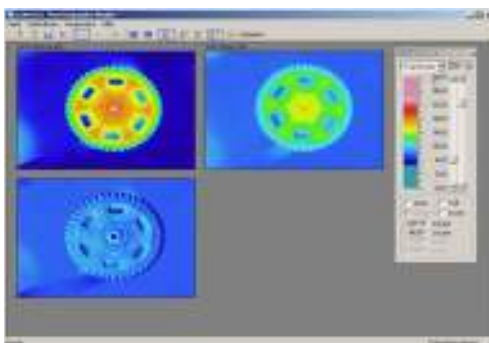
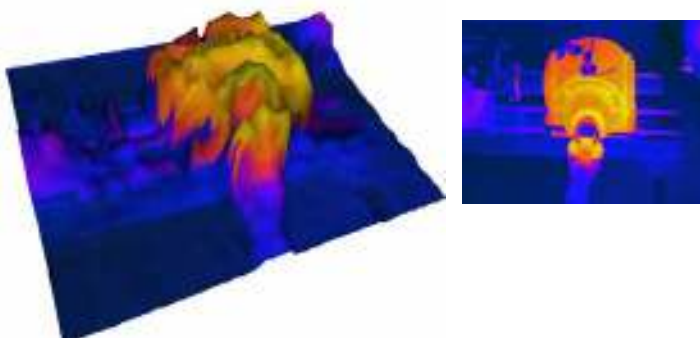


Image Subtraction

It is possible to subtract two images to obtain a new image representing the temperature difference. The image can be saved in IRI format for later analysis. It is possible to switch to the areas subtraction mode



3D View

A thermal image can be visualized in 3D view for a better presentation of temperatures.



Software Functions

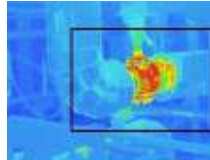
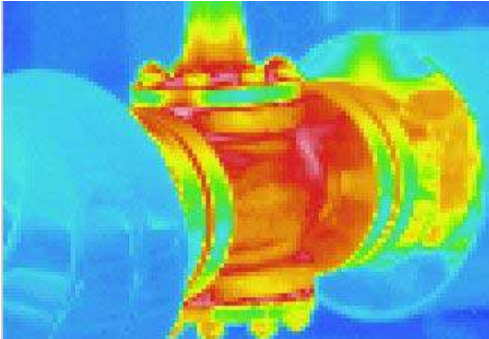
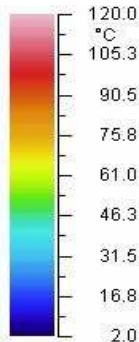
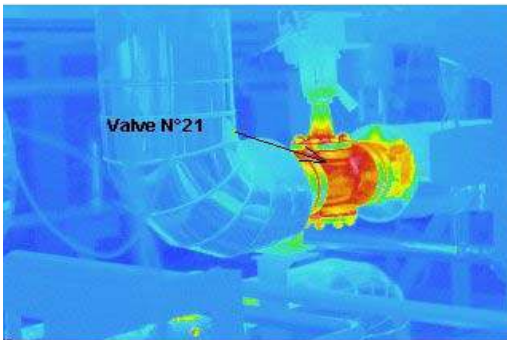


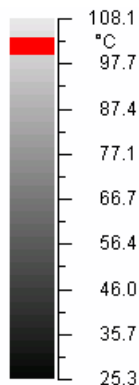
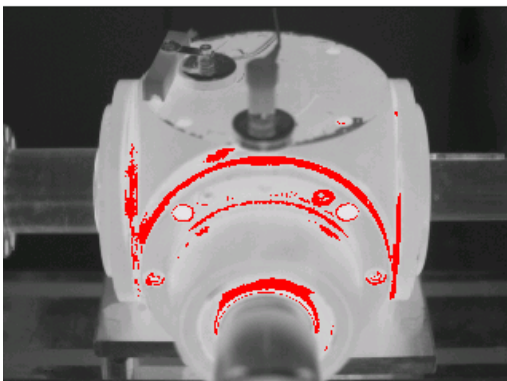
Image Zoom

The image zoom can vary from 50 to 5000% of the original size. If an image is zoomed to a size that does not fit to the window anymore, a view finder windows pops up to help you to locate the displayed part of the image.



Graphical Elements

You can draw additional graphical elements like arrows and text boxes on the image. This elements are saved with the image, also when converting the image to BMP format.

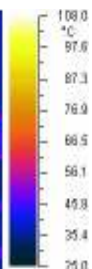
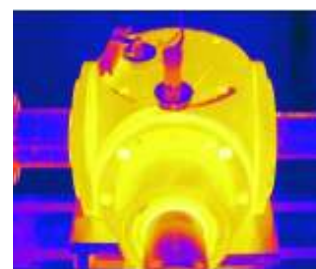
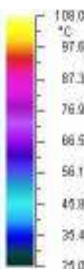
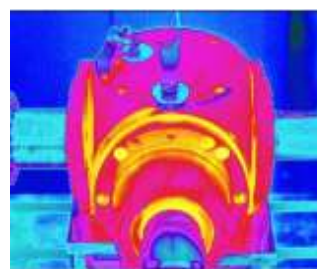
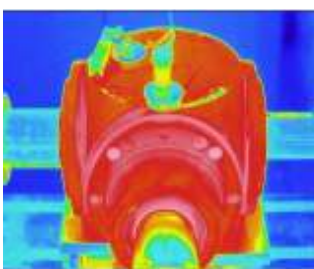


Isolines

There is a possibility to mark some temperature range with a single colour (black, white or red).

You can choose between the following Isoline modes:

- *Single* – Isolines for one range, you can change the width of this range.
- *Multi* – you can set up the width of each range and the distance between them.



Change colour palettes and temperature ranges.

Choose between several colour palettes and select the number of displayed colours (16, 32, 64, 256).

Adjust the temperature scale range to the best display result.

GORATEC Thermography Studio 2007

Online



Online camera connection and real time recording **embedded** into GORATEC **Thermography Studio Realtime** with full functionality.

Same analysis functionality is available for the live image as for a stored image.

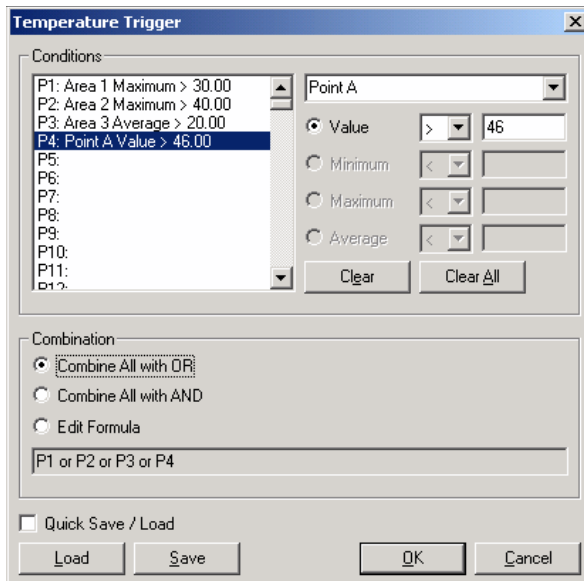
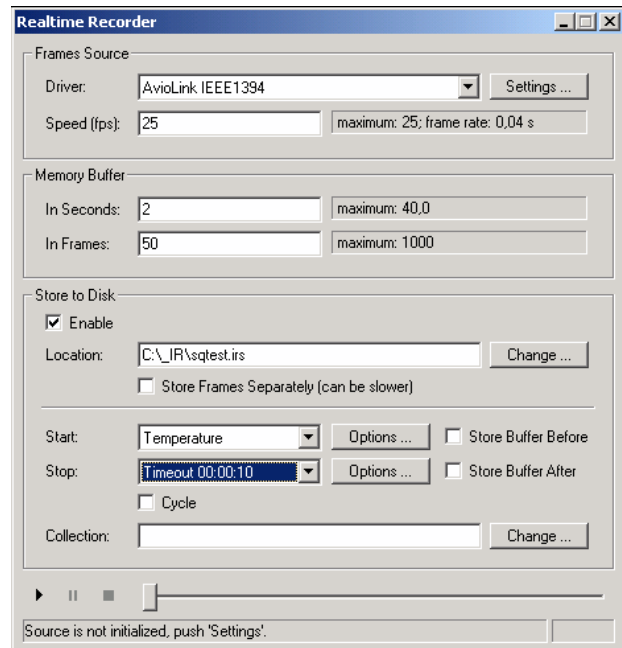
Recording to the memory or onto the disk, every frame separately or all frames in one sequence file.

Manual start and stop of recording by **Onscreen-Buttons**.

Trigger driven recording:

- timeout trigger
- external COM port trigger
- USB sync unit trigger
- Temperature trigger

Post- and **pre-** trigger recording.



USB sync unit trigger:

Unique USB control unit starts or stops recording when user-defined external trigger conditions reach specified level.

- 7 analog inputs
- 8 digital inputs
- OR, AND conditions combination.

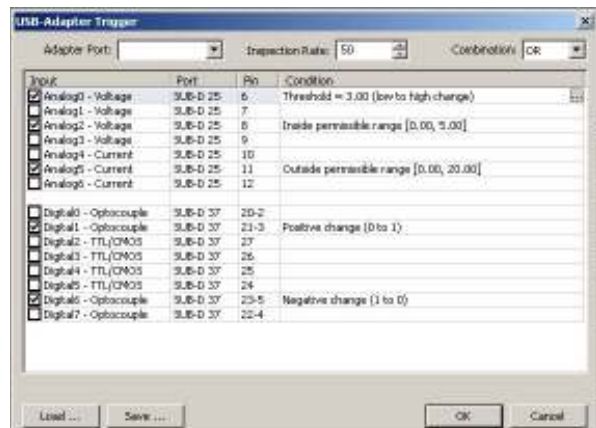
Temperature trigger:

Starts or stops recording when temperature conditions in an area, line or spot reach specified level.

- Spot temperature value monitoring.
- Min, max, average monitoring for areas and lines.
- OR, AND conditions combination.
- Possibility to enter custom formula.

Memory buffer recording:

Images are going through a memory buffer before being processed, even if disk recording is on. This allows storing of the image received before the start trigger is fired. The actual image meeting the trigger conditions will be stored, no loss of data or too late start of recording.



GORATEC Thermography Studio 2007



Software Modules

GTS Realtime, Professional and Report packages

You can order Thermography Studio in three versions, so you can select a package that meets your personal needs. Do not pay for the features you do not use!

Feature	Realtime	Professional	Report
Realtime Recorder*	+	*	
Advanced Analysis***	+	+	
Trends	+	+	
Sequence Operations	+	+	
Image Composition	+	+	
Standard Analysis**	+	+	+
HTML Report	+	+	+
MS Access Report	+	+	+
MS Word Report	+	+	+
Image Database	+	+	+
Thermography Explorer	+	+	+

*Realtime Recorder:

GTS Pro includes only the disk image source

**Standard Analysefunktionen:

- adjustable image view: color palettes, temperatures range, isolines, zoom
- up to 286 analysis spots
- temperature profile
- histogram
- temperature difference calculation
- automatic hot/cold spot detection
- export (JPEG, BMP, CSV, TXT)

***Advanced Analysis functions:

- averaging, temperature offset
- filters
- emissivity maps
- polygonal area shapes
- range of interest
- rulers, distance measurements
- optics settings