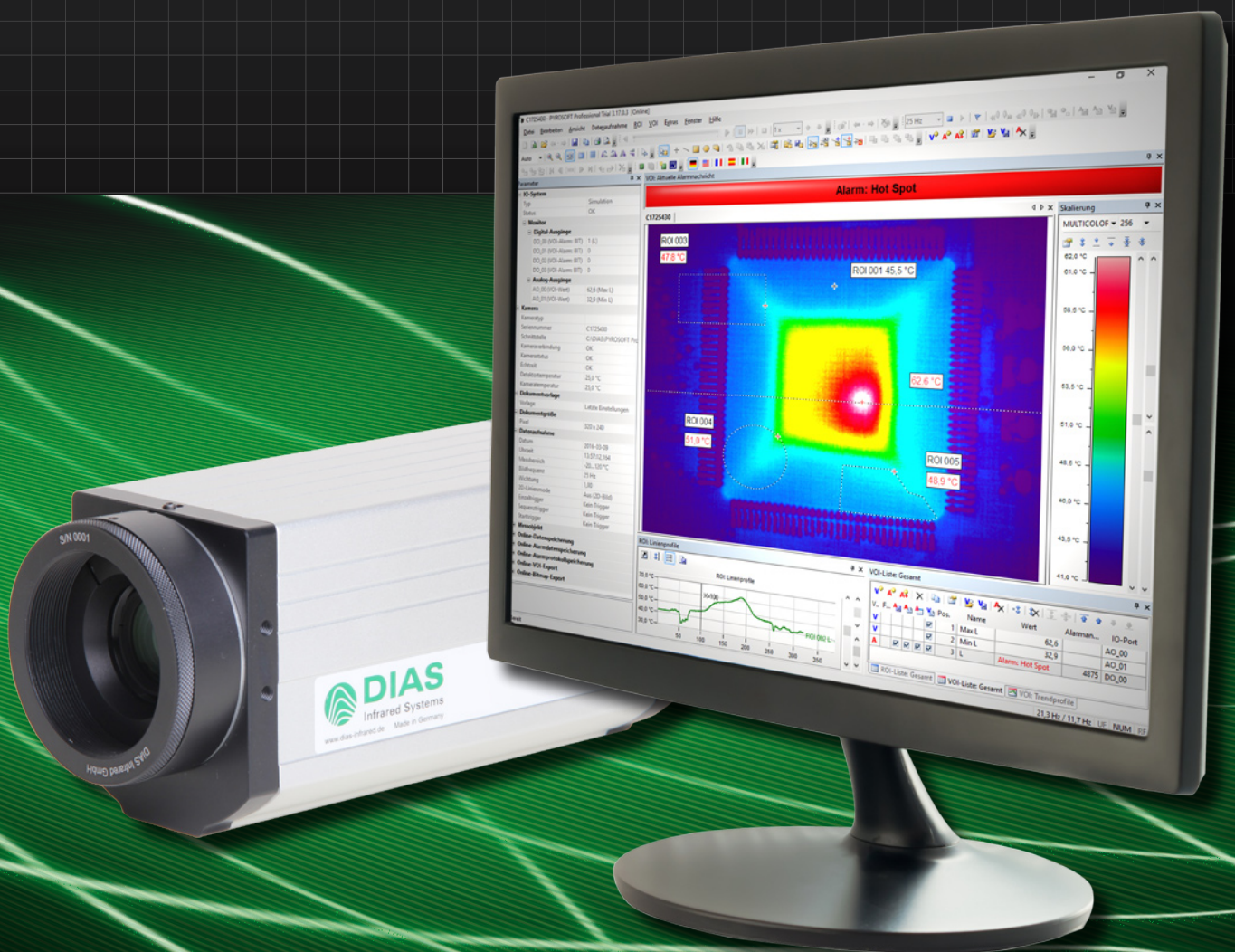


PYROSOFT

Software for DIAS infrared cameras in industry
and research & development



Standard and application specific software
Overview & Features

PYROSOFT Compact, Professional, Professional IO

Powerful online and offline software for DIAS infrared cameras



PYROSOFT Compact, Professional and Professional IO are multilingual and universal thermal imaging software applications for all DIAS infrared cameras PYROVIEW and PYROLINE running under Windows®.

PYROSOFT Compact is the free software version that is delivered with every DIAS camera. Setup the online data acquisition and automatic data storage of your DIAS camera, open files and sequences, analyze regions of interests, create reports – all this is possible with PYROSOFT Compact.

PYROSOFT Professional is the right choice for complex measurement projects with advanced requirements for data analysis. Versatile possibilities for defining regions and alarm values, trend display, multi report function and much more allow the convenient and easy use in research and development.

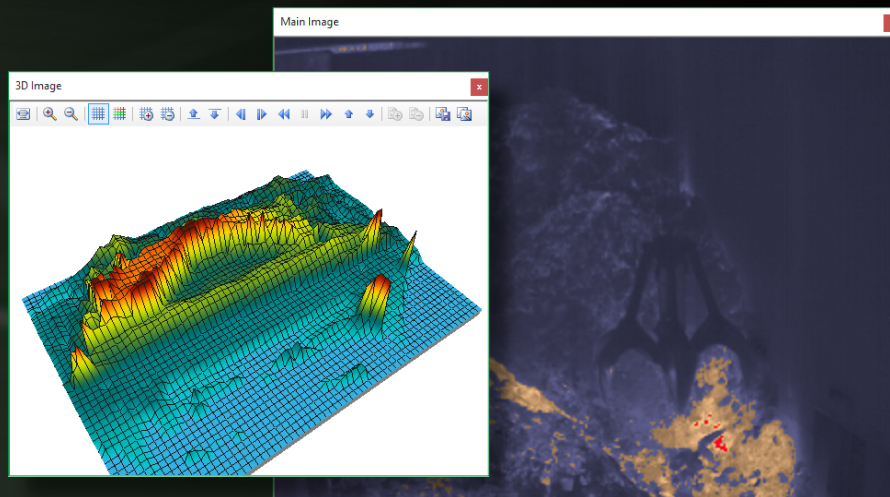
PYROSOFT Professional IO has additional functions for process integration. Trigger signals, alarm states and measured values can be input and output via an I/O system (PROFIBUS, PROFINET, WAGO, Modbus, OPC, TCP socket or text file). Use PYROSOFT Professional IO to connect your DIAS camera to your process.

Acquisition + Display

You can customize the PYROSOFT program interface by using the versatile views and layout templates. The multi-document structure of PYROSOFT Professional and PYROSOFT Professional IO enables analysis of data from multiple cameras or saved files simultaneously.

Camera measurement data is transferred in real-time via the Ethernet interface to the host PC. On the PC, this data is analyzed by the PYROSOFT software and saved if necessary. Integrated buttons for operation of the camera's motor focus allows convenient focusing of your DIAS camera to the measurement object.

Choose between different color scales for the display of the thermal image in °C, °F, °K or as radiation values. The temperature range displayed in the image is fully adjustable with auto dynamic or manual temperature. The user can also zoom into a region in the displayed image in order to examine fine details using the zoom function.

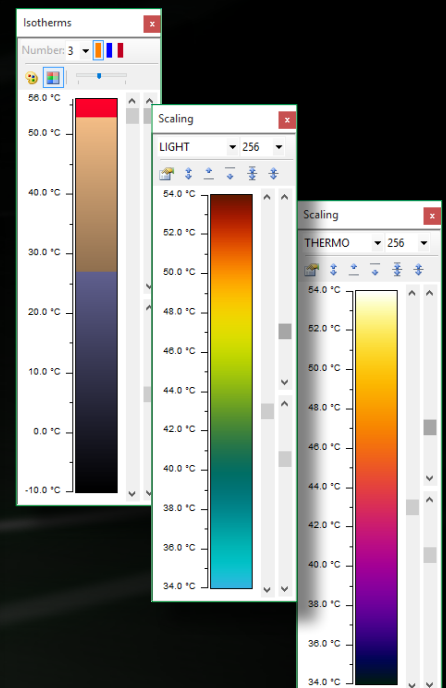


Features

Customizable display of the thermal image

Various color bars and isotherms display

Auto dynamic and manual scaling of temperature scale



C1725430 - PYROSOFT Professional Trial 3.17.0.3 [Online]

File Edit View Data Acquisition ROI VOI Extras Window Help

Auto [Icons] Current Data Record [Icons] [25 Hz]

Parameters [Icon] VOI: Current Alarm Message [Icon]

IO System

Type: Simulation
Status: OK

Monitor

Digital Outputs

DO_00 (VOI Alarm: BIT): 1 (L)
DO_01 (VOI Alarm: BIT): 0
DO_02 (VOI Alarm: BIT): 0
DO_03 (VOI Alarm: BIT): 0

Analog Outputs

AO_00 (VOI Value): 62.6 (Max L)
AO_01 (VOI Value): 32.9 (Min L)

Camera

Camera Type: [Blank]
Serial Number: C1725430
Interface: C:\DIAS\PYROSOFT Pro
Connection to Camera: OK
Camera Status: OK
Real Time: OK
Detector Temperature: 25.0 °C
Camera Temperature: 25.0 °C

Document Template

Template: Last Settings

Document Size

Pixel: 320 x 240

Data Acquisition

Date: 2016-03-09
Time: 13:56:50,298
Measurement Range: -20...120 °C
Image Frequency: 25 Hz
Weighting: 1.00
2D Line Mode: Off (2D Image)
Single Trigger: No Trigger
Sequence Trigger: No Trigger
Start Trigger: No Trigger

Measurement Object

Online Data Saving
Online Alarm Data Saving
Online Alarm Log Saving
Online VOI Export
Online Bitmap Export

Alarm: Hot Spot

C1725430

ROI 003: 47.8 °C
ROI 001: 45.5 °C
ROI 004: 51.0 °C
ROI 005: 48.9 °C
Central Peak: 62.6 °C

Scaling: MULTICOLOF 256
Color Scale: 41.0 °C to 62.0 °C

ROI: Line Profiles

ROI: Line Profiles
X=100
Temperature: 70.0 °C to 30.0 °C
Position: 50 to 350

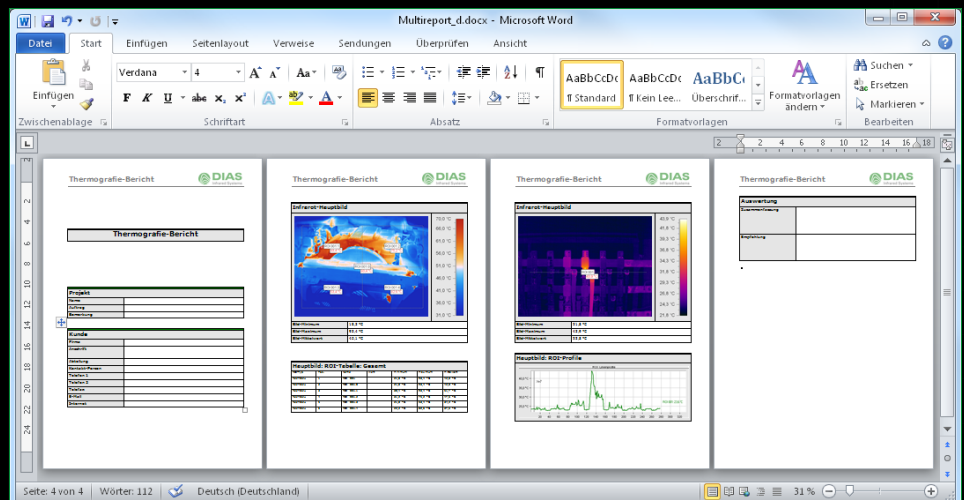
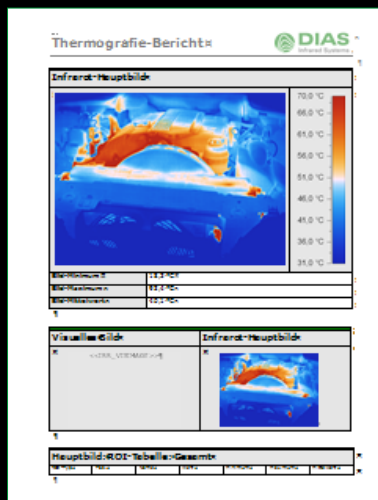
VOI List: All

V...	E...	Pos.	Name	Value	Alarm N...	IO-Port
V		1	Max L	62.6		AO_00
V		2	Min L	32.9		AO_01
A		3	L	Alarm: Hot Spot	4411	DO_00

ROI List: All VOI List: All VOI: Trend Chart

Current Data Record

21.4 Hz / 18.5 Hz UF NUM [Blank]



Analyze + Control

For data analysis of local regions (Regions Of Interest = ROI) points, lines, rectangles, circles/ellipses and polygons are all available. Calculate hot and cold spots within the ROIs, select specific values of emissivity, transmittance and ambient temperature for every ROI and display histograms and automatic partitions within the ROIs.

Define values (**V**alues **O**f Interest = VOIs) from calculated ROI minima/maxima/average values or other values (e.g. histogram, spot, FFT) and display them as temporal trend. Specify alarms with fixed or variable thresholds and alarm combinations to detect critical temperatures immediately and display them offline and online, save and log them.

Analyze dynamic processes by using reference and difference images, filter images and 2D line images, detect temporal trends of temperature distributions on their measurement objects.

By using the configurable IO system in PYROSOFT Professional IO, triggers and reference values can be input, and measured values and the alarm states can be output for process control.

Features

ROIs: points, lines, rectangles, circles/ellipses, polygons

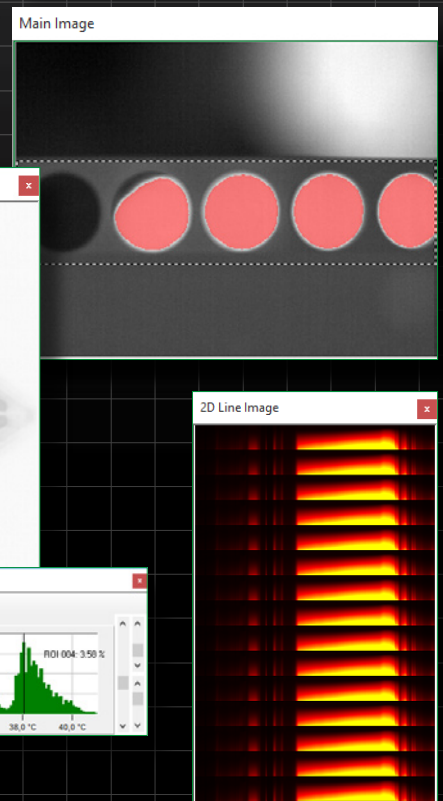
Calculation of hot and cold spots

Reference, difference, filter and 2D line images

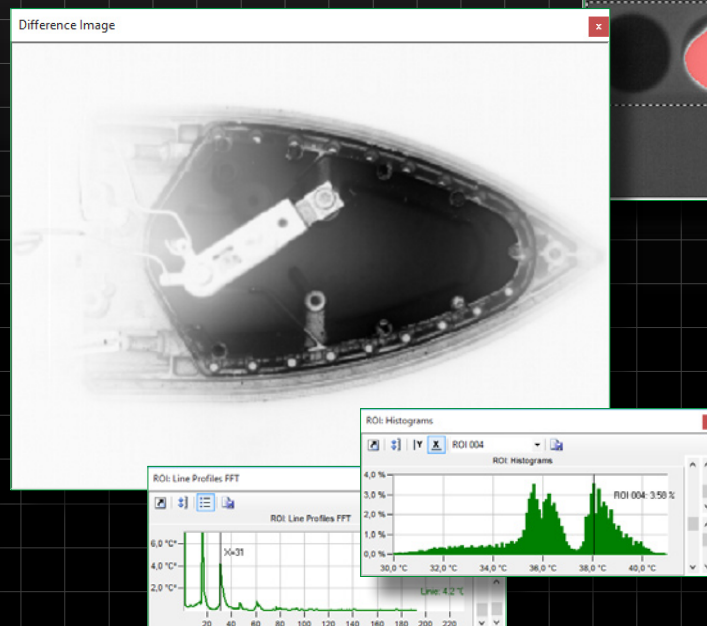
Definition of VOIs from ROI values

Trend, histogram and profile charts

Alarm functions



Parameters	
IO System	
Type	Simulation
Status	OK
Monitor	
Digital Outputs	
DO_00 (VOI Alarm: BIT)	0 (AL 001)
DO_01 (VOI Alarm: BIT)	1 (AL 002)
DO_02 (VOI Alarm: BIT)	1 (AL 003)
DO_03 (VOI Alarm: BIT)	1 (AL 004)
DO_04 (VOI Alarm: BIT)	1 (AL 005)
DO_05 (VOI Alarm: BIT)	0
DO_06 (VOI Alarm: BIT)	0
DO_07 (VOI Alarm: BIT)	0
DO_08 (Camera Temperature OK: BIT)	1
DO_09 (Camera Status: BIT)	1
DO_10 (Camera Connection: BIT)	1
DO_11 (Data Acquisition: BIT)	1
DO_12 (Data Saving OK: BIT)	0
DO_13 (Alarm Data Saving OK: BIT)	0
Digital Inputs	
DI_00 (Start/Stop Data Acquisition: BIT)	0
Analog Outputs	
AO_00 (VOI Value)	63.5 (VOI 001)
AO_01 (VOI Value)	157.0 (VOI 002)
Analog Inputs	
AI_01 (VOI Value)	0.0
AI_00 (Reference Temperature)	0.0



Evaluation + Documentation

Evaluate with the integrated data player recorded sequences, cut and export them as single files, as text, bitmap or video.

Derive from your offline evaluation online document templates for recurring measurement tasks.

Create album files from different recordings and multi-reports for Microsoft Word with thermal images, result lists of the calculation of ROIs and VOIs, profile and trend charts, histograms, difference images and many more objects.

Generate customized report templates for recurring reports so that they can be generated easily and edited as needed.

PYROSOFT – Function overview

	Compact	Professional	Professional IO	Automation	MultiCam	CamZone
User interface						
Multilingual software for Windows® (from version XP)	✓	✓	✓	✓	✓	✓
Program interface with customized views and layout templates	✓	✓	✓	✓	✓	✓
Multi document structure for multiple documents or cameras		✓	✓		✓	
Use of document templates		✓	✓	✓		
File functions						
Open saved files and sequences	✓	✓	✓	✓		✓
Real-time data saving	✓	✓	✓	✓	✓	✓
Bitmap export (BMP, JPG, PNG)	✓	✓	✓	✓	✓	✓
Video export (AVI, WMV)	✓	✓	✓	✓		✓
Text export		✓	✓	✓	✓	
Functions for image display						
Choice of color bars and scaling including autodynamic	✓	✓	✓	✓	✓	✓
Zoom functions with auto zoom, full image view, rotation and tilting	✓	✓	✓	✓	✓	✓
Display of the visual image	✓	✓	✓	✓	✓	
Display of isotherms		✓	✓	✓	✓	
3D display with auto rotation		✓	✓			
Analysis functions						
Correction of emissivity, transmittance and reflected ambience radiation	✓	✓	✓	✓	✓	✓
Calculation of the emissivity for a pixel from a target temperature	✓	✓	✓	✓	✓	✓
Triggerable difference image display with selectable reference image		✓	✓	✓		
Filter image with temporal and local filter functions		✓	✓	✓		
2D line image		✓	✓	✓		
Online ring buffer (history) for images		✓	✓	✓		
ROI functions ("Region Of Interest")						
Points	5	1000	1000	1000	1000	
Lines	1	1000	1000	1000	1000	
Areas (rectangle □, circle/ellipse, polygone)	1 □	each 1000	each 1000	each 1000	each 1000	8 □
Mark of minimum/maximum (hot/cold spot) for lines and areas	✓	✓	✓	✓	✓	✓
Specific correction of emissivity, transmittance and ambient temperature within a ROI	✓	✓	✓	✓	✓	✓
Self adjusting SUB-ROI with automatic splitting		✓	✓	✓	✓	
Histogram and spot calculation		✓	✓	✓	✓	
FFT calculation for ROI lines		✓	✓	✓	✓	
VOI functions ("Value Of Interest")						
Definition of VOI values from calculated ROI values, e.g.: maximum, average, difference,...		✓	✓	✓	✓	
Trend display of VOI values		✓	✓	✓	✓	
Definition of VOI alarms with fixed or variable thresholds, teach-in function and hysteresis		✓	✓	✓	✓	
Definition of VOI alarm combinations (OR/AND) from calculated VOI alarms		✓	✓	✓	✓	
Alarm saving, alarm logging, alarm text export		✓	✓	✓	✓	
Alarm counter, acoustic and visual alarm display with customized alarm texts		✓	✓	✓	✓	
Report function						
Integrated report generation with customized templates for Microsoft® Word	✓	✓	✓	✓		
Multi report for album files of multiple documents		✓	✓			
Functions for process interface, industry use, server/client connection						
Input and output of analog/digital values via the IO system (PROFIBUS, PROFINET, WAGO, Modbus, OPC, TCP socket, text file)			✓	✓	✓	
Configurator and monitor for IO system			✓	✓	✓	
Management of products and users				✓		
Product switching via IO system				✓		
Server functionality for the transmission of live images and alarm states to PYROSOFT Client			✓	✓	✓	
Program and test of the stand-alone functionality of a camera						✓

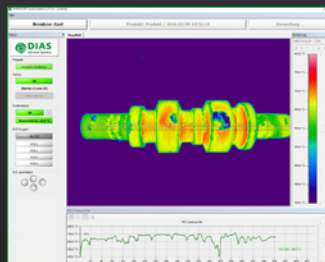
We are certified
for many years
according to
ISO 9001



Technische Änderungen vorbehalten. Technical details are subject to change. 19.04.16

PYROSOFT

Application specific thermal imaging software



PYROSOFT Automation

Software for the integration of one DIAS camera into automation processes

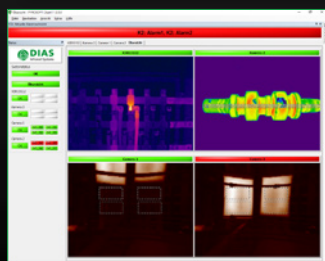
- Online functionality like PYROSOFT Professional IO for one camera
- User management with different authorization levels (operator, setter, administrator, guest)
- Configurable user interface and user rights
- Product management, product switch manual or automatic by IO system
- Display of status information and alarms



PYROSOFT MultiCam

Software for the data acquisition and image display of up to 8 DIAS cameras

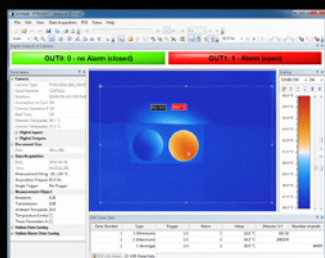
- Online functionality like PYROSOFT Professional IO
- Operation modes "setup" and "automatic"
- Display of single images of all cameras
- Overview image of all cameras
- Display of system state, alarm messages and alarm overview at IO system



PYROSOFT Client

Software for the image and alarm display of up to 8 DIAS cameras

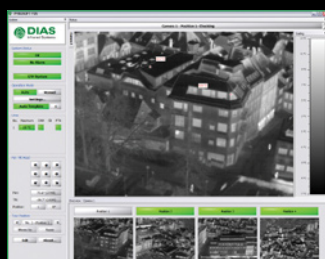
- Client connection to PYROSOFT Professional, Professional IO, Automation or MultiCam
- Transmission of the live images and the alarm states from the local cameras to a server PC
- Display of single images of all cameras
- Overview image of all cameras
- Display of system state, alarm messages and alarm overview at IO system



PYROSOFT CamZone

Software for the zone programming of a DIAS stand-alone camera

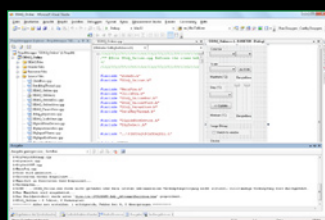
- Load and program up to 8 zone parameters for one camera
- Display of the UPD zone data for the calculated zone and alarm values of the camera
- Display of the live image
- Display of the status at the digital alarm outputs of the camera
- Online alarm saving



PYROSOFT FDS

Software for DIAS early fire detection system PYROVIEW FDS

- Real-time fire detection with up to 32 cameras
- Intelligent alarm monitoring with spot and trend analysis
- Multi camera view, views for sectors, map, panorama
- Server-/Client architecture for PYROSOFT FDS Client
- Event view and report generation with PYROSOFT FDS Viewer



PYROSOFT DAQ

Software for the integration of DIAS cameras in own software

- API (32 and 64 Bit Windows-DLL) for direct data access to the cameras
- Setting of recording parameters and measurement object parameters
- Inquiry of temperature measurement values and camera information
- Bitmap functions for the display of color bars and measured values
- Online and offline functionality