

PYROVIEW FDS 640L

Powerful infrared camera for early fire detection systems



- ✓ Precise non-contact temperature measurement from $-20\text{ }^{\circ}\text{C}$ und $350\text{ }^{\circ}\text{C}$
- ✓ Uncooled microbolometer array with 640×480 pixels
- ✓ Spectral range from $8\text{ }\mu\text{m}$ to $14\text{ }\mu\text{m}$
- ✓ Large dynamic range and 16-Bit converter
- ✓ Ideal for use in extreme conditions thanks to its durable stainless steel housing.
- ✓ Continuous 360° operation for seamless monitoring of large areas with short cycle times.
- ✓ Integrated camera in a rugged pan-tilt housing for precise positioning

Overview

The PYROVIEW FDS 640L thermal imaging camera, developed specifically for early fire detection, measures temperatures noncontact, precisely, and reliably, even in fast-moving processes and during rapid temperature changes, data is transmitted in real time.

Typical applications: Waste storage facilities and waste-to-energy plants, biomass power plants and storage facilities, recycling centers and scrap yards, composting and sorting facilities, electronics recycling, as well as indoor and outdoor storage facilities for critical goods such as flammable and highly flammable substances.

In continuous stationary operation, it records thermal data with high spatial (640×480 pixels) and thermal resolution – on both stationary and moving objects. This allows, for example, for the efficient and comprehensive monitoring of waste storage bunkers.

The system enables very short turnaround times, which allows for the early detection of critical temperature increases and fire development.

The camera is housed in a compact, extremely rugged stainless steel pan-tilt enclosure that offers maximum stability and durability under extreme environmental conditions. It is dust- and waterproof, resistant to harsh environments, and suitable for both indoor and outdoor use. It comes standard with an integrated air purge system and a protective window.

Because there are no moving connection cables, the camera can pan continuously and unrestrictedly in a 360° range to monitor large areas. It can be mounted either upright or suspended.



Made by DIAS Infrared

Headquartered in Dresden, DIAS Infrared develops and manufactures high-quality precision instruments and system solutions for non-contact temperature measurement. At DIAS, challenging projects serve as a welcome source of motivation. Customers value the robust design, outstanding accuracy, excellent reliability, and high service standards of the equipment.

As a manufacturer and developer, we implement customer-specific hardware and software customizations entirely in-house—to ensure flexible integration into customized system solutions.

PYROVIEW FDS 640L

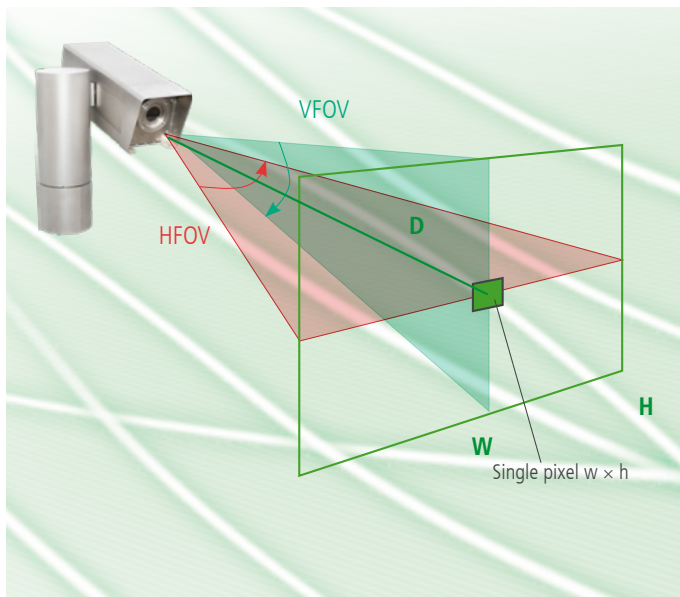
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Technical data

Device type	PYROVIEW FDS 640L
Spectral range ¹	8 μm to 14 μm
Measuring temperature range ¹	–20 °C to 350 °C
NETD ^{2,3}	< 0.1 K (30 °C, 30 Hz)
Aperture angle ⁴ (HFOV $\times$ VFOV)	50 $\times$ 38° or 74° $\times$ 55° (optics with motorfocus)
Sensor	uncooled microbolometer array (640 $\times$ 480 Pixel)
Measurement uncertainty ³	2 K (object temperature < 100 °C) or 2 % of measured value in °C
Measurement frequency ⁵	internal 30 Hz, selectable: 30 Hz, 15 Hz, 7.5 Hz, ...
Response time	internal 33 ms, selectable: 2 / measurement frequency
Rotation range	360° horizontal, 180° vertical
Connections	screw connection: power supply RJ45 jack: Ethernet 10/100 Base-T PG7 screw connection: compressed air hose (nominal diameter 4 mm, max. 2 bar)
Power supply	48 V DC, typical 20 VA
Weight	approx. 28 kg
Housing	Funkwerk Plateon® NEO, protection class IP66, environmental class 2
Operating temperature of the camera	–10 °C to 55 °C
Storage conditions	–20 °C to 70 °C, max. 95 % rel. humidity
Software	control and imaging software PYROSOFT für Windows®, customized specifications on request
Scope of delivery	infrared camera PYROVIEW FDS 640L in pan-tilt-unit, calibration certificate, user manual, software PYROSOFT Compact

¹ Others on request. ² Noise equivalent temperature difference. ³ Specifications for black body radiator and ambient temperature 25 °C. ⁴ Lens with motor focus.

⁵ Export version with 7.5 Hz available.



HFOV ... Horizontal Field Of View
VFOV ... Vertical Field Of View

D ... Measurement distance

Optics 75° $\times$ 56°

HFOV $\times$ VFOV	75° $\times$ 56°	IFOV	0.12° $\times$ 0.12°
Distance D	15 m	30 m	50 m
Width W	23.0 m	46.0 m	76.7 m
Height H	15.9 m	31.2 m	53.1 m
Pixel width w	36 mm	71.9 mm	119.9 mm
Pixel height h	36 mm	71.9 mm	119.9 mm

Optics 50° $\times$ 38°

HFOV $\times$ VFOV	50° $\times$ 38°	IFOV	0.08° $\times$ 0.08°
Distance D	25 m	50 m	70 m
Width W	23.5 m	46.9 m	65.8 m
Height H	17.3 m	34.6 m	48.4 m
Pixel width w	36.7 mm	73.4 mm	102.8 mm
Pixel height h	36.7 mm	73.4 mm	102.8 mm

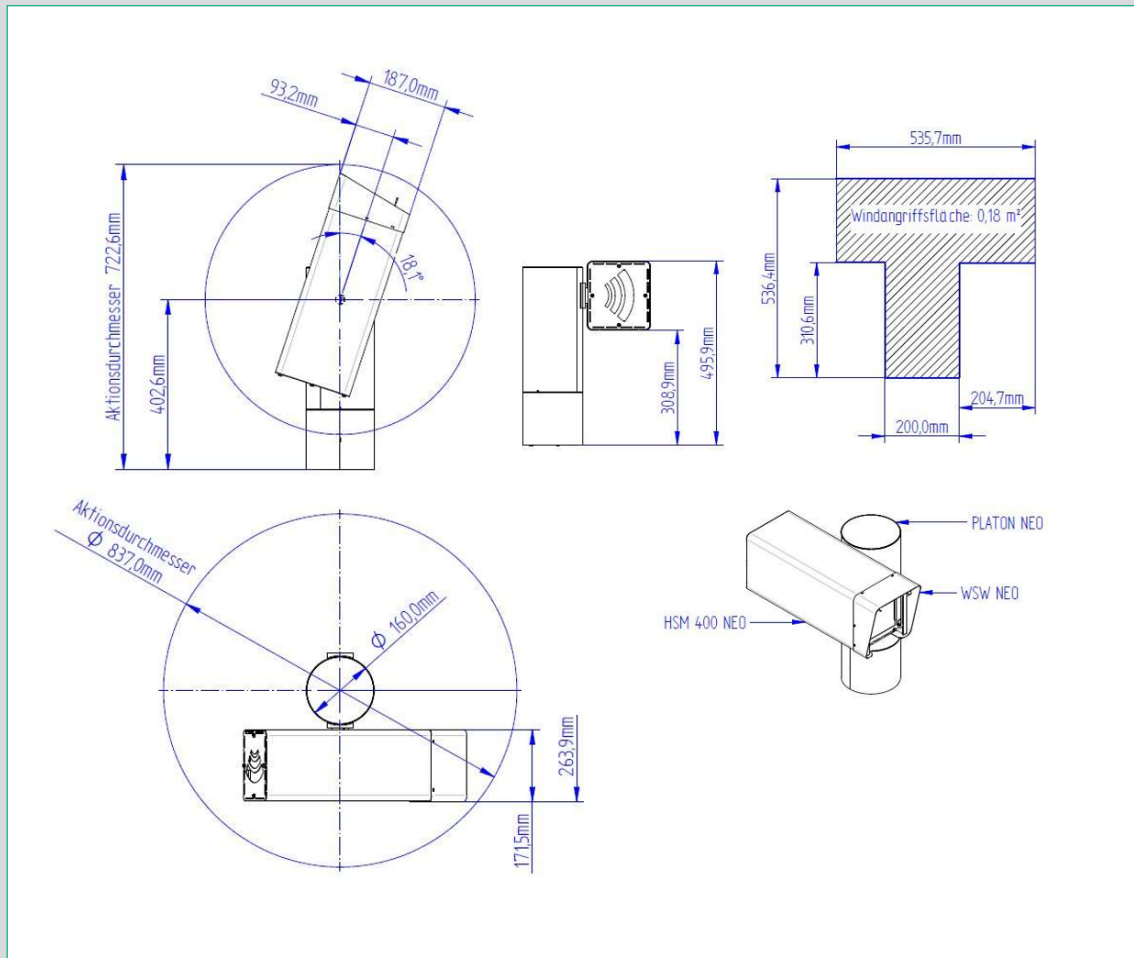
w ... Pixel width
h ... Pixel height

W ... Image width (camera's field of view)
H ... Image height (camera's field of view)

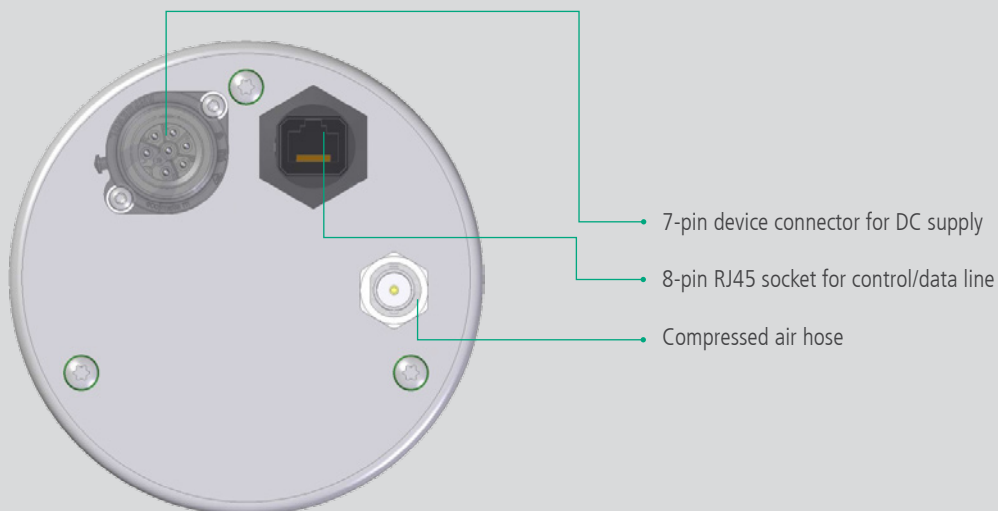
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Dimensional drawings



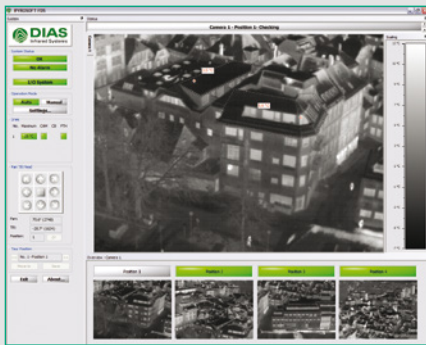
Connections



PYROSOFT

Powerful online and offline software for DIAS infrared cameras

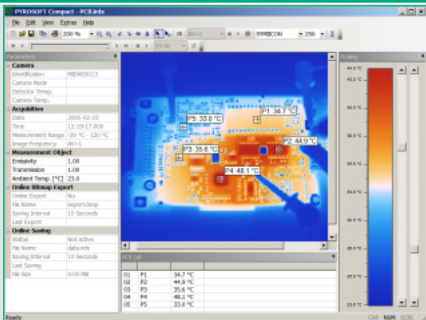
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The software PYROSOFT FDS is easy to handle and offers various possibilities to setup the whole functionality:

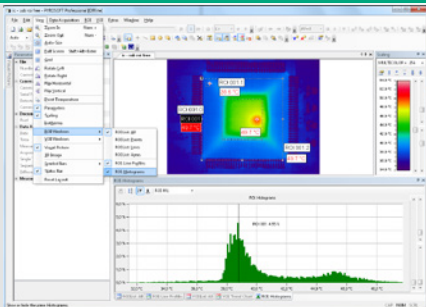
- Displaying of status information of the system
- Displaying of the maximum temperature inside the image
- Definition of ROI (regions of interests)
- Overview images and state of single sectors
- Cyclic changeover for up to 32 cameras
- Current image of the camera setting off an alarm
- Free positioning of the pan-tilt head in manual operation mode
- Map display/panorama display

PYROSOFT Compact



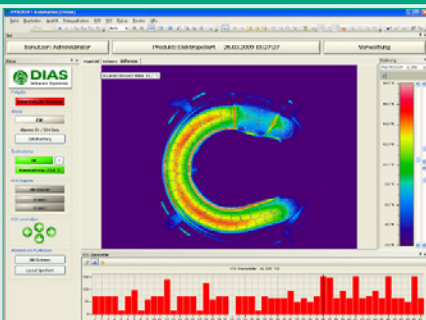
- Online data acquisition of one DIAS infrared camera
- Open and edit archived measured data and sequences
- Bitmap and video export
- Online data storage and online bitmap export
- Definition of regions of interests (ROI): points, lines and rectangle
- Generating of reports in Microsoft® Word format by integrated report function
- Context-sensitive help system (F1 key)
- Included in the scope of delivery of every PYROVIEW infrared camera

PYROSOFT Professional



- Online data acquisition – Analyze, store and export data in real-time
- Open and edit archived measured data and sequences
- Multi document structure for several documents
- Bitmap, video and text export
- Definition of regions of interests (ROI) and values of interests (VOI) with alarm calculation, histogram and trend chart
- Numerous interface possibilities for processes (PROFIBUS, PROFINET, WAGO, TCP-Socket, Text IO)
- Reporting function, context-sensitive help system (F1 key)
- PYROSOFT Professional IO offers optionally a bidirectional data interface via PROFIBUS, PROFINET, WAGO, MODBUS, OPC, TCP Socket to process control systems, controllers and other applications

PYROSOFT Automation



DIAS has developed the software PYROSOFT Automation for the integration of infrared cameras in automation processes.

- Comfortable product management with free definable document templates
- Product choice and release control can be made manually or automatically
- Different user levels for operator, tool setter and administrator
- Functionality of PYROSOFT Professional for administrators
- Automatic logging of system messages, measured data and alarms
- Easy to use and configurable user interface for application in fabrication
- Learning functions for automatic adjustment of alarm threshold
- Offline viewer for belated data analysis
- Process connection via I/O Systems (PROFIBUS, PROFINET, WAGO, TCP-Socket)

More software packages are available, for example: PYROSOFT MultiCam (process software for monitoring up to 8 cameras), PYROSOFT CamZone (software for programming a stand-alone camera), PYROSOFT DAQ (integration software with own online and offline DLL interface for DIAS infrared cameras).



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Phone: +49 351 896 74-0
Fax: +49 351 896 74-99
Email: info@dias-infrared.de
Internet: www.dias-infrared.com

DIAS Infrared GmbH
Pforzheimer Straße 21
01189 Dresden
Germany