PYROVIEW 380L

High-performace infrared cameras – powerful in industrial continuous operation

- ✓ Precise non-contact temperature measurement between −20 °C and 500 °C
- ✓ Uncooled microbolometer array with 384 × 288 pixels
- ✓ Spectral range 8 µm to 14 µm
- ✓ Measurement frequency 50 frames per second
- ✓ Ethernet interface (real-time, 50 Hz)
- ✓ Large dynamic range and 16-Bit analog digital converter
- ✓ Camera in small housing „compact+" (IP54) or industry protection housing „protection" (IP65)
- ✓ Integration in customized system solutions including hard- and software adjustment

Overview

Whether in quality control, process measurement technology, research and development projects or fire detection for instance – the PYROVIEW 380L measures temperatures without contact exactly and reliably. Also in very fast processes or at temperature changes the data acquisition happens in real-time.

In stationary industrial continuous operation measurement data is recorded flexibly with high thermal and spatial resolution on fixed or moving measurement objects. In this way production processes are monitored and controlled efficiently.
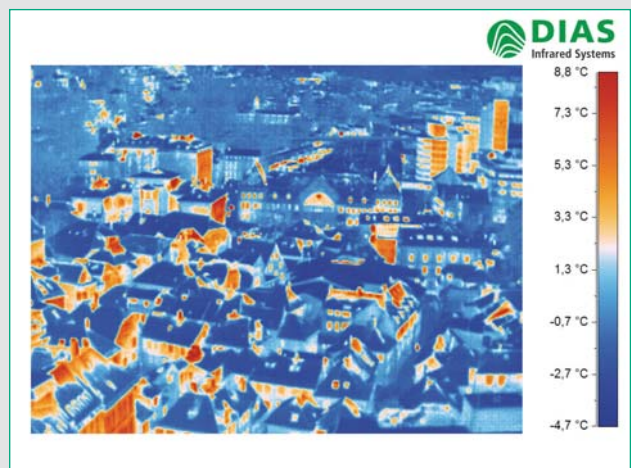
Therefore the Ethernet interface guarantees a data acquisition without loss and with no appreciable time delay up to 50 images per second. The maximum image frequency of 50 Hz is adjusted optimally to the thermal time constant of the infrared array.

Numerous motor focus infrared lenses, including wide angle and telephoto lenses, provide a flexible adjustment to different measurement object sizes at different measurement distances.

The infrared camera is either built in a small aluminium housing "compact+" or in a stainless steel industry protection housing "protection" that has an air purge unit and watercooling by default.

The camera observes the production in stand-alone operation without any connected computer via two galvanically isolated digital inputs and outputs. All process parameters of the stand-alone version are programmed once on location via PC connection.

The modular Windows software PYROSOFT of the camera can be adjusted and extended to process-related requirements. The free software PYROSOFT Compact is delivered with every PYROVIEW infrared camera.

THERMOLAB

PYROVIEW 380L

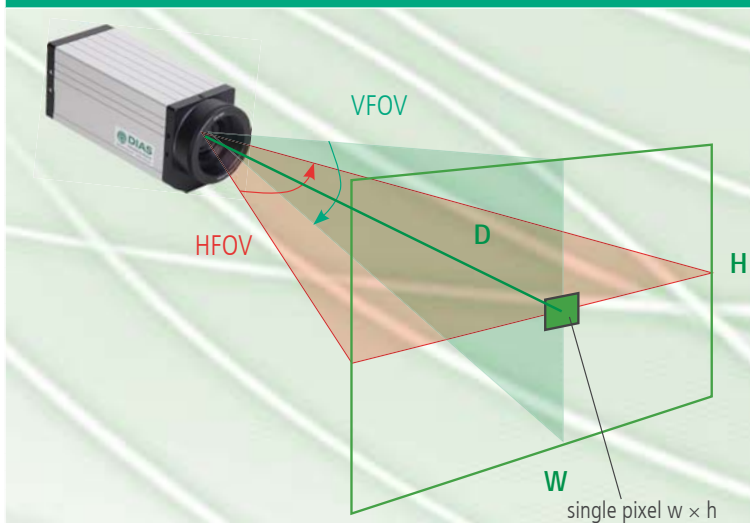## High-performace infrared cameras – powerful in industrial continuous operation

Technical data

Device type	380L compact+	380L protection
Spectral range[1]	8 µm to 14 µm	
Temperature ranges[1]	range 1: −20 °C to 120 °C, range 2: 0 °C to 500 °C	
NETD[2,3]	< 0,06 K (30 °C, 50 Hz, range 1)	
Aperature angle[4] (HFOV × VFOV)	30° × 23°, optional: 90° × 74°, 60° × 47°, 44° × 34°, 22° × 16°, 11° × 8°, macro 60 µm	
Sensor	uncooled microbolometer array (384 × 288 pixels)	
Measurement uncertainty[3]	2 K (object temperature < 100 °C) or 2 % of measured value °C	
Measurement frequency[5]	internal 50 Hz, selectable: 50 Hz, 25 Hz, 12,5 Hz, …	
Response time	internal 40 ms , selectable: 2 / measurement frequency	
Interfaces	Ethernet (real-time, 50 Hz), galvanically isolated digital inputs (trigger) and digital outputs (alarm)	
Connectors	round plug connector HR10A (12 pin, power supply, digital inputs and outputs), round plug connector M12A (Ethernet)	round plug connector M23 (16 pin, power supply, digital inputs and outputs), round plug connector M12A (Ethernet)
Power supply	12 V to 36 V DC, typical 10 VA	
Weight	approx. 1.6 kg	approx. 4.2 kg
Housing	aluminium compact housing IP54, 65 mm (L) × 160 mm (W) × 79 mm (H), without lens and connectors, optional with weather protection housing with pan-tilt-unit	industry protection housing IP65, stainless steel, with air purge and water cooling, diameter 110 mm, length 280 mm (without mechanical mounting and connectors), 6 bar max. water pressure, 2 bar max. air pressure, protection window
Operating temperature of the camera	−10 °C to 50 °C	−10 °C to 50 °C (without water cooling), −25 °C to 150 °C (with water cooling)
Storage conditions	−20 °C to 70 °C, max. 95 % rel. humidity	
Software	control and imaging software PYROSOFT for Windows ®, customized modifications on request	
Scope of delivery	infrared camera PYROVIEW 380L, calibration certificate, 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 < 9 Hz available.

Lens variants

HFOV × VFOV	D [m]	W [m]	H [m]	w [mm]	h [mm]
IFOV					
30° × 23°	1	0.54	0.41	1.4	1.4
	3	1.61	1.22	4.2	4.2
1.36 mrad	10	5.36	4.07	14.0	14.0
90° × 74°	1	2.00	1.51	5.2	5.2
	3	6.00	4.52	15.6	15.6
4.09 mrad	10	20.00	15.07	52	52
60° × 47°	1	1.15	0.87	3.0	3.0
	3	3.46	2.61	9.0	9.0
2.73 mrad	10	11.55	8.70	30	30
44° × 34°	1	0.81	0.61	2.1	2.1
	3	2.42	1.83	0.6	0.6
1.99 mrad	10	8.08	6.11	21	21
22° × 16°	1	0.39	0.28	1.0	1.0
	3	1.17	0.84	3.1	3.1
0.99 mrad	10	3.89	2.81	10.1	10.1
11° × 8°	1	0.19	0.14	0.5	0.5
	3	0.58	0.42	1.5	1.5
0.49 mrad	10	1.93	1.40	5.0	5.0

HFOV ... Horizontal Field Of View (horizontal aperture angle)
VFOV ... Vertical Field Of View (vertical aperature angle)
IFOV ... Instantaneous Field Of View (spatial resolution)
D ... Measurement distance

W ... Image width
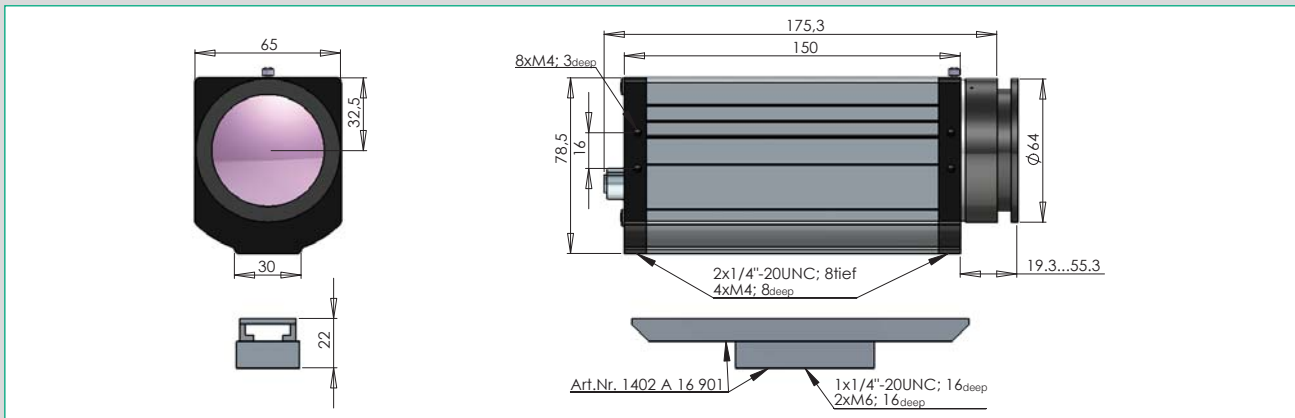H ... Image height
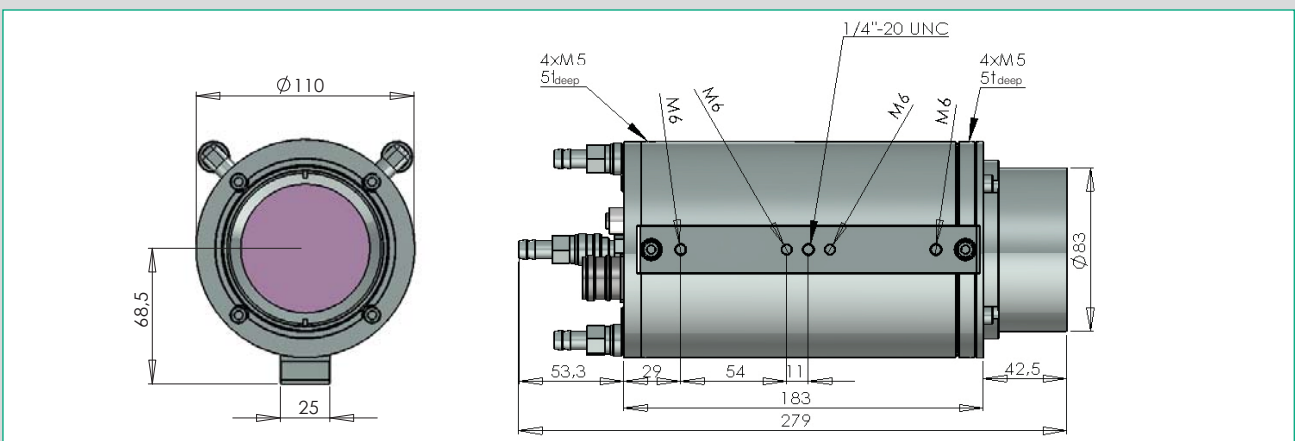w ... Pixel width
h ... Pixel height

PYROVIEW 380L

High-performace infrared cameras – powerful in industrial continuous operation
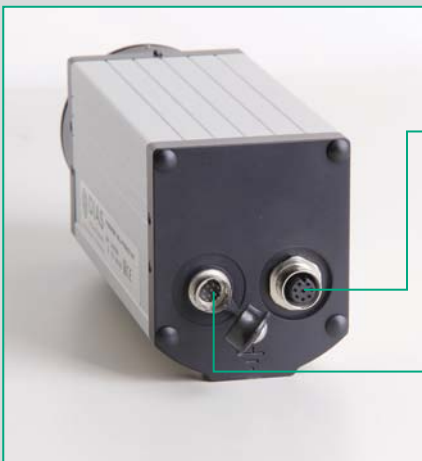
Dimensional drawings

Dimensions: PYROVIEW 380L in compact+ housing

Dimensions: PYROVIEW 380L in protection housing

Connectors

Ethernet (LAN)

- Infrared real-time data up to 50 images per second (TCP/UDP)
- Web interface (status and image bar)
- PYROSOFT software
- GigE Vision™ compatible
- Configuration for stand-alone operation

Inputs	Outputs
➡ Power supply	Error signal/ Alarm 1 ➡
➡ Trigger 1	
➡ Trigger 2	Synch signal/ Alarm 2 ➡

Customized terminal box

(with power supply unit, alarm relay, controller, media convertor,...)

| Accessories[1]	Part number
Ethernet cable (8 pin) M12-RJ45/Cross/5 m	2301A32005
Connection set for Ethernet interface 8 pin for compact+ housing	2301A04101
Mounting set for compact+ housing	1402A16901

[1] More accessories available.

PYROSOFT

Powerful online and offline software for DIAS infrared cameras

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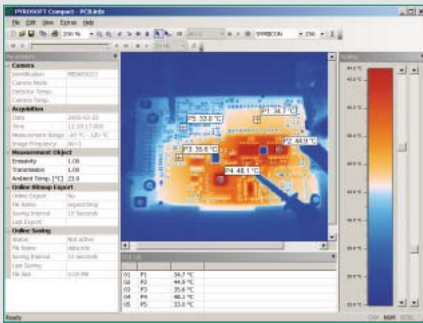
- Online data acquisition of one DIAS infrared camera
- Open and edit archived measured data and sequences
- Bitmap and video export
- Online data storage and online bitmap export
- Definition of regions of interests (ROI): points, lines and rectangle
- Generating of reports in Microsoft® Word format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

PYROSOFT Professional
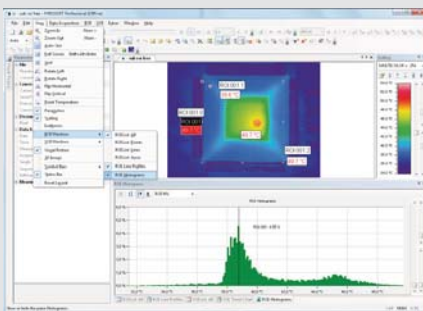
- Online data acquisition – Analyze, store and export data in real-time
- Open and edit archived measured data and sequences
- Multi document structure for several documents
- Bitmap, video and text export
- Definition of regions of interests (ROI) and values of interests (VOI) with alarm calculation, 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
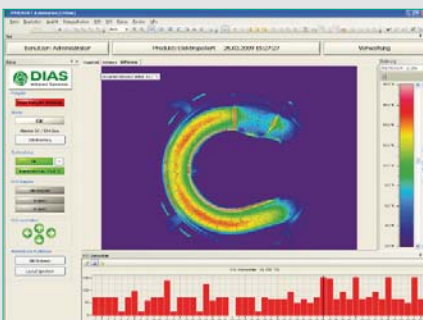
DIAS has developed the software PYROSOFT Automation for the integration of infrared cameras in automation processes.
- Comfortable product management with free definable document templates
- Product choice and release control can be made manually or automatically
- Different user levels for operator, 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
- Bidirectional data interface via PROFIBUS, PROFINET, WAGO, MODBUS, OPC, TCP Socket to process control systems, controllers and other applications

PYROSOFT DAQ
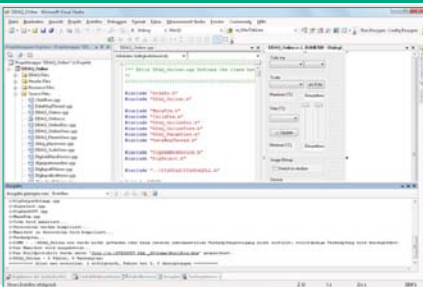
For users who want to make an integration into their software environment by themselves, we offer an own online and offline DLL interface for DIAS infrared cameras.
- API (DLL) for direct data access under Windows®
- Support for DIAS IRDX file format
- Setting of data acquisition parameters and object properties
- Query of temperature values and camera information
- Functions for displaying of images and palettes as bitmap
- Online and offline function

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), application specific software like PYROSOFT FDS for DIAS fire detection systems.

We are certified for many years according to ISO 9001

TÜV SÜD · ISO 9001

THERMOLAB

Z.I. Le Trési 6 D - 1028 Préverenges
Tél 021 637 12 37 - Fax 021 637 12 38
www.thermolab.ch
info@thermolab.ch