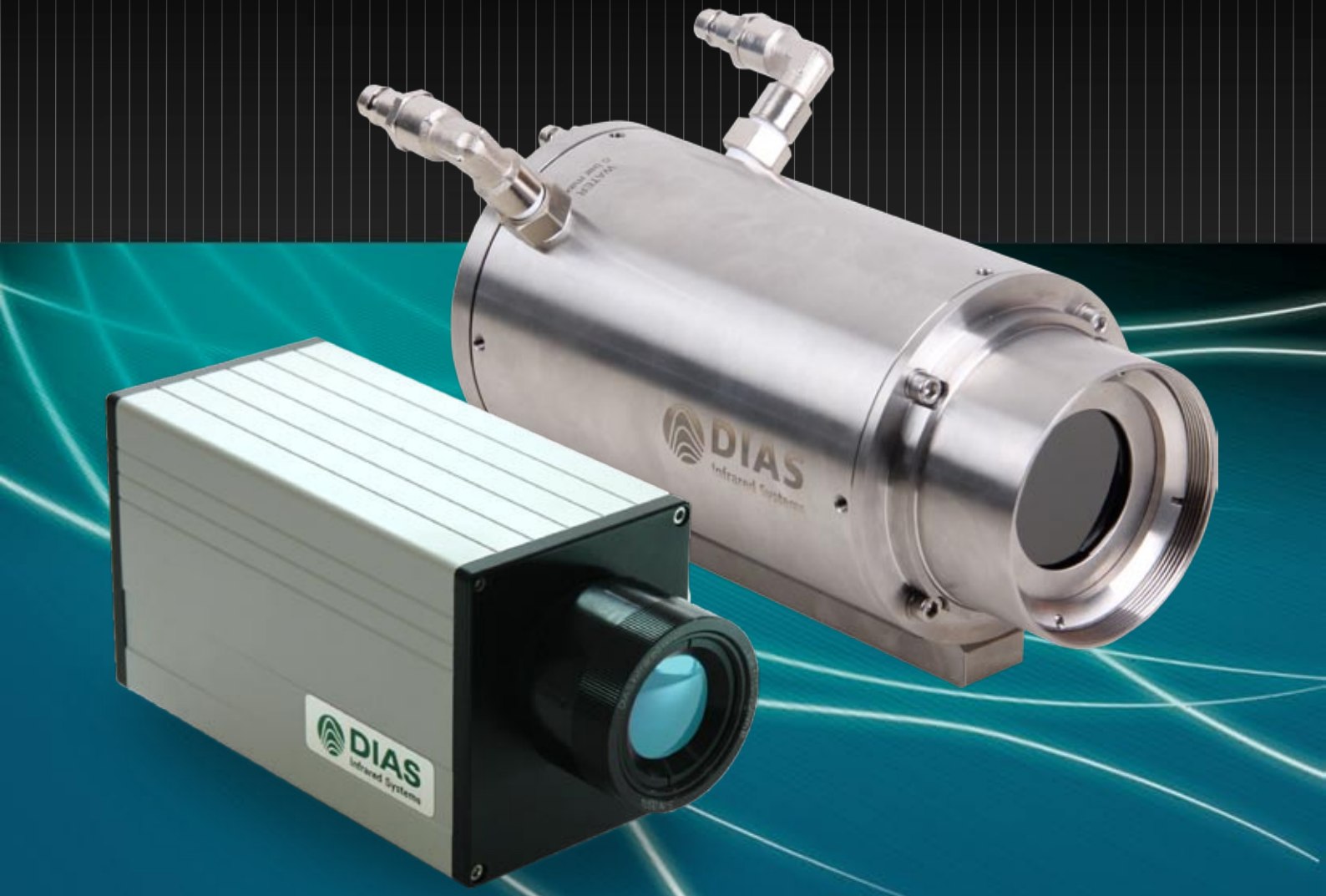
DIAS Infrared Systems

Infrared Line Cameras **PYROLINE**

High-Speed Non-Contact Measurement Of Temperature Profiles

0 °C to 1300 °C



PYROLINE

High-Speed Uncooled Infrared Line Camera

The infrared line cameras **PYROLINE** allow you high-speed non-contact measurement of temperature profiles.

The cameras are specially designed for long-term use in fixed-mounted applications. For general purpose use the spectral ranges from 8 µm to 14 µm and 3 µm to 5 µm are available. The spectral ranges from 4.8 µm to 5.2 µm (which is particularly suitable for the measurement of temperature profiles in glass) and 1.4 µm to 1.8 µm (for metal) are for special applications.

With an uncooled infrared linear array (128 or 256 pixels) you can realize non-contact measurement with 256 lines per second (512 lines per second optional) in temperature ranges from 0 °C to 1300 °C. The camera has an aluminium compact-housing (IP54) or in a stainless steel industry protection housing IP65. More housing variants are available.

Different lenses with a field of view up to 90° are available. Measurement results can be transferred to your computer with real-time data transmission via fast ethernet with up to 512 lines per second. Stand-alone operation without computer is possible too. Alarm and thresholding monitoring as well as triggered measurements are practicable.

We grant you 2 years warranty and customized system solutions with modified hardware and software.

Advantages of line cameras compared to line scanners:

- no opto mechanical Scanner
- high measurement speed up to 512 lines/second
- use of uncooled infrared sensor arrays
- simultaneous measurement of all measurement points

Selected technical features	
Measurement uncertainty	2 K (object temperature < 100 °C) or 1 K + 1 % of measured value in °C
Interfaces	Fast Ethernet, galvanically isolated digital inputs (trigger) and digital outputs (alarm)
Power supply	12 V to 36 V DC, approx. 7 VA
Camera housings	• Standard compact housing IP54 "compact": aluminium, 85 mm (L) × 175 mm (W) × 107 mm (H), without optics and connections, weight approx. 1.6 kg • Industry protection housing IP65 "protection": stainless steel, with air purge unit, water cooling and protection window, diameter 110 mm, length 280 mm, without mechanical mounting and connections, weight approx. 4.2 kg • Explosion proof and weather proof housing
Operating temperature of the camera	–10 °C to 50 °C (without water-cooling), –25 °C to 150 °C (with water-cooling)

PYROLINE "protection"
with industry protection housing IP65

weather proof housing

explosion proof housing (ATEX)

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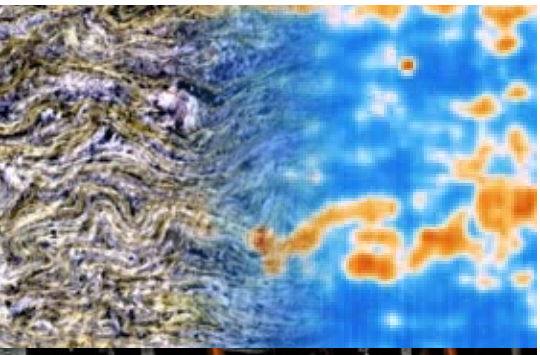
For Non-Contact Measurement Of Temperature Profiles



Camera type	Pixel	Temperature range[1,2]	NETD[3]
128LS/256 Hz	128 × 1	0 °C to 80 °C	0.2 K/0.5 K
128L/256 Hz	128 × 1	50 °C to 550 °C	0.5 K/1.5 K
256L/256 Hz	256 × 1	50 °C to 550 °C	0.5 K/1.5 K
128LS/512 Hz	128 × 1	50 °C to 550 °C	0.5 K/2 K
256L/512 Hz	256 × 1	150 °C to 800 °C	0.5 K/2 K
Optics with motor focus: 40°, 60°, 90°			

Spectral range
8 µm to 14 µm

Wood, paper, plastics, gum, bulk materials, building material, textiles, food

Camera type	Pixel	Temperature range[1,2]	NETD[3]
128G/256 Hz	128 × 1	450 °C to 1250 °C	1 K/3 K
256G/256 Hz	256 × 1	450 °C to 1250 °C	1 K/3 K
128GS/256 Hz	128 × 1	250 °C to 800 °C	1 K/3 K
Optics with motor focus: 40°, 60°, 90°			

Spectral range
4.8 µm to 5.2 µm

Glasses: float glass, container glass, glass bottles, glass melts

Camera type	Pixel	Temperature range[1,2]	NETD[3]
128M/256 Hz	128 × 1	450 °C to 1250 °C	0.5 K/1.5 K
256M/256 Hz	256 × 1	450 °C to 1250 °C	0.5 K/1.5 K
128MS/256 Hz	128 × 1	200 °C to 800 °C	0.5 K/1.5 K
Optics with motor focus: 40°, 60°, 90°			

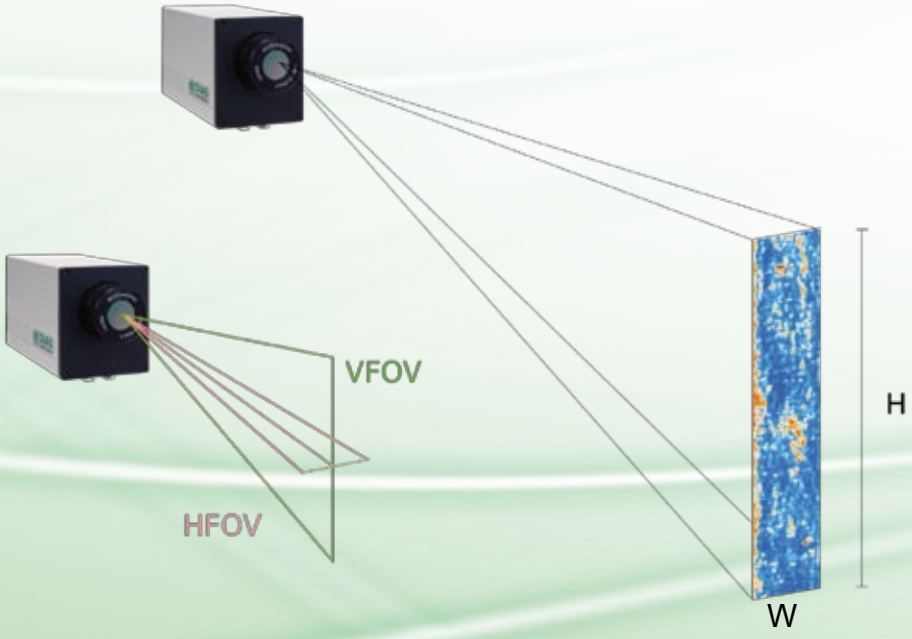
Spectral range
3 µm to 5 µm

Building materials (clay, brick), metals (non-ferous metals, rolled steel)

Camera type	Pixel	Temperature range[1,2]	NETD[3]
128N/256 Hz	128 × 1	600 °C to 1300 °C	1 K/3 K
256N/256 Hz	256 × 1	600 °C to 1300°C	1 K/3 K
Optics with motor focus: 20°, 40°, 60°			

Spectral range
1.4 µm to 1.8 µm

Metals in high temperature range (steel, stainless steel, steel melts)



Optics variants			
VFOV × HFOV	M [m]	H [mm]	W [mm]
20° × 0.2°	1	352	3
	3	1060	8
	10	3530	28
40° × 0.3°	1	728	6
	3	2180	17
	10	7280	57
60° × 0.5°	1	1160	9
	3	3460	27
	10	11500	90
90° × 0.9°	1	2000	16
	3	6000	47
	10	20000	156

M ... Measurement Distance
H ... Field of View Height
W ... Field of View Width

[1] Others on request. [2] Specifications for black body radiator and ambient temperature 25 °C. [3] Noise equivalent temperature difference at 32 Hz and maximum measurement frequency.

PYROLINE

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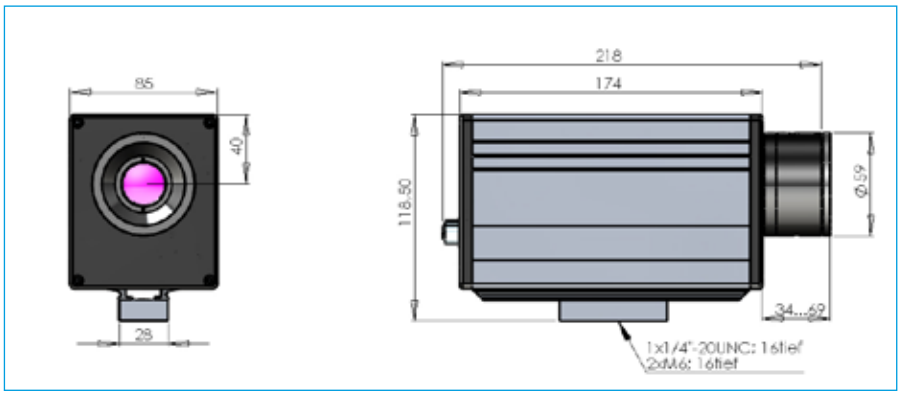
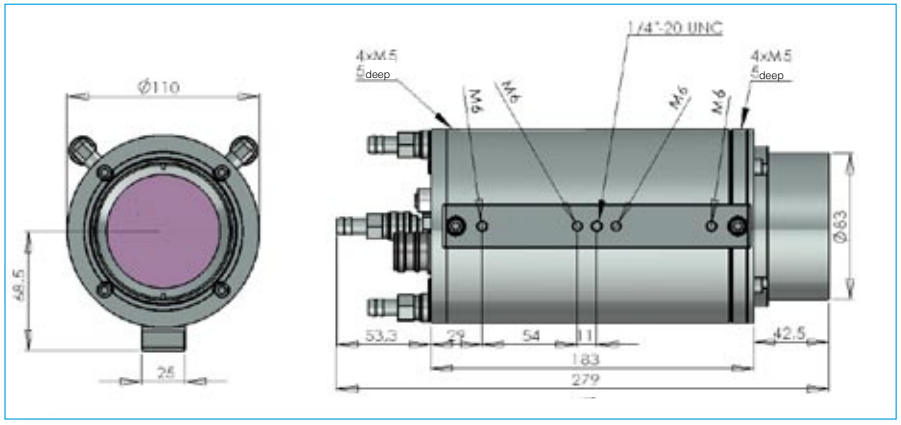
Dimensional drawing standard compact housing IP54 „compact“



Dimensional drawing industry protection housing IP65 "protection"



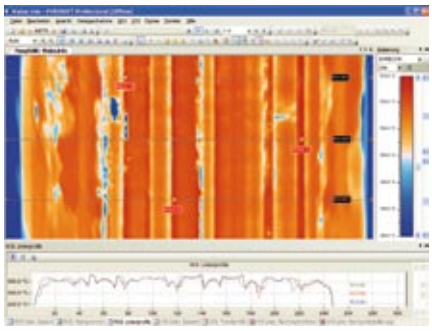
Software

The powerful online software **PYROSOFT** for Windows® allows you to control the infrared line camera **PYROLINE**. Recording, viewing, manipulation and storage of the measured data are possible as well.

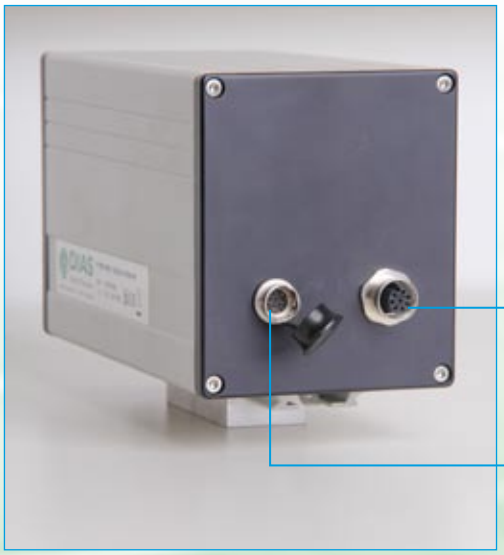
Special features are:

– real-time data recording
– definition of zones and monitoring of alarm thresholds
– analysis of trends
– data export (text, bitmap, video)
– process control via PROFIBUS, analog and digital inputs, outputs and other interfaces

A programming interface (Windows® DLL) is available for system integration.



Connectors



Ethernet (LAN)
- Infrared real-time data up to 512 lines per second (TCP/UDP)
- Web interface (status and image bar)
- PYROSOFT software
- Configuration for stand alone operation

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

Customized terminal box
(with power supply, alarm relay, controller, media converter,...)

We are certified for many years according to ISO 9001

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