

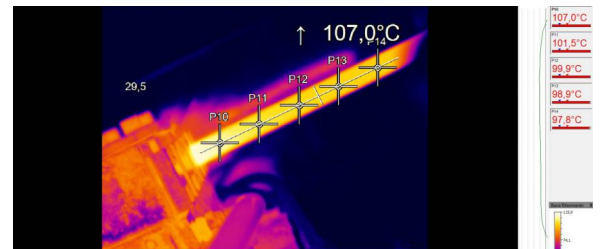
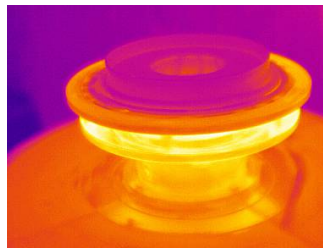
E instruments

IRtech Radiamatic TImage IR1100 IR1100+

Industrial Online Thermal Image Camera

IRtech
Infrared Technology

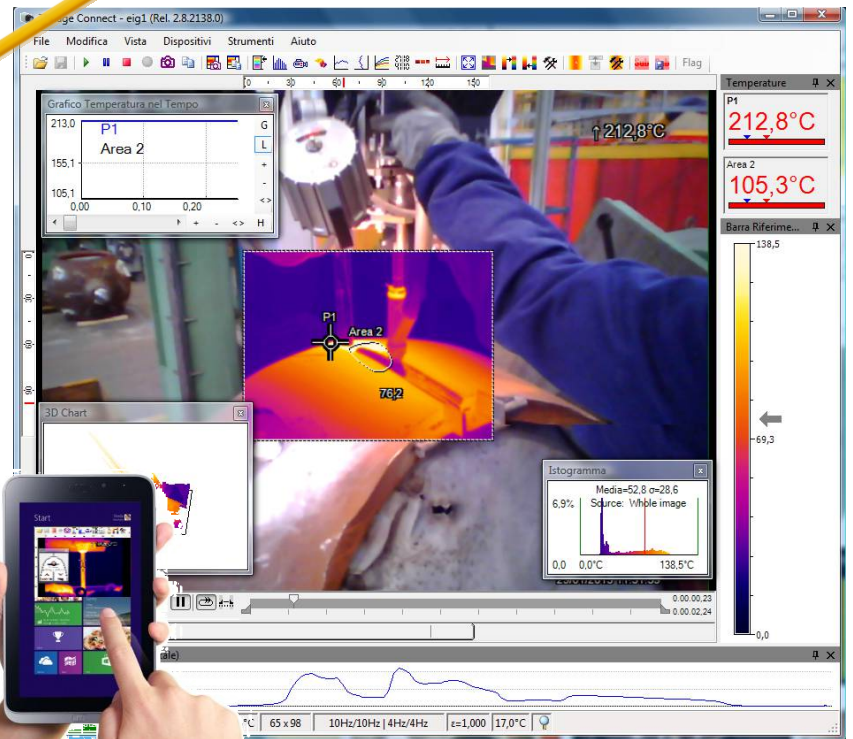
- Temperature range -20 to +900°C
Thermal Sensitivity NETD 0,08°C
Special range +200 +1500°C
- Resolution 382x288 / 110'000
- High Speed USB
GigaEthernet POE
- Motorized focus with remote control
- 80 Hz with Real Time Recording
Hot spot automatic detection
- Line scanner
- Waterproof Ip67 Rugged case
- Optics available (close to 400:1) :
Standard, Wide and Tele
- Compact 36 x 100mm M30 (200gr)
- Windows SDK royalty free included
Standard package library
to use camera with PLC,
Labview, DDL C/Basic and Linux
- I/O pins for process interface / Alarms
- iR1100+ Standalone version
384x240 pixel Ethernet, Ethernet POE
Ethernet 25Hz Autonomous 650mS
Up to 3 analog output 4-20mA



CE



CE



Next to time, temperature is the most frequently measured physical property. The temperature behavior is therefore a very good indicator for the status of physical systems. Too much friction generates heat, too high resistance of electrical contacts creates higher temperatures; energy losses are mostly shown by changes in temperature. Therefore one can find thermal processes in almost all industry branches. With the **TImage** you can not only see where it is hot, you can also measure exactly the temperatures, all within a 8 millisecond interval! It provides excellent infrared images in a wide temperature range of -20 up to 1800°C and an extensive range of software features to capture and edit infrared snapshots and videos, for thermal analysis with hot and cold spot detection display of isotherms and much more. The **TImage** is the thermographic solution for:

- Research and Development (R&D)
- Test stations (T&M) and Process automation
- Portable measurement tasks for maintenance



www.eigroup.biz

Features are related to all models equipped with full configuration. On next pages you can find specific details.

Technical Specifications

Radiamatic Timage IR1100



Measurement specifications

Temperature ranges	-20°C to 100°C 0°C to 250°C (20) 150°C to 900°C Optional 200°C to 1500°C
Frame rate	27/80 Hz (+ 1.5/4/25Hz)
Lenses	18° x 14° FOV f=20mm + 18° x 12° 29° x 22° FOV f=12,7mm 29° x 18° 53° x 38° FOV f=7,7mm 53° x 31° 80° x 54° FOV f=5,7mm 80° x 44°
Thermal Sensitivity (NETD)	0,08 K
Detector	Focal Plane Array (FPA) uncooled micro bolometer
Spectral range	7,5 - 13 µm
Optical resolution	382 x 288 pixel (+ x240)
System accuracy	±2% or ±2°C

General specifications

Environmental rating	IP 67
Ambient temperature	0 - 50°C
Storage temperature	-40 - 70°C
Relative humidity	10 - 95 %, non condensing
Shock	25/50G, IEC 68-2-27
Vibration	2G, IEC 68-2-6/64
Weight	200 g
Size	36 mm x 100 mm M30x1
Output	USB / GigaEthernet POE
Power supply	USB or POE
Process Interface (electrically isolated)	0-10V input, Digital input, 0-10V 4-20mA Output
Process Interface features	External control of emissivity, background radiation compensation or reference temperature/ Triggered video or snapshot recording analog output of temperatures of main measuring area or alarm output
Motorized Focus	
Warranty	2 years

Software features

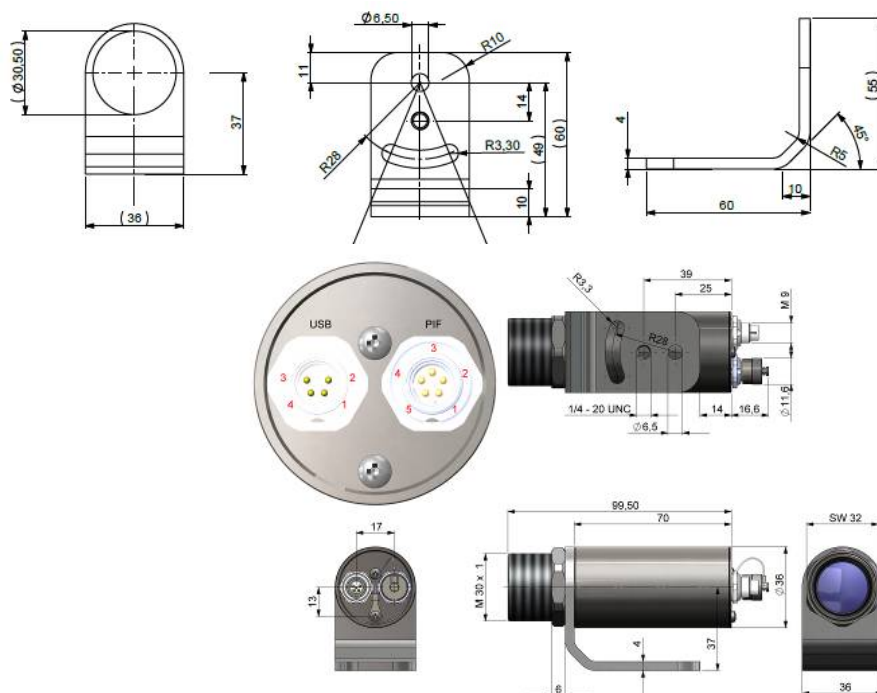
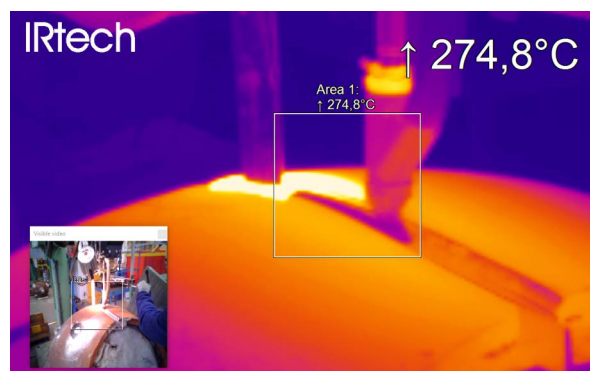
Configuration Automatic or manual scaling of the measuring range
Selectable and definable software layouts
Language-translation-tool
Adjustable measuring parameters :
Emissivity 0.10 - 1.00
Background radiation compensation
Reference temperature
Measurement Modes
Flexible spots and measurement fields with automatic calculation of MAX, MIN or AVG values
Automatic HOT-spot- and COLD-spotfinder
Temperature profiles
Isotherm exposition Reference function (with external sensor)
Linescanning modes
Image presentation
11 color palettes
Color reference bar
Histogram
Digital display of measuring field temperatures (with alarm signal)
Video control (play, pause, stop, detail screen forward & backward)
Full screen mode
Video recording Realtime video recording (radiometric) with 50 Hz (adjustable) Video editing tools
Snapshot saving (radiometric JPG)

Radiamatic Timage standard package

- Timage IR1100
- USB cable (1 m)
- Mounting bracket with Nut
- I/O cable with terminal block
- Software Timage connect
- Operators manual

Radiamatic Timage IR1100+

- Timage IR1100+
- Ethernet cable (1 m)
- Mounting bracket with Nut
- I/O cable with terminal block
- Software Timage connect
- Operators manual



Applications



Thermal processes in the industry

Next to time, temperature is the most frequently measured physical property. The temperature behavior is therefore a very good indicator for the status of physical systems. Too much friction generates heat, too high resistance of electrical contacts creates higher temperatures; energy losses are mostly shown by changes in temperature. Therefore one can find thermal processes in almost all industry branches.

Applications

With the TImage you can not only see where it is hot, you can also measure exactly the temperatures, all within a 8 millisecond interval!

It provides excellent infrared images in a wide temperature range of -20 up to 900°C and an extensive range of software features to capture and edit infrared snapshots and videos, for thermal analysis with hot and cold spot detection display of isotherms and much more.

The TImage is the thermographic solution for:

- Research and Development (R&D)
- Test stations (T&M)
- Process automation
- Portable measurement tasks

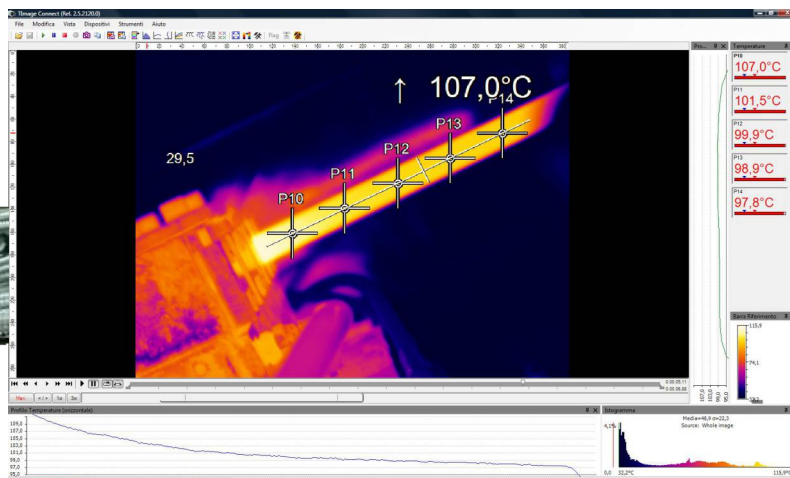
Similar to an oscilloscope the infrared camera became an essential tool for engineers. The TImage can, for example, be used in the field of research and development for the

observation of the thermal behavior of working PCBs during test runs. The camera offers a versatile use in test booths or at test stations due to its compactness. Inside test stations for breaks and clutches engineers will see thermal effects on the mechanical parts completely. In branches like the solar panel industry, in the development of LCD flat screens or in semiconductor process applications, the TImage is qualified for material homogeneity identification. In the representation of finest temperature details at different targets, the camera distinguishes itself in priority through its very good thermal sensitivity (NETD 0.08 K with 31° FOV). In the application field of medical investigations the TImage allows accurate and reliable medical screenings in combination with an electronically controlled reference temperature device.

Within the range of process automation, the TImage is a reliable monitoring system for the observation of continuous processes within the plastic industry, flat glass production, metal treatment and surface technology. Hotspots within bulky materials on conveyor

IPBOX Ethernet Standalone USBVR Ethernet Server

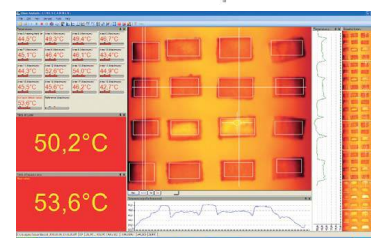
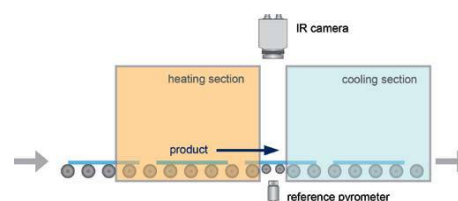
Standalone operation. POE Ethernet Gigabyte Interface. It power and control the IR camera via USB. Ethernet server.



belts can be detected quickly to avoid the development of fire. Network integration tools help to implement the TImage into factory automation systems. The optional cooling jacket and other accessories allow the installation under harsh environments. The TImage can be combined with pyrometers and blackbody reference sources for smart and reliable temperature observations under difficult ambient conditions. A process interface output with an analog 0-10V or an alarm signal is the direct communication interface to the process. With this interface, temperatures of the main measuring area can be issued analogue or with an alarm. A process interface input allows beside the synchronization of the camera an external control of emissivity values, background radiation compensation or the triggering of video or snapshot recordings. In combination with tablet PCs the TImage infrared camera can be used for preventive, electrical maintenance purposes as well as within the building thermography. Herewith the camera is closing the gap between handheld infrared snapshot cameras and pure online installations.

Line Scanner

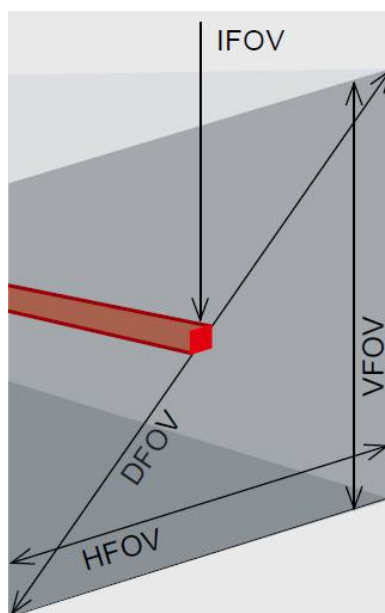
Scanning a moving process as Glass windows, Plastic Film, Cement Kiln. Diagonal mode for 200 points at 120Hz.



Optics

Microscope
Optics
(support included)

18° x 14° (f = 20)
smallest
measuring
spot
IFOV : 90 µm
MFOV: 240 µm
Distance
90-110mm



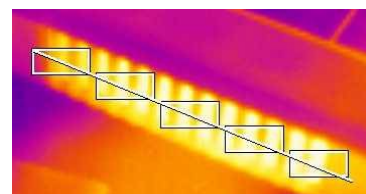
HFOV: Horizontal enlargement of the total measuring field at object level

VFOV: Vertical enlargement of the total measuring field at object level

IFOV: Size of the single pixel at object level

DFOV: Diagonal dimension of the total measuring field at the object level

MFOV: Recommended, smallest measured object size of 3 x 3 pixel



OPTICS

382 x 288 px	Focal length [mm]	Minimum measurement distance*	Angel	Distance to measurement object [m]												
					0.05	0.1	0.2	0.3	0.5	1	2	4	6	10	30	100
F12 Standard lens	12	0.2 m	29°	HFOV [m]	0.025	0.051	0.104	0.16	0.26	0.53	1.06	2.11	3.17	5.3	15.9	52.9
			22°	VFOV [m]	0.019	0.038	0.078	0.12	0.20	0.39	0.79	1.58	2.36	3.9	11.8	39.4
			37°	DFOV [m]	0.031	0.064	0.130	0.20	0.33	0.66	1.32	2.64	3.96	6.6	19.8	66.0
			1.34 mrad	IFOV [mm]	0.1	0.1	0.263	0.4	0.7	1.3	2.7	5.4	8.1	13.4	40.3	134.4
F20 Telephoto lens	20	0.3 m	18°	HFOV [m]			0.068	0.101	0.17	0.33	0.66	1.31	1.97	3.3	9.8	32.7
			14°	VFOV [m]			0.051	0.076	0.13	0.25	0.49	0.99	1.48	2.5	7.4	24.6
			23°	DFOV [m]			0.086	0.13	0.21	0.41	0.82	1.64	2.46	4.1	12.3	40.9
			0.85 mrad	IFOV [mm]			0.170	0.26	0.4	0.9	1.7	3.4	5.1	8.5	25.5	85.0
F08 Wide angle lens	8	0.2 m	53°	HFOV [m]		0.107	0.21	0.31	0.51	1.01	2.00	4.00	6.00	10.0	29.9	100.0
			38°	VFOV [m]		0.076	0.15	0.22	0.35	0.70	1.39	2.78	4.17	6.9	20.8	69.5
			66°	DFOV [m]		0.132	0.25	0.38	0.62	1.23	2.44	4.87	7.30	12.2	36.5	121.8
			2.20 mrad	IFOV [mm]		0.3	0.5	0.7	1.1	2.2	4.4	8.8	13.2	22.0	66.0	220.0
F06 Super wide angle lens	6	0.2 m	80°	HFOV [m]	0.069	0.149	0.30	0.46	0.78	1.57	3.14	6.29	9.43	15.7	47.3	157.7
			54°	VFOV [m]	0.047	0.098	0.20	0.30	0.51	1.01	2.03	4.06	6.10	10.2	30.5	101.7
			94°	DFOV [m]	0.084	0.178	0.36	0.55	0.93	1.87	3.74	7.49	11.23	18.7	56.3	187.6
			3.01 mrad	IFOV [mm]	0.2	0.3	0.6	0.9	1.5	3.0	6.0	12.0	18.1	30.1	90.3	300.9

Specifications may change without notice