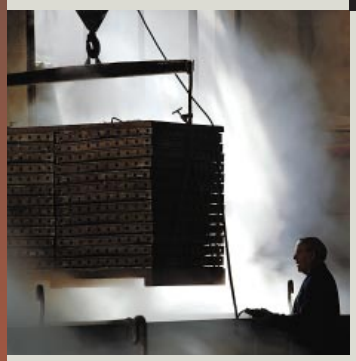
Temperature ranges
from -30° C to + 2,000° C

Distance-to-target ratio
up to 200 :1 for instance
5 mm target at 1 m distance

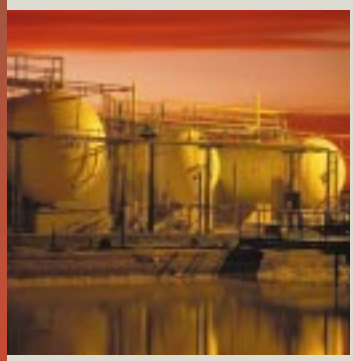
Double-beam or circular
laser for exact marking
of target area

Illuminated LCD display
menu guided keyboard control

WE KEEP YOUR TEMPERATURE UNDER CONTROL



Checking temperatures during food processing



Thermal controls in chemical plants

Measuring liquids – waste water or other chemical solutions

Portable Infrared Radiation Pyrometer

reference

Precision, Non-Contact Temperature Measurements

HEITRONICS
Infrarot Messtechnik

The handy Infrared Radiation Pyrometer for Temperatures from -30° C to +2000° C

■ *reference*
Portable Infrared Radiation Pyrometer

Innovative in performance and features, designed for ergonomic handling and rugged use, ***reference*** is your best choice among Infrared Radiation Pyrometers for in-field measurements and preventive maintenance checks.

Precise temperature measurements from -30° C to +2,000°C with a 0.1° C resolution are performed by ***reference***.

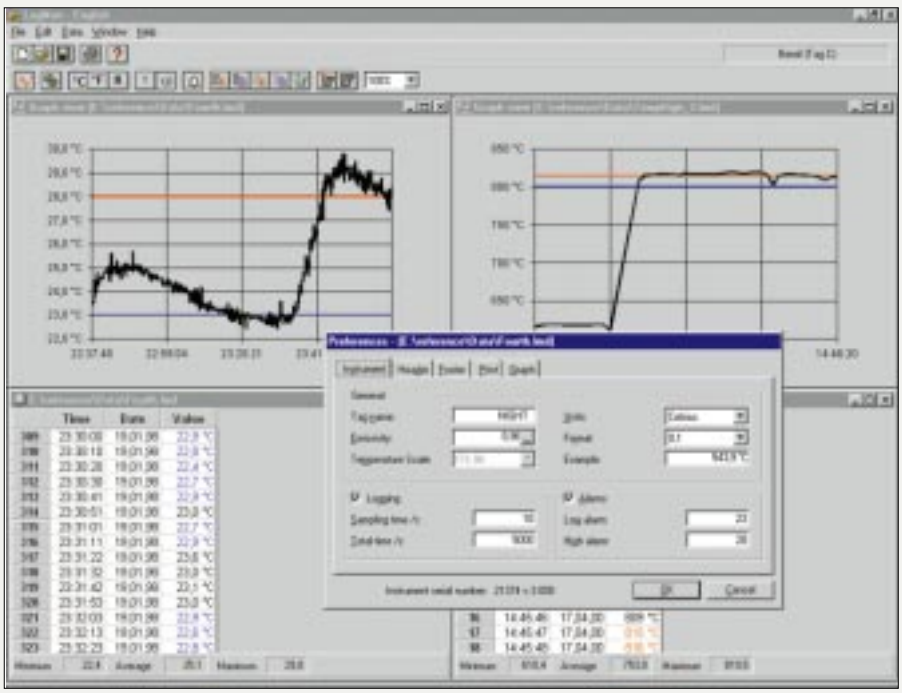
Exactly-to-the-point or by circular markers the built-in lasers beams indicate the target area. The laser-beams converge on the smallest target spot or form a circular image defining the target size at larger working distances.

Save up to 500 measured data in the ***reference*** memory – automatically, triggered by internal timer, or manually.

Clear and illuminated display of all relevant measured values, of selected settings, and of saved data.

Flexible PC-software and RS232 interface in the ***reference*** allow programming of up to 20 different routines and measuring points (tags). The software controls the transfer, display, processing and saving of ***reference*** data.

Automatic emissivity adjustments are made by ***reference*** with the aid of a connected thermocouple which senses the surface temperature of heat conducting materials



▲ *The display on the rear panel is illuminated by an internal light source.*
◀ *The software delivered with the instruments is running under Windows 95/NT. All measured data are processed for comparison and presented in a graphic chart or in a table. They can be saved, exported or printed as a hard copy.*

A Multitude of Applications

Due to the wide range in the spectral response from 0.9 µm to 14 µm, the full variety of known applications can be covered, such as:

▶ *Measurement of glass temperatures during coating processes of monitor screens.*

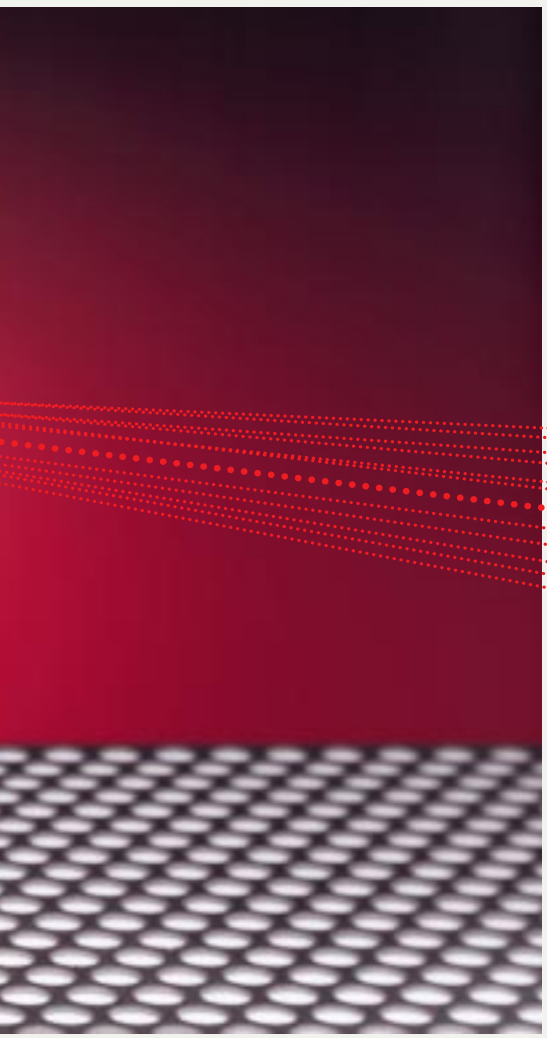
◀ *Thermal controls in textile fabrication*

▶ *Precise monitoring of temperatures during metal forming and manufacturing processes.*

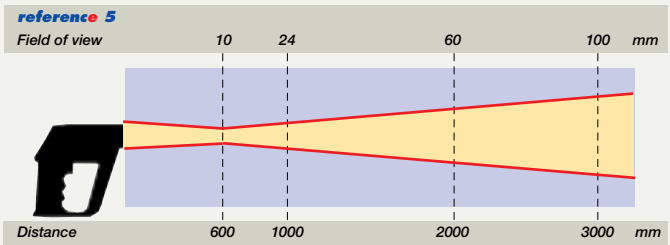
◀ *... and in continuous paper processing*

▶ *Checking surface temperatures in painting and coating.*

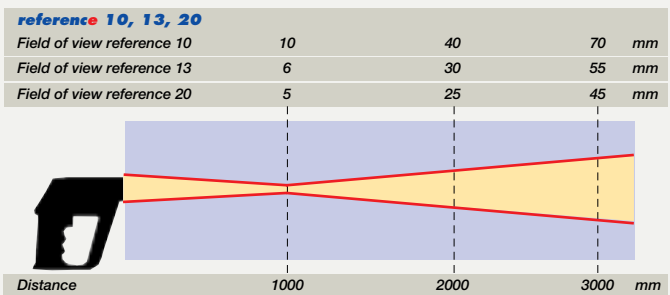
◀ *Thermal monitoring during fermentation and sterilization procedures in the food processing industry.*



Depending on the requirements of the specific application, the target can be identified exactly by a doublebeam or circular shaped laser. This unique feature allows precise pointing of the instrument to the target center or to the target area at different working distances.



▲ ***reference 5*** *measures the temperature of a target area of 10 mm diameter at a distance of 600 mm. The target area is identified by a circular laser.*



▲ *Infrared Radiation pyrometers* ***reference 10, 13*** *and* ***10*** *can measure targets as small as 5 mm at a working distance of 1 m. The position of the target is marked by a double-beam laser.*

Innovative Features

Acoustical and optical alarms indicate the transgression of set ***reference*** thresholds.

Integrated or punctual measurements of ambient temperatures surrounding the target area are processed by ***reference*** for emissivity corrections.

Real time calculations of average, minimum and differential temperatures are performed by ***reference***.

Selectable temperature unit, Celsius, Fahrenheit, or Kelvin, are displayed by ***reference***.

Continuous operation of ***reference***, including data saving, for 18 hours with fully charged batteries.

Menu guided selection of all ***reference*** parameters, such as emissivity, ambient temperature, temperature unit, recording data, alarm thresholds, acoustical alarm, analog output, thermocouple input, etc.

General Specifications

Temperature resolution (NETD)	Depends on measured temperature typical value ±0,2° C
Accuracy	±1° C ±0.5% (reference 13 and 20) of the difference between target temperature and housing temperature ±1° C ±1% (reference 5 and 10)
Accuracy as a function of housing temperature	±0.01%/° C of housing temperature deviation from 23° C
Reproducibility	±1° C ±0.5% (reference 13 and 20) ±1° C ±0.25% (reference 5 and 10)
Display	LCD, automatically illuminated at darkness
Temperature units	Celsius, Fahrenheit, or Kelvin switchable
Resolution of display	1° C and 0.1° C, or 1° F and 0.1° F, or 1 K and 0.1 K
Emissivity setting	Adjustable on keyboard from 0.10 to 1.00
Signal functions	Hold, average, maximum, minimum and differential temperature values
Data memory	500 measured values tagged for measured point
Response time	<300 msec
Analog output	1 mV/° C or 1 mV/° F, linear
Digital interfaces	Bi-directional TTL level or RS232 interface
Alarms (High and Low)	Set-points with acoustical alarm
Thermocouple input	Type K -20° C to 1,370° C; Type S -50°C to 1,760° C
Power requirements	alkaline or rechargeable batteries
Operating hours	18 hours, 12 hours with turned on laser
Permissible ambient temperatures	-5° C to 55° C
Weight	approximately 0.8 kg
Housing	ABS, metalized, shock resistant (fiber reinforced)

Models, Applications, and Available Options

Models	***reference 5***	***reference 10***	***reference 13***	***reference 20***
Applications	Plastics, paint, glass, food construction materials, liquids…		metals, metal oxides, bulk glass,furnaces	
Temperature range	-30° C…930° C	-30° C…1000° C	300° C…1300° C	600° C…2000° C
Field of view	10 mm @ 600 mm	10 mm @ 1000 mm	6 mm @ 1000 mm	5 mm @ 100 mm
Target identification	Cicular shaped laser	double-beam laser	double-beam laser	double-beam laser
telescope	--	--	○	○
High- and low alarms integrated	●	●	●	●

Modellversion	***S***	***Standard***	***P***
Data memory, incl. PC-software	--	○	●
and cable, RS232 interface			
Analog output	--	○	●
Rechargeable batteries and charger	--	○	●
Vinyl bag	●	●	●
Aluminum carrying case	○	○	○

● = *features included,* ○ = *optional features,* -- = *options not possible*

05.2000/020/e/D&F/ Wiehr- Design

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