Non-contact thermometry best done
with *INFRATHERM* pyrometers

IS 8 *plus* · IGA 8 *plus*
IS 8-GS *plus* · IS 8-K *plus*

High-quality, robust series of portable pyrometers

Portable infrared radiation pyrometers
for non-contact temperature measurement between 300 and 2500°C

- 4 temperature ranges between 300 and 2500°C
- High accuracy
- View finder with display for temperature or emissivity
- Focusable precision optics
- Small spot sizes min. 0.8 mm
- Digital display on the housing
- Extremely short response time: 1 ms
- Integrated maximum value storage
- Digital interface RS232
- Optional: analysing software PortaWin

The **series 8** pyrometers are high-quality, battery driven portables for non-contact temperature measurement between 300 and 2500°C.
The aluminium die-cast housing is specially designed for the daily use under rough industrial conditions. The easy focusable precision optics provides small spot sizes for measuring distances between 500 mm and ∞. The bright, optimized view finder with exact spot indication and built-in temperature display facilitates the accurate aiming on the object. The extremely short response time of 1 ms allows exact measurements of fast moving objects. The maximum temperature can be stored in the built-in peak picker (maximum value storage). The instruments are mainly used in the steel- glass-, forging industry and in foundries.
For high temperatures the **IS 8 *plus*** is available in two temperature ranges between 600 and 2500°C, for the medium temperatures the **IGA 8 *plus*** with a range from 300 to 1300°C.
The **IS 8-GS *plus*** is a special version for use in foundries, the **IS 8-K *plus*** is for use in coking plants.

Typical applications for metals:
- preheating, tempering, hardening, normalizing
- forging, brazing
- sintering
- melting
- welding, rolling
- founding

Typical applications for glass:
- molton glass
- glass gob
- glass moulds

IMPAC - Specialist in non-contact thermometry

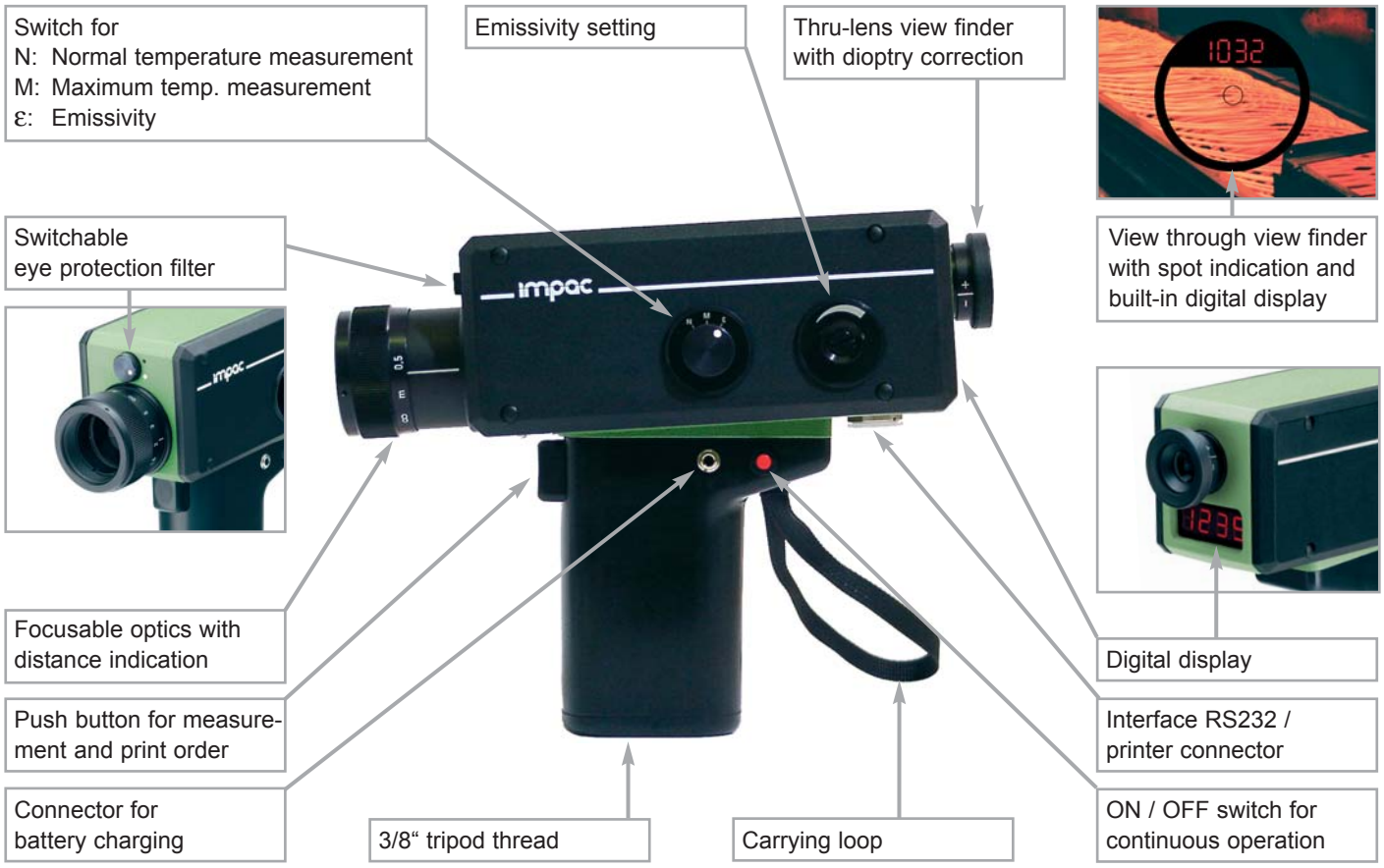
Technical Data

Temperature ranges:	IS 8 *plus*:	MB 16:	600 ... 1600°C
		MB 25:	900 ... 2500°C
	IGA 8 *plus*:	MB 13:	300 ... 1300°C
	IS 8-GS *plus* :	MB 20:	1000 ... 2000°C
	IS 8-K *plus*:	MB 16:	700 ... 1600°C
Spectral ranges:	IS 8 *plus*, IS 8-K *plus*:		0.60 ... 1.1 µm
	IGA 8 *plus*:		1.45 ... 1.8 µm
	IS 8-GS *plus* :		narrow band in the near infrared
Accuracy:	1 % of measuring range at correct emissivity setting, + 1 digit.		
Resolution:	1°C		
Temperature coefficient:	0.02 % / K (23°C) of measuring range		
Repeatability:	0.5 % of measuring range		
Response time t_{99}:	1 ms (IS 8-GS *plus*: 0.5 s; IS 8-K *plus*: 0.1 s)		
Emissivity ε:	adjustable from 20 ... 100%		
Objective:	Achromatic, adjustable from a = 500 mm to ∞ with close-up lens a = 250 mm to 500 mm Aperture D maximum ø 30 mm		
Sighting system:	Optimized thru-lens view finder with dioptry correction -2.5 dpt ... +3 dpt, view magnification: 3 x, angle of view 10° indication circle for measuring spot		
Mode switch:	N : Normal temperature measurement M : Maximum temperature measurement ε : Emissivity indication and setting		
Display:	LED, 4-digit additional built-in LED display in the view finder		
Serial interface:	RS232 with 9600 baud, data format: 8 Bit, even parity, 1 stop bit		
Protection class:	IP52 (housing, excluding handle), IP40 (RS 232 connection)		
Ambient temperature:	0 ... 50°C		
Storage temperature:	-10 ... 65°C		
Power supply:	6 x 1.5 V alkali-manganese IEC LR6 or 6 x 1.2 V re-chargeable batteries (uninterrupted operating time approx. 35 hours with alkali-manganese batteries)		
Charging:	Connector for battery charging		
Thread for tripod:	3/8”		
Housing:	Aluminium, side covers and handle: polyamide		
Weight:	1.2 kg with batteries		
Dimensions:	210 x 75 x 175 mm (L x W x H)		
CE label:	According to EU directives about electromagnetic immunity		

Spot size

Measuring-distance a [mm]	**Spot size diameter M [mm]**		
	IS 8 *plus* (MB 16)	**IS 8 *plus* (MB 25) IS 8-GS *plus* IS 8-K *plus***	**IGA 8 *plus***
With focusable optics:			
500	2.8	1.6	4.3
1000	5.6	3.2	8.5
2000	11	6.4	17
3000	17	9.6	25
4000	22	13	34
5000	28	16	42
9000	51	29	85
With additional close-up lens:			
250	1.4	0.8	2.2
500	2.8	1.6	4.3

Instrument's equipment



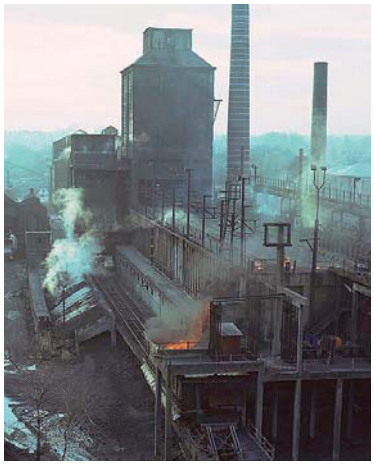
IS 8-GS *plus*: special pyrometer for foundries

IS 8-GS *plus* for measurement of molton metals:

The robust IS 8 *plus* was modified into the model **IS 8-GS *plus*** for the use in foundries. It is specially designed for non-contact temperature measurement of molton metals in the range of 1000 ... 2000°C. In casting processes the correct measurement can only be done on the pouring stream to avoid the influence of slag.
The specially selected wavelength in the near infrared facilitates this accurate temperature measurement as molton metals have their maximum emissivity in this spectral range. Additionally the influence of changing emissivity is reduced in this range as well as interference of the measurement by atmospherical absorption is avoided. A longer response time of 0.5 s prevents the possible influence of hot sparks.
Even for long measuring distances the easy focusable precision optics achieves small spot sizes (e.g. at a distance of 5 m the spot is only 16 mm) to allow larger safety distances between operator and pouring stream. The **IS 8-GS *plus*** is equipped with a switchable filter in the view finder to protect the eyes against the extremely bright radiation of the pouring stream.

IS 8-K *plus*: special pyrometer for coking plants

IS 8-K *plus* for measurement of nozzle brick temperature in coke ovens:



The robust IS 8 *plus* was modified into the model **IS 8-GS *plus*** for the use in coking plants. It is specially designed for measurement of nozzle bricks in coke ovens. The measurement can be done from the roof of the coke oven after removing the cover of the sighting hole. For this task especially the optical part of the instrument was modified to achieve very small spot sizes at long distances, here even the nozzle brick can be measured exactly through the small sighting hole in a distance of up to 12 m.

(The older data logger DS 2000 of IMPAC can not be used in combination with the new IS 8-K *plus*)

Reference numbers

Pyrometers:

3 807 200	IS 8 *plus*,	MB 16	600 ... 1600°C
3 807 210	IS 8 *plus*,	MB 25	900 ... 2500°C
3 807 250	IGA 8 *plus*,	MB 13	300 ... 1300°C
3 807 280	IS 8-GS *plus*,	MB 20	1000 ... 2000°C
3 807 270	IS 8-K *plus*,	MB 16	700 ... 1600°C

Scope of delivery: Instrument with batteries, robust plastic case, works certificate, operating instructions

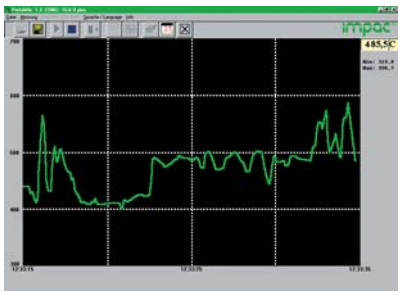
Accessories:

3 858 100	Close-up lens
3 876 020	Spare battery set
3 876 030	Set of recharcheable batteries
3 858 110	Charging unit 230 V, 50 Hz
3 858 090	Portable Citizen printer (the RS232 cable is necessary for operation)
3 858 450	Cable RS232 → PC or Citizen printer
3 858 440	Cable RS232, incl. software PortaWin
3 858 300	Heat protection bag

IMPAC 24 months warranty

Accessories

Analysing software PortaWin:
PortaWin is the analysing software for all portable IMPAC pyrometers.
The pyrometer can be connected via serial interface RS232 with the PC. The software offers some helpful functions such as data logging or display of the temperature measurement as an online trend.
The software is a useful tool for supervision and recording of measurements.



Portable Citizen printer:
The RS232 cable connects the printer with the pyrometer. Pressing the push button into the print order position the printer prints the actual temperature reading or the maximum reading in °C in combination with emissivity.

Heat protection bag:
Protects the pyrometer against radiation heat.

Close-up lens:
The close-up lens allows measuring distances between 250 and 500 mm.

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Temperature Measurement

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