



## Technical Data

Measurement Specifications		Display:	Instrument's back side: LED, 4 digit, 7 segment, 10 mm high. Additional built-in LED display in the view finder. Left side: LC display, 128 x 64 pixel, illuminated. 3 values / s; last value is displayed for another 10 s after finishing measurement (HOLD function). Display when exceeding the max. temp range: 20 °C above end of temp. range. Display when falling below the min. temp. range: 5 °C below beginning of temp. range.
Temperature Range:	IS 8 pro: 600 to 1800 °C (MB 18) 750 to 2500 °C (MB 25) IS 8-GS pro: 1000 to 2000 °C (MB 20) IGA 8 pro: 250 to 1600 °C (MB 16) 280 to 2000 °C (MB 20)	Serial Interface:	USB 2.0 (supplies the instrument when connected, but without battery charging function)
Spectral Ranges:	IS 8 pro: 0.78 to 1.1 µm IGA 8 pro: 1.45 to 1.8 µm IS 8-GS pro: 0.55 µm	<b>Physical Characteristics</b>	
Measurement Accuracy:	0.4% of reading + 1°C (at $\epsilon=1, T_{amb.}=23\text{ °C}$ )	Dimensions:	210 x 75 x 175 mm (L x W x H)
Temperature Coefficient:	0.01% / K ( $T_{amb.}=23\text{ °C}$ ) of reading	Weight:	1.2 kg with batteries
Repeatability:	0.1% of reading or 0.8 °C (the larger value is valid; at $\epsilon = 1, T_{amb.}=23\text{ °C}$ )	Housing:	Aluminum. Handle: polyamide
Resolution:	LED inside: 1 °C/°F; LED outside: 0.1° up to 1000 °C/°F, after this: 1°; LCD: 0.1 °C/°F	Thread for Tripod:	3/8"
Response time $t_{90}$ :	1 ms (IS 8-GS pro: 0.5 s)	<b>Environmental Specifications</b>	
Emissivity $\epsilon$ :	Adjustable from 10 to 100% in 0.1% steps	Ambient Temperature:	0 to 50 °C
Measuring Functions:	Normal (normal temp. measurement), MAX (maximum value measurement), AVG (average temperature)	Storage Temperature:	-10 ... 65 °C
Parameters:	Emissivity, direct emissivity setting; storage interval, temperature indication in °C or °F	Relative Humidity:	Non condensing conditions
Instrument Settings:	Side keypad	Protection Class:	IP52 (housing, exclude handle with battery case), IP40 (handle)
Data Storage:	4000 values, storage of: measurement value, date, time, parameters, emissivity, temperature unit	<b>Electrical</b>	
Storage Interval:	Off; 0.001 s; 0.02 s; 0.1 s; 1 s; 10 s; 100 s; 500 s	Power Supply:	6 x 1.5 V alkali-manganese IEC LR6 or 6 x 1.2 V rechargeable batteries (uninterrupted operation time approx. 35 hours with alkali-manganese batteries)
Objective:	Achromatic, adjustable from a=500 mm to $\infty$ With close-up lens: a=250 mm to 500 mm Effective lens aperture diameter D: 20 mm (distance $\infty$ ) to 25 mm (distance 500 mm)	CE label:	According to EU directives about electromagnetic immunity
Sighting:	Optimized thru-lens view finder with dioptre correction -2.5 dpt. to +3 dpt., View magnification: 3 x, angle of view: 10° Indication circle for measuring spot		

## Spot sizes

Measuring distance a [mm]	Spot size $M_{90}$ [mm]				
	IS 8 pro (MB 18)	IS 8 pro (MB 25)	IS 8-GS pro	IGA 8 pro (MB 16)	IGA 8 pro (MB 20)
<b>With standard focusable optics</b>					
a : M*	310 : 1	500 : 1	180 : 1	230 : 1	310 : 1
500	1.6	1	2.8	2.2	1.6
1000	3.2	2	5.6	4.4	3.2
2000	6.4	4	11	8.7	6.4
3000	9.6	6	17	13.3	9.6
4000	13	8	22	17.5	13
5000	16	10	28	22	16
9000	29	18	51	40	29
<b>With additional close-up lens</b>					
250	0.8	0.5	1.4	1.1	0.8
500	1.6	1	2.8	2.2	1.6

\* a : M: distance ratio (90% intensity)



## Instrument's equipment



## Features overview

The operating of the Series 8 pro instruments is easy. Switching on and measurement will be done by pressing the push button. The second trigger point stores measurement values. Additionally the Series 8 pro instruments are completed by a large display and a easy designed keypad

for selecting and changing of all available functions and settings.

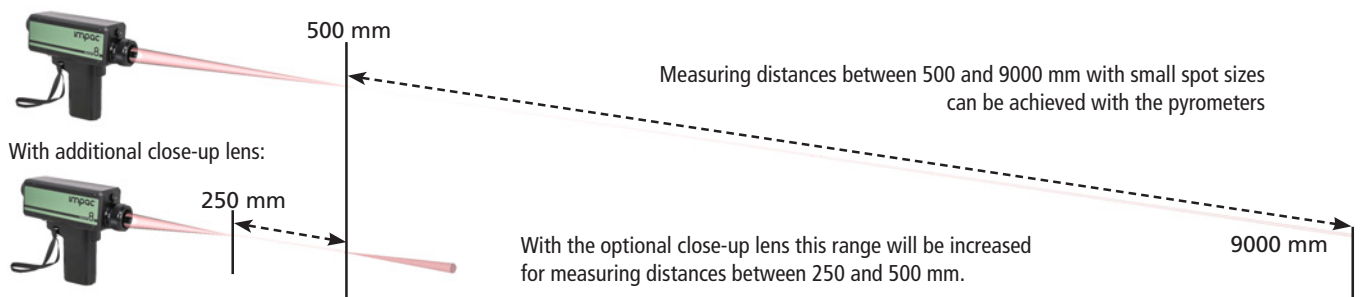
- Current measuring temperature display
- Single value storage / Continuous measuring

- Minimum / maximum value of the measurement
- Time of the measurement
- Emissivity display / quick adjustment
- Data storage for 4000 values
- Acoustic signal at full storage

## Optics

The pyrometers are equipped with a high quality focusable optics. Adjusting the optics to the required measuring distance achieves the spot sizes specified in the table. The adjustment either can be taken via the scale on the objective or by focusing the measuring object in the view finder. Interim values for distances or spot sizes can be calculated by interpolation.

With standard focusable optics:



## IS 8-GS pro: special pyrometer for foundries

### IS 8-GS pro for measurement of molten metals:

The IS 8-GS pro is specially designed for non-contact temperature measurement of molten metals in the range between 1000 to 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 of 0.55 µm facilitates this accurate temperature measurement as molten 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 atmospheric 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 pro is equipped with a switchable filter in the view finder to protect the eyes against the extremely bright radiation of the pouring stream.



## Reference numbers

Type	Ref. number	Temperature range	
IS 8 pro	3 807 300	600 to 1800 °C	(MB 18)
	3 807 310	750 to 2500 °C	(MB 25)
IS 8-GS pro	3 807 380	1000 to 2000 °C	(MB 20)
IGA 8 pro	3 807 350	250 to 1600 °C	(MB 16)
	3 807 410	280 to 2000 °C	(MB 20)

### Accessory:

3 858 560	Protection window
3 858 100	Close-up lens
3 858 630	Heat protection bag
3 876 030	Set of rechargeable batteries
3 876 020	Spare battery set (6 piece)
3 858 600	Software PortaWin incl. USB cable
3 858 610	USB cable

### Scope of delivery:

Instrument with batteries, protection window, robust plastic case, works certificate, operating instructions

## Accessory overview



### Protection window:

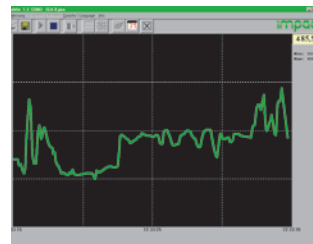
The protection window is an additional window that is screwed in front of the objective to protect the pyrometer optics e.g. from hot sparks.

### Close-up lens:

The close-up lens provides measuring distances in a range between 250 and 500 mm, it is also screwed in front of the objective.

### Heat protection bag:

Protects the pyrometer against radiation heat.



PortaWin-CD und USB-Kabel

### Analysing software

#### PortaWin:

PortaWin is the analyzing software for Series 8 portable IMPAC pyrometers. The pyrometer can be connected via USB interface with the PC. Then the measured values can be read out, stored permanently and retrieved at any time. Additionally the software offers helpful functions such as graphics, monitoring, recording and analyzing of measured values.

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## Awakening Your 6<sup>th</sup> Sense

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