

IMPAC IS 210 AND IGA 210

Digital pyrometer for temperature measurement of metal surfaces, graphite, and ceramics, etc. between 300 and 2500°C (572 and 4532°F).



The Impac® IS 210 and IGA 210 are stationary pyrometers for non-contact temperature measurement of metal surfaces, graphite, ceramics etc. The digital pyrometers use the two-wire format that combines the high accuracy of the digital signal processing with the simple connection and operation with two wires.

Setting programmable parameters such as emissivity, sub range, and response time can be adjusted either with the portable setting device HT 6000 or via USB adapter and the setting software InfraWin. This enables the instrument to be adapted to various measuring tasks.

PRODUCT HIGHLIGHTS

- Small, robust stainless steel housing for easy installation, with electrical connector for facile mounting/demounting
- Two-wire technique for current supply and temperature measurement at the same time
- Internal digital signal processing for high accuracy
- High quality optics for detection of small measuring objects
- Built-in LED targeting light for fast and precise alignment to the measuring object
- Built-in maximum value storage detects always the highest temperature value of a series of measurements
- Temperature sub range programmable for adaptation of the analog output to the measuring task

AT A GLANCE

Temperature Ranges

IS 210
650 to 1200°C (MB 18)
800 to 2500°C (MB 25)

IGA 210
300 to 1300°C (MB 13L)
250 to 1800°C (MB 18L)

Spectral Range

IS 210: 0.8 to 1.1 μm
IGA 210: 1.45 to 1.8 μm

Measurement Uncertainty

0.5% oR in °C + 1°C

Repeatability

0.1% oR in °C + 1°C

Exposure Time t_{90}

20 ms, adjustable up to 10 s

Output

4 to 20 mA

TECHNICAL DATA

Measurement Specifications		
Temperature Range	IS 210	650 to 1200°C (1202 to 2192°F) (MB 18)
		800 to 2500°C (1472 to 4532°F) (MB 25)
	IGA 210	300 to 1300°C (572 to 2372°F) (MB 13L)
		350 to 1800°C (662 to 3272°F) (MB 18L)
Spectral Range	IS 210: 0.8 to 1.1 µm	
	IGA 210: 1.45 to 1.8 µm	
Resolution	0.1°C	
Measurement Uncertainty ($\varepsilon = 1$, $t_{90} = 1$ s, $T_{amb.} = 25^\circ\text{C}$)	0.5% of reading in °C + 1°C	
Repeatability ($\varepsilon = 1$, $t_{90} = 1$ s, $T_{amb.} = 25^\circ\text{C}$)	0.1% of reading in °C + 1°C	
Emissivity ε	0.05 to 1.0	
Sighting	LED targeting light	

Communication and Interface Specifications	
Analog Output	4 to 20 mA, linear
Response Time t_{90}	20 ms to 10 s
Parameters ¹	Sub range, emissivity, response time, maximum value storage

Electrical Specifications	
Power Supply	24 VDC \pm 25%, ripple 500 mV; LED targeting light: 5 to 30 VDC, 35 mA
Power Consumption	Max 0.6 W (without LED targeting light)
Load	Max 700 Ω @ 24 V (max 100 Ω @ 12 V)

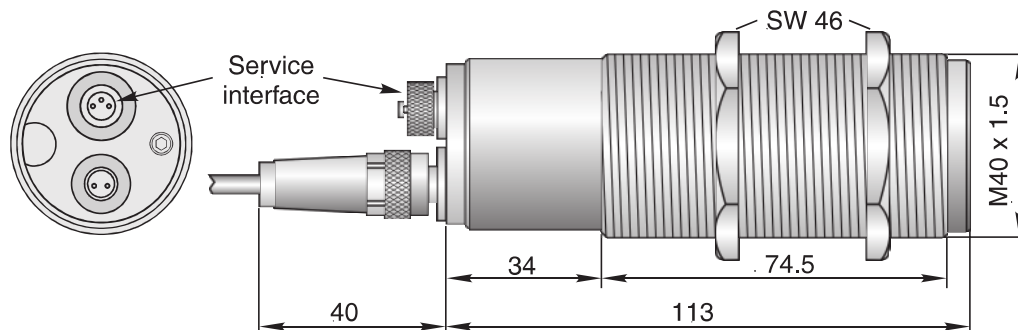
Environmental Specifications	
Protection Class	IP 65 (DIN 40 050)
Ambient Temperature	0 to 70°C (32 to 158°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)
Relative Humidity	Non-condensing conditions
Weight	~450 g (~0.992 lb)
CE Label	According to EU directives about electromagnetical immunity

¹ Programming via service interface with portable battery driven setup device HT 6000 or via USB adapter and software infraWin (optional) or preset ex works (on request)

² MB is a shortcut used for temperature range (in German: Messbereich).

The determination of the technical data of this pyrometer is carried out in accordance with VDI/VDE IEC TS 62942-2, the calibration / adjustment in accordance with VDI/VDE 3511, Part 4.4.

DIMENSIONS



Dimensions in mm

OPTICS

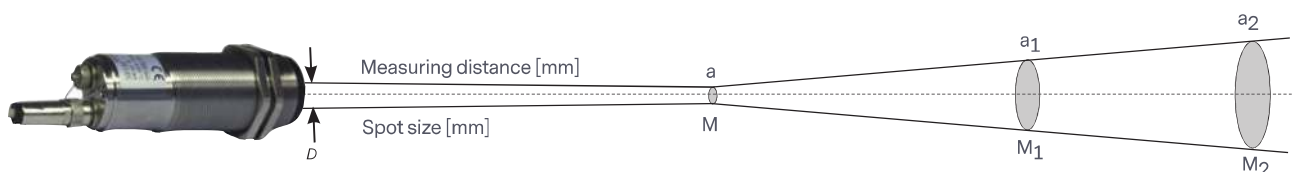
The pyrometers are equipped ex works with one of the specified optics. The smallest spot size M [mm] for each optics is in the nominal distance a [mm]. If the distance to the measuring object is decreased or increased the spot sizes will enlarge (see example values in the table).

IS 210

Type	$a:M^1$	Optics	a [mm]	M [mm]	a_1 [mm]	M_1 [mm]	a_2 [mm]	M_2 [mm]	D [mm]
MB 18	130:1	600	600	4.5	1000	15	1500	28	13
MB 25	240:1	600	600	2.5	1000	12	1500	23	13
MB 18	140:1	1000	1000	7	1500	15	2000	24	16
MB 25	240:1	1000	1000	4.2	1500	12	2000	19	16
MB 18	135:1	1500	1500	11	2000	17	3000	32	17
MB 25	235:1	1500	1500	6.4	2000	14	3000	30	17

IGA 210

Type	$a:M^1$	Optics	a [mm]	M [mm]	a_1 [mm]	M_1 [mm]	a_2 [mm]	M_2 [mm]	D [mm]
MB 13L + MB 18L	165:1	300	300	1.8	400	6	600	15	17
	175:1	350	350	2	500	8	800	18	16
	145:1	500	500	3.4	800	11	1000	16	14
	150:1	600	600	4	1000	13	1500	24	13
	140:1	1000	1000	7	1500	14	2000	22	16
	150:1	1500	1500	10	2000	17	3000	30	17



¹ $a:M$; distance ratio (90% intensity); M : spot size; a : measuring distance; D : aperture (effective lens diameter).

REFERENCE NUMBERS

IS 210		
Optics	650 to 1800°C (MB 18)	800 to 2500°C (MB 25)
600	3 819 740	3 819 770
1000	3 819 750	3 819 780
1500	3 819 760	3 819 790

IGA 210		
Optics	300 to 1300°C (MB 13L)	350 to 1800°C (MB 18L)
300	3 819 860	3 819 890
350	3 819 870	-
500	3 819 880	-
600	3 819 800	3 819 830
1000	3 819 810	3 819 840
1500	3 819 820	3 819 850

Scope of Delivery

Instrument with selected optic, works certificate, operation manual.

Ordering Notes

A connection cable is not included with the instrument and has to be ordered separately.

ACCESSORIES

PN	Description
3 821 750	Connection cable, 2 m
3 821 760	Connection cable, 5 m
3 821 770	Connection cable, 10 m
3 821 780	Connection cable, 15 m
3 821 790	Connection cable, 20 m
3 821 800	Connection cable, 25 m
3 821 810	Connection cable, 30 m
3 826 500	HT 6000: portable battery driven indicator and instrument for pyrometer parameter settings; RS232 / RS485
3 821 600	Connecting cable to HT 6000
3 826 660	USB adapter and InfraWin software
3 891 220	DA 4000: LED-display, 2-wire power supply, 2 limit switches (relay contacts), 115 VAC
3 890 650	DA 4000: LED-display, 2-wire power supply, 2 limit switches (relay contacts), 230 VAC
3 852 290	Power supply NG DC for DIN rail mounting; 100 to 240 VAC ⇒ 24 VDC, 1 A
3 837 360	Water cooling jacket with integrated air purge unit
3 835 320	Air purge unit
3 834 350	Mounting angle, adjustable
3 834 360	Mounting angle, fixed



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