

IMPAC IN 210

Pyrometer for temperature measurement of non-metallic surfaces as well as painted, coated, or anodized metals in temperatures -32 to 900°C (-25.6 to 1652°F).



The Impac® IN 210 is a stationary pyrometer for non-contact temperature measurement of non-metallic surfaces or painted, coated or anodized metals. The instruments operate as digital two wire pyrometers. This technique combines the high accuracy of the digital signal processing with the simple connection and operating with two wires.

Setting programmable parameters such as emissivity, subrange 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
- Temperature subrange programmable for adaptation of the analog output to the measuring task

AT A GLANCE

Temperature Ranges

-32 and 900°C (-25.6 to 1652°F)

Spectral Range

8 to 14 μm

Measurement Uncertainty

1% oR + 1°C

Repeatability

0.5% oR + 1°C

Optics

3 fixed optics:
a = 100 mm, 300 mm, or 800 mm

Exposure Time t_{90}

120 ms, adjustable up to 10 s

Output

4 to 20 mA

TECHNICAL DATA

Measurement Specifications	
Temperature Range	-32 to 900°C (-25.6 to 1652°F)
Spectral Range	8 to 14 μm
Resolution	0.1°C
Measurement Uncertainty ($\epsilon = 1, t_{90} = 1 \text{ s}, T_{\text{amb.}} = 25^\circ\text{C}$)	1% of reading in °C + 1°C
Repeatability ($\epsilon = 1, t_{90} = 1 \text{ s}, T_{\text{amb.}} = 25^\circ\text{C}$)	0.5% of reading in °C + 1°C
Emissivity ϵ	0.2 to 1.0 adjustable via service interface

Communication and Interface Specifications	
Analog Output	4 to 20 mA, linear; max load 700 Ohm at 24 V
Response Time t_{90}	120 ms, adjustable up to 10 s via service interface
Parameters ¹	Sub range, emissivity, response time

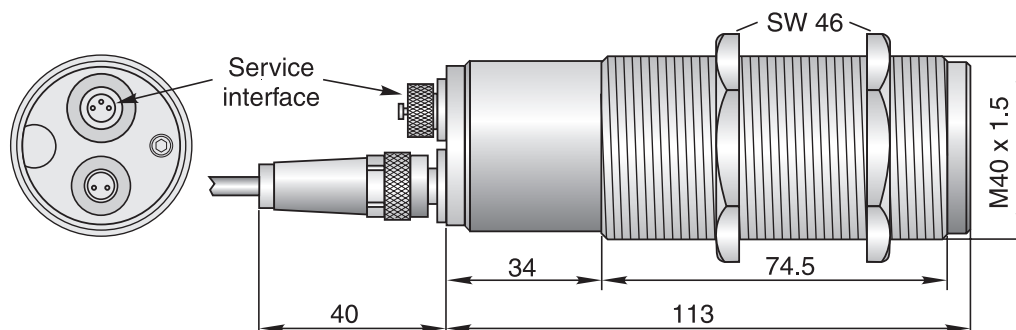
Electrical Specifications	
Power Supply	24 VDC \pm 25%; ripple \leq 500 mV
Power Consumption	Max 0.6 W
Aperture	15 mm

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)
Weight	~450 g (~0.992 lbs)
CE Label	According to EU directives about electromagnetic 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 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

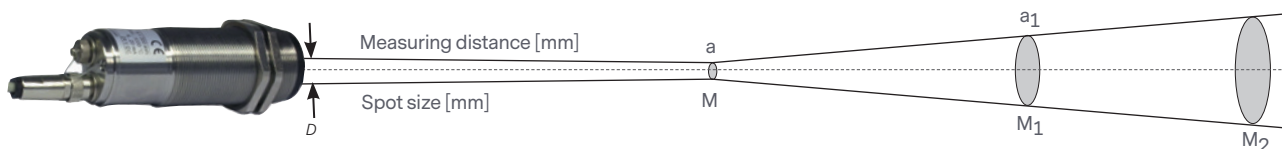


Dimensions in mm

OPTICS

The pyrometers are equipped ex works with one of the following optics. These optics are fixed to a certain distance, i.e. at these distances each optic achieves its smallest spot size in relation to the measuring distance. The spot size will change in any other distance (shorter or longer). Please note that the measuring object must be at least as big as the spot size.

IN 210								
Optics	a:M ¹	a [mm]	M [mm]	a ₁ [mm]	M ₁ [mm]	a ₂ [mm]	M ₂ [mm]	D [mm]
100	50:1	100	2	200	18	300	35	15
300	50:1	300	6	600	22	1000	45	
800	50:1	800	16	1500	36	2500	68	



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

REFERENCE NUMBERS

IN 210	
PN	Description
3 819 540	IN 210, -32 to 900°C, optics a = 100 mm
3 819 550	IN 210, -32 to 900°C, optics a = 300 mm
3 819 560	IN 210, -32 to 900°C, optics a = 800 mm

Ordering Notes

When ordering, please select one focusable optics. A connection cable is not included in the scope of delivery.

ACCESSORIES

PN	Description
3 821 820	Connection cable, 2 m
3 821 830	Connection cable, 5 m
3 821 840	Connection cable, 10 m
3 821 850	Connection cable, 15 m
3 821 860	Connection cable, 20 m
3 821 870	Connection cable, 25 m
3 821 880	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
3 890 640	DA 4000-N, Digital display, with integrated 2-wire power supply
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
3 827 110	Battery driven laser targeting light



Mounting angle
fixed



Laser targeting
light



DA 4000
DA 4000-N



Mounting angle
adjustable



Water cooling jacket



USB adapter



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