

## ISQ 5

Digital two colour infrared pyrometer for non-contact temperature measurement between 600°C and 3000°C

**The compact, high exact, completely digital infrared converter**

- highest accuracy
- wide ranges
- laser-pilot-light or through lens sighting
- analog and digital output
- built-in maximum value storage
- bus control of all parameters
- also 1-channel temperature display



### Typical applications:

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"><li>• welding</li><li>• annealing</li><li>• casting</li><li>• induction heating</li></ul> | <ul style="list-style-type: none"><li>• pouring stream measurement</li><li>• rotary kilns</li><li>• sintering</li></ul> | <ul style="list-style-type: none"><li>• soldering</li><li>• melting</li><li>• forging</li><li>• rolling</li></ul> |
|---|---|---|

## Technical Data ISQ 5:

Spectral ranges:	channel 1 0.70...1.15 $\mu\text{m}$ ; channel 2 0.97...1.15 $\mu\text{m}$
Accuracy:	< 1500°C $\pm$ 0.5% of the measured value in °C $\pm$ 2K > 1500°C $\pm$ 1.0% of the measured value in °C
Max load:	$\leq$ 3 VA (inclusive aktive laser-pilotl-light)
Resolution:	<1 K
Temperature dependence:	$\pm$ 0.25 K per K deviation of ambient temperature
Repeatability:	0.2 % of the measured value in °C $\pm$ 2K
Response time:	< 10 ms, adjustable up to 10 s
Switch off limit:	adjustable via interface: 2% ... 50%
Parameters:	<i>adjustable on the converter's rear side:</i> emissivity slope, emissivity, response time, laser-pilot-light, 0 or 4...20 mA analog output, on-/offline <i>via interface adjustable and readable:</i> two- or one-colour temperature signal, emissivity slope, emissivity, parametring the analog output, temperature subrange, maximum value storage, clear time and external clear of the maximum value storage, address, baud rate, switch off limit <i>only readable:</i> measured value, internal temperature of the unit
Power supply:	24 VDC $\pm$ 25%, stabilised, ripple < 50 mV
Interface:	RS 232 or RS 485 adressable, half duplex, baud rate up to 38.4 kBd
Sighting system:	laser-pilot-light (standard) or through lens sighting
Maximum value storage:	single or dual storage, clear modes: time, external clear contact, via interface or automatic „hot object mode“
Emissivity slope:	( $\epsilon_1/ \epsilon_2$ ): 0.800 ... 1.250
Safety class:	I after VDE 0411
Safety system:	IP 65 (according to DIN 40050)
Storage temperature:	-20...70°C
Operating temperature:	0...70°C at housing
Isolation:	power supply and digital and analog output galvanically isolateted
CE-Sign:	according to EU directives about electromagnetic immunity
Weight:	550 g

**Basic measuring ranges and Ref.No:** Ref.No for the unit with RS 232 inclusive laser-pilot-light

		Ref.No.:			Ref.No.:
MB 14	600 ... 1400°C	<b>3 853 100</b>	MB 18	700 ... 1800°C	<b>3 853 200</b>
MB 25	800 ... 2500°C	<b>3 853 300</b>	MB 30	1000 ... 3000°C	<b>3 853 400</b>

**Options:**

RS 485 instead of RS 232: **+ 010**  
through lens sighting instead laser-pilot-light **+ 020**

add option number to the unit's ref. no., e.g.

ISQ 5, MB 18 with RS 232 and laser-pilot-light: 3 853 200  
ISQ 5, MB 18 with RS 485 (+ 010) and through-lens-sighting (+ 020): 3 853 230

**Optics:**

Spot diameter M [mm] at the measuring distance a for 90% of the radiation.

Measuring range	MB 14: 600 ... 1400°C	MB 18: 700 ... 1800°C	MB 25: 800 ... 2500°C	MB 30: 1000 ... 3000°C
Apertur D [mm]	8.0	8.0	8.0	5.0
M. distance a				
250 mm	6.0	3.0	1.5	1.5
300 mm	8.0	4.0	2.0	2.0
500 mm	11.0	5.5	2.8	2.8
800 mm	16.0	8.0	4.0	4.0
1300 mm	26.0	13.0	6.5	6.5
2000 mm	40.0	20.0	10.0	10.0

The spot diameter between the above mentioned distances can easily be calculated by interpolation.

**Scope of delivery:**

Converter with objective;  
PC-Software Infracwin

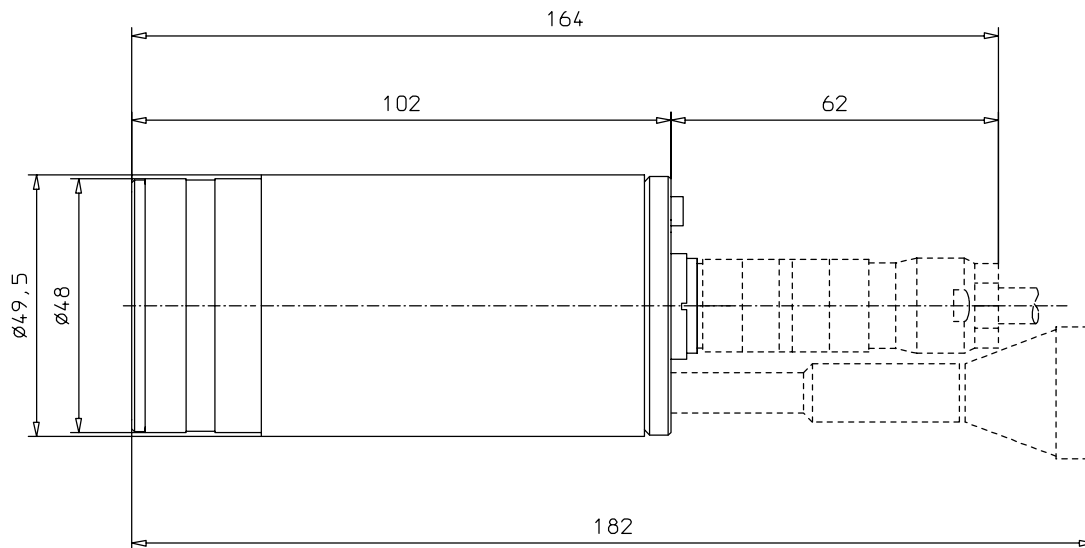
The connecting cable is not included in the scope of delivery and has to be ordered separately.

**Details of order:**

To proceed your order quickly, please give us the following data:

- Measurement range or ref. no.
- Requested measurement distance (e.g. "measurement distance 250 mm")
- Connection cable (3 820 330)

## Dimensions:



## Accessories:

3 820 330	Connection cable 5m
3 852 140	Power supply NG 0 in a standard carrier rail housing
3 834 210	Adjustable mounting support
3 890 640	LED-display DA 4000-N
3 890 650	LED-display DA 4000 with 2 limit switches
3 890 660	IP 65-front cover for DA 4000-N, DA 4000
3 835 160	Air purge unit
3 837 080	Cooling jacket for ambient temperature up to 170 °C
3 835 080	Mounting angle for cooling jacket 3 837 080
3 835 070	Mounting flange for cooling jacket 3 837 080
3 835 100	Coupling flange for cooling jacket 3 837 080
3 835 090	Mounting sleeve for cooling jacket 3 837 080
3 846 100	Installation tube
3 846 120	Flange tube

Please see also separate drawing 3 837 031 for mechanical accessories.

**Service Guarantee:** Let us advise you in solving your measuring problems. Our technical staff are always available to assist with your application.

# impac

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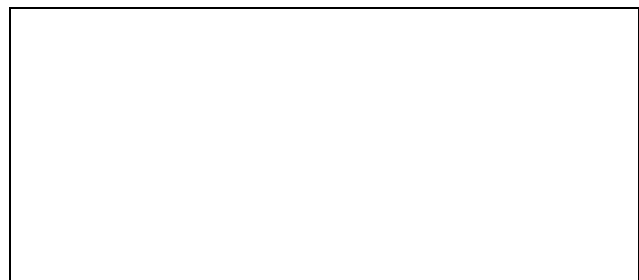
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Specification are subject to change without notice.