

## IKS - Series (2 - wire instruments)

The IKS - series are compact sensors, built in a stainless steel housing, especially designed for industrial use. The units come with a plug for the power supply, which enables exchanging instruments without the need for rewiring. The sensors are available as low-temperature models (-32 ... 1200 °C; Te/ Ti - series) and as high-temperature models (300 ... 2500 °C; Si/ GAi - series). A wide range of accessories ensures high operational reliability even under rough environmental conditions.

### IKS-Te/ Ti - Series

The compact IKS-Te/ Ti - series include beside the standard sensor IKS-Te/ Ti14 also special instruments for temperature measurement through flames (IKS-Te/ Ti4) and for temperature measurement on glass surfaces (IKS-Te/ Ti5).

#### Typical applications:

Paper industry, Plastics industry,  
Steel industry, Glass industry (IKS-Te/ Ti5),  
Research and Development

IKS-Te  
with emissivity corrector



The IKS-Te series instruments do have an emissivity corrector at the rear of the instrument. This corrector enables to adjust the emissivity factor very easy.

IKS-Ti  
with interface plug



The IKS-Ti instruments comes with an interface plug as standard. With that interface plug, the instrument is prepared for online use. An interface module (IP 10-USB) allows a direct connection to the computers USB-interface. Instrument parameters can also be set up easily.



-32 ... 1200 °C  
-25.6 ... 2192 °F

#### Scope of delivery:

IKS-Te/ Ti - type with inspection sheet, user manual, supply in INFRAPOINT-Box  
The connection cable is not included in scope of delivery. Please order the cable separately!



### IKS-Si/ GAi - Series

The compact series IKS-Si/ GAi is especially applicable for the industrial use in high temperature areas. All these sensors come with an interface plug. In combination with the interface module IP 10-USB (with software PyroControl) the sensor can be used online and instrument parameters like emissivity, measuring subranges and response time can be set up.

#### Typical applications:

Steel industry  
Induction heating processes  
Hardening  
High-level stove  
Research and Development

IKS-Si/ GAi  
with interface plug



The IKS-Si/GAi instruments comes with an interface plug as standard. With that interface plug, the instrument is prepared for online use. An interface module (IP 10-USB) allows a direct connection to the computers USB-interface. Instrument parameters can also be set up easily.



#### IP 10-USB

Interface module with software PyroControl enables online-operation and the parameter set up of IKS-Si, IKS-GAi and IKS-Ti



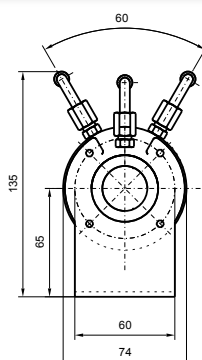
300 ... 2500 °C  
572 ... 4532 °F

#### Scope of delivery:

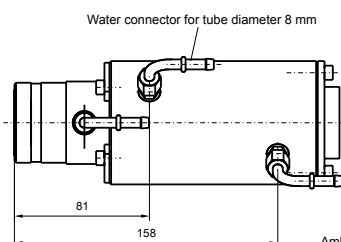
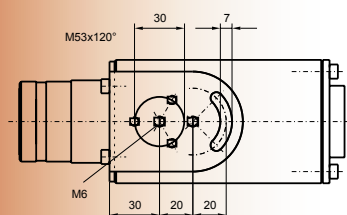
IKS-Si/ GAi - type with inspection, user manual, supply in INFRAPOINT-Box  
The connection cable is not included in scope of delivery. Please order the cable separately!



## Stationary temperature measurement



The cooling jacket is used to protect the pyrometer from environmental impacts and temperatures above 70 °C. In conjunction with the massive cooling jacket, the instruments can operate up to ambient temperatures of 200°C. A cooling water flow rate of 4l/ min at about 20 °C water temperature is needed.



Ambient temperature: max. 200°C  
Pressure Water: max. 6 bar  
Water consumption (20°C): 4 l/min  
Air consumption: 200 l/min

Order-No. 4 749 302

Technical drawing of the IKS vacuum adapter. The drawing shows a side view of the adapter with a vacuum window on the left and a flange on the right. Dimensions are given in millimeters: total length 142, distance from vacuum window to flange 43, and distance from vacuum window to the start of the flange 29. The vacuum window has an outer diameter of 48 and an inner diameter of 16. The flange has a diameter of 16. The adapter is made of metal parts (stainless steel) and has a sealing Viton. The IKS logo is visible on the side. The drawing is labeled with 'Type A (IKS-Si, IKS-GaI)', 'Type B (IKS-Te/ Ti14)', and 'Type C (IKS-Te/ Ti5)'.

142

43

29

IKS

48

16

KF16

Sealing Viton

Metal parts  
stainless steel

Type A (IKS-Si, IKS-GaI)  
Vacuum adapter with Quarz window  
Transmission (IKS-Si: 0.934 / (IKS-GaI): 0.936

Type B (IKS-Te/ Ti14)  
Vacuum adapter with ZnSe window  
Transmission: 0.945

Type C (IKS-Te/ Ti5)  
Vacuum adapter with CaF2 window  
Transmission: 0.945

maximum pressure difference 5 bar



By using the vacuum adapter, the unit can easily adapted onto an vacuum chamber or furnace.

Type A: Order-No. 4 749 307A

Type B: Order-No. 4 749 307B

Type C: Order-No. 4 749 307C

Type A - Vacuum adapter with Quartz - window (*IKS-Si, IKS-GAl*)  
 Type B - Vacuum adapter with ZnSe - window (*IKS-Te/ Ti14*)  
 Type C - Vacuum adapter with CaF<sub>2</sub> (*IKS-Te4, Te5/ Ti4, Ti5*)

Technical drawing of a mechanical part. The drawing shows a cylindrical component with a diameter of  $\phi 48$  and a total length of 50. A section is indicated by a dashed line, showing a threaded section with a diameter of 15. A callout points to a "Screwed Cap (Switch)". A legend indicates that "Metal parts" are made of "stainless Steel".



Just screw the laser pilot unit in front of the instrument and align the object with the laser pointer.

Order-No. 4 749 308

Tube connector inside diameter 4 mm

21

M40x1.5

46

47

14

12

Metal parts stainless steel

Dry, clean air (oil and dust-free)  
Air pressure < 0.5 bar  
Air consumption: 1.5 m³/h



Designed to protect the lens of the instrument. This air purge unit keeps free from pollution through dust, humidity and suspended particles. To ensuring a proper function, a flow rate of 1.5 m³/h (0.2 - 0.5 bar) is needed.

Order-No. 4 749 303

## IP 10-USB with the Software PyroControl

The **IP 10-USB** Interface module comes with the software *PyroControl* as standard. This software enables to configure the INFRAPOINT pyrometers of the series *IKS-Ti*, *-Si* and *-GAi* as well as the fibre optics units *LSi* and *LGAi* via PC or Laptop computer online.

Essential pyrometer type related parameters like response time, temperature subrange or emissivity can set to application specific requirements.

**IP 10-USB** incl. software  
Order-No. 4 749 860

### Scope of delivery:

**IP 10-USB** incl. software *PyroControl*, inspection sheet, user manual, supply in INFRAPOINT-Box

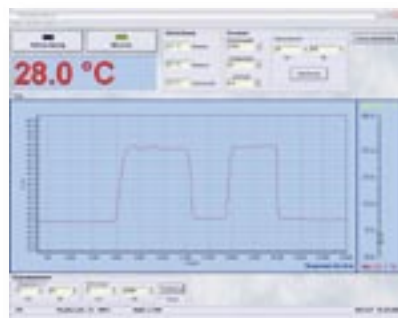


Fig.: Connection example: *IKS-Ti* - *IP 10-USB* - Laptop

## HP 04 - Hand-held set up unit

This Multi - function hand-held set up unit combines 3 instruments in just on housing:

### The HP 04 to detect the emissivity:

With a connected probe, the unit reads the temperature of the pyrometer and the probe at the same time and shows that on the screen. In that way an automatic detection of the emissivity is possible. A with the *HP 04* calculated emissivity can be stored and transferred to the pyrometer. A wide range of probes is available at INFRAPOINT's temperature probes to find a suitable surface probe to fit your application.

### The HP 04 for contact temperature measurement: (using a probe)

The *HP 04* comes with a standard thermocouple type K socket to measure in a range between -100 ... 1300°C. Choose between maximum, minimum or average calculation which is also shown on the screen.

### The HP 04 to change instrument parameters at the IKS units:

All instrument specific parameters of the *IKS* series and also for the fibre optics pyrometers *LSi* and *LGAi* (temperature subrange, emissivity, maximum value storage or response time) can be displayed and changed with this unit. An easy menu guides through the settings of the pyrometer.



Technical Data	HP 04
Display	LCD 2 x 12 chars
Menu languages	german, english, french, italien, spanish
Temperature display	°C/ °F adjustable
Battery	9VIEC 6F22/ IEC 6LR61 (500mAh)
Operating time	~ 18 h
Weight (incl. battery)	~ 220 g
Dimensions	89 x 72 x 37 mm
Order-No.	4 749 165

### Scope of delivery:

**HP 04** incl. service cable, inspection sheet, user manual, supply in INFRAPOINT-Box  
The probe to detect the emissivity has to be ordered separately! (see *Tastotherm* probe range)

## LED-Display in desktop housing, power supply and two limit switches

LED-Display in desktop housing, power supply for 2-wire instruments, 2 limit switches and pilot light switch.

### Scope of delivery:

**ID 61**, Power cord, inspection sheet, user manual

Technical Data	ID 61
Display	4-digits, 13 mm, red
Power supply	100 ... 240 V AC, 50 ... 60 Hz
Power supply, sensor	24 V DC, 22 mA
2 limit switches	3 A at 230 V AC; ohmic load
Dimensions	190 x 135 x 93 mm (L x W x D)



**ID 61**  
Order-No. 4 749 311

Fig.: *ID 61* with *IKS* - sensor

**IKS-Te**  
with emissivity corrector



**IKS-Ti**  
with interface plug



Technical Data	IKS-Te/ Ti4-10 Measurement through flames	IKS-Te/ Ti5-12 Measurement on glass surfaces	IKS-Te/ Ti14-09
Measuring range	200 ... 1000 °C	100 ... 1200 °C	-32 ... 900 °C
Spectral range	3.9 µm	5.14 µm	8 ... 14 µm
Optics	33 : 1	50 : 1	50 : 1
Accuracy	1 % of measuring range	1 % of measuring range	1 % of measuring range
Repeatability	0.5 % of measuring value	0.5 % of measuring value	0.5 % of measuring value
Response time $t_{90}$	100 ms	100 ms	100 ms
Emissivity	20 ... 100 %, adjustable	20 ... 100 %, adjustable	20 ... 100 %, adjustable
Power supply	24 V DC $\pm$ 25 %, ripple 500 mV	24 V DC $\pm$ 25 %, ripple 500 mV	24 V DC $\pm$ 25 %, ripple 500 mV
Output	linear, 4 - 20 mA	linear, 4 - 20 mA	linear, 4 - 20 mA
Max. Load	700 Ohm (24 V)	700 Ohm (24 V)	700 Ohm (24 V)
Power consumption	max. 0.6 W	max. 0.6 W	max. 0.6 W
Protection	IP 65 (acc. to DIN 40050)	IP 65 (acc. to DIN 40050)	IP 65 (acc. to DIN 40050)
Operating temperature	0 ... 70 °C	0 ... 70 °C	0 ... 70 °C
Storage temperature	-20 ... 70 °C	-20 ... 70 °C	-20 ... 70 °C
Dimensions	Thread: M 40 x 1.5 Length: 138 mm	Thread: M 40 x 1.5 Length: 138 mm	Thread: M 40 x 1.5 Length: 138 mm
Weight	approx. 450 g	approx. 450 g	approx. 450 g
	<b>IKS-Te4-10</b>	<b>IKS-Te5-12</b>	<b>IKS-Te14-09</b>
Type of Optics	with Optics 100	with Optics 100	with Optics 100
Order-No.	4 142 110	4 132 110	MB: -32 ... 200 °C: 4122 820 MB: 0 ... 100 °C: 4122 220 MB: 0 ... 200 °C: 4122 320 MB: 0 ... 500 °C: 4122 520 MB: -32 ... 900 °C: 4122 120
	with Optics 300	with Optics 300	with Optics 300
	4 142 130	4 132 130	MB: -32 ... 200 °C: 4122 840 MB: 0 ... 100 °C: 4122 240 MB: 0 ... 200 °C: 4122 340 MB: 0 ... 500 °C: 4122 540 MB: -32 ... 900 °C: 4122 140
	with Optics 1200	with Optics 1200	with Optics 800
	4 142 150	4 132 150	MB: -32 ... 200 °C: 4122 860 MB: 0 ... 100 °C: 4122 260 MB: 0 ... 200 °C: 4122 360 MB: 0 ... 500 °C: 4122 560 MB: -32 ... 900 °C: 4122 160
	<b>IKS-Ti4-10</b>	<b>IKS-Ti5-12</b>	<b>IKS-Ti14-09</b>
Type of Optics	with Optics 100	with Optics 100	with Optics 100
Order-No.	4 143 110	4 133 110	4 123 020
	with Optics 300	with Optics 300	with Optics 300
	4 143 130	4 133 130	4 123 040
	with Optics 1200	with Optics 1200	with Optics 800
	4 143 150	4 133 150	4 123 060

Please note: The connection cable is **not included** and must be ordered separately!

**Optical tables:** Spot size M (mm) at distance a (mm)

**IKS-Te/ Ti4-10/ IKS-Te/ Ti5-12**

**IKS-Te/ Ti14-09**

Optics	a = 0	100	200	300
100	15	2.5	18	35
Optics	a = 0	300	600	1000
300	15	6	22	45
Optics	a = 0	1200	2500	4000
1200	15	24	50	80

Optics	a = 0	100	200	300
100	15	2	18	35
Optics	a = 0	300	600	1000
300	15	6	22	45
Optics	a = 0	800	1500	2500
800	15	16	36	68

**Connection cable**

2 m	4 749 240
5 m	4 749 250
10 m	4 749 260
15 m	4 749 270
20 m	4 749 280
30 m	4 749 290