IKS - Infrared-Compact-Se...

A-A
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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 rewirering. 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

IKS-Ti
with interface plug

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.

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.

24 Months C E

-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

IP 10-USB
Interface module with software *PyroControl* enables online-operation and the parameter set up of *IKS-Si, IKS-GAi* and *IKS-Ti*

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.
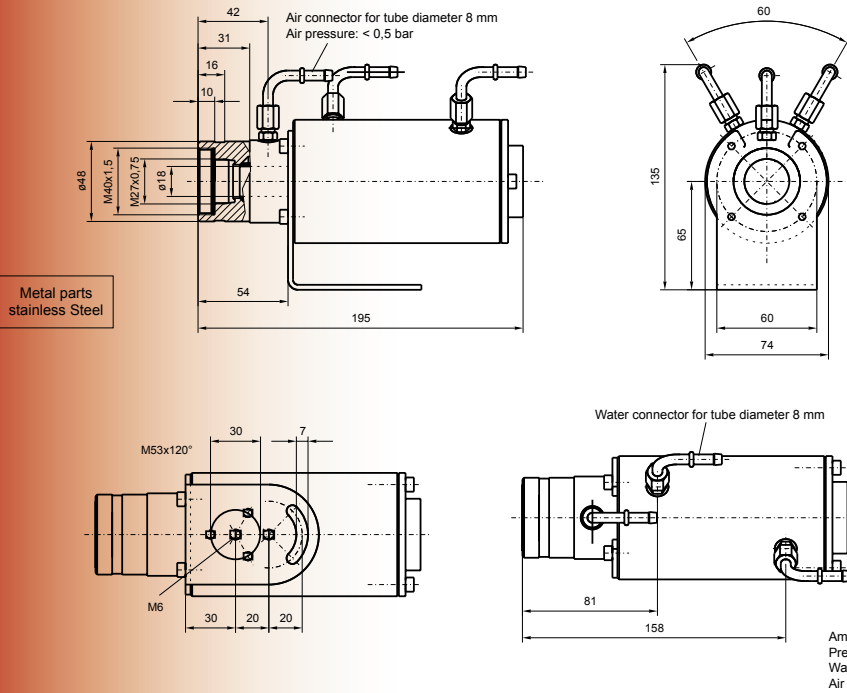
24 Months C E

300 ... 2500 °C
572 ... 4532 °F

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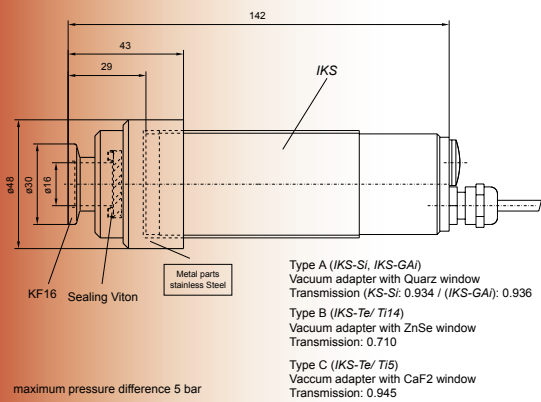The connection cable is **not included** in scope of delivery. Please order the cable separately!

Stationary temperature measurement

INFRAPOINT

Stationary temperature measurement

Cooling jacket with integrated air purge and fixed mounting support, stainless steel

Air connector for tube diameter 8 mm
Air pressure: < 0,5 bar

42
31
16
10
ø48
M40x1,5
M27x0,75
ø18
54
195

60
135
65
60
74

Metal parts stainless Steel

M53x120°
30
7
M6
30 20 20

Water connector for tube diameter 8 mm

81
158

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

Vacuum adapter, stainless steel (KF 16)

142
43
29
ø48
ø30
ø16
IKS
KF16   Sealing Viton
Metal parts stainless Steel

maximum pressure difference 5 bar

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

Type B (*IKS-Te/ Ti14*)
Vacuum adapter with ZnSe window
Transmission: 0.710

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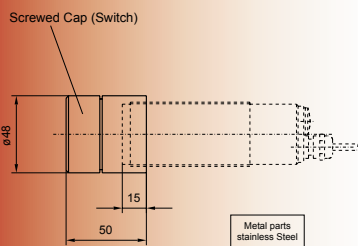Vacuum adapter with CaF2 window
Transmission: 0.945

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-GAi)*
Type B - Vacuum adapter with ZnSe - window *(IKS-Te/ Ti14)*
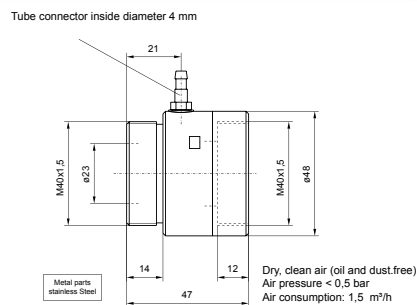Type C - Vacuum adapter with CaF_2 *(IKS-Te4, Te5/ Ti4, Ti5)*

Laser pilot light, stainless steel

Screwed Cap (Switch)
ø48
15
50
Metal parts 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

Air purge, stainless steel

Tube connector inside diameter 4 mm
21
M40x1,5
ø23
M40x1,5
ø48
14
12
47
Metal parts stainless Steel
Dry, clean air (oil and dust.free)
Air pressure < 0,5 bar
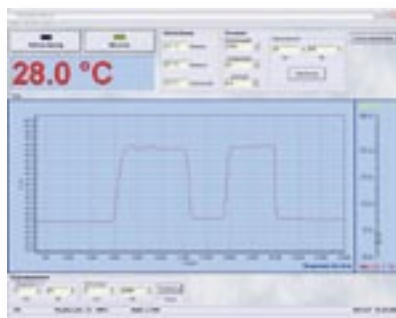Air consumption: 1,5 m³/h

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 emissivty 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

Stationray Temperature measurement

IKS-Te
with emissivity corrector

IKS-Ti
with interface plug

Stationary temperature measurement

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

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

IKS-Te/ Ti14-09

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