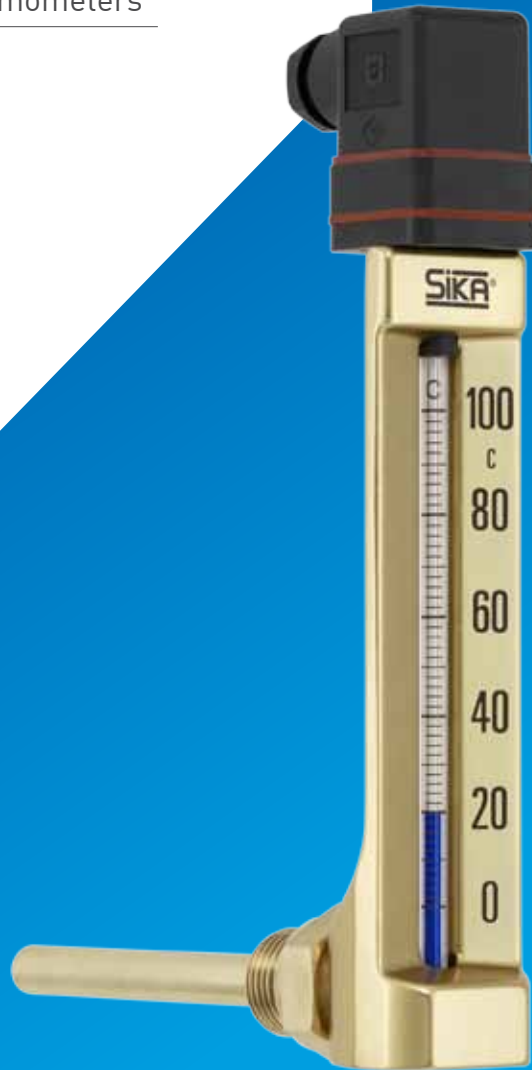


- Head form B / Head form J
- Cable socket, angle type
- Diesel engine dial thermometers



KOMBITEMP®  
TEMPERATURE SENSORS WITH LOCAL DISPLAY



## Dual temperature control with only one measuring point

### Ideal for every application

The combination of electrical sensor with a local display has many advantages:

- Temperature monitoring from two completely independent measuring systems.
- Significantly increased accuracy, because the joint measuring point makes it possible to compare the electrical temperature sensor directly with the „on site“ display and vice versa.
- The installation costs for the temperature measuring instruments decrease because only one measuring point needs to be installed for the electrical temperature sensor and the local temperature measurement.
- The use of SIKA KombiTemp® increases the operational safety of the monitored plants because faulty electrical temperature sensors or industrial thermometers are immediately detected.
- Glass inserts and electrical temperature sensors conform with DIN standards, and can be replaced, except for the models K 122, K 422, K 510, K 520, and K 522.
- Upon request both temperature units, °C and °F, can be printed on the housing label (double scale display).



## Description

The SIKA KombiTemp® consists of:

1. A SIKA-industrial glass thermometer with the following properties:

- Shock proof
- Very good readability
- Very good long-term stability of the capillary accuracy
- The capillaries of the thermometer are produced and calibrated in accordance with DIN 16195
- The housing surface is protected against external influences by a thick anodised coating
- Immersion tube standard version made from brass, the diameter is 10 mm, with a wall thickness of 1 mm. Stainless steel available as an option.

**For more information, see chapter „Protection tubes“.**

2. At customer's request, an electrical temperature sensor in the same housing and immersion tube as the industrial thermometer:

- Temperature sensors in accordance with DIN or customised
- Any electrical connection options available



# Industrial thermometers - Head form B

Type K 410 and K 420 for measuring ranges -60...200 °C

## Housing

- Die cast aluminium, silver-coloured anodised
- Dimensions: 150 x 36 mm (L x W)

## Thermometer capillaries

- Special glass prismatic, approx. 6 mm diameter
- Black burnt-in scale

## Thermometer filling

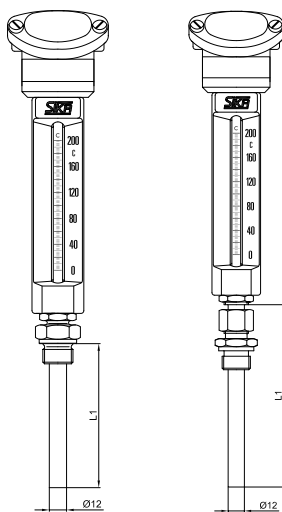
- Red (-60...40 °C)
- Blue (-30...200 °C)

## Immersion tube

Diameter 12 x 1 mm

## Immersion tube material

- Brass, up to PN 16 bar
- Stainless steel, up to PN 40 bar



## Type K 410

MERCURY-FREE



Technical data	Type K 410	Type K 420
<b>Design</b>	Straight, clamp connection	Straight, fixed thread connection
<b>Measuring range</b>	-60...40 °C -30...50 °C 0...60 °C 0...100 °C 0...120 °C 0...160 °C 0...200 °C	
<b>Immersion tube length L<sub>1</sub></b>	135 mm or 160 mm	63 mm, 100 mm or 160 mm
<b>Electrical connection</b>	Head form B (DIN 43729)	
<b>Mechanical connection</b>	G½ A	G½ A, G¾ A or M20 x 1.5
<b>Electrical temperature sensor</b>	1x NiCr-Ni (type K) or 1x Fe-CuNi (type J), 2x NiCr-Ni (type K) or 2x Fe-CuNi (type J) 1x Pt100 / 3-wire, 2x Pt100 / 3-wire, 1x Pt1000 / 2-wire,	
<b>Option head transmitter</b>	4...20 mA or 0...10 V for Pt100	

## Type K 510 and K 520 for measuring ranges -60...200 °C

### Housing

- Die cast aluminium, silver-coloured anodised
- Dimensions: 150 x 36 mm (L x W)

### Thermometer capillaries

- Special glass, approx. 5.5 mm diameter
- Black burnt-in scale

### Thermometer filling

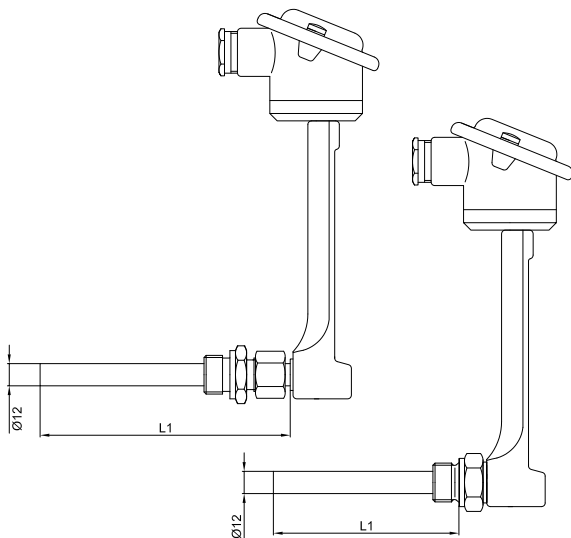
- Red (-60...40 °C)
- Blue (-30...200 °C)

### Immersion tube

Diameter 12 x 1 mm

### Immersion tube material

- Brass, up to PN 16 bar
- Stainless steel, up to PN 40 bar



### Type K 510

**MERCURY-FREE**



Technical data	Type K 510	Type K 520
<b>Design</b>	90° clamp connection	90° fixed thread connection
<b>Measuring range</b>	-60...40 °C -30...50 °C 0...60 °C 0...100 °C 0...120 °C 0...160 °C 0...200 °C	
<b>Immersion tube length L<sub>1</sub></b>	135 mm or 160 mm	63 mm, 100 mm or 160 mm
<b>Electrical connection</b>	Head form B (DIN 43729)	
<b>Mechanical connection</b>	G½ A	G½ A or M20 x 1.5
<b>Electrical temperature sensor</b>	1x Pt100 / 3-wire / class B 1x Pt1000 / 2-wire / class B	
<b>Option head transmitter</b>	4...20 mA or 0...10 V for Pt100	

## Type K 610 and K 620 for measuring ranges -60...200 °C

### Housing

- Die cast aluminium, silver-coloured anodised
- Dimensions: 150 x 36 mm (L x W)

### Thermometer capillaries

- Special glass, approx. 5.5 mm diameter
- Black burnt-in scale

### Thermometer filling

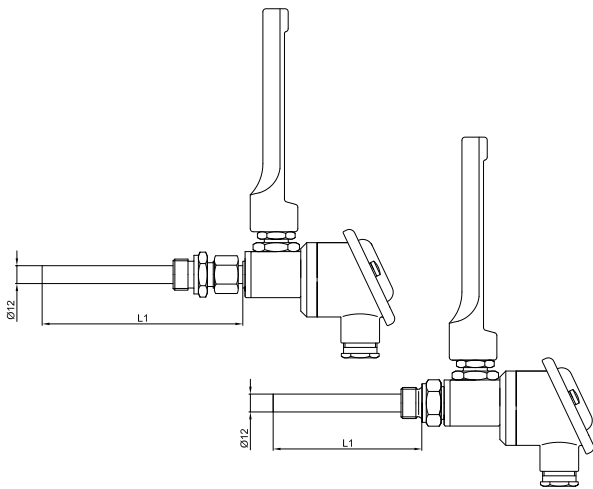
- Red (-60...40 °C)
- Blue (-30...200 °C)

### Immersion tube

Diameter 12 x 1 mm

### Immersion tube material

- Brass, up to PN 16 bar
- Stainless steel, up to PN 40 bar



### Type K 610

**MERCURY-FREE**



Technical data	Type K 610	Type K 620
<b>Design</b>	90° clamp connection	90° fixed thread connection
<b>Measuring range</b>	-60...40 °C -30...50 °C 0...60 °C 0...100 °C 0...120 °C 0...160 °C 0...200 °C	
<b>Immersion tube length L<sub>1</sub></b>	135 mm or 160 mm	63 mm, 100 mm or 160 mm
<b>Electrical connection</b>	Head form B (DIN 43729)	
<b>Mechanical connection</b>	G½ A	G½ A or M20 x 1.5
<b>Electrical temperature sensor</b>	1 x NiCr-Ni (Type K) or 1 x Fe-CuNi (Type J), 2 x NiCr-Ni (Type K) or 2 x Fe-CuNi (Type J) 1 x Pt100 / 3-wire, 2 x Pt100 / 3-wire, 1 x Pt100 / 4-wire or 1 x Pt1000 / 2-wire (class B)	
<b>Option head transmitter</b>	4...20 mA or 0...10 V for Pt100	

# Industrial thermometers - Head form J

Type K 110 and K 120 for measuring ranges -30...200 °C

### Housing

- Die cast aluminium, silver-coloured anodised
- Dimensions: 110 x 30 mm (L x W)

### Thermometer capillaries

- Special glass prismatic, approx. 6 mm diameter
- Black burnt-in scale

### Thermometer filling

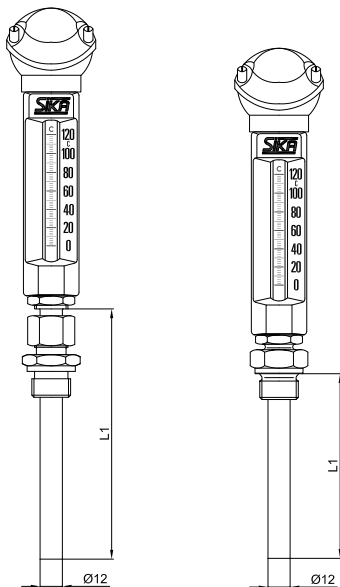
Blue

### Immersion tube

Diameter 12 x 1 mm

### Immersion tube material

- Brass, up to PN 16 bar
- Stainless steel, up to PN 40 bar



Technical data	Type K 110	Type K 120
<b>Design</b>	Straight, clamp connection	Straight, fixed thread connection
<b>Measuring range</b>	-30...50 °C 0...60 °C 0...100 °C 0...120 °C 0...160 °C 0...200 °C	
<b>Immersion tube length L<sub>1</sub></b>	135 mm or 160 mm	63 mm, 100 mm or 160 mm
<b>Electrical connection</b>	Head form J, top	
<b>Mechanical connection</b>	G½ A	G½ A or M20 x 1.5
<b>Electrical temperature sensor</b>	1x Pt100 / 3-wire / class B 1x Pt1000 / 2-wire / class B	
<b>Option head transmitter</b>	4...20 mA for Pt100	

# Industrial thermometers - Cable socket, angle type

Type K 122 for measuring ranges -30...200 °C

## Housing

- Die cast aluminium, gold-coloured anodised
- Dimensions: 110 x 30 mm (L x W)

## Thermometer capillaries

- Special glass prismatic, approx. 6 mm diameter
- Black burnt-in scale

## Thermometer filling

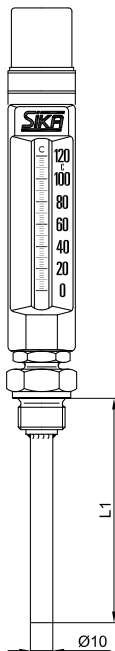
Blue

## Immersion tube

Diameter 10 x 1 mm

## Immersion tube material

- Brass, up to PN 16 bar
- Stainless steel, up to PN 40 bar



## Type K 122

MERCURY-FREE



Technical data	Type K 122
<b>Design</b>	Straight, fixed thread connection
<b>Measuring range</b>	-30...50 °C 0...60 °C 0...100 °C 0...120 °C 0...160 °C 0...200 °C
<b>Immersion tube length L<sub>1</sub></b>	63 mm, 100 mm or 160 mm
<b>Electrical connection</b>	Cable socket, angle type DIN EN 175301-803
<b>Mechanical connection</b>	G½ A or M20 x 1.5
<b>Electrical temperature sensor</b>	1x Pt100 / 3-wire / class B 1x Pt1000 / 2-wire / class B



## Type K 422 for measuring ranges -30...200 °C

### Housing

- Die cast aluminium, gold-coloured anodised
- Dimensions: 150 x 36 mm (L x W)

### Thermometer capillaries

- Special glass prismatic, approx. 6 mm diameter
- Black burnt-in scale

### Thermometer filling

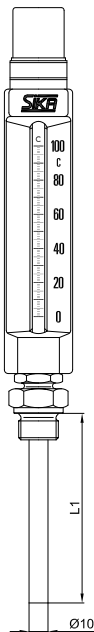
Blue

### Immersion tube

Diameter 10 x 1 mm

### Immersion tube material

- Brass, up to PN 16 bar
- Stainless steel, up to PN 40 bar



### Type K 422

MERCURY-FREE



Technical data	Type K 422
<b>Design</b>	Straight, fixed thread connection
<b>Measuring range</b>	-30...50 °C 0...60 °C 0...100 °C 0...120 °C 0...160 °C 0...200 °C
<b>Immersion tube length L<sub>1</sub></b>	63 mm, 100 mm or 160 mm
<b>Electrcal connection</b>	Cable socket, angle type DIN EN 175301-803
<b>Mechanical connection</b>	G½ A or M20 x 1.5
<b>Electrical temperature sensor</b>	1x Pt100 / 3-wire / class B 1x Pt1000 / 2-wire / class B

## Type K 522 for measuring ranges -30...200 °C

### Housing

- Die cast aluminium, gold-coloured anodised
- Dimensions: 150 x 36 mm (L x W)

### Thermometer capillaries

- Special glass prismatic, approx. 6 mm diameter
- Black burnt-in scale

### Thermometer filling

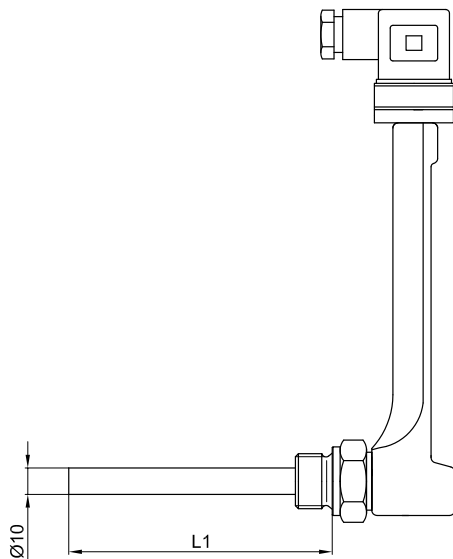
Blue

### Immersion tube

Diameter 10 x 1 mm

### Immersion tube material

- Brass, up to PN 16 bar
- Stainless steel, up to PN 40 bar



### Type K 522

MERCURY-FREE



Technical data	Type K 522
<b>Design</b>	90° fixed thread connection
<b>Measuring range</b>	-30...50 °C 0...60 °C 0...100 °C 0...120 °C 0...160 °C 0...200 °C
<b>Immersion tube length L<sub>1</sub></b>	63 mm, 100 mm or 160 mm
<b>Electrical connection</b>	Cable socket, angle type DIN EN 175301-803
<b>Mechanical connection</b>	G½ A or M20 x 1.5
<b>Electrical temperature sensor</b>	1x Pt100 / 3-wire / class B 1x Pt1000 / 2-wire / class B

## Type K 130 for measuring ranges -30...200 °C

### Housing

- Die cast aluminium, gold-coloured anodised
- Dimensions: 110 x 30 mm (L x W)

### Thermometer capillaries

- Special glass prismatic, approx. 6 mm diameter
- Black burnt-in scale

### Thermometer filling

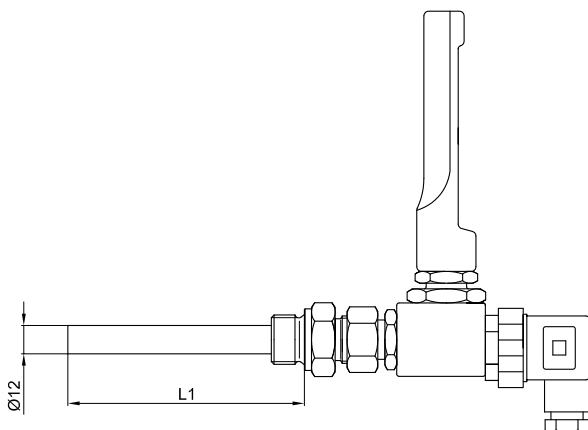
Blue

### Immersion tube

Diameter 12 x 1 mm

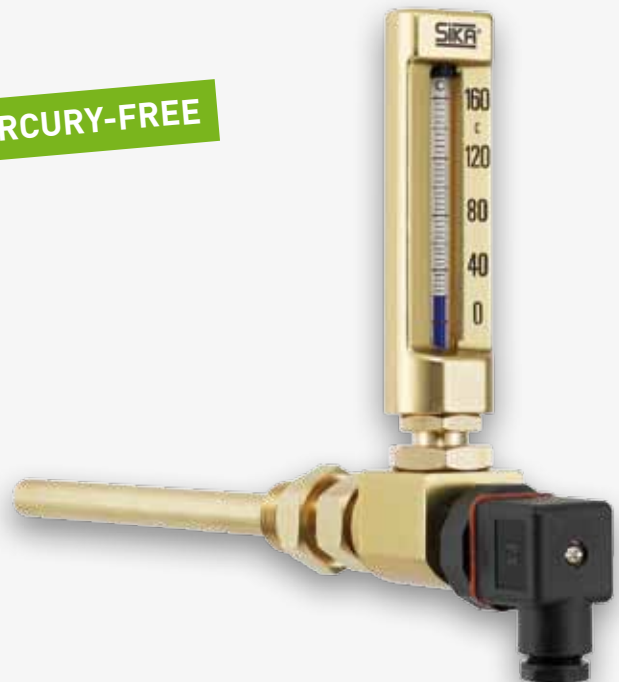
### Immersion tube material

- Brass, up to PN 16 bar
- Stainless steel, up to PN 40 bar



### Type K 130

**MERCURY-FREE**



Technical data	Type K 130
<b>Design</b>	90° fixed thread connection
<b>Measuring range</b>	-30...50 °C 0...60 °C 0...100 °C 0...120 °C 0...160 °C 0...200 °C
<b>Immersion tube length L<sub>1</sub></b>	63 mm, 100 mm or 160 mm
<b>Electrical connection</b>	Cable socket, angle type DIN EN 175301-803
<b>Mechanical connection</b>	G½ A or M20 x 1.5
<b>Electrical temperature sensor</b>	1x Pt100 / 3-wire / class B 1x Pt1000 / 2-wire / class B

# Order code

## Choose your KombiTemp® (only industrial thermometers)

Type	Head form B				
	K 410	K 420	K 510	K 520	K 610
<b>Measuring range</b>					
-60...40 °C	64	64	64	64	64
-30...50 °C	35	35	35	35	35
0...60 °C	06	06	06	06	06
0...100 °C	10	10	10	10	10
0...120 °C	12	12	12	12	12
0...160 °C	16	16	16	16	16
0...200 °C	20	20	20	20	20
<b>Immersion tube length</b>					
63 mm		063		063	
100 mm		100		100	
135 mm	135		135		135
160 mm	160	160	160	160	160
<b>Mechanical connection</b>					
G½ A	2	2	2	2	2
G¾ A		3			
M20 x 1.5		7		7	
<b>Immersion tube material</b>					
Brass	1	1	1	1	1
Stainless steel	3	3	3	3	3
<b>Electrical temperature sensor</b>					
1x Pt100 / 3-wire	1	1	1	1	1
2x Pt100 / 3-wire	4	4			4
1x Pt100 / 4-wire					8
1x Pt1000 / 2-wire	7	7	7	7	7
1x NiCr-Ni (Type K)	2	2			2
2x NiCr-Ni (Type K)	5	5			5
1x Fe-CuNi (Type J)	3	3			3
2x Fe-CuNi (Type J)	6	6			6
<b>Head transmitter</b>					
Without transmitter	0	0	0	0	0
With 4...20 mA	1	1	1	1	1
With 0...10 V	2	2	2	2	2
<b>Scale</b>					
Only °C	0	0	0	0	0
°C and °F				2	



Example: KombiTemp® K 110 with measuring range between 0...60 °C, immersion tube length 135 mm, G½ A connection, made of brass with electrical temperature sensor Pt1000 / 2-wire, without head transmitter and scaled in °C is due to order number: K1100613521700

**ATTENTION** - you have to choose an option on every property to get the 14-character order number

	Head form J			Cable socket, angle type			
	K 620	K 110	K 120	K 122	K 422	K 522	K 130
64							
35	35	35	35	35	35	35	35
06	06	06	06	06	06	06	06
10	10	10	10	10	10	10	10
12	12	12	12	12	12	12	12
16	16	16	16	16	16	16	16
20	20	20	20	20	20	20	20
063		063	063	063	063	063	063
100	135	100	100	100	100	100	100
160	160	160	160	160	160	160	160
2	2	2	2	2	2	2	2
7		7	7	7	7	7	7
1	1	1	1	1	1	1	1
3	3	3	3	3	3	3	3
1	1	1	1	1	1	1	1
4	4	4	4				4
8							
7	7	7	7	7	7	7	7
2	2	2	2				2
5							
3	3	3	3				3
6							
0	0	0	0	0	0	0	0
1	1	1	1				
2							
0	0	0	0	0	0	0	0
				2	2		2

# Diesel engine dial thermometers

## Type K 8312 / K 8372 for measuring ranges 50...650 °C

KombiTemp® K 8312 / K 8372 dial thermometers are the ideal solution for combined temperature measurement of exhaust gas on large diesel engines.

The dial thermometer displays the temperature locally whereas the integrated sensor provides the basis for the corresponding electrical signal to be transmitted to the engine control room. Measuring in the same measuring point saves cost and ensures matching temperature values both at the local display as well as in the vessel's electronic system.

SIKA offers three different versions for common diesel engine types: version 1 and 3 for 4-stroke engines and version two for 2-stroke engines.

### Performance features

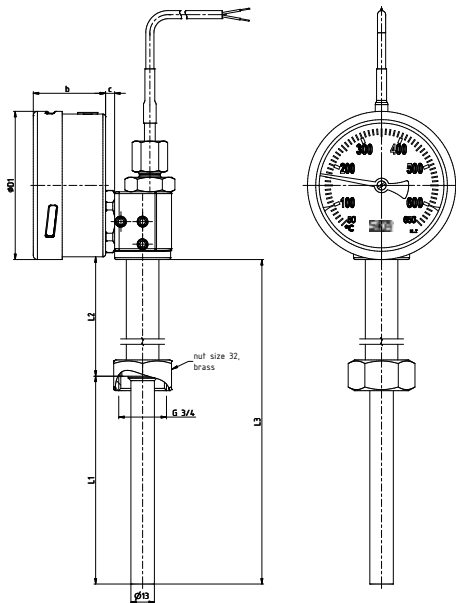
- Two in one measuring point temperature measurement
- Matching indicator values of dial thermometer and temperature sensor
- With thermocouple type K
- Suitable solid material protection tube available
- Customized versions



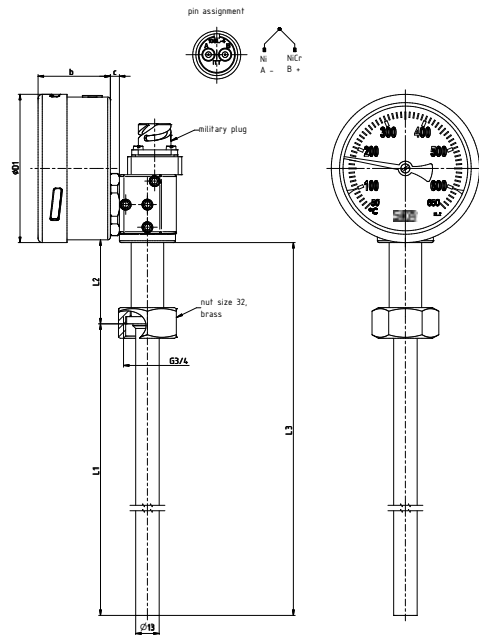
Technical data	
Case	Bayonet ring case, st. steel 1.4301
Nominal size	80 mm
Case filling	Silicone oil
Dial	White coloured, black markings
Measuring range	50...650 °C
System / accuracy	Gas-filled dial thermometer acc. 1,0, DIN EN 13190, Thermocouple type K (NiCr-Ni), class 2.0
Electrical connection	Cable output with 9 m cable length (version 1 and 3) 2 pole MIL connector, without cable (version 2)
Degree of protection	Dial thermometer IP65 Electrical sensor IP56
Connection position	Bottom or rear connection
Immersion tube length / material	L1=115 x Ø 13 mm (version 1), st. steel 1.4571 L1=220 x Ø 13 mm (version 2), st. steel 1.4571 L1=215 x Ø 13 mm (version 3), st. steel 1.4571
Connection thread / material	Union Nut, G¾, brass

## Dimensions and order code

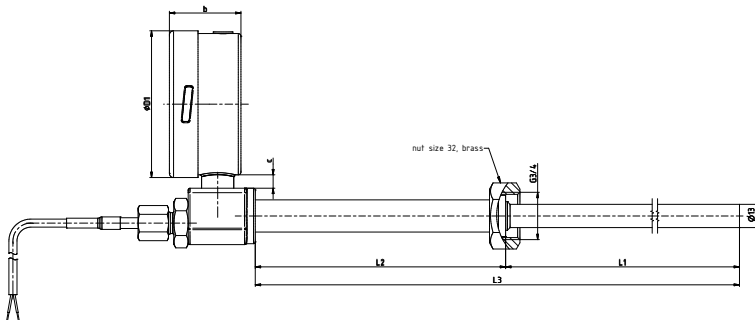
Type K 8312 - version 1



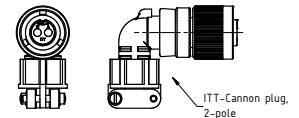
Type K 8312 - version 2



Type K 8372 - version 3



90° angle military plug\*



\* only for version 2

Dimensions [mm]	b	c	ØD <sub>1</sub>	L1	L2	L3
Version 1	40	5	82	115	165	274
Version 2	40	5	82	220	51.5	265
Version 3	40	7.5	82	215	140	355

### Order code

KombiTemp® K8312 - version 1	K8312V5610000001
KombiTemp® K8312 - version 2	K8312V5610000002
KombiTemp® K8372 - version 3	K8372V5622150001
90° angle military plug	XMT0004