



Temperature Sensors

SIKA[®]
founded 1901
Dr. Siebert & Kühn GmbH & Co. KG



SIKA Temperature Sensors

Your temperature measurement in safe hands!

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Standard Temperature Sensors for Industrial Use

Description of Temperature Sensors

Design and fabrication of our industrial sensors correspond with the technical standard of DIN 43770. Our sensors can be divided into two groups, depending on the measurement method used.

Resistance thermometer

Resistance thermometers have a defined resistance value at 0 °C which alters, depending on temperature. This alteration is presented as temperature value.

Thermocouples

Thermocouples consist of two different metal wires which are welded together in one point. When the weld spot is heated, a thermal voltage is generated at the open ends of the wires which provides the temperature measurement.

The sensors described in this chapter have a modular design and consist of:

- A connection head,
- A protective tube and
- A replaceable measurement insert.

The connection head for wiring is the standard head of shape B. The protective tube and the measurement insert of the sensor vary, depending on application conditions and temperature range.

The applicable DIN standards define the external dimensions and the process connection of the protective tubes (see related technical data on the following pages). Please contact the manufacturer with detailed data for special versions.

The installed measurement insert shows standard dimensions as defined in DIN 43735. Normally it consists of sheath resistance thermometers or sheath Thermocouples with a ceramic connection base for an installation in a connection head shape B.

Important calibration instructions

A periodic calibration of your temperature sensors is required to make sure that they display always a correct temperature value. We provide you with the relevant calibration tools:

- We check your temperature sensors in our DKD laboratory and issue a DKD certificate to you or a factory certificate.
- You may carry out a required calibration on your own. For this purpose, we will provide you with a comprehensive program of high-accuracy temperature calibrators covering any temperature range.

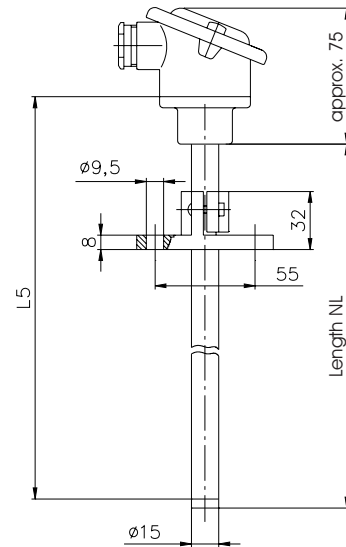
Ask for our special data sheets.



Temperature Sensors DIN 43770 with Immersion Tube Form 1 acc. to DIN 43772

For low pressure up to 1 bar

Accuracy class:	Resistance thermometer class A and B Thermocouple class 1 and 2
Measuring insert:	Acc. DIN 43735, interchangeable Ø 8 mm, measuring insert no. 81
Diameter:	15 mm x 3 mm
Type of protection:	IP 54
Max. temperature:	400 °C resistance thermometer 600 °C on request 800 °C thermocouple
Process connection:	Without With clamp coupling With clamp flange
Electr. connection:	Head form B of aluminium diecasting, silver finish Max. temperature 200 °C



Order code

Type						
Resistance thermometer		WAH				
Thermo couple		TAH				
Material	Steel 1.0308, black finish Stainless steel 1.4571		A C			
Sensor element	1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A			P31 P32 P41 J11 J12 K11 K12 AXX		
Length NL (Measuring insert length L5)	500 mm (525 mm) 710 mm (735 mm) 1000 mm (1025 mm) 1400 mm (1425 mm) 2000 mm (2025 mm) Every 100 mm more				0500 0710 1000 1400 2000 XXXX	
Electr. connection	Head form B with ceramic socket Head form B with transmitter*					B0 BT
Process connection	Without Clamp coupling G $\frac{3}{4}$ A steel, Clamp coupling G $\frac{3}{4}$ A st. steel Clamp flange DIN 43734					0 A B C

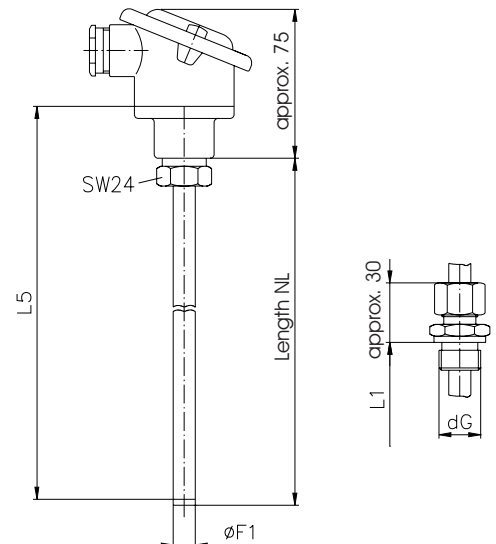
* For this please ask for our transmitter catalogue.

Temperature Sensors DIN 43770 with Immersion Tube Form 2 acc. to DIN 43772



For low pressure up to 1 bar

Accuracy class:	Resistance thermometer class A and B Thermocouple class 1 and 2
Measuring insert:	Acc. DIN 43735, interchangeable Ø 6 mm, measuring insert no. 61
Diameter:	9 mm x 1 mm, 11 mm x 2 mm or 12 mm x 2.5 mm
Type of protection:	IP 54
Max. temperature:	400 °C resistance thermometer 600 °C on request 800 °C thermocouple
Process connection:	Without With clamp coupling
Electr. connection:	Head form B of aluminium diecasting, silver finish Max. temperature 200 °C



Order code

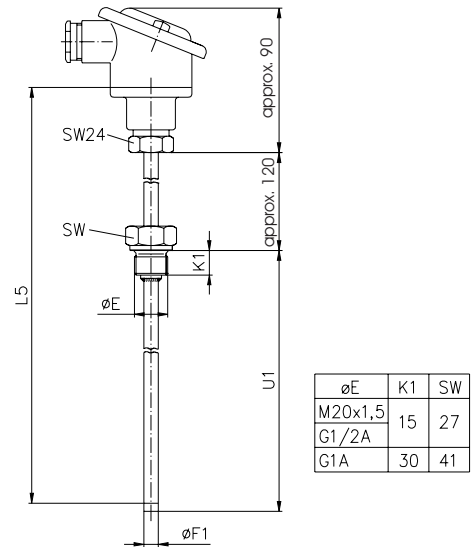
Type							
Resistance thermometer		WB					
Thermocouple		TB					
Diameter	9 mm x 1 mm 11 mm x 2 mm 12 mm x 2.5 mm		B D C				
Material	Steel 1.0308, black finish Stainless steel 1.4571			A C			
Sensor element	1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P31 P32 P41 J11 J12 K11 K12 AXX		
Length NL (Measuring insert length L5)	277 mm (315 mm) 367 mm (405 mm) 517 mm (555 mm) Every 100 mm more					0277 0367 0517 XXXX	
Electr. connection	Head form B with ceramic socket Head form B with transmitter*						B0 BT
Process connection	Without G ¹ / ₂ A G ³ / ₄ A						0 J 3

* For this please ask for our transmitter catalogue.

Temperature Sensors DIN 43770 with Immersion Tube Form 2 G acc. to DIN 43772

For low pressure up to 1 bar

Accuracy class:	Resistance thermometer class A and B Thermocouple class 1 and 2
Measuring insert:	Acc. DIN 43735, interchangeable Ø 6 mm or 8 mm, Measuring inserts no. 61 or 81
Diameter:	9 mm x 1 mm, 11 mm x 2 mm or 14 mm x 2.5 mm
Type of protection:	IP 54
Max. temperature:	400 °C resistance thermometer 600 °C on request 800 °C thermocouple
Process connection:	Without With fixed thread connection
Electr. connection:	Head form B of aluminium diecasting, silver finish Max. temperature 200 °C



Order code

Type							
Resistance Thermometer		WB					
Thermocouple		TB					
Diameter F1	9 mm x 1 mm 11 mm x 2 mm 14 mm x 2.5 mm		B D F				
Material	Steel 1.0308, black coloured Stainless steel 1.4571			A C			
Sensor element	1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P31 P32 P41 J11 J12 K11 K12 AXX		
Length (Measuring insert length L5)	100 mm (255 mm) 160 mm (315 mm) 250 mm (405 mm) 400 mm (555 mm) Every 100 mm more					0100 0160 0250 0400 XXXX	
Electr. connection	Head form B with ceramic socket Head form B with transmitter*						B0 BT
Process connection	Without G½A M20X1.5 (no DIN) G1A						0 K G L

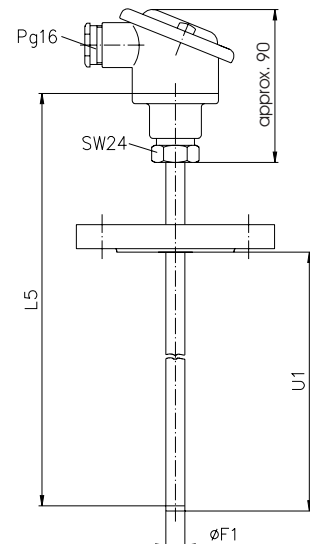
* For this please ask for our transmitter catalogue.

Temperature Sensors with Immersion Tube Form 2 F acc. to DIN 43772



For low pressure up to 1 bar

- Accuracy class:** Resistance thermometer class A and B
Thermocouple class 1 and 2
- Measuring insert:** Acc. DIN 43735, interchangeable
Ø 6 mm or 8 mm,
Measuring inserts no. 61 or 81
- Diameter:** 9 mm x 1 mm, 11 mm x 2 mm or
14 mm x 2.5 mm
- Type of protection:** IP 54
- Max. temperature:** 400 °C resistance thermometer
600 °C on request
800 °C thermocouple
- Process connection:** Flange
- Electr. connection:** Head form B
of aluminium diecasting, silver finish
Max. temperature 200 °C



Order code

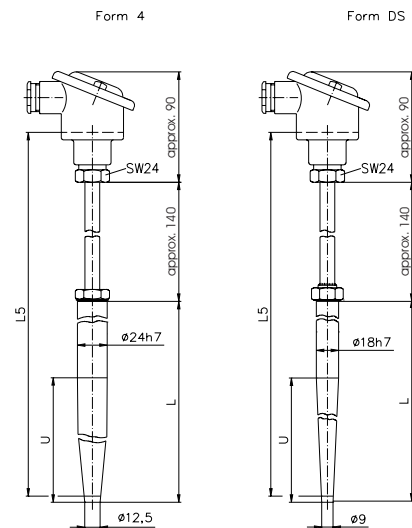
Type							
Resistance thermometer		WB					
Thermocouple		TB					
Diameter F1	9 mm x 1 mm 11 mm x 2 mm 14 mm x 2.5 mm		B D F				
Material	Stainless steel 1.4571			C			
Sensor element	1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P31 P32 P41 J11 J12 K11 K12 AXX		
Length U1 (Measuring insert length L5)	225 mm (315 mm) 315 mm (405 mm) 465 mm (555 mm) Every 100 mm more					0225 0315 0465 XXXX	
Electr. connection	Head form B with ceramic socket Head form B with transmitter*						B0 BT
Process connection form F	DN 25 DN 40 Other connection						F25 F40 XXX

* For this please ask for our transmitter catalogue.

Temperature Sensor DIN 43770 with Immersion Tube Form 4 and Form DS acc. to DIN 43772

For high pressure with welding tube

Accuracy class:	Resistance thermometer class A and B Thermocouple class 1 and 2
Measuring insert:	Acc. DIN 43735, interchangeable Ø 3 mm or 6 mm, Measuring inserts no. 31 or 61
Diameter:	24 mm or 18 mm, conical
Type of protection:	IP 54
Max. temperature:	400 °C resistance thermometer 600 °C on request 800 °C Thermocouple
Process connection:	With welding tube
Electr. connection:	Head form B of aluminium diecasting, silver finish Max. temperature 200 °C



Orde code

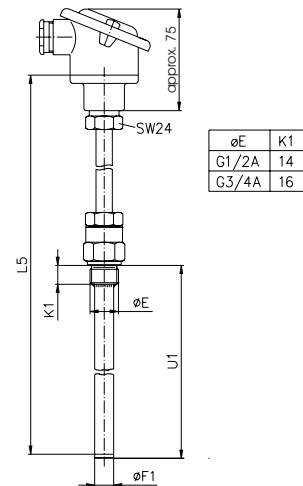
Type							
Resistance Thermometer Thermocouple		W T					
Diameter F2	24 mm, immersion tube Form 4 18 mm, immersion tube Form DS		D0 S0				
Material	Stainless steel 1.4571 Stainless steel 1.7380 Stainless steel 1.5415 Stainless steel 1.7335			C D E F			
Sensor element	1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P31 P32 P41 J11 J12 K11 K12 AXX		
Inner diameter D1	7 mm (only Form 4) 3.5 mm (only Form DS)					07 3A	
Immersion tube length Version form 4	Length U Meas. insert length L5						
140 mm	65 mm 315 mm						D1
200 mm	125 mm 375 mm						D2
200 mm	65 mm 375 mm						D4
260 mm	125 mm 435 mm						D5
Version form DS							
140 mm	65 mm 315 mm						1S
200 mm	125 mm 375 mm						2S
200 mm	65 mm 375 mm						4S
Electr. connection	Head form B with ceramic socket Head form B with transmitter*						B00 BT0

* For this please ask for our transmitter catalogue.

Temperature Sensors DIN 43770 with Immersion Tube Form 5 acc. to DIN 43772 (welded)



- Accuracy class:** Resistance thermometer class A and B
Thermocouple class 1 and 2
- Measuring insert:** Acc. DIN 43735, interchangeable
Ø 6 mm or 8 mm,
Measuring inserts no. 61 or 81
- Diameter:** 14 mm x 2.5 mm
- Type of protection:** IP 54
- Max. temperature:** 400 °C resistance thermometer
600 °C on request
800 °C thermocouple
- Process connection:** With fixed thread connection
- Electr. connection:** Head form B
of aluminium diecasting, silver finish
Max. temperature 200 °C



Order code

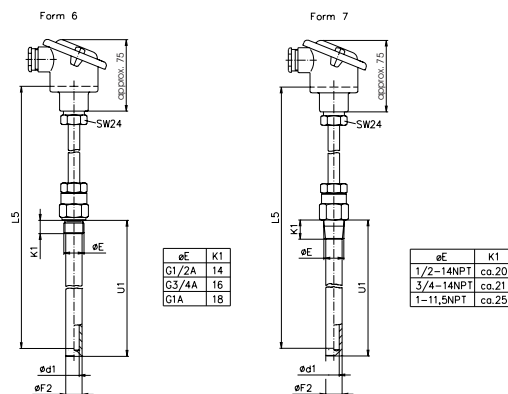
Type								
Resistance thermometer		WE						
Thermocouple		TE						
Diameter F1 (Measuring insert insert no.)	12 mm x 2.5 (61) 14 mm x 2.5 (81) Other		A B X					
Material	Steel 1.0308, black coloured, neck 1.0718 Stainless steel 1.4571			8 B				
Sensor element	1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P31 P32 P41 J11 J12 K11 K12 AXX			
Length U1 (Measuring insert length L5)	82 mm (275 mm) 142 mm (345 mm) 232 mm (435 mm) 382 mm (585 mm) Every 100 mm more					0082 0142 0232 0382 0000		
Electr. connection	Head form B with ceramic socket Head form B with transmitter*						B0 BT	
Process connection E	G½A** G¾A M20x1.5 (no DIN) Other threads							2 3 G X

* For this please ask for our transmitter catalogue.

** Only with diameter F1 = 12 mm and 14 mm

Temperature Sensors DIN 43770 with Immersion Tube Form 6 and 7 acc. to DIN 43772

Accuracy class:	Resistance thermometer class A and B Thermocouple class 1 and 2
Measuring insert:	Acc. DIN 43735, interchangeable Ø 6 mm or 8 mm, Measuring inserts no. 61 or 81
Diameter:	17 mm
Type of protection:	IP 54
Max. temperature:	400 °C resistance thermometer 600 °C on request 800 °C thermocouple
Process connection:	With fixed thread connection
Electr. connection:	Head form B of aluminium diecasting, silver finish Max. temperature 200 °C



Order code

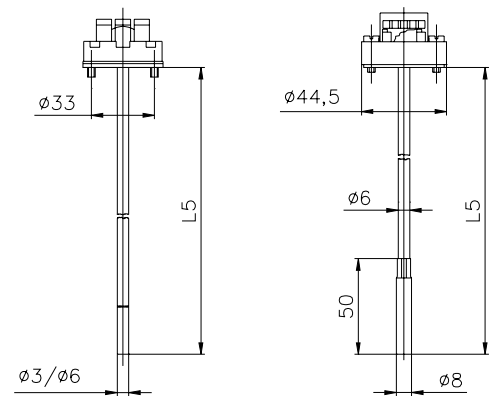
Type								
Resistance thermometer		WF						
Thermocouple		TF						
Diameter F2	17 mm		E					
	Other		X					
Material	Steel 1.0308, black coloured			8				
	Stainless steel 1.4571			3				
	Other material			X				
Sensor element	1 x Pt100 2-wire / class B				P21			
	2 x Pt100 2-wire / class B				P22			
	1 x Pt100 3-wire / class B				P31			
	2 x Pt100 3-wire / class B				P32			
	1 x Pt100 4-wire / class B				P41			
	1 x Fe-CuNi (type J)				J11			
	2 x Fe-CuNi (type J)				J12			
	1 x NiCr-Ni (type K)				K11			
	2 x NiCr-Ni (type K)				K12			
	Resistance thermometer class A				AXX			
Length U1	82 mm (275 mm)					0082		
(Measuring	142 mm (345 mm)					0142		
insert length L5)	232 mm (435 mm)					0232		
	382 mm (585 mm)					0382		
	Every 100 mm more					0000		
Electr. connection	Head form B with ceramic socket						B0	
	Head form B with transmitter*						BT	
Process connection E								
Form 6:	G½A							2
	G¾A							3
	G1A							4
Form 7:	½-14 NPT							B
	¾-14 NPT							C
	1-11.5 NPT							D
	Other thread							X

* For this please ask for our transmitter catalogue.

Measuring Inserts DIN 43735 for Temperature Sensors DIN 43770



Design: Jacket temperature sensor
Accuracy class: Resistance thermometer class A and B
 Thermocouple class 1
Diameter: 3 mm, 6 mm or 8 mm
Max. temperature: 400 °C resistance thermometer
 600 °C on request
 800 °C thermocouple
Electr. connection: Head form B



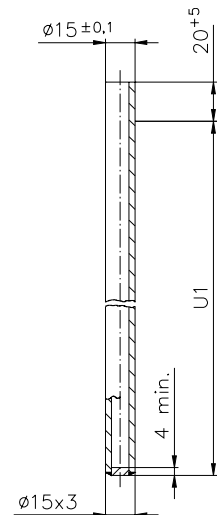
Order code

Type							
Resistance thermometer		WM					
Thermocouple		TM					
Diameter d	Measuring insert no.						
3 mm (up to 435 mm)	31		Q				
6 mm (up to 825 mm)	61		M				
8 mm (only top)	81		N				
Material	Stainless steel 1.4541 / 1.4571 Inconel 2.4816			M			
				H			
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P21 P22 P31 P32 P41 J11 J12 K11 K12 AXX		
Measuring insert length L5	255 mm (no DIN) 275 mm 315 mm 345 mm 375 mm 405 mm 435 mm 525 mm 555 mm 585 mm 655 mm 735 mm 825 mm 1025 mm 1275 mm 1425 mm 1625 mm 2025 mm					0255 0275 0315 0345 0375 0405 0435 0525 0555 0585 0655 0735 0825 1025 1275 1425 1625 2025	
Electr. connection	Ceramic socket Transmitter						E00 ET0

Immersion Tubes to insert DIN 43772 Form 1 for Temperature Sensor DIN 43770

Order code

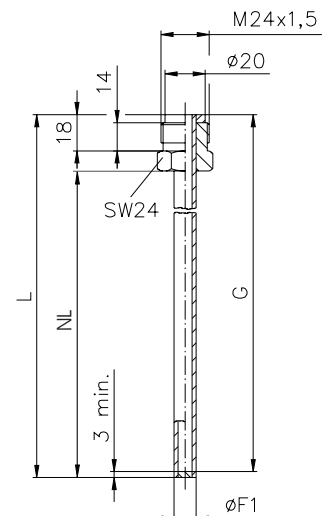
Type						
Immersion tube for temperature sensor		WS				
Form 1			F1			
Diameter	15 mm x 3 mm Others			D15 DXX		
Material	Steel 1.0718, black coloured Stainless steel 1.4571 Other material				8 3 X	
Length U1	500 mm 710 mm 1000 mm 1400 mm 2000 mm Every 100 mm more					0500 0710 1000 1400 2000 0000



Immersion Tubes to insert or weld-in DIN 43772 Form 2 for Temperature Sensor DIN 43770

Order code

Type						
Immersion tube for temperature sensor		WS				
Form 2			F2			
Diameter F1	9 mm x 1 mm 11 mm x 2 mm 14 mm x 2.5 mm Others			D09 D11 D14 DXX		
Material	Steel 1.0718 Stainless steel 1.4571 Other material				8 3 X	
Total length L (Length NL)	305 mm (277 mm) 395 mm (367 mm) 545 mm (512 mm) Every 100 mm more					305 395 545 XXX
Process connection	Without					0
Connection clamp, steel, galvanized or stainless steel	G½A G¾A G1A					2 3 4
Please specify by order	M20x1.5 M27x2 Other thread					N H X

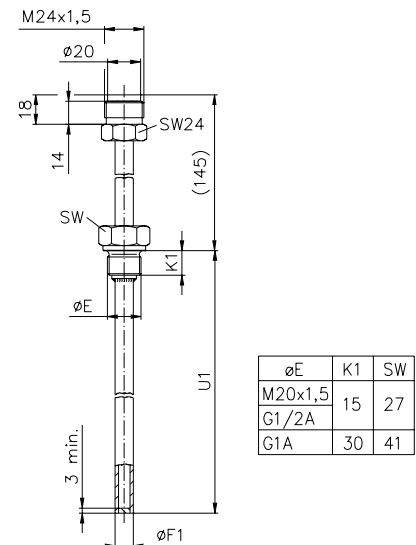


Immersion Tubes to thread in DIN 43772 Form 2G for Temperature Sensor DIN 43770



Order code

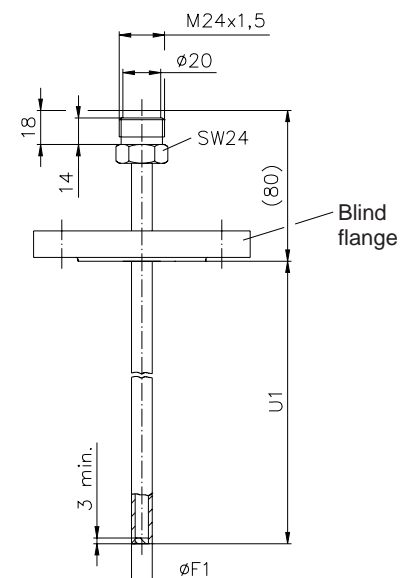
Type						
Immersion tube for temperature sensor		WS				
Form 2G			F2G			
Diameter F1	9 mm x 1 mm 11 mm x 2 mm 14 mm x 2.5 mm Other			D09 D11 D14 DXX		
Material	Steel 1.0718 Stainless steel 1.4571 Other material				8 3 X	
Length U1	100 mm 160 mm 250 mm 400 mm Every 100 mm more					0100 0160 0250 0400 XXXX
Process connection E	G½A G¾A (no DIN) G1A M20x1.5 (no DIN) M27x2 (no DIN) Other thread					2 3 4 N H X



Immersion Tubes to flange DIN 43772 Form 2F for Temperature Sensor DIN 43770

Order code

Type						
Immersion tube for temperature sensor		WS				
Form 2F			F2F			
Diameter F1	9 mm x 1 mm 11 mm x 2 mm 14 mm x 2.5 mm Other			D09 D11 D14 DXX		
Material	Steel 1.0718 Stainless steel 1.4571 Other material				8 3 X	
Length U1	225 mm 315 mm 465 mm Other length					0225 0315 0465 XXXX
Process connection (Blind flange)	DN 25 DN 40 Other connection					F25 F40 XXX

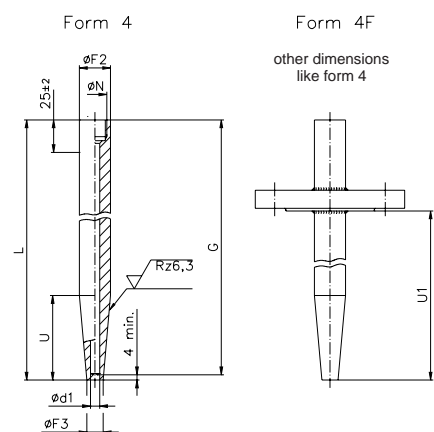


Immersion Tube to weld-in and to flange DIN 43772 Form 4 and Form 4F for Temperature Sensor DIN 43770

Diameter: 18 mm, 24 mm, 26 mm, 32 mm
or customer request

Process connection: Form 4 without flange
Form 4F flange

Thread connection: Diverse



Order code

Type									
Immersion tube for temperature sensor		WS							
Form 4 Form 4F				F4 4F					
Diameter F2	18 mm 24 mm 26 mm 32 mm Other			D18 D24 D26 D32 DXX					
Material	Steel 1.0718 Stainless steel 1.4571 Other material			8 3 X					
Inner diameter d1	3.5 mm (only with Ø F2 = 18 mm) 7 mm (only with Ø F2 = 18, 24 and 26 mm) 9 mm (only with Ø F2 = 26 mm) 11 mm (only with Ø F2 = 26 mm) 13 mm (only with Ø F2 = 32 mm)					3A 07 09 11 13			
Form 4	Length U Total length L 65 mm 140 mm 125 mm 200 mm 65 mm 200 mm 125 mm 260 mm Every 100 mm more					D1 D2 D4 D5 00			
Form 4F	Length U Total length L Length U1 65 mm 200 mm 130 mm 125 mm 260 mm 190 mm 275 mm 410 mm 340 mm Every 100 mm more					F4 F5 F6 00			
Thread connection	M14x1.5 (only with Ø F2 = 18 mm) M18x1.5 (only with Ø F2 = 24 mm) G½ (only with Ø F2 = 26 mm) M20x1.5 (only with Ø F2 = 26 mm) G¾ (only with Ø F2 = 32 mm) M27x2 (only with Ø F2 = 32 mm)					G 6 2 N 3 H			
Process connection (only form 4F)	DN 25 DN 40 Other connection							F25 F40 XXX	

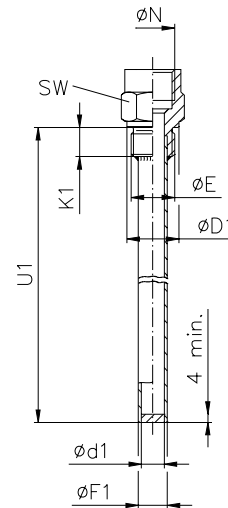
Immersion Tubes to thread in DIN 43772 Form 5 for Temperature Sensor DIN 43770



Diameter: 12 mm, 14 mm, 16 mm, 18 mm
or customer request

Process connection: With fixed thread connection

Thread connection: Diverse



øE	K1	SW
G1/2A	14	27
G3/4A	16	32

Order code

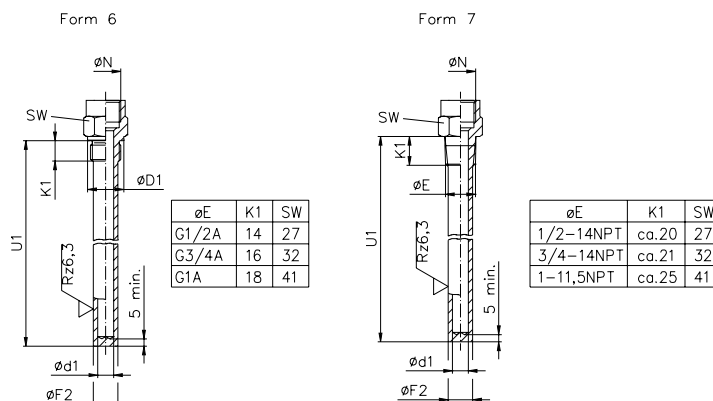
Type								
Immersion tube for temperature sensor		WS						
Form 5			F5					
Diameter F1	12 mm 14 mm 16 mm 18 mm Other			D12 D14 D16 D18 DXX				
Material	Steel 1.0718 Stainless steel 1.4571 Other material				8 3 X			
Length U1	82 mm 142 mm 232 mm 382 mm Every 100 mm more					082 142 232 382 000		
Process connection E	G $\frac{1}{2}$ A (only with ø F1 = 12 mm or 14 mm) G $\frac{3}{4}$ A M20x1.5 (only with ø F1 = 12 or 14 mm) (no DIN) M27x2 (no DIN) Other						2 3 N H X	
Inner diameter d1	7 mm 9 mm 11 mm 13 mm (only with ø F1 = 16 mm) Other							07 09 11 13 XX
Thread connection N	G $\frac{1}{2}$ M20x1.5 G $\frac{3}{4}$ (only with process connection E = G $\frac{3}{4}$ and M27x2) M27x2 (only with process connection E = G $\frac{3}{4}$ and M27x2)							2 N 3 H

Immersion Tubes to thread in DIN 43772 Form 6 and 7 the Temperature Sensor DIN 43770

Diameter: 17 mm, 19 mm, 20 mm,
22 mm or
Customer request

Process connection: Form 6: fixed thread
connection
Form 7: NPT

Thread connection: Diverse



Order code

Type									
Immersion tube for temperature sensor		WS							
Form 6 Form 7			F6 F7						
Diameter F2	17 mm 19 mm 20 mm 22 mm Other			D17 D19 D20 D22 DXX					
Material	Steel 1.0718 Stainless steel 1.4571 Other material				8 3 X				
Length U1	82 mm 142 mm 232 mm 382 mm Every 100 mm more					082 142 232 382 000			
Form 6 Process connection E	G½A (only with Ø F2 = 17 mm) G¾A G1A M20x1.5 (no DIN) M27x2 (no DIN) Other						2 3 4 N H X		
Form 7 Process connection E	½-14NPT ¾-14NPT 1-11.5 NPT Other thread						B C D X		
Inner diameter d1	7 mm 9 mm 11 mm 13 mm (only with form 6 and process connection E = G¾ or M27x2) Other							07 09 11 13 XX	
Thread connection N	G½ M20x1.5 G¾ (only with E = G¾ or M27x2) M27x2 (only with E = G¾ or M27x2)								2 N 3 H

Temperature Sensors for Furnace Construction

Description of Temperature Sensors

Sensors for heat treatment installations show a special construction which makes them suitable for various ambient conditions (different temperatures, measurement and ambient media).

In most applications, the sensor is a Thermocouple which consists of two different metal wires being welded together in one point. When the weld spot is heated, a thermal voltage is generated at the open ends of the wires where temperature measurements are taken.

We distinguish between two different types:

Immersion tube made of metal

The sensor is installed in a heat resistant metallic immersion tube which is available in different diameters. Inside this immersion tube, there are ceramic tubes for a loose guidance of the thermo wires. This version can be used up to temperatures of about 1200 °C. A ceramic clamping block serves as electrical connection, which is installed in the connection head shape A or shape B.

Immersion tube made of ceramics

With this second variant, the sensor is in a ceramic immersion tube which is available in various compositions and different quality classes. In the area of the connection head, a metal support tube acts as attachment for

the connection head shape A or shape B, as well as a receiver of the external ceramic immersion tube.

The internal structure of the sensor is identical for both variants of the immersion tube.

The mechanical process connection of the temperature sensors is normally provided by standardized clamped joints or connection flanges.

Important calibration instructions

A periodic calibration of your temperature sensors is required to make sure that they display always a correct temperature value. We provide you with the relevant calibration tools:

- We check your temperature sensors in our DKD laboratory and issue a DKD certificate to you or a factory certificate.
- You may carry out a required calibration on your own. For this purpose, we will provide you with a comprehensive program of high-accuracy temperature calibrators covering any temperature range.

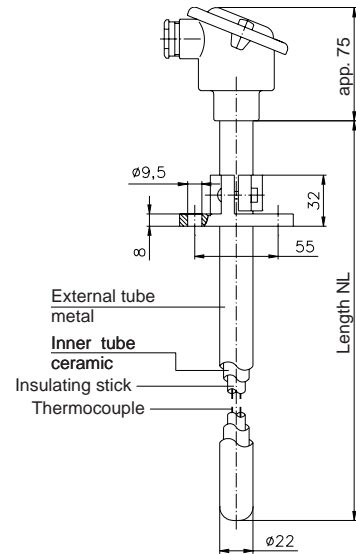
Ask for our special data sheets.



Straight Thermocouples (DIN 43733) with metallic Immersion Tube

For low pressure

Inner tube:	Ceramic KER 610
Accuracy class:	Thermocouples class 1 and class 2
Measuring insert:	Interchangeable
Diameter:	22 mm
Type of protection:	IP 53
Max. temperature:	1200 °C
Process connection:	Without With clamp flange
Electr. connection:	Head form A of aluminium diecasting, silver finish Max. temperature 200 °C



Order code

Type						
Thermocouple		TKI				
Material	Stainless steel 1.4762 Stainless steel 1.4841		G H			
Sensor element	1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K)			K11 K12		
Length NL	500 mm 710 mm 1000 mm 1200 mm Every 100 mm more				0500 0710 1000 1200 XXXX	
Electr. connection	Head form A with ceramic socket Head form A with transmitter*				A0 AT	
Process connection	Without G $\frac{3}{4}$ steel, zinc plated G $\frac{3}{4}$ stainless steel Oval clamp flange DIN 43734					0 A B C

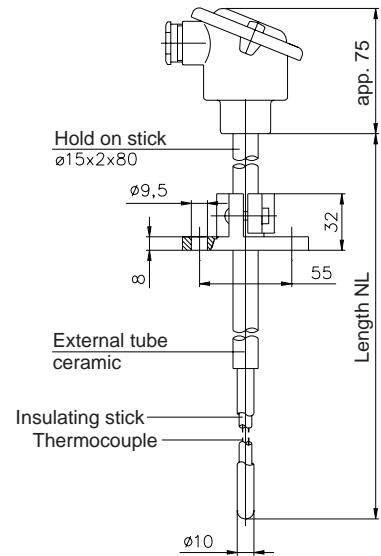
* For this please ask for our transmitter catalogue.

Straight Thermocouples (DIN 43733) with ceramic Immersion Tube



For low pressure

- Inner tube:** Ceramic KER 610, gasproof
- Accuracy class:** Thermocouples class 1 and class 2
- Measuring insert:** Interchangeable
- Diameter:** 15 mm or 24 mm
- Type of protection:** IP 53
- Max. temperature:** 1500 °C
- Process connection:** Without
With clamp flange
- Electr. connection:** Head form A
of aluminium diecasting, silver finish
Max. temperature 200 °C



Order code

Type						
Thermocouple		T				
Thermocouple	Ø 15 mm Ø 24 mm		GKI NKI			
Sensor element	1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K)			K11 K12		
Length NL	500 mm 710 mm 1000 mm 1200 mm Every 100 mm more				0500 0710 1000 1200 XXXX	
Electr. connection	Head form A with ceramic socket Head form A with transmitter*				A0 AT	
Process connection	Without G $\frac{3}{4}$ steel, zinc plated G $\frac{3}{4}$ stainless steel Oval clamp flange DIN 43734					0 A B C

* For this please ask for our transmitter catalogue.

Temperature Sensors for the Marine Area

Description of Temperature Sensors

The marine area is a special field in the manufacture of temperature sensors, where standard temperature sensors cannot be used due to extreme mechanical stress. For example, there are acceleration forces of more than 200 g, if the temperature sensor is directly installed on marine engines.

Most of all, the sensors used in marine application must sustainably absorb such forces. Which means that during the manufacture special requirements are demanded to avoid the breakdown of the measurement system. Thus the internal structure of the temperature sensor is designed as a vibration resistant component. Continuous quality controls and numerous tests directly fitted to marine engines guarantee a high life expectancy.

SIKA has long-term experiences in the area of marine sensors used under extreme conditions in marine applications.

All sensors for marine applications which are manufactured by us, meet the required qualification tests of the relevant classification companies.

Many temperature sensors are approved by Germanischer Lloyd.

We manufacture special versions of temperature sensors to customer specific requirements also in this marine area.

Important calibration instructions

A periodic calibration of your temperature sensors is required to make sure that they display always a correct temperature value. We provide you with the relevant calibration tools:

- We check your temperature sensors in our DKD laboratory and issue a DKD certificate to you or a factory certificate.
- You may carry out a required calibration on your own. For this purpose, we will provide you with a comprehensive program of high-accuracy temperature calibrators covering any temperature range.

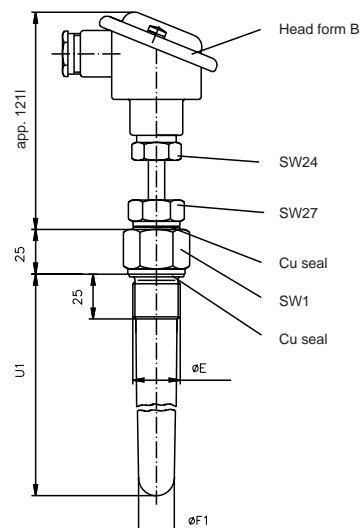
Ask for our special data sheets.



Temperature Sensors for Exhaust Gas Temperature Measurement



- Accuracy class:** Resistance thermometer class A and B
Thermocouple class 1 and 2
- Measuring insert:** Interchangeable
- Diameter:** 17 / 23 mm, conical up to 150 mm
20 / 23 mm, conical from 150 mm
- Type of protection:** IP 54
- Max. temperature:** Depend on immersion tube material
- Process connection:** With fixed thread connection
- Electr. connection:** Head form B
of aluminium diecasting, silver finish
Max. temperature 200 °C
- Authorization:** Germanischer Lloyd, GL



Order code

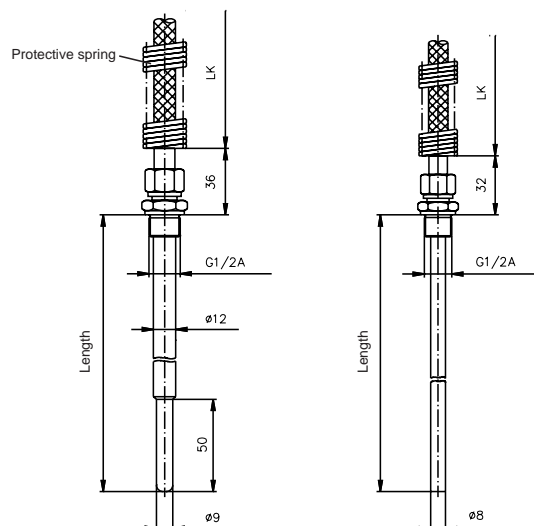
Type									
Resistance thermometer		W							
Thermocouple		T							
Diameter	17 / 23 mm, conical up to 150 mm 20 / 23 mm, conical from 150 mm		17 20						
Material	Stainless steel 1.4571 (max. 450 °C) Steel 1.7335, heat resistant (max. 600 °C)			3 5					
Sensor element	1 x Pt100 3-wire / class B 2 x Pt1000 2-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P31 P12 J11 J12 K11 K12 AXX				
Immersion tube length U1	100 mm 120 mm 150 mm 200 mm 250 mm 300 mm Every 100 mm more					100 120 150 200 250 300 XXX			
Measuring insert	Interchangeable						2		
Electr. connection	Head form B with ceramic socket Head form B with transmitter*							B0 BT	
Process connection E	G¾A M27x2 M33x2 Other connection								3T6 HT6 FT6 XT6

* For this please ask for our transmitter catalogue.

Temperature Sensors (Cable Sensors) for Exhaust Gas Measurement of Combustion Engines

Vibration resistant

Accuracy class:	Resistance thermometer class A and B Thermocouple class 1 and 2
Measuring insert:	Not changeable
Diameter:	8 mm or 12 mm
Type of protection:	IP 54
Max. temperature:	600 °C resistance thermometer 800 °C thermocouple
Process connection:	Without With clamp coupling
Electr. connection:	Compensation pipe, Wire-braided
Authorization:	Germanischer Lloyd, GL (only for type TWE)



Order code

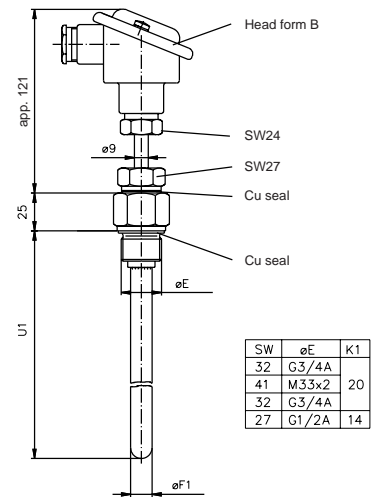
Type							
Diameter	8 mm 12 mm	TVA TWE					
Material	Stainless steel 1.4571		C				
Sensor element	1 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 1 x Pt100 3-wire / class B (only Ø 12 mm) Resistance thermometer class A Thermocouple class 1			J11 K11 P31 AXX TXX			
Length	100 mm 150 mm 200 mm 250 mm Every 100 mm more				0100 0150 0200 0250 XXXX		
Straight version	FEP cable, wire-braided Fibre glass, wire-braided					07 08	
Process connection*	Without Clamp coupling steel, galvanized G¼A Clamp coupling steel, galvanized G½A Clamp coupling steel, galvanized M27x2						0 I K H
Cable length LK	1.0 m 1.5 m 2.0 m 3.0 m Every 1.0 m more						01 02 03 05 XX

* Others on request

Temperature Sensors for Cooling Water Temperature Measurement

With Immersion Tube Form 2G (DIN 43772)

Accuracy class:	Resistance thermometer class A and B
Measuring insert:	Interchangeable
Diameter:	12 mm or 14 mm
Type of protection:	IP 54
Max. temperature:	200 °C resistance thermometer
Process connection:	With fixed thread connection
Electr. connection:	Head form B of aluminium diecasting, silver finish Max. temperature 200 °C



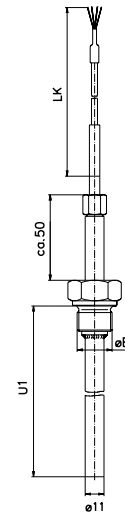
Order code

Type									
Resistance thermometer		W							
Diameter	12 mm 14 mm		12 14						
Material	Stainless steel 1.4571			3					
Sensor element	1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B Resistance thermometer class A				P31 P32 P41 AXX				
Immersion tube length U1	80 mm 100 mm 120 mm 150 mm 200 mm 250 mm Every 100 mm more					080 100 120 150 200 250 XXX			
Measuring insert	Interchangeable						2		
Electr. connection	Head form B with ceramic socket Head form B with transmitter*							B0 BT	
Process connection E	G½A G¾A M27x2 M33x2 Other connection								2T2 3T2 HT2 FT2 XT2

* For this please ask for our transmitter catalogue.

Temperature Sensors for Oil and Water Temperature Measurement without additional Immersion Tube

Accuracy class: Resistance thermometer class A and B
Measuring insert: Interchangeable
Diameter: 11 mm
Type of protection: IP 54
Max. temperature: 200 °C resistance thermometer
Process connection: With fixed thread connection
Electr. connection: Cable



Order code

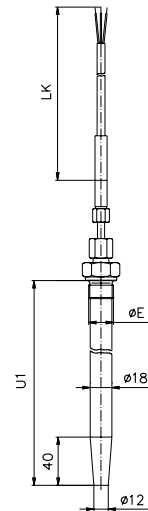
Type									
Resistance thermometer		W							
Diameter	11 mm		11						
Material	Stainless steel 1.4571			3					
Sensor element	1 x Pt100 3-wire / class B Resistance thermometer class A				P31 AXX				
Immersion tube length U1	80 mm 100 mm 120 mm 150 mm 200 mm 250 mm Every 100 mm more					080 100 120 150 200 250 XXX			
Measuring insert	Interchangeable						20		
Electr. connection	FEP cable, wire-braided							5	
Process connection E	G½A G¾A M20x1.5 M27x2 Other connection								2 3 H F X
Cable length LK	1.0 m 1.5 m 2.0 m 3.0 m Every 1.0 m more								01 02 03 05 XX

Temperature Sensors for Exhaust Gas Measurement, conical



With Immersion Tube Form 4 (DIN 43772)

Accuracy class: Resistance thermometer class B
 Thermocouple class 1 and 2
Measuring insert: Interchangeable
Diameter: 12 mm
Type of protection: IP 54
Max. temperature: 600 °C
Process connection: With fixed thread connection
Electr. connection: Cable



Order code

Type		T	W										
Thermocouple		T											
Resistance thermometer		W											
Diameter on the top	12 mm			12									
Material	Stainless steel 1.4571				3								
Sensor element	1 x Pt100 3-wire / class B 1 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) Thermocouple class 1					P31 1TJ 1TK TXX							
Immersion tube length U1	120 mm 150 mm 170 mm 200 mm 220 mm 250 mm Every 100 mm more						120 150 170 200 220 250 XXX						
Measuring insert	Interchangeable							20					
Electr. connection	FEP cable, wire-braided								5				
Process connection E	G½A G¾A M27x2 M33x2 Other connection										2 3 H F X		
Cable length LK	1.0 m 1.5 m 2.0 m 3.0 m Every 1.0 m more												01 02 03 05 XX

Temperature Sensors for customer-specific Measurement Jobs

Description of Temperature Sensors

The engineering and machine construction require customer-specific temperature sensors for their special applications. Also here, Thermocouples and resistance thermometers are used as measuring instruments.

If the temperatures to be measured are in the range of up to 400 °C, mostly resistance thermometers will be used for the measurement.

The difference between serial and special manufacturing is only the mechanical structure of the sensors.

The deciding criterions are listed in the following:

- At which position is the temperature to be measured?
- In which medium is the temperature to be determined?
- Which diameter can be installed in the production process?
- Which mechanical process connection can be used?
- What is the type of electrical connection?
- Which mechanical and thermal stress is the sensor subjected to?

The answers to these questions are the base for the manufacture of special temperature sensors for mechanical engineering.

In this chapter, we have specified a part of our special production more precisely. We are in the position to manufacture other special versions according to customer requirements at any time.

In this case, please contact directly our sales representatives or our sales department in Kaufungen.

Important calibration instructions

A periodic calibration of your temperature sensors is required to make sure that they display always a correct temperature value. We provide you with the relevant calibration tools:

- We check your temperature sensors in our DKD laboratory and issue a DKD certificate to you or a factory certificate.
- You may carry out a required calibration on your own. For this purpose, we will provide you with a comprehensive program of high-accuracy temperature calibrators covering any temperature range.

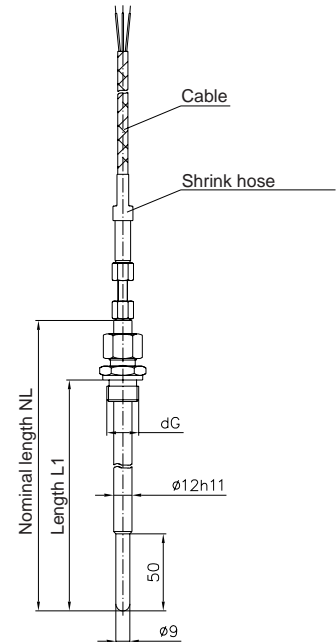
Ask for our special data sheets.



Temperature Sensors for Exhaust Temperature Measurement in Special Version



- Accuracy class:** Resistance thermometer class B
Thermocouple class 1 and 2
- Measuring insert:** Interchangeable, Ø 6 mm,
Measuring insert no. 61
- Diameter:** 12 mm (reduced on 9 mm)
- Type of protection:** IP 54
- Max. temperature:** 600 °C resistance thermometer
800 °C thermocouple
- Process connection:** With clamp connection, steel galvanized
- Electr. connection:** FEP shielded /
Cable wire-braided



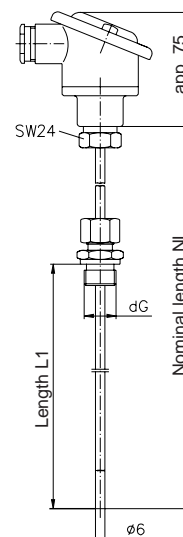
Order code

Type											
Thermocouple											
Resistance thermometer	T										
	W										
Diameter	9 mm		09								
Material	Stainless steel 1.4571			3							
Sensor element	1 x Pt100 3-wire / class B 1 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) Thermocouple class 1				P31 1TJ 1TK TXX						
Length L1	100 mm 120 mm 150 mm 220 mm Every 100 mm more					0100 0120 0170 0220 XXXX					
Measuring insert	Interchangeable						2				
Electr. connection:	FEP cable shielded Cable fibre glass, wire-braided							25 28			
Process connection dG	G½A G¾A M27x2 M33x2								2 3 H F		
Cable length	1.0 m 1.5 m 2.0 m 3.0 m Every 1.0 m more										01 02 03 05 XX

Temperature Sensors DIN 43770 without additional Immersion Tube

Jacket Temperature Sensor

Accuracy class:	Resistance thermometer class A and B Thermocouple class 1 and 2
Measuring insert:	Acc. DIN 43735, Ø 6 mm, Measuring insert no. 61
Diameter:	6 mm
Type of protection:	IP 54
Max. temperature:	400 °C resistance thermometer 600 °C on request 800 °C thermocouple
Process connection:	Without or with clamp connection
Electr. connection:	Head form B of aluminium diecasting, silver finish Max. temperature 200 °C



Order code

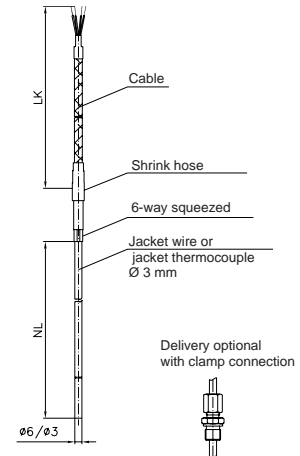
Type								
Resistance thermometer		WM						
Thermocouple		TM						
Diameter	6 mm		M					
Material	Stainless steel 1.4541 / 1.4571			M				
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P21 P22 P31 P32 P41 J11 J12 K11 K12 AXX			
Length NL	250 mm 290 mm 350 mm 380 mm 410 mm 530 mm 630 mm 710 mm 800 mm Every 100 mm more					0250 0290 0350 0380 0410 0530 0630 0710 0800 XXXX		
Electr. connection	Head form B with ceramic socket Head form B with transmitter*						BO BT	
Process connection dG	Without G¼A steel galvanized G½A steel galvanized G¼A stainless steel 1.4571 G½A stainless steel 1.4571							00 18 J8 I3 J3

* For this please ask for our transmitter catalogue.

Temperature Sensors as Cable Sensor with Jacket Wire

Without additional Immersion Tube

Accuracy class:	Resistance thermometer class A and B Thermocouple class 1 and 2
Measuring insert:	Interchangeable, Ø 6 mm, Measuring insert no. 61
Diameter:	3 mm or 6 mm
Type of protection:	IP 54
Max. temperature:	400 °C resistance thermometer 600 °C on request 800 °C thermocouple
Process connection:	Without or with clamp connection
Electr. connection:	Cable



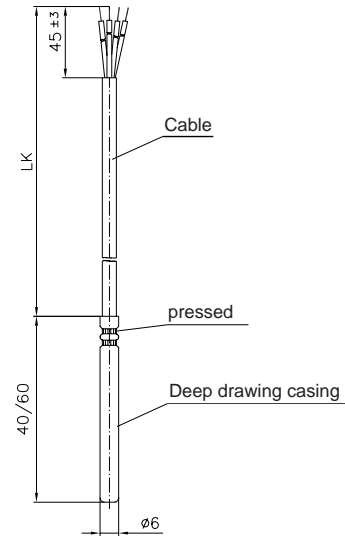
Order code

Type									
Resistance thermometer		WM							
Thermocouple		TM							
Diameter	3 mm		Q						
Measuring insert no.	6 mm		M						
Material	Stainless steel 1.4571			M					
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B 1 x Fe-CuNi (type J) 2 x Fe-CuNi (type J) 1 x NiCr-Ni (type K) 2 x NiCr-Ni (type K) Resistance thermometer class A				P21 P22 P31 P32 P41 J11 J12 K11 K12 AXX				
Length NL	100 mm 150 mm 200 mm 250 mm 500 mm Every 100 mm more					0100 0150 0200 0250 0500 XXXX			
Electr. connection	PVC cable Fibre glass, wire-braided Silicon cable FED cable						P0 80 S0 F0		
Process connection	Without G¼A steel galvanized M10x1 steel galvanized G¼A stainless steel 1.4571 G½A stainless steel 1.4571 M10x1 stainless steel							0 I A F K B	
Cable length LK	1.0 m 1.5 m 2.0 m Every 1.0 m more								01 02 03 XX

Temperature Sensors as Cable Sensor without additional Immersion Tube

For low pressure

Accuracy class:	Resistance thermometer class A and B
Measuring insert:	Not changeable
Diameter:	4 mm, 5.2 mm or 6 mm
Type of protection:	IP 54
Max. temperature:	Depending on connection cable
Process connection:	Without or with clamp connection
Electr. connection:	Cable



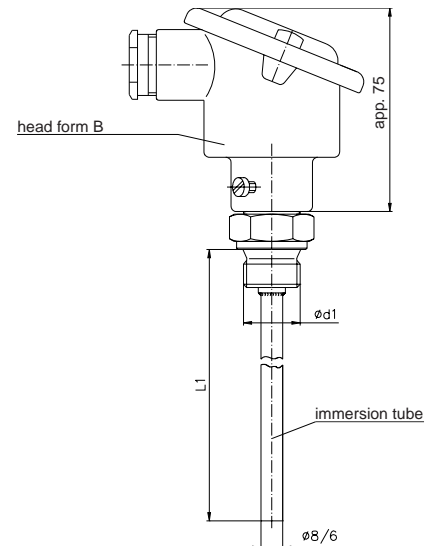
Order code

Type									
Resistance thermometer		W							
Diameter	4 mm 5.2 mm 6 mm		04 05 06						
Material	Stainless steel 1.4571			3					
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B (only with Ø 6 mm) 1 x Pt100 4-wire / class B (only with Ø 6 mm) 1 x Pt1000 2-wire / class B Resistance thermometer class A Other sensors possible, e.g. NTC, KTY and so on.				P21 P22 P31 P41 P12 AXX				
Immersion tube length	40 mm (only with Ø 4 mm and 6 mm) 57 mm (only with Ø 5.2 mm) 60 mm (only with Ø 6 mm) Every 100 mm more					040 047 060 XXX			
Connection cable	PVC cable (not with Ø 4 mm) PVC cable, shielded (not with Ø 4 mm) Silicon cable Silicon cable, shielded (not with Ø 4 mm) FED cable (not with Ø 4 mm) Fibre glass, wire-braided (not with Ø 4 mm)						001 002 003 004 005 008		
Process connection	Without M10x1 G¼A							0 D I	
Cable length LK	1.0 m 1.5 m 2.0 m 3.0 m Every 1.0 m more								01 02 03 05 XX

Resistance Thermometers without additional Immersion Tube

For low pressure

Accuracy class:	Resistance thermometer class A and B
Measuring insert:	Interchangeable (only with Ø 8 mm)
Diameter:	6 mm or 8 mm
Type of protection:	IP 54
Max. temperature:	200 °C resistance thermometer
Process connection:	With fixed thread connection
Electr. connection:	Head form B of aluminium diecasting, silver finish Max. temperature 200 °C



Order code

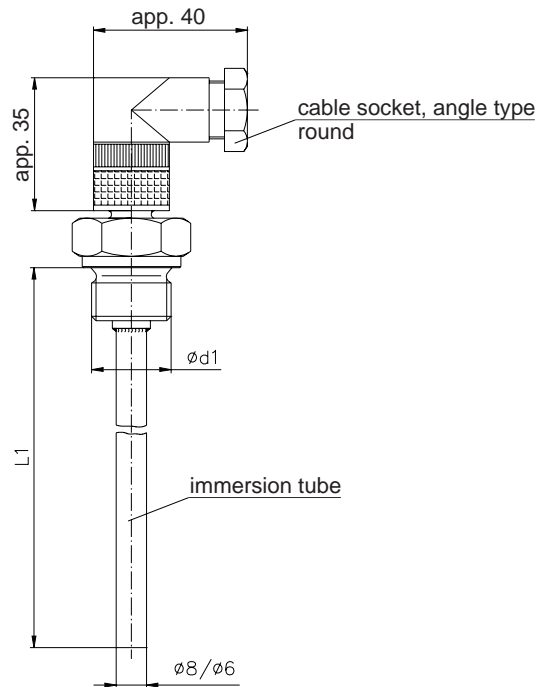
Type									
Resistance Thermometer		W							
Diameter	6 mm 8 mm Other		06 08 00						
Material	Brass 2.0401 Stainless steel 1.4571 Other material			1 3 0					
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B Resistance thermometer class A				P21 P22 P31 P41 AXX				
Immersion tube length L1	50 mm 100 mm 150 mm 200 mm Every 100 mm more					050 100 150 200 XXX			
Measuring insert	Not changeable Interchangeable (only with Ø 8 mm)						0 2		
Electr. connection	Head form B with ceramic socket Head form B with transmitter*							B M	
Process connection d1	M14x1.5 M18x1.5 G¼A G½A								6 G L 2

* For this please ask for our transmitter catalogue.

Temperature Sensors with small Cable Socket without additional Immersion Tube

For low pressure

Accuracy class:	Resistance thermometer class A and B
Measuring insert:	Interchangeable (only with Ø 8 mm)
Diameter:	6 mm or 8 mm
Type of protection:	IP 65
Max. temperature:	200 °C resistance thermometer (plug max. 90 °C)
Process connection:	With fixed thread connection
Electr. connection:	Small cable socket, angle type, with knurled nut



Order code

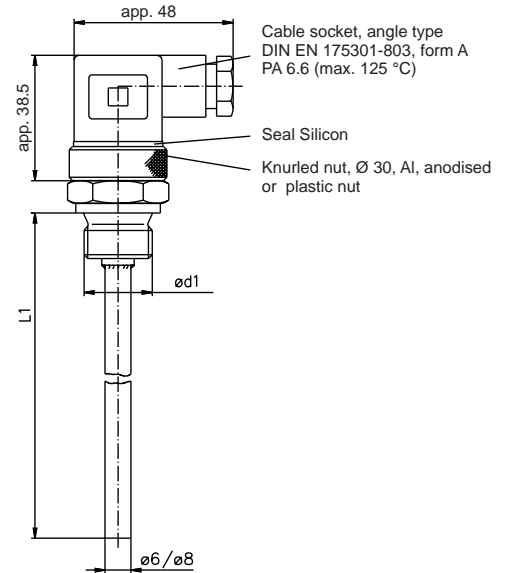
Type									
Resistance thermometer		W							
Diameter	6 mm 8 mm		06 08						
Material	Brass 2.0401 Stainless steel 1.4571			1 3					
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B Resistance thermometer class A				P21 P22 P31 P41 AXX				
Immersion tube length L1	50 mm 100 mm 150 mm 200 mm Every 100 mm more					050 100 150 200 XXX			
Measuring insert	Not changeable Interchangeable (only with Ø 8 mm)						0 2		
Electr. connection	Cable socket, angle type, round							30	
Process connection d1	M14x1.5 M10x1.0 G¼A G½A								G P L 2

Temperature Sensors with Cable Socket, Angle Type DIN EN 175 301-803 Form A



For low pressure

Accuracy class: Resistance thermometer class A and B
Measuring insert: Interchangeable (only with Ø 8 mm)
Diameter: 6 mm or 8 mm
Type of protection: IP 65
Max. temperature: 200 °C resistance thermometer (plug max. 125 °C)
Process connection: With fixed thread connection
Electr. connection: Cable socket, angle type DIN EN 175 301-803 form A
Authorization: Germanischer Lloyd, GL



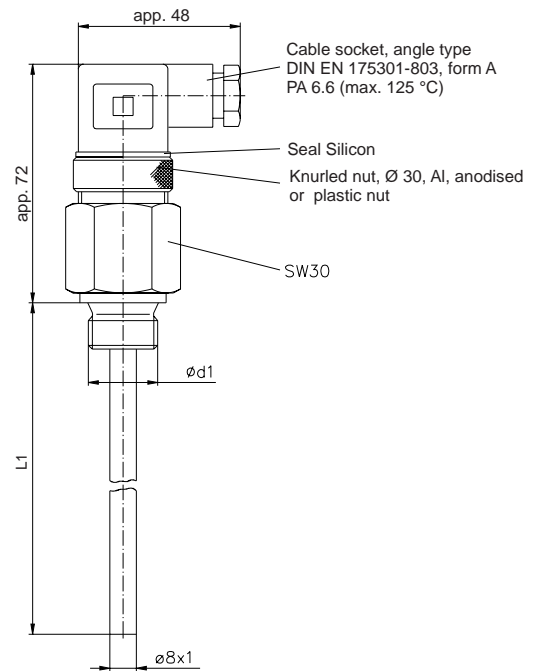
Order code

Type									
Resistance thermometer		W							
Measuring insert		E							
Diameter	6 mm 8 mm		06 08						
Material	Brass 2.0401 Stainless steel 1.4571			1 3					
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B Resistance thermometer class A				P21 P22 P31 P41 AXX				
Immersion tube length L1	Without (only with measuring inserts) 50 mm 100 mm 150 mm 200 mm Every 100 mm more					000 050 100 150 200 XXX			
Measuring insert	Not changeable Interchangeable (only with Ø 8 mm)						0 2		
Electr. connection	Cable socket, angle type, form A							10	
Process connection d1	G½A M18x1.5 M20x1.5 G¾A								2 6 N 3

Temperature Sensors with Cable Socket, angle type DIN EN 175 301-803 form A

For low pressure

Accuracy class:	Resistance thermometer class B
Measuring insert:	Interchangeable
Diameter:	6 mm or 8 mm
Type of protection:	IP 65
Max. temperature:	200 °C resistance thermometer (plug max. 85 °C)
Process connection:	With fixed thread connection
Electr. connection:	Cable socket, angle type DIN EN 175 301-803 Form A with transmitter fitted in sensor casing Output 4...20 mA, 2-wire Power supply 10...36 VDC

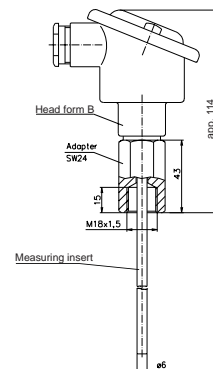


Order code

Type									
Resistance thermometer		W							
Diameter	6 mm 8 mm		06 08						
Material	Brass 2.0401 Stainless steel 1.4571			1 3					
Sensor element	1 x Pt100 2-wire / class B				P21				
Immersion tube length L1	50 mm 100 mm 150 mm 200 mm Every 100 mm more					050 100 150 200 XXX			
Measuring insert	Not changeable Interchangeable (only with Ø 8 mm)						0 2		
Electr. connection	Cable socket, angle type DIN EN 175 301-803 form A with transmitter							90	
Process connection d1	G½A M18x1.5 M20x1.5 G¾A								2 6 N 3

Temperature Sensors for Immersion Tube Fitting of Industrial Thermometer

Accuracy class: Resistance thermometer class A and B
Measuring insert: Acc. DIN 43735, interchangeable, Ø 6 mm, measuring insert no. 61
Diameter: 6 mm
Type of protection: IP 54
Max. temperature: 400 °C resistance thermometer
Process connection: Union nut M18x1.5 mm
Electr. connection: Head form B, of aluminium diecasting, silver finish, max. temperature 200 °C



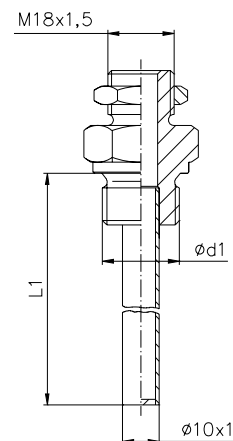
Order code resistance thermometer

Type						
Resistance thermometer		WEM				
Material adapter	Brass 2.0401 Stainless steel 1.4571		2 C			
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B 2 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B Resistance thermometer class A			P21 P22 P31 P32 P41 AXX		
for immersion tube length L1	63 mm 100 mm 160 mm 250 mm 400 mm Every 100 mm more				0063 0100 0160 0250 0400 XXXX	
Electr. connection	Head form B without ceramic socket Head form B with transmitter*					B00 BT0

* For this please ask for our transmitter catalogue.

Order code immersion tube

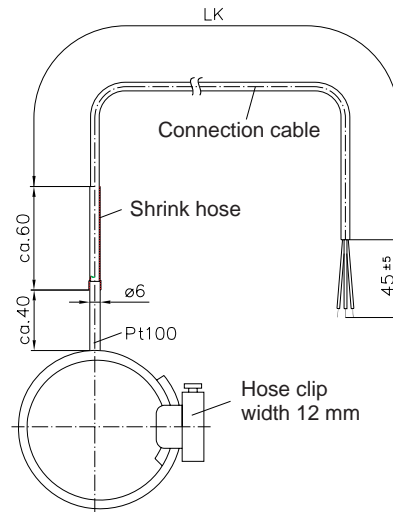
Type					
Immersion tube Ø	10 x 1 mm	D			
Immersion tube length L1	63 mm 100 mm 160 mm 250 mm 400 mm Every 100 mm more		0063 0100 0160 0250 0400 XXXX		
Process connection d1	M20x1.5 G½A G¾A M27x2 Other			1 2 3 9 X	
Material	Brass Steel Stainless steel 1.4571 Other				11 21 31 XX



Temperature Sensors as Surface Sensor for Pipes

In dry or damp rooms

Accuracy class:	Resistance thermometer Class A and B
Measuring insert:	Not changeable
Diameter:	Diverse
Max. temperature:	200 °C
Process connection:	Hose clip (stainless steel)
Electr. connection:	Cable silicon or fibre glass, Wire-braided



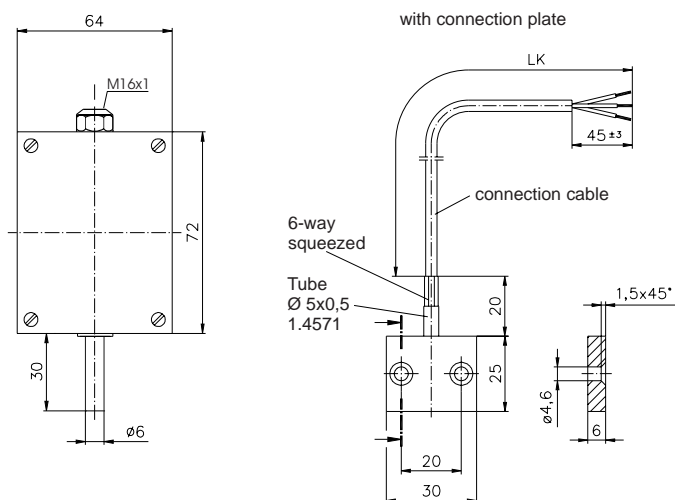
Order code

Type						
Resistance thermometer		WRO				
Form			C			
Sensor element	1 x Pt100 3-wire / class B Resistance thermometer class A			P31 AXX		
Tube Ø	15-25 mm 23-35 mm 32-50 mm 50-70 mm 70-90 mm 90-110 mm 110-130 mm 130-150 mm 150-170 mm 170-190 mm 190-210 mm > 210 mm				0025 0035 0050 0070 0090 0110 0130 0150 0170 0190 0210 XXXX	
Connection cable	Silicon cable (-40 °C...+200 °C) FED cable Fibre glass, wire-braided				S00 F00 G00	
Cable length LK	1.0 m 1.5 m 2.0 m 3.0 m Every 1.0 m more					01 02 03 05 XX

Temperature Sensors for Air Temperature Measurement

In dry and damp rooms

Accuracy class:	Resistance thermometer Class A and B
Measuring insert:	Not changeable
Diameter:	6 mm
Max. temperature:	200 °C (casing max. 80 °C)
Process connection:	Without
Electr. connection:	Cable



Order code

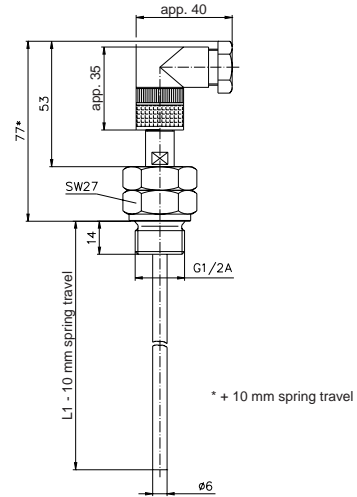
Type					
Resistance thermometer		WIG			
Form	Casing Connection plate		H O		
Sensor element	1 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B KTY 81-210 Resistance thermometer class A			P21 P31 PTC AXX	
Connection cable	Without cable PVC cable (-10 °C...+80 °C) Silicon cable (-40 °C...+200 °C)				0000000 0000P00 0000S00
Cable length LK	1.0 m 1.5 m 2.0 m 3.0 m Every 1.0 m more Transmitter*				01 02 03 05 XX BT

* Only with casing. For this please ask for our transmitter catalogue.

Temperature Sensors for Storage Temperature Measurement with small Cable Socket, Angle Type

For low pressure

Accuracy class:	Resistance thermometer Class A and B
Measuring insert:	Not changeable
Diameter:	6 mm
Type of protection:	IP 65
Max. temperature:	200 °C resistance thermometer (plug max. 80 °C)
Process connection:	G $\frac{1}{2}$ A
Total length:	Variabel, springy 10 mm
Electr. connection:	Small cable socket, angle type With knurled nut



Order code

Type									
Resistance thermometer		W							
Diameter	6 mm		06						
Material	Brass 2.0401, nickel-plated Stainless steel 1.4571			1 3					
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt100 3-wire / class B 1 x Pt100 4-wire / class B Resistance thermometer class A				P21 P22 P31 P41 Axx				
Immersion tube length L1*	55-65 mm 95-105 mm 135-145 mm 165-175 mm Every 100 mm more					065 005 145 175 XXX			
Measuring insert	Not changeable						0		
Electr. connection	Cable socket, angle type, round							30	
Process connection	G $\frac{1}{2}$ A M18x1.5								2JK 6JK

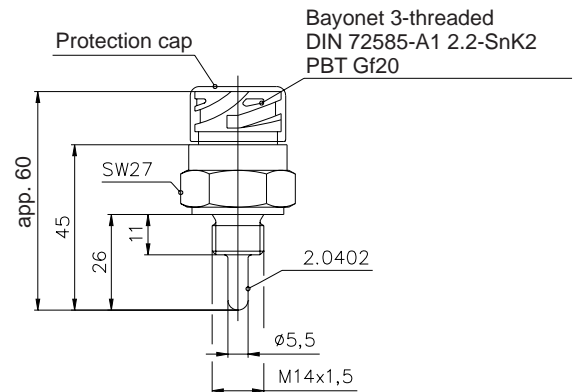
* Stretched length

Temperature Sensor with Bayonet Plug DIN 72585



For Cooling Water Temperature

Accuracy class: Resistance thermometer
Class A and B
Measuring insert: Not changeable
Diameter: 5.5 mm
Type of protection: IP 65
Max. temperature: 130 °C
Process connection: M14x1.5 mm
Electr. connection: Bayonet 3-threaded



Order code

Type									
Resistance thermometer		W							
Diameter	5.5 mm		55						
Material	Brass 2.0401			1					
Sensor element	1 x Pt100 2-wire / class B 2 x Pt100 2-wire / class B 1 x Pt1000 2-wire / class B 2 x Pt1000 2-wire / class B Resistance thermometer class A				P21 P22 P12 P24 AXX				
Immersion tube length	26 mm Every 100 mm more					026 XXX			
Measuring insert	Not changeable						0		
Electr. connection	Bayonet plug DIN 72585							X	
Connection cable	Without								0
Process connection	M14x1.5								G

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Subject to technical modification

