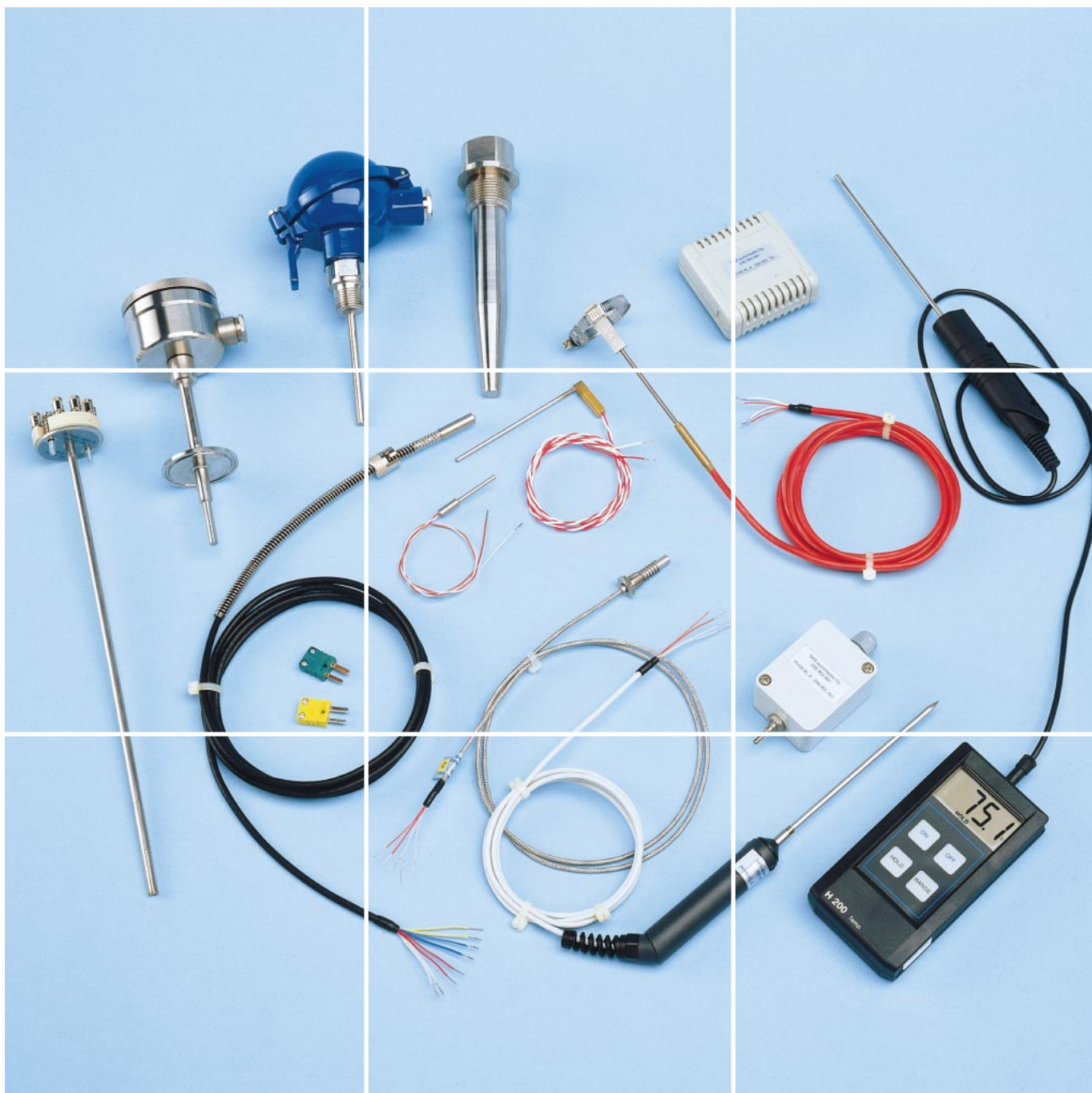


# TEMPERATURE SENSORS

PRODUCT CATALOGUE  
2001/1/1



## INSTRUMENTS

6

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## Prices

Net, excl. VAT, in stock, excl. packing. The prices are based on the prices of the manufacturer and valid import taxes. If any changes occur, we reserve the right to adjust our prices.

Terms of sale:

Terms of sale of the Association of Finnish Technical Traders

 <b>DET NORSKE VERITAS</b> <b>QUALITY SYSTEM CERTIFICATE</b>	
<b>CERTIFICATE NO. 96-HEL-AQ-187</b> <i>This is to certify that</i> <b>THE QUALITY SYSTEM</b> of <b>SKS-tekniiikka Oy</b> <b>SKS-mekaniikka Oy</b> <b>SKS-automaatio Oy</b> at Vantaa, Tampere and Turku, Finland has been found to conform to the Quality System Standard SFS-EN ISO 9002 ed. 1994 <i>This Certificate is valid for the following product or service ranges</i> <b>SALES AND MARKETING, IMPORTING, STORAGE AND DISTRIBUTION OF ELECTRICAL,  AUTOMATION, MECHANICAL AND POWER TRANSMISSION COMPONENTS, SERVICE OF  ELECTRICAL AND AUTOMATION COMPONENTS, ASSEMBLY OF TEMPERATURE  SENSORS</b>	
<i>Place and date</i> Helsinki, 9th November 1998  <i>for the Accredited Certification Body</i> DNV Certification OY/AB   Aila Valkila Management representative	<i>This Certificate is valid until</i> 30th November 2001  <i>Original Certificate issued on</i> 12th January 1996  Certification has been performed by Lead Auditor Jorma Kamppari  
<small>Lack of fulfillment of conditions as set out in the Appendix may render this certificate invalid</small> <small>QMA/REV3/1998 The use of the Accreditation Mark indicates accreditation in respect of the activities covered by the accreditation number S 001</small>	

# Production Program of the Sensor Workshop

## Vibration-Proof Resistance Probes, Sheath Construction

- standard material of the sheath AISI 316
- length according to specification
- diameter 1.6...8 mm
- 1xPt100, 2xPt100 (and other norms)
- 2-, 3- and 4-wire terminals
- precision classes: Klasse A, B, 1/3 DIN and 1/10 DIN

## Vibration-Proof Thermocouples, Sheath Construction

- diameter 0.5...8 mm
- standard material of the sheath Inconel 600 or AISI 316
- precision class 1
- length according to specification

## Wells

- with threaded fitting
- with flange
- ceramic
- welded D1...D6 and their assemblies
- diameter and length according to specification
- materials include acid-proof steels, heat-resistant steels, titanium, hastelloy
- epoxy-coated sensor head

## Cable Probes

- diameter and length according to specification
- various cable options
- as thermocouples
- as Pt100 probes (1xPt100, 2xPt100 and other norms)
- 2-, 3- and 4-wire terminals (Pt100)
- precision classes: Klasse A, B, 1/3 DIN and 1/10 DIN (Pt100)
- various coupling options

## Bayonet Probes

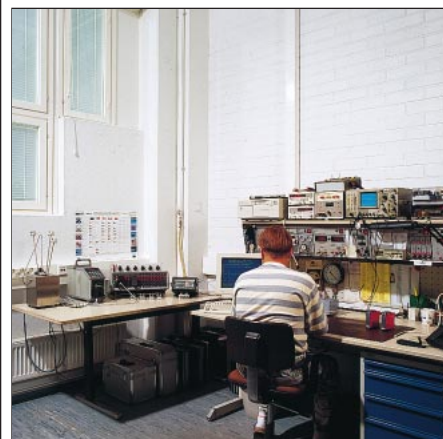
- diameter 6 and 8 mm (AISI 316)
- various cable options
- as thermocouples
- as Pt100 probes (1xPt100, 2xPt100 and other norms)
- 2-, 3- and 4-wire terminals (Pt100)
- precision classes: Klasse A, B, 1/3 DIN and 1/10 DIN (Pt100)
- various coupling options

Also, we produce customised applications.



## Prices of Temperature Calibration

Code	SKS Type	FIM	€
916136	2-point process calibration, incl. sensor and transmitter	400,00	67,28
916137	Record of the previous	200,00	33,64
916138	2-point sensor calibration	400,00	67,28
916139	Extra points for the previous, per point	70,00	11,77
908247	Configuration of the 5000 and 6000 Series	70,00	11,77
859660	Electronic variables, record	200,00	33,64



# Pt100 Probes



- Based on resistance measurement
- The temperature coefficient of platinum's resistance is positive – it increases with the increasing of temperature
- Resistance changes as a function of temperature,  $0.39 \Omega/1^\circ\text{C}$
- Platinum is very stable and possesses excellent thermal shock resistance
- The long-term stability differs most from other methods of temperature measurement – better than  $0.2 \Omega/0^\circ\text{C}$  in one year

## Pt100 Cables: Colour Code

	2-wire	3-wire	4-wire	2-wire, with compensation
<b>Pt100 <math>\Omega</math></b>				
<b>2 x Pt100 <math>\Omega</math></b>				
<b>3 x Pt100 <math>\Omega</math></b>				

# Pt100 Probes

## Probe Options

- 1 x Pt100
- 2 x Pt100
- (3 x Pt100)
- 2-wire configuration
- 3-wire configuration
- 4-wire configuration
- 2-wire configuration
- + compensation loop

## Precision Classes

- Klasse A
- Klasse B
- Klasse B 1/3 DIN
- Klasse B 1/4 DIN
- Klasse B 1/6 DIN
- Klasse B 1/10 DIN

## Vibration Resistance

- Vibration-proof
- Extra vibration-proof

## Temperature Limits

- +250°C, +400°C, +550°C, +600°C
- and +1000°C

## Precision Classes

Klasse B In the range -200°...+850°C

- 0°C = ±0,3°C
- 100°C = ±0,8°C

Klasse A In the range -200°...+650°C

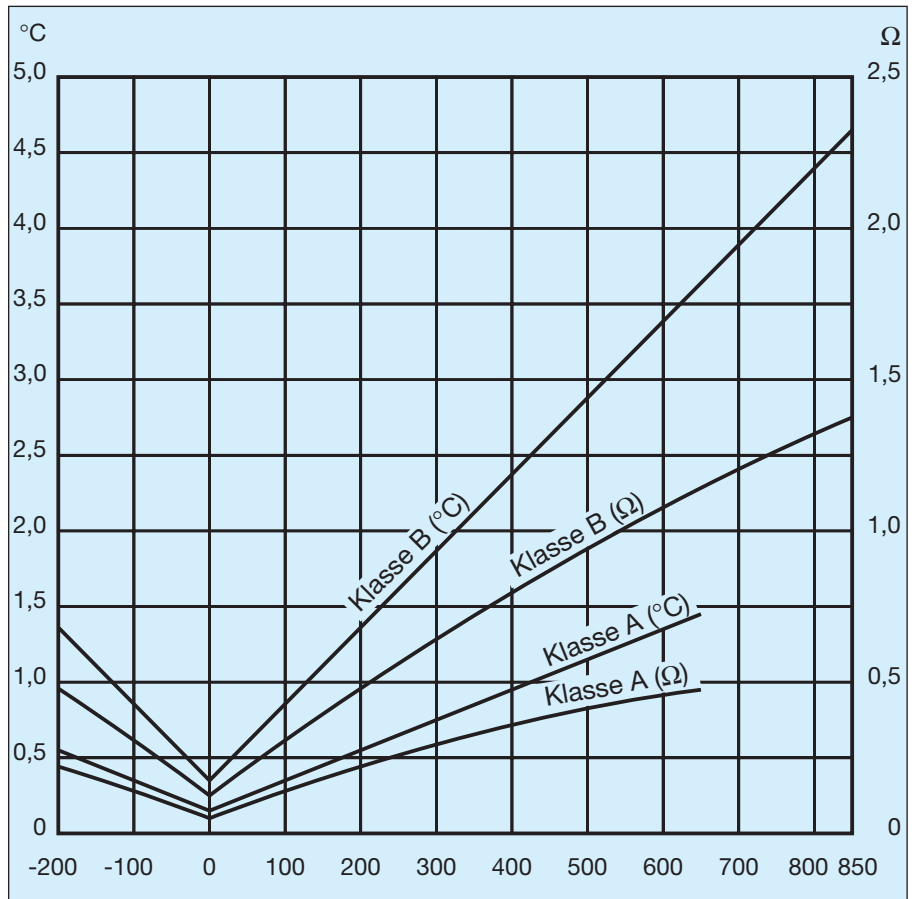
- 0°C = ±0,15°C
- 100°C = ±0,35°C

If the required precision exceeds the values given in the precision class A, the fractions will be based on class B, for instance:

1/2	1/3	1/4	1/5	1/10	DIN
↓	↓	↓	↓	↓	
±0,3	±0,3	±0,3	±0,3	±0,3	0°C
2	3	4	5	10	

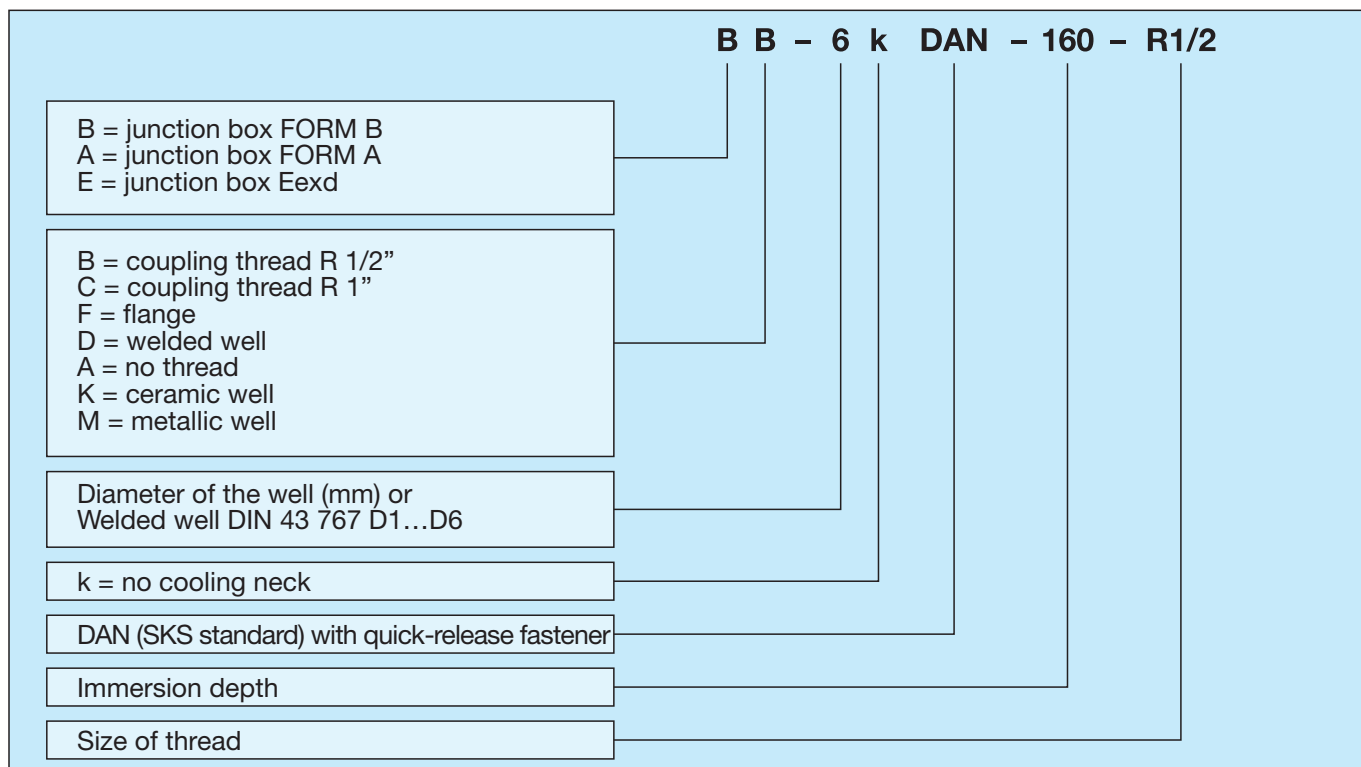
The fractional values are not valid for the total measurement range.

Pt100 Probes: Tolerances				
Temperature	Tolerance			
	Klasse A		Klasse B	
°C	°C	Ω	°C	Ω
-200	±0,55	±0,24	±1,3	±0,56
-100	±0,35	±0,14	±0,8	±0,32
0	±0,15	±0,06	±0,3	±0,12
100	±0,35	±0,13	±0,8	±0,30
200	±0,55	±0,20	±1,3	±0,48
300	±0,75	±0,27	±1,8	±0,64
400	±0,95	±0,33	±2,3	±0,79
500	±1,15	±0,38	±2,8	±0,93
600	±1,35	±0,43	±3,3	±1,06
650	±1,45	±0,46	±3,6	±1,13
700	-	-	±3,8	±1,17
800	-	-	±4,3	±1,28
850	-	-	±4,6	±1,34

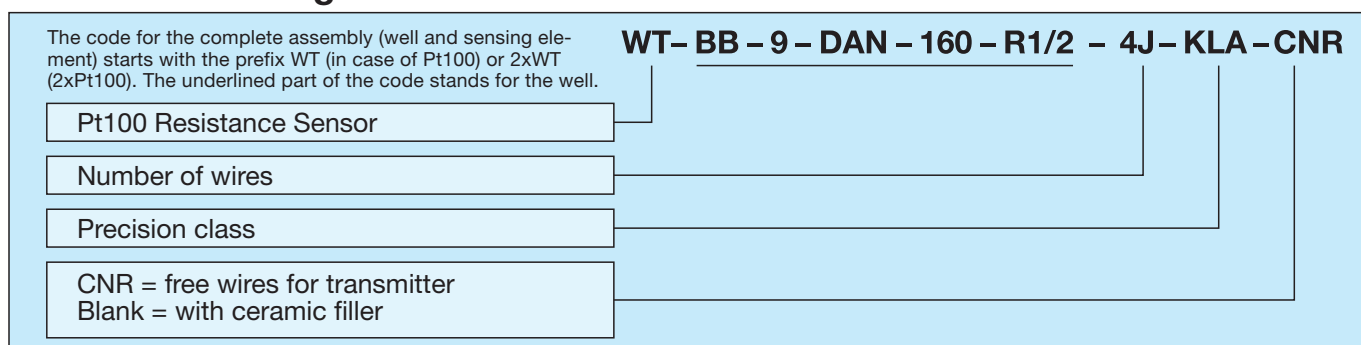


# Composition of Order Codes

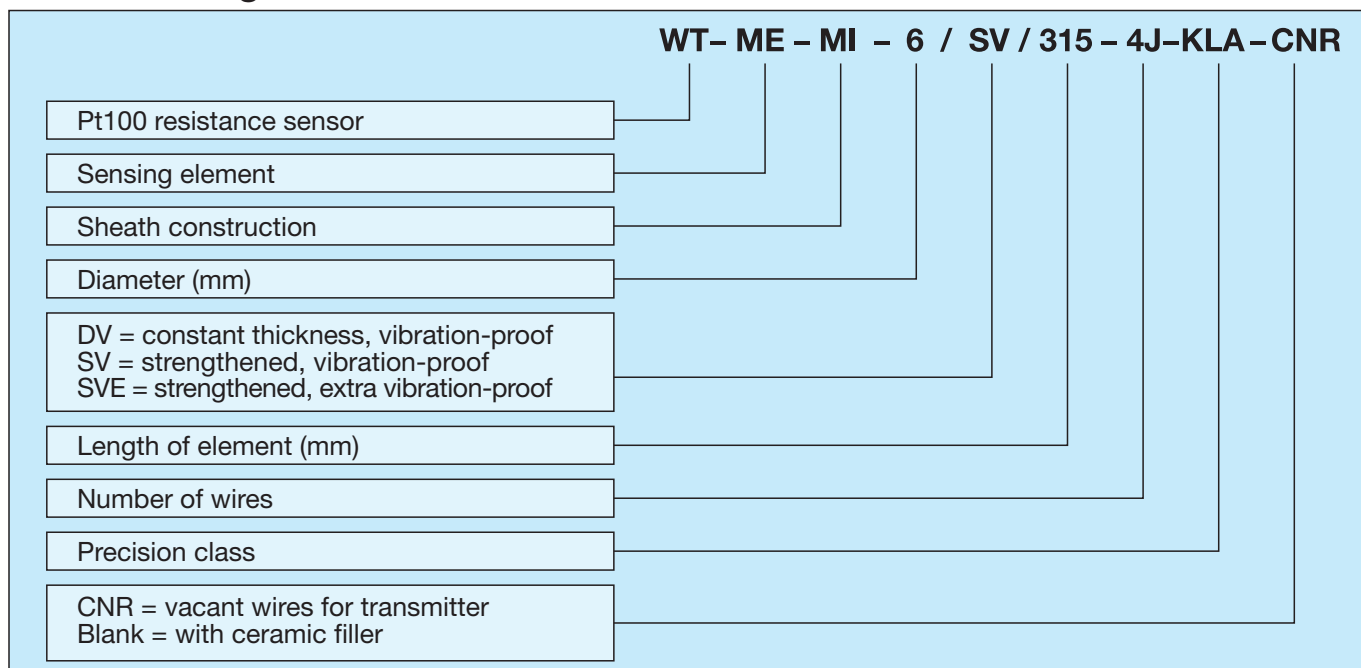
## Well



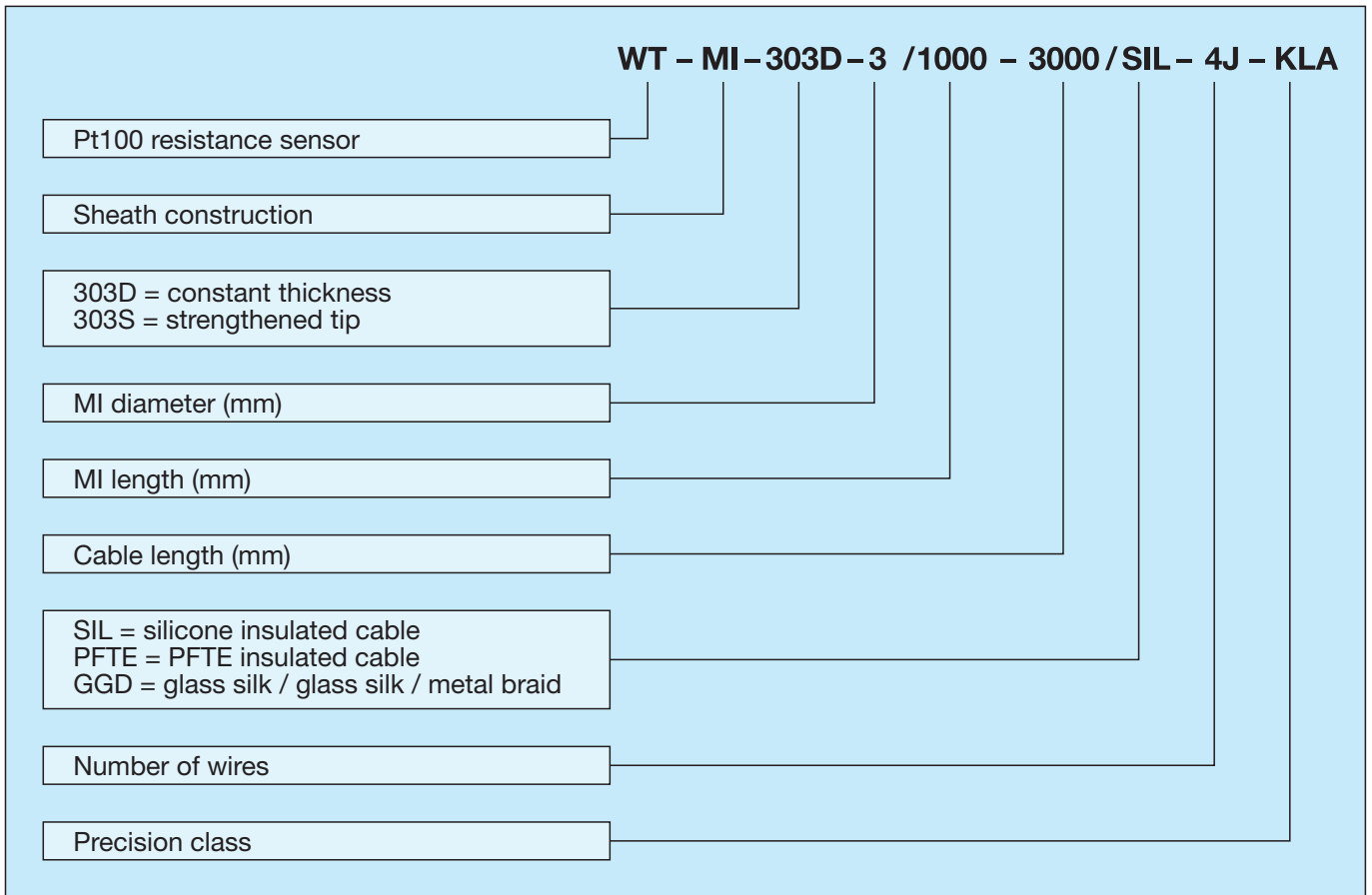
## Well + WT Sensing Element



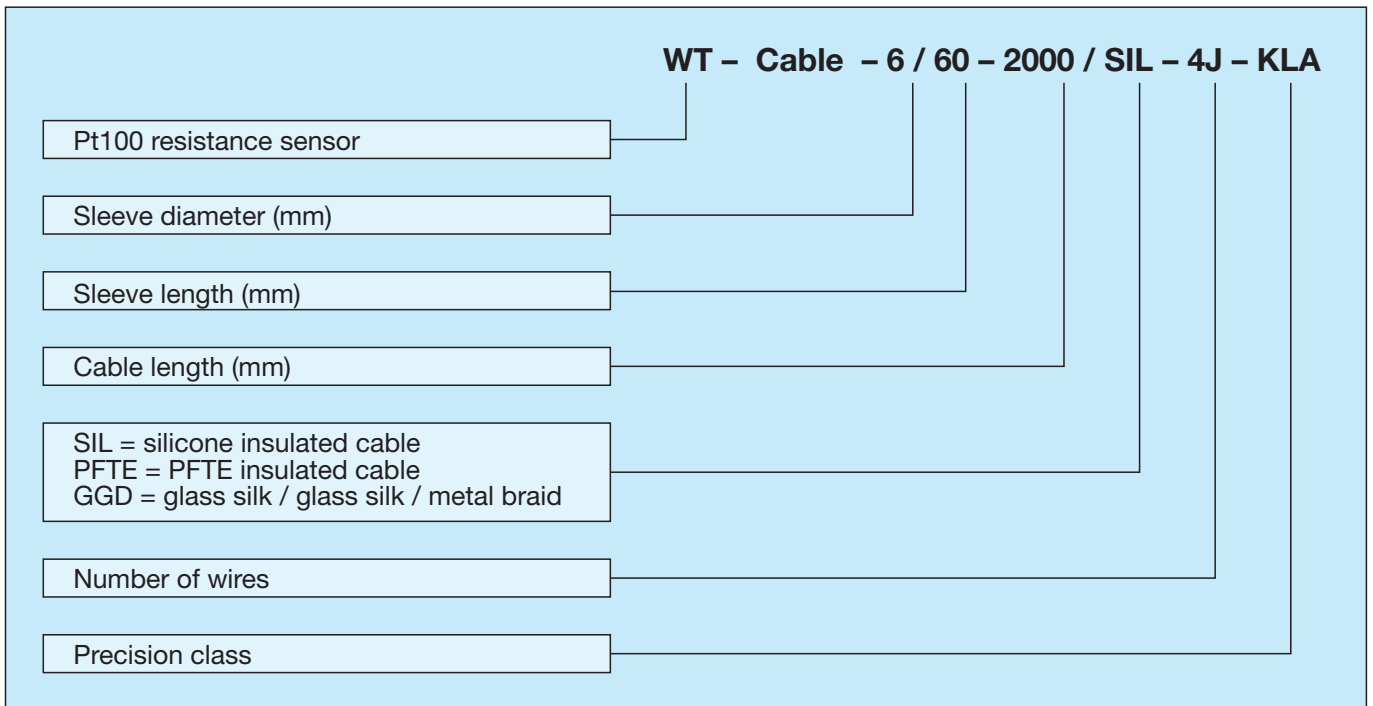
## Pt100 Sensing Element



## Resistance Sensor, Sheath Construction



## Cable Probe (Surface Probe)



# Price List of Temperature Sensors

Code	SKS type	Size of element	FIM	€
<b>Wells, DIN 43763</b>			<b>Product Sheet 1</b>	
915112	BB-6K-DAN-50-R1/2	3/95	275,00	46,25
915175	BB-6K-DAN-100-R1/2	3/145	280,00	47,09
915176	BB-9K-DAN-100-R1/2	6/145	300,00	50,46
915177	BB-9K-DAN-160-R1/2	6/205	310,00	52,14
<b>Wells, with thread, DIN 43765</b>			<b>Product Sheets 2 ja 3</b>	
915181	BB-9-DAN-160-R1/2	6/315	330,00	55,50
915182	BB-9-DAN-250-R1/2	6/405	345,00	58,02
915183	BB-9-DAN-400-R1/2	6/555	370,00	62,23
920462	BB-9/6-DAN-160-R1/2	3/315	380,00	63,91
1009711	BB-9/6-DAN-250-R1/2	3/405	395,00	66,43
916857	BB-11-DAN-160-R1/2	6/315	350,00	58,87
916865	BB-11-DAN-250-R1/2	6/405	365,00	61,39
1015020	BB-11-DAN-400-R1/2	6/555	390,00	65,59
915184	BC-11-DAN-160-R1	6/315	510,00	85,78
915185	BC-11-DAN-250-R1	6/405	545,00	91,66
915186	BC-11-DAN-400-R1	6/555	615,00	103,44
<b>Wells, with flange, DIN 43771</b>			<b>Product Sheet 4</b>	
915187	BF-11-DAN-160-DN25/PN16	6/315	800,00	134,55
915188	BF-11-DAN-250-DN25/PN16	6/405	815,00	137,07
915189	BF-11-DAN-400-DN25/PN16	6/555	840,00	141,28
<b>Wells for thermocouples</b>			<b>Product Sheet 10</b>	
915321	BA-15-DAN-500	8/525	210,00	35,32
915322	BA-15-DAN-710	8/735	230,00	38,68
915323	BA-15-DAN-1000	8/1025	255,00	42,89
915324	BA-15-DAN-1400	8/1425	285,00	47,93
916322	BA-15-DAN-500/1.4762	8/525	325,00	54,66
916323	BA-15-DAN-710/1.4762	8/735	385,00	64,75
916324	BA-15-DAN-1000/1.4762	8/1025	460,00	77,37
916325	BA-15-DAN-1400/1.4762	8/1425	580,00	97,55
916483	BA-22-DAN-500	6/525	225,00	37,84
916484	BA-22-DAN-710	6/735	240,00	40,37
916485	BA-22-DAN-1000	6/1025	270,00	45,41
916486	BA-22-DAN-1400	6/1425	325,00	54,66
916479	BA-22-DAN-500/1.4762	6/525	340,00	57,18
916480	BA-22-DAN-710/1.4762	6/735	405,00	68,12
916481	BA-22-DAN-1000/1.4762	6/1025	510,00	85,78
916482	BA-22-DAN-1400/1.4762	6/1425	660,00	111,00
916326	BA-22-Closed-tip/710/A304	6/735	635,00	106,80
916327	BA-22-Closed-tip/1000/A304	6/1025	675,00	113,53
916381	BA-22-Closed-tip/1400/A304	6/1425	725,00	121,94
1015021	BA-22-Closed-tip/710/1.4828	6/735	800,00	134,55
1015022	BA-22-Closed-tip/1000/1.4828	6/1025	920,00	154,73
1015023	BA-22-Closed-tip/1400/1.4828	6/1425	1060,00	178,28





# Price List of Temperature Sensors

Code	SKS type	Size of element	FIM	€
<b>Welded Wells</b>		<b>Product Sheets 9A and 9B</b>		
911966	D1 L	6/315	395,00	66,43
911144	D4 L	6/375	515,00	86,62
911968	D5 L	6/435	610,00	102,59
911907	D1 M	6/315	520,00	87,46
911165	D4 M	6/375	640,00	107,64
911457	D5 M	6/435	780,00	131,19
911890	D1 K	6/315	420,00	70,64
911161	D4 K	6/375	555,00	93,34
911967	D5 K	6/435	675,00	113,53
911906	D1 O	6/315	395,00	66,43
911145	D4 O	6/375	515,00	86,62
911969	D5 O	6/435	610,00	102,59
912066	D1S- L	3/315	510,00	85,78
911164	D4S- L	3/375	655,00	110,16
912067	D1S- M	3/315	555,00	93,34
911166	D4S- M	3/375	705,00	118,57
912065	D1S- K	3/315	555,00	93,34
911162	D4S- K	3/375	705,00	118,57
912068	D1S- O	3/315	555,00	93,34
911163	D4S- O	3/375	655,00	110,16
Other sizes and materials on request.				
<b>Terminal head and collar pipe for welded wells</b>			<b>Product Sheet 7</b>	
915312	BH-12-DAN-M18x1,5		225,00	37,84
915313	BH-12-DAN-M14x1,5		225,00	37,84
1025318	Ball-9/6-RST-30	3/120	365,00	61,39
1025319	Ball-9/6-RST-55	3/145	395,00	66,43
735670	Ball well, welded L = 30 mm	100	265,00	44,57
735688	Ball well, welded L = 100 mm	170	295,00	49,62
<b>Welded block for welded wells</b>			<b>Product Sheet 9C</b>	
1025309	18-K (AISI 316)		160,00	26,91
1025312	18-L (13CrMo44)		160,00	26,91
1025313	18-M (10CrMo910)		160,00	26,91
918138	18-O (15Mo3)		160,00	26,91
912333	24-K (AISI 316)		160,00	26,91
912331	24-L (13CrMo44)		160,00	26,91
912332	24-M (10CrMo910)		160,00	26,91
912334	24-O (15Mo3)		160,00	26,91
<b>Welded sleeves</b>				
1025314	R1/2 L = 30		160,00	26,91
1002689	R1/2 L = 70		180,00	30,27
1003144	R1/2 L = 100		200,00	33,64
<b>Materials of welded wells</b>				
L = 13CrMo44/1.7335/550°C				
M = 10CrMo910/1.7380/580°C				
O = 15Mo3/1.5415/480°C				
K = X100CrNiMoTi810/1.4571/800°C				



# Price List of Temperature Sensors

Code	SKS type	Size of element	FIM	€
<b>Resistance sensors, threaded, no collar pipe, DIN 43765</b>			<b>Product Sheet 1</b>	
803429	WT-BB-6K-DAN-50-R1/2-4J-KLA	3/95	725,00	121,94
828483	WT-BB-6K-DAN-50-R1/2-4J-KLA-CNR	3/95	700,00	117,73
803437	WT-BB-6K-DAN-100-R1/2-4J-KLA	3/145	750,00	126,14
856310	WT-BB-6K-DAN-100-R1/2-4J-KLA-CNR	3/145	725,00	121,94
895433	WT-BB-9K-DAN-100-R1/2-4J-KLA	6/145	770,00	129,50
1014472	WT-BB-9K-DAN-100-R1/2-4J-KLA-CNR	6/145	745,00	125,30
841957	WT-BB-9K-DAN-160-R1/2-4J-KLA	6/205	815,00	137,07
913518	WT-BB-9K-DAN-160-R1/2-4J-KLA-CNR	6/205	790,00	132,87
<b>Resistance sensors, threaded, with collar pipe, DIN 43765</b>			<b>Product Sheet 2</b>	
803478	WT-BB-9-DAN-160-R1/2-4J-KLA	6/315	870,00	146,32
914650	WT-BB-9-DAN-160-R1/2-4J-KLA-CNR	6/315	845,00	142,12
803486	WT-BB-9-DAN-250-R1/2-4J-KLA	6/405	900,00	151,37
843276	WT-BB-9-DAN-250-R1/2-4J-KLA-CNR	6/405	875,00	147,16
803494	WT-BB-9-DAN-400-R1/2-4J-KLA	6/555	950,00	159,78
843284	WT-BB-9-DAN-400-R1/2-4J-KLA-CNR	6/555	925,00	155,57
916455	WT-BB-11-DAN-160-R1/2-4J-KLA	6/315	885,00	148,85
915057	WT-BB-11-DAN-160-R1/2-4J-KLA-CNR	6/315	860,00	144,64
916356	WT-BB-11-DAN-250-R1/2-4J-KLA	6/405	910,00	153,05
916357	WT-BB-11-DAN-250-R1/2-4J-KLA-CNR	6/405	885,00	148,85
1019733	WT-BB-11-DAN-400-R1/2-4J-KLA	6/555	960,00	161,46
1019735	WT-BB-11-DAN-400-R1/2-4J-KLA-CNR	6/555	935,00	157,26
<b>Resistance sensors, threaded, with collar pipe, DIN 43766</b>			<b>Product Sheet 3</b>	
803536	WT-BC-11-DAN-160-R1-4J-KLA	6/315	1050,00	176,60
803569	WT-BC-11-DAN-160-R1-4J-KLA-CNR	6/315	1025,00	172,39
803544	WT-BC-11-DAN-250-R1-4J-KLA	6/405	1100,00	185,01
803577	WT-BC-11-DAN-250-R1-4J-KLA-CNR	6/405	1075,00	180,80
803551	WT-BC-11-DAN-400-R1-4J-KLA	6/555	1195,00	200,98
803585	WT-BC-11-DAN-400-R1-4J-KLA-CNR	6/555	1170,00	196,78
<b>Resistance sensors, with flange, DIN 43771</b>			<b>Product Sheet 4</b>	
1019902	WT-BF-11-DAN-160-DN25/ PN16-4J-KLA	6/315	1340,00	225,37
1019907	WT-BF-11-DAN-160-DN25/ PN16-4J-KLA-CNR	6/315	1315,00	221,17
1019904	WT-BF-11-DAN-250-DN25/ PN16-4J-KLA	6/405	1370,00	230,42
1019909	WT-BF-11-DAN-250-DN25/ PN16-4J-KLA-CNR	6/405	1345,00	226,21
1019905	WT-BF-11-DAN-400-DN25/ PN16-4J-KLA	6/555	1420,00	238,83
1019910	WT-BF-11-DAN-400-DN25/ PN16-4J-KLA-CNR	6/555	1395,00	234,62
<b>Resistance sensors, with welded wells, DIN 43767</b>			<b>Product Sheets 5...7</b>	
817148	WT-BD-D1/K-DAN(140)-4J-KLA	6/315	1185,00	199,30
912012	WT-BD-D1/K-DAN(140)-4J-KLA-CNR	6/315	1160,00	195,10
870774	WT-BD-D4/K-DAN(200)-4J-KLA	6/375	1325,00	222,85
843250	WT-BD-D4/K-DAN(200)-4J-KLA-CNR	6/375	1300,00	218,64
910148	WT-BD-D4/S/K-DAN(200)-4J-KLA	3/375	1475,00	248,08
910156	WT-BD-D4/S/K-DAN(200)-4J-KLA-CNR	3/375	1450,00	243,87
1019736	WT-BD-D5/K-DAN(260)-4J-KLA	6/435	1490,00	250,60
1019737	WT-BD-D5/K-DAN(260)-4J-KLA-CNR	6/435	1465,00	246,40
1019738	WT-BD-D1/L-DAN(140)-4J-KLA	6/315	1160,00	195,10
1019739	WT-BD-D1/L-DAN(140)-4J-KLA-CNR	6/315	1135,00	190,89
851287	WT-BD-D4/L-DAN(200)-4J-KLA	6/375	1285,00	216,12
912009	WT-BD-D4/L-DAN(200)-4J-KLA-CNR	6/375	1260,00	211,92
1019740	WT-BD-D4/S/L-DAN(200)-4J-KLA	3/375	1425,00	239,67
1019741	WT-BD-D4/S/L-DAN(200)-4J-KLA-CNR	3/375	1400,00	235,46
1019742	WT-BD-D5/L-DAN(260)-4J-KLA	6/435	1395,00	234,62
1019743	WT-BD-D5/L-DAN(260)-4J-KLA-CNR	6/435	1370,00	230,42
1019744	WT-BD-D1/M-DAN(140)-4J-KLA	6/315	1285,00	216,12
1019745	WT-BD-D1/M-DAN(140)-4J-KLA-CNR	6/315	1260,00	211,92
908211	WT-BD-D4/M-DAN(200)-4J-KLA	6/375	1410,00	237,14
912004	WT-BD-D4/M-DAN(200)-4J-KLA-CNR	6/375	1385,00	232,94
1019749	WT-BD-D4/S/M-DAN(200)-4J-KLA	3/375	1475,00	248,08
1019750	WT-BD-D4/S/M-DAN(200)-4J-KLA-CNR	3/375	1450,00	243,87
843268	WT-BD-D5/M-DAN(260)-4J-KLA	6/435	1595,00	268,26
1019751	WT-BD-D5/M-DAN(260)-4J-KLA-CNR	6/435	1570,00	264,06



# Price List of Temperature Sensors

Code	SKS type	Size of element	FIM	€
1019752	WT-BD-D1/O-DAN(140)-4J-KLA	6/315	1160,00	195,10
1019753	WT-BD-D1/O-DAN(140)-4J-KLA-CNR	6/315	1135,00	190,89
911498	WT-BD-D4/O-DAN(200)-4J-KLA	6/375	1285,00	216,12
912006	WT-BD-D4/O-DAN(200)-4J-KLA-CNR	6/375	1260,00	211,92
1019754	WT-BD-D4/S/O-DAN(200)-4J-KLA	3/375	1425,00	239,67
912005	WT-BD-D4/S/O-DAN(200)-4J-KLA-CNR	3/375	1400,00	235,46
914145	WT-BD-D5/O-DAN(260)-4J-KLA	6/435	1400,00	235,46
912007	WT-BD-D5/O-DAN(260)-4J-KLA-CNR	6/435	1375,00	231,26
<b>Resistance sensors, with collar pipe, no well</b>		<b>Product Sheets 7A..7D</b>		
916753	WT-BH-12-DAN-315-4J-KLA	6/315	765,00	128,66
1019757	WT-BH-12-DAN-315-4J-KLA-CNR	6/315	740,00	124,46
1019758	WT-BH-12-DAN-375-4J-KLA	6/375	770,00	129,50
1019759	WT-BH-12-DAN-375-4J-KLA-CNR	6/375	745,00	125,30
916754	WT-BH-12-DAN-435-4J-KLA	6/435	790,00	132,87
1019760	WT-BH-12-DAN-435-4J-KLA-CNR	6/435	765,00	128,66
1019761	WT-BH-12-DAN-315/S-4J-KLA	3/315	765,00	128,66
1019762	WT-BH-12-DAN-315/S-4J-KLA-CNR	3/315	740,00	124,46
1019763	WT-BH-12-DAN-375/S-4J-KLA	3/375	770,00	129,50
1019764	WT-BH-12-DAN-375/S-4J-KLA-CNR	3/375	745,00	125,30
1019765	WT-BH-12-DAN-435/S-4J-KLA	3/435	790,00	132,87
1019766	WT-BH-12-DAN-435/S-4J-KLA-CNR	3/435	765,00	128,66
<b>Resistance sensors, channel sensor, DIN 43763</b>		<b>Product Sheet 10</b>		
914994	WT-BA-15-DAN-500-4J-KLA	8/525	960,00	161,46
1019779	WT-BA-15-DAN-500-4J-KLA-CNR	8/525	935,00	157,26
906732	WT-BA-15-DAN-710-4J-KLA	8/735	1020,00	171,55
910155	WT-BA-15-DAN-710-4J-KLA-CNR	8/735	995,00	167,35
914993	WT-BA-15-DAN-1000-4J-KLA	8/1025	1125,00	189,21
916756	WT-BA-15-DAN-1000-4J-KLA-CNR	8/1025	1100,00	185,01
1019780	WT-BA-15-DAN-1400-4J-KLA	8/1425	1250,00	210,23
1019781	WT-BA-15-DAN-1400-4J-KLA-CNR	8/1425	1225,00	206,03
<b>Resistance sensors, air sensors</b>		<b>Product Sheet 9</b>		
917570	WT-K-F-4J-KLA	75	520,00	87,46
803593	WT-K-F-4J-KLA-CNR	75	495,00	83,25
<b>Resistance sensors, adjustable immersion depth</b>		<b>Product Sheet 25A</b>		
1019782	WT-MI-DAN-R1/2-Sliding/ 6/270-4J-KLA	6/315	840,00	141,28
1019783	WT-MI-DAN-R1/2-Sliding/ 6/270-4J-KLA-CNR	6/315	815,00	137,07
1019784	WT-MI-DAN-R1/2-Sliding/ 6/390-4J-KLA	6/435	870,00	146,32
1019785	WT-MI-DAN-R1/2-Sliding/ 6/390-4J-KLA-CNR	6/435	845,00	142,12
1019786	WT-MI-DAN-R1/2-Sliding/ 6/510-4J-KLA	6/555	890,00	149,69
1019787	WT-MI-DAN-R1/2-Sliding/ 6/510-4J-KLA-CNR	6/555	865,00	145,48

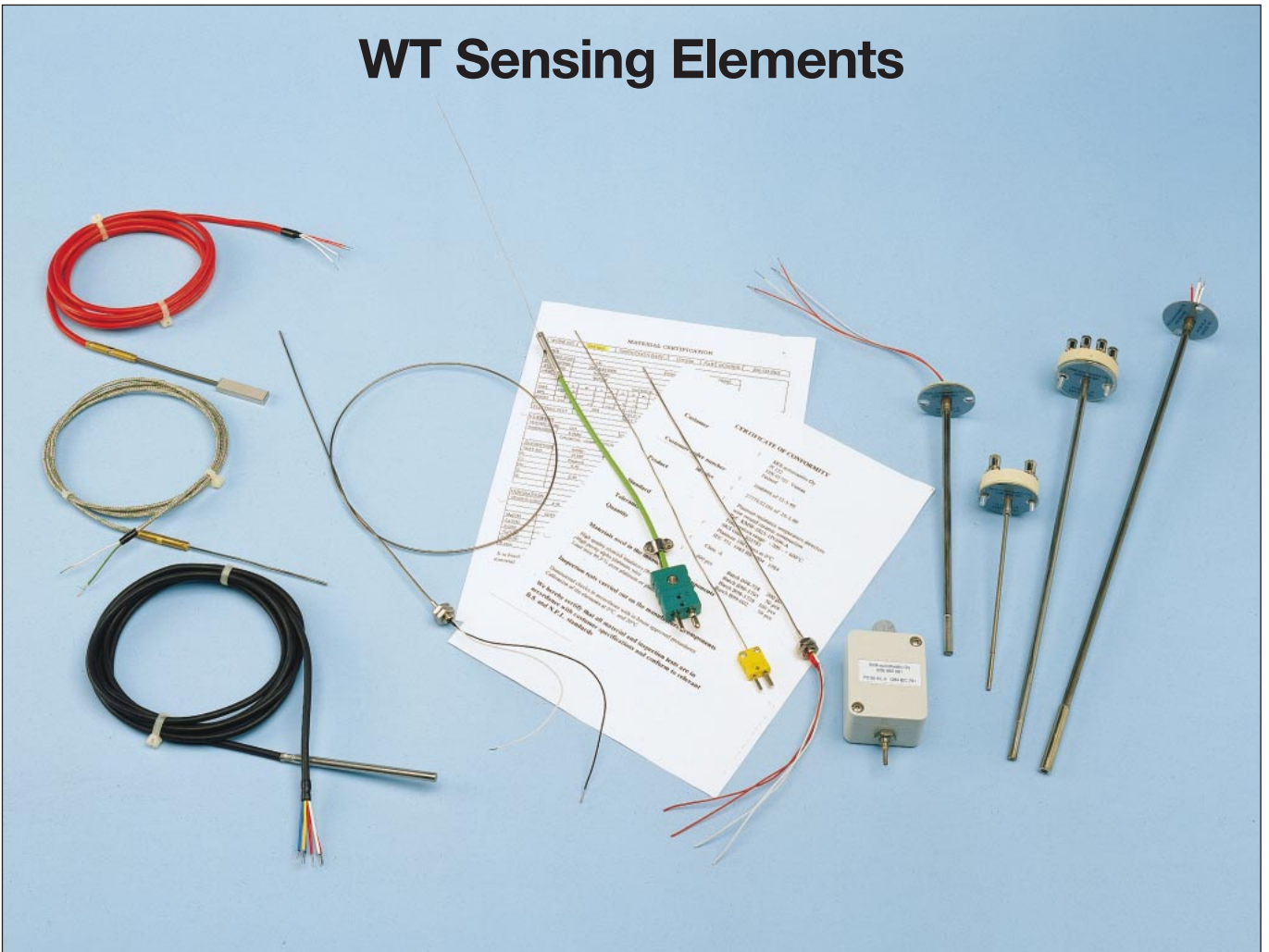


# Price List of Temperature Sensors

Code	SKS type	Size of element	FIM	€
<b>Resistance sensors, resistance element, sheath construction</b>			<b>Product Sheet 20</b>	
1015002	WT-MI-303D-1,6/1000-3000/Sil-4J-KLA		780,00	131,19
915061	WT-MI-303D-2/1000-3000/Sil-4J-KLA		780,00	131,19
913715	WT-MI-303D-3/1000-3000/Sil-4J-KLA		600,00	100,91
918145	WT-MI-303D-6/1000-3000/Sil-4J-KLA		660,00	111,00
	- additional price for silicone cable (per m)		21,00	3,53
	- additional price for Ø 1.6 mm cable (per m)		72,00	12,11
	- additional price for Ø 2 mm cable (per m)		72,00	12,11
	- additional price for Ø 3 mm cable (per m)		40,00	6,73
	- additional price for Ø 6 mm cable (per m)		90,00	15,14
<b>Resistance sensors, cable probes</b>			<b>Product Sheet 35</b>	
908160	WT-Cable-6/60-3000/Sil-4J-KLA		300,00	50,46
866608	WT-Cable-6/60-3000/GGD-4J-KLA		355,00	59,71
915986	WT-Cable-6/100-3000/Sil-4J-KLA		340,00	57,18
911532	WT-Cable-6/100-3000/GGD-4J-KLA		395,00	66,43
915987	WT-Cable-6/170-3000/Sil-4J-KLA		365,00	61,39
913638	WT-Cable-6/170-3000/GGD-4J-KLA		420,00	70,64
<b>Resistance sensors, surface probes</b>			<b>Product Sheets 31...34</b>	
1002984	WT-Surface-12x12x50-3000/Sil-4J-KLA		770,00	129,50
1019811	WT-Surface-12x12x50-3000/GGD-4J-KLA		825,00	138,76
1019812	WT-Surface-12x12x50-3/10000/MI-4J-KLA		1170,00	196,78
1019814	WT-Surface-12x12x50-3/5000/MI-4J-KLA		970,00	163,14
1019815	WT-Surface-12x12x50-3/3000/MI-4J-KLA		890,00	149,69
1019816	WT-Surface-12x12x50-3/1000/MI-4J-KLA		810,00	136,23
917571	WT-RO-6/60-3000/Sil-4J-KLA		620,00	104,28
917572	WT-RO-6/60-3000/GGD-4J-KLA		670,00	112,69
915991	WT-RO-6/60-3000/Sil-4J-KLA+BOX (plastic)		850,00	142,96
920342	WT-RO-MI-3/300-3000/Sil-4J-KLA		720,00	121,10
915530	WT-RO-MI-3/300-3000/GGD-4J-KLA		770,00	129,50
917972	Connection box for transmitter, plastic		230,00	38,68
915993	Connection box for transmitter, silumin		430,00	72,32
<b>Resistance sensors, food probes</b>			<b>Product Sheet 26</b>	
1021853	WT-Ball-9/6-RST-30-4J-KLA	3/120	1350,00	227,05
1021854	WT-Ball-9/6-RST-55-4J-KLA	3/145	1395,00	234,62
895888	WT-3/25-38-R1/8-5000-3J-1/3DIN		1025,00	172,39
<b>Resistance sensors, bayonet probes</b>			<b>Product Sheet 36</b>	
1024358	WT-bayonet-6/25-3000/GGD-4J		560,00	94,19
1024359	WT-bayonet-6/55-3000/GGD-4J		600,00	100,91
915836	Bayonet coupling M12x1-30		90,00	15,14
1000101	Bayonet coupling M12x1-60		90,00	15,14
999032	Bayonet coupling M10x1-30		90,00	15,14



# WT Sensing Elements



## Price List of Temperature Sensors

Code	SKS type	FIM	€
<b>WT Sensing Elements, DIN 43762</b>		<b>Product Sheet 12</b>	
915115	WT-ME-MI-3/DV/95-4J-KLA-CNR	425,00	71,48
1005731	WT-ME-MI-3/DV/95-4J-KLA	450,00	75,68
915117	2xWT-ME-MI-3/DV/95-2J-KLA	510,00	85,78
915121	WT-ME-MI-3/DV/145-4J-KLA-CNR	445,00	74,84
1005733	WT-ME-MI-3/DV/145-4J-KLA	470,00	79,05
915122	2xWT-ME-MI-3/DV/145-2J-KLA	530,00	89,14
915123	WT-ME-MI-3/DV/315-4J-KLA-CNR	515,00	86,62
1005734	WT-ME-MI-3/DV/315-4J-KLA	540,00	90,82
915124	2xWT-ME-MI-3/DV/315-2J-KLA	600,00	100,91
915125	WT-ME-MI-3/DV/375-4J-KLA-CNR	520,00	87,46
1005735	WT-ME-MI-3/DV/375-4J-KLA	545,00	91,66
915126	2xWT-ME-MI-3/DV/375-2J-KLA	610,00	102,59
1015100	WT-ME-MI-3/DV/405-4J-KLA-CNR	525,00	88,30
1015101	WT-ME-MI-3/DV/405-4J-KLA	550,00	92,50
1015102	2xWT-ME-MI-3/DV/405-2J-KLA	620,00	104,28
915131	WT-ME-MI-6/DV/145-4J-KLA-CNR	445,00	74,84
1005753	WT-ME-MI-6/DV/145-4J-KLA	470,00	79,05
915132	2xWT-ME-MI-6/DV/145-3J-KLA	530,00	89,14
915135	WT-ME-MI-6/DV/205-4J-KLA-CNR	480,00	80,73
1005754	WT-ME-MI-6/DV/205-4J-KLA	505,00	84,93
915136	2xWT-ME-MI-6/DV/205-3J-KLA	565,00	95,03
915140	WT-ME-MI-6/DV/255-4J-KLA-CNR	495,00	83,25
1005755	WT-ME-MI-6/DV/255-4J-KLA	520,00	87,46
915141	2xWT-ME-MI-6/DV/255-3J-KLA	585,00	98,39
915142	WT-ME-MI-6/DV/315-4J-KLA-CNR	515,00	86,62
1005567	WT-ME-MI-6/DV/315-4J-KLA	540,00	90,82
915143	2xWT-ME-MI-6/DV/315-3J-KLA	610,00	102,59



# Price List of Temperature Sensors

Code	SKS type	FIM	€
<b>WT Sensing Elements, DIN 43762</b>		<b>Product Sheet 12</b>	
915144	WT-ME-MI-6/DV/375-4J-KLA-CNR	520,00	87,46
1005574	WT-ME-MI-6/DV/375-4J-KLA	545,00	91,66
915145	2xWT-ME-MI-6/DV/375-3J-KLA	615,00	103,44
915146	WT-ME-MI-6/DV/405-4J-KLA-CNR	530,00	89,14
1005585	WT-ME-MI-6/DV/405-4J-KLA	555,00	93,34
915148	2xWT-ME-MI-6/DV/405-3J-KLA	625,00	105,12
915155	WT-ME-MI-6/DV/435-4J-KLA-CNR	540,00	90,82
1005586	WT-ME-MI-6/DV/435-4J-KLA	565,00	95,03
915156	2xWT-ME-MI-6/DV/435-3J-KLA	635,00	106,80
915157	WT-ME-MI-6/DV/555-4J-KLA-CNR	555,00	93,34
1005587	WT-ME-MI-6/DV/555-4J-KLA	580,00	97,55
915158	2xWT-ME-MI-6/DV/555-3J-KLA	650,00	109,32
915781	WT-ME-MI-8/SV/405-4J-KLA-CNR	575,00	96,71
909591	WT-ME-MI-8/SV/405-4J-KLA	600,00	100,91
10655	2xWT-ME-MI-8/SV/405-3J-KLA	670,00	112,69
915783	WT-ME-MI-8/SV/525-4J-KLA-CNR	620,00	104,28
909601	WT-ME-MI-8/SV/525-4J-KLA	645,00	108,48
909638	2xWT-ME-MI-8/SV/525-3J-KLA	720,00	121,10
915786	WT-ME-MI-8/SV/655-4J-KLA-CNR	650,00	109,32
909609	WT-ME-MI-8/SV/655-4J-KLA	675,00	113,53
915165	2xWT-ME-MI-8/SV/655-3J-KLA	750,00	126,14
915787	WT-ME-MI-8/SV/735-4J-KLA-CNR	670,00	112,69
909615	WT-ME-MI-8/SV/735-4J-KLA	695,00	116,89
913361	2xWT-ME-MI-8/SV/735-3J-KLA	770,00	129,50
909623	WT-ME-MI-8/SV/780-4J-KLA-CNR	675,00	113,53
909621	WT-ME-MI-8/SV/780-4J-KLA	700,00	117,73
918989	2xWT-ME-MI-8/SV/780-3J-KLA	775,00	130,35
915788	WT-ME-MI-8/SV/825-4J-KLA-CNR	690,00	116,05
909555	WT-ME-MI-8/SV/825-4J-KLA	715,00	120,25
910657	2xWT-ME-MI-8/SV/825-3J-KLA	795,00	133,71
915789	WT-ME-MI-8/SV/1025-4J-KLA-CNR	745,00	125,30
909570	WT-ME-MI-8/SV/1025-4J-KLA	770,00	129,50
915169	2xWT-ME-MI-8/SV/1025-3J-KLA	850,00	142,96
909582	WT-ME-MI-8/SV/1140-4J-KLA-CNR	785,00	132,03
909580	WT-ME-MI-8/SV/1140-4J-KLA	910,00	153,05
915172	2xWT-ME-MI-8/SV/1140-3J-KLA	990,00	166,51
16902	WT-ME-MI-8/SV/1275-4J-KLA-CNR	855,00	143,80
909586	WT-ME-MI-8/SV/1275-4J-KLA	880,00	148,01
918991	2xWT-ME-MI-8/SV/1275-3J-KLA	965,00	162,30
915790	WT-ME-MI-8/SV/1425-4J-KLA-CNR	860,00	144,64
910681	WT-ME-MI-8/SV/1425-4J-KLA	885,00	148,85
913735	2xWT-ME-MI-8/SV/1425-3J-KLA	970,00	163,14
916903	WT-ME-MI-8/SV/1625-4J-KLA-CNR	905,00	152,21
909626	WT-ME-MI-8/SV/1625-4J-KLA	930,00	156,41
914485	2xWT-ME-MI-8/SV/1625-3J-KLA	1020,00	171,55
915792	WT-ME-MI-8/SV/2025-4J-KLA-CNR	1000,00	168,19
909631	WT-ME-MI-8/SV/2025-4J-KLA	1025,00	172,39
913736	2xWT-ME-MI-8/SV/2025-3J-KLA	1120,00	188,37



# Thermocouples



A thermocouple is formed when two wires (so-called thermo wires), made of different metals or alloys, are welded together (hot junction).

The free ends of the wires form a reference junction (cold junction).

If there is a temperature difference between the welded and the reference junctions, thermal electromotive force (voltage) will appear in the thermocouple. The force is proportional only to the temperature difference and is depending on the materials of the thermocouple (the Seebeck phenomenon).

It is important that the reference junction is as constant as possible. This can be achieved by taking it to constant temperature conditions (reference temperature), using an extension cable or insulated thermo wire.

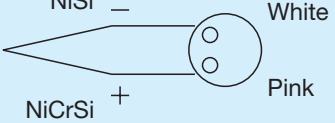
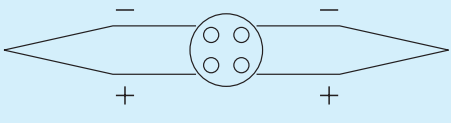
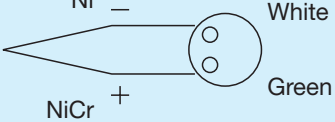
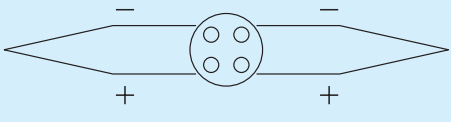
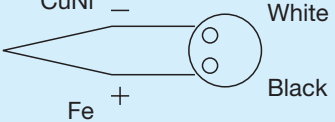
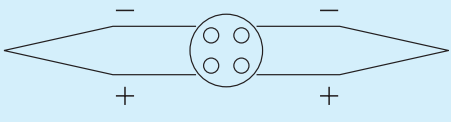
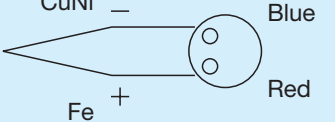
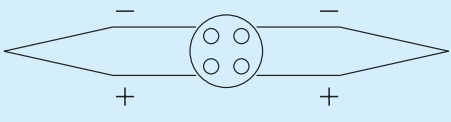
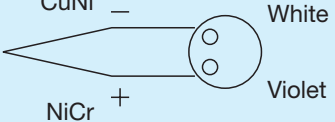
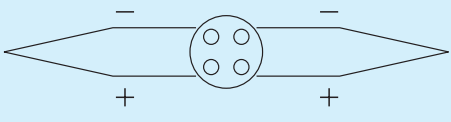
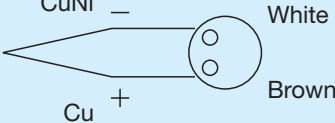
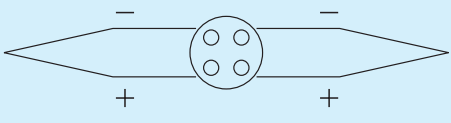
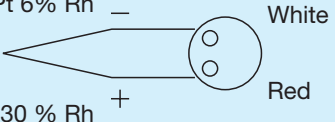
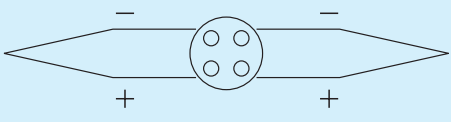
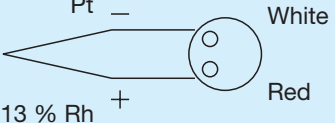
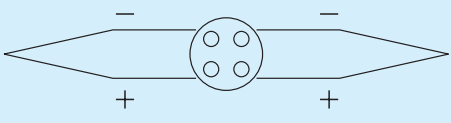
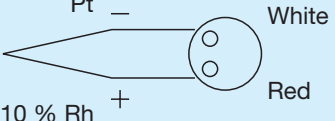
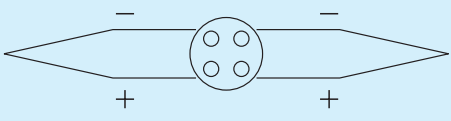
## Tolerances, according to DIN IEC 584 Part 2

Type	Precision class (Klasse)	Temperature range °C	Fixed value °C	Permissible tolerances
T	1	-40...+350	±0,5	±0,004 [t]
	2	-40...+350	±1,0	±0,0075 [t]
	3	-200...+40	±1,0	±0,015 [t]
E	1	-40...+800	±1,5	±0,004 [t]
	2	-40...+900	±2,5	±0,0075 [t]
	3	-200...±40	±2,5	±0,015 [t]
J	1	-40...+750	±1,5	±0,004 [t]
	2	-40...+750	±2,5	±0,0075 [t]
	3	-	-	-
K	1	-40...+1000	±1,5	±0,004 [t]
	2	-40...+1200	±2,5	±0,0075 [t]
	3	-200...+40	±2,5	±0,015 [t]
R and S	1	0...+1600	±1,0	±[1+(t-1100)·0,003]°C
	2	0...+1600	±1,5	±0,0025 [t]
	3	-	-	-

## Tolerances, according to DIN 43 710

Type	Temperature range °C	Permissible tolerances
U	-200...+400	±3,0°C
	+400...+600	±0,75%
L	-200...+400	±3,0°C
	+400...+900	±0,75%

# Colour Code of Thermocouples in the SKS Sensor Workshop

<b>TYPE N</b>	<p>1 thermocouple</p> <p>NiSi - White</p> <p>NiCrSi + Pink</p> 	<p>2 thermocouples</p> 
<b>TYPE K</b>	<p>1 thermocouple</p> <p>Ni - White</p> <p>NiCr + Green</p> 	<p>2 thermocouples</p> 
<b>TYPE J</b>	<p>1 thermocouple</p> <p>CuNi - White</p> <p>Fe + Black</p> 	<p>2 thermocouples</p> 
<b>TYPE L</b>	<p>1 thermocouple</p> <p>CuNi - Blue</p> <p>Fe + Red</p> 	<p>2 thermocouples</p> 
<b>TYPE E</b>	<p>1 thermocouple</p> <p>CuNi - White</p> <p>NiCr + Violet</p> 	<p>2 thermocouples</p> 
<b>TYPE T</b>	<p>1 thermocouple</p> <p>CuNi - White</p> <p>Cu + Brown</p> 	<p>2 thermocouples</p> 
<b>TYPE B</b>	<p>1 thermocouple</p> <p>Pt 6% Rh - White</p> <p>Pt 30% Rh + Red</p> 	<p>2 thermocouples</p> 
<b>TYPE R</b>	<p>1 thermocouple</p> <p>Pt - White</p> <p>Pt 13% Rh + Red</p> 	<p>2 thermocouples</p> 
<b>TYPE S</b>	<p>1 thermocouple</p> <p>Pt - White</p> <p>Pt 10% Rh + Red</p> 	<p>2 thermocouples</p> 



# Composition of Order Codes

## Well + Sensing Element (Thermocouple)

The code for the complete assembly (well and sensing element) starts with the prefix TE (thermocouple) or 2xTE (2 thermocouples). The underlined part of the code stands for the well.

**TE - BB - 9 - DAN - 160 - K - KL2 - CNR**

Thermocouple	Specify when ordering
K = NiCr-Ni J = Fe-CuNi DIN IEC 584 L = Fe-CuNi DIN 43710 T = Cu-CuNi DIN IEC 584 U = Cu-CuNi DIN 43710 S = PtRh10%-Pt R = PtRh13%-Pt B = PtRh30/PtRh6% E = NiCr-CuNi	
Precision class	
CNR = vacant wires for transmitter Blank = with ceramic filler	

## Thermocouple

Thermocouple	Specify when ordering
Sensing element	
Sheath construction	
Diameter (mm)	
Length of element (mm)	
K = NiCr-Ni J = Fe-CuNi DIN IEC 584 L = Fe-CuNi DIN 43710 T = Cu-CuNi DIN IEC 584 U = Cu-CuNi DIN 43710 S = PtRh10%-Pt R = PtRh13%-Pt B = PtRh30/PtRh6% E = NiCr-CuNi	
Precision class	
CNR = free wires for transmitter Blank = with ceramic filler	

**TE - ME - MI - 6 / 315 - K - KL2 - CNR**

## Thermocouple, Sheath Construction

Thermocouple	Specify when ordering
Sheath construction	
303D = constant thickness 303S = strengthened tip	
MI diameter (mm)	
MI length (mm)	
Lead length (mm)	
SIL = silicone insulated cable PFTE = PFTE insulated cable GGD = glass silk / glass silk / metal braid	
K = NiCr-Ni J = Fe-CuNi DIN IEC 584 L = Fe-CuNi DIN 43710 T = Cu-CuNi DIN IEC 584 U = Cu-CuNi DIN 43710 S = PtRh10%-Pt R = PtRh13%-Pt B = PtRh30/PtRh6% E = NiCr-CuNi	
Precision class	

**TE - MI - 303D - 3 / 1000 - 3000 / SIL - K - KL2**

# Price List of Temperature Sensors

Code	SKS type	Size of element	FIM	€
<b>Thermocouple probes, with collar pipe, no well</b>		<b>Product Sheets 8A...8D</b>		
1019818	TE-BH-12-DAN-315	6/315	510,00	85,78
1019820	TE-BH-12-DAN-315/S	3/315	510,00	85,78
1019821	TE-BH-12-DAN-375	6/375	530,00	89,14
1019822	TE-BH-12-DAN-375/S	3/375	530,00	89,14
1019823	TE-BH-12-DAN-435	6/435	540,00	90,82
<b>Thermocouple probes, channel sensors</b>		<b>Product Sheet 10</b>		
1019870	TE-BA-15-DAN-500/1.4762	8/525	650,00	109,32
1019871	TE-BA-15-DAN-710/1.4762	8/735	775,00	130,35
1019872	TE-BA-15-DAN-1000/1.4762	8/1025	940,00	158,10
1019873	TE-BA-15-DAN-1400/1.4762	8/1425	1190,00	200,14
1019874	TE-BA-22-DAN-500/1.4762	8/525	680,00	114,37
1019875	TE-BA-22-DAN-710/1.4762	8/735	815,00	137,07
1019876	TE-BA-22-DAN-1000/1.4762	8/1025	1035,00	174,07
1019877	TE-BA-22-DAN-1400/1.4762	8/1425	1335,00	224,53
1019878	TE-BA-22-DAN-Closed-tip/710/1.4828	6/735	1065,00	179,12
1019879	TE-BA-22-DAN-Closed-tip/1000/1.4828	6/1025	1285,00	216,12
1019880	TE-BA-22-DAN-Closed-tip/1400/1.4828	6/1425	1485,00	249,76
<b>Thermocouple probes, mineral insulated, sheath construction, with cable</b>		<b>Product Sheet 21</b>		
1024356	TE-MI-303-0,5/1000-3000/Silicone		990,00	166,51
1019884	TE-MI-303-1/1000-3000/Silicone		555,00	93,34
1019885	TE-MI-303-1,5/1000-3000/Silicone		540,00	90,82
1024357	TE-MI-303-2/1000-3000/Silicone		555,00	93,34
1019886	TE-MI-303-3/1000-3000/Silicone		405,00	68,12
1019888	TE-MI-303-6/1000-3000/Silicone		475,00	79,89
	- additional price for silicone cable (per m)		21,00	3,53
	- additional price for Ø 0.5 mm cable (per m)		90,00	15,14
	- additional price for Ø 1.0 mm cable (per m)		40,00	6,73
	- additional price for Ø 1.5 mm cable (per m)		40,00	6,73
	- additional price for Ø 2 mm cable (per m)		40,00	6,73
	- additional price for Ø 3 mm cable (per m)		40,00	6,73
	- additional price for Ø 6 mm cable (per m)		100,00	16,82
<b>Thermocouple probes, surface probes</b>		<b>Product Sheets 31...34</b>		
1019890	TE-Surface-12x12x50-3000/Sil-KLA		620,00	104,28
1019891	TE-Surface-12x12x50-3000/GGD-KLA		690,00	116,05
1019892	TE-Surface-12x12x50-3/10000/MI		944,00	158,77
1019893	TE-Surface-12x12x50-3/5000/MI		764,00	128,50
1019894	TE-Surface-12x12x50-3/3000/MI		692,00	116,39
1019895	TE-Surface-12x12x50-3/1000/MI		620,00	104,28
1019896	TE-RO-MI-6-3000/silicone		490,00	82,41
1019897	TE-RO-MI-6-3000/GGD		560,00	94,19
	- additional price for silicone cable (per m)		21,00	3,53
	- additional price for GGD cable (per m)		32,00	5,38
	- additional price for MI cable (per m)		40,00	6,73
<b>Thermocouple probes, bayonet probes</b>				
1024360	TE-Bayonet-6/25-3000/GGD		270,00	45,41
1024361	TE-Bayonet-6/55-3000/GGD		295,00	49,62
<b>Thermocouple connectors</b>				
911477	J-Mini-Female		50,00	8,41
911478	J-Mini-Male		50,00	8,41
911476	J-STD-Female		60,00	10,09
911475	J-STD-Male		60,00	10,09
911442	K-Mini-Female		50,00	8,41
911441	K-Mini-Male		50,00	8,41
911440	K-STD-Female		60,00	10,09
911439	K-STD-Male		60,00	10,09
1017789	Cable clamps for STD connectors		43,00	7,23
<b>Thermocouple connection strips</b>				
920614	WDU 2,5TC K - 102410		60,00	10,09
920615	WDU 2,5TC T - 102420		60,00	10,09
920616	WDU 2,5TC J - 102430		60,00	10,09
920617	WDU 2,5TC S/R - 102440		60,00	10,09
920618	WDU 2,5TC E - 103330		60,00	10,09
920619	WDU 2,5TC B - 103370		60,00	10,09
1024220	WDU endplate		10,00	1,68



# Price List of Temperature Sensors

Code	SKS Type	FIM	€
<b>Gland couplings</b>			
1001171	Gland coupling R1/2"-12 mm/AISI 316	180,00	30,27
914413	Gland coupling R1/2"-15 mm/AISI 316	180,00	30,27
875823	Gland coupling R1/2"-6 mm/AISI 316	180,00	30,27
1001090	Gland coupling R1/4"-1 mm/AISI 316	180,00	30,27
911898	Gland coupling R1/4"-3 mm/AISI 316	180,00	30,27
920701	Gland coupling R1/4"-6 mm/AISI 316	180,00	30,27
	Other sizes on request.		
917347	Gas-tight threaded coupling R1"-15 mm	190,00	31,96
999562	Gas-tight threaded coupling R1"-22 mm	190,00	31,96
999563	Gas-tight threaded coupling R3/4"-15 mm	190,00	31,96
<b>Flanges</b>			
1018378	Adjustable flange 15 mm	120,00	20,18
1018382	Adjustable flange 22 mm	120,00	20,18
1018383	Adjustable flange 32 mm	120,00	20,18
911984	Welded flanges 15 mm	190,00	31,96
911985	Welded flanges 22 mm	190,00	31,96
911986	Welded flanges 32 mm	190,00	31,96
<b>Thermocouple cables</b>			
1000099	Thermocouple cable J/2x0,22/GGD	32,00	5,38
1018860	Thermocouple cable J/2x0,22/Silicone	21,00	3,53
1000100	Thermocouple cable K/2x0,22/GGD	32,00	5,38
911021	Thermocouple cable K/2x0,22/Silicone	21,00	3,53
1021453	Thermocouple cable T/4x0,22/Silicone	36,00	6,05
903257	Fe-Cu-Ni 2G ST 2G J	32,00	5,38
903242	Ni-Cr-Ni 2G ST 2G K	32,00	5,38
911884	Ni-Cr-Ni 2G ST 2G K, 6-pair	110,00	18,50
1002533	Ni-Cr-Ni 2G(ST)2G-K, 2-pair	45,00	7,57



# Price List of Temperature Sensors

Code	SKS Type	FIM	€
<b>Thermocouple sensing elements, DIN 43765</b>			
916282	TE-ME-MI-3/95	190,00	31,96
916283	2xTE-ME-MI-3/95	240,00	40,37
916286	TE-ME-MI-3/145	200,00	33,64
916287	2xTE-ME-MI-3/145	250,00	42,05
916288	TE-ME-MI-3/315	230,00	38,68
916291	2xTE-ME-MI-3/315	280,00	47,09
916292	TE-ME-MI-3/375	240,00	40,37
916293	2xTE-ME-MI-3/375	290,00	48,77
918156	TE-ME-MI-3/405	240,00	40,37
918157	2xTE-ME-MI-3/405	290,00	48,77
918158	TE-ME-MI-3/435	250,00	42,05
918159	2xTE-ME-MI-3/435	300,00	50,46
916294	TE-ME-MI-6/145	240,00	40,37
916295	2xTE-ME-MI-6/145	290,00	48,77
916296	TE-ME-MI-6/205	250,00	42,05
916297	2xTE-ME-MI-6/205	300,00	50,46
916300	TE-ME-MI-6/255	260,00	43,73
916301	2xTE-ME-MI-6/255	320,00	53,82
916302	TE-ME-MI-6/315	285,00	47,93
916303	2xTE-ME-MI-6/315	340,00	57,18
916308	TE-ME-MI-6/375	305,00	51,30
916309	2xTE-ME-MI-6/375	390,00	65,59
916304	TE-ME-MI-6/405	315,00	52,98
916305	2xTE-ME-MI-6/405	400,00	67,28
916312	TE-ME-MI-6/435	320,00	53,82
916313	2xTE-ME-MI-6/435	405,00	68,12
916314	TE-ME-MI-6/525	355,00	59,71
916315	2xTE-ME-MI-6/525	445,00	74,84
916306	TE-ME-MI-6/555	365,00	61,39
916307	2xTE-ME-MI-6/555	460,00	77,37
916316	TE-ME-MI-6/735	430,00	72,32
916317	2xTE-ME-MI-6/735	565,00	95,03
916318	TE-ME-MI-6/1025	525,00	88,30
916319	2xTE-ME-MI-6/1025	715,00	120,25
916320	TE-ME-MI-6/1425	670,00	112,69
916321	2xTE-ME-MI-6/1425	915,00	153,89



# Price List of Temperature Sensors

Code	SKS Type	FIM	€
<b>Thermocouple sensing elements, DIN 43765</b>			
910660	TE-ME-MI-8/405	430,00	72,32
910667	2xTE-ME-MI-8/405	510,00	85,78
1015135	TE-ME-MI-8/430	440,00	74,00
1015136	2xTE-ME-MI-8/430	520,00	87,46
910661	TE-ME-MI-8/525	480,00	80,73
910672	2xTE-ME-MI-8/525	560,00	94,19
922634	TE-ME-MI-8/580	500,00	84,09
910673	2xTE-ME-MI-8/580	580,00	97,55
918030	TE-ME-MI-8/655	530,00	89,14
910674	2xTE-ME-MI-8/655	610,00	102,59
916063	TE-ME-MI-8/735	545,00	91,66
910675	2xTE-ME-MI-8/735	635,00	106,80
919705	TE-ME-MI-8/825	580,00	97,55
910676	2xTE-ME-MI-8/825	680,00	114,37
910789	TE-ME-MI-8/1025	650,00	109,32
1015137	2xTE-ME-MI-8/1025	760,00	127,82
1015138	TE-ME-MI-8/1275	735,00	123,62
1015139	2xTE-ME-MI-8/1275	850,00	142,96
910663	TE-ME-MI-8/1425	785,00	132,03
1015141	2xTE-ME-MI-8/1425	900,00	151,37
1015142	TE-ME-MI-8/1625	855,00	143,80
1015143	2xTE-ME-MI-8/1625	980,00	164,82
1015144	TE-ME-MI-8/2025	995,00	167,35
1015145	2xTE-ME-MI-8/2025	1120,00	188,37
888404	2xTE-ME-MI-8/525 + 2xTi-cables	830,00	139,60
910670	2xTE-ME-MI-8/580 + 2xTi-cables	850,00	142,96
1003241	2xTE-ME-MI-8/655 + 2xTi-cables	870,00	146,32
1003242	2xTE-ME-MI-8/825 + 2xTi-cables	900,00	151,37



## Ceramic Sensors

We produce platinum thermocouple sensors (types R, S, B) with ceramic sheath (Ceramic 530, 610, 799) on request.

We sell platinum wire at prices of the day.

**Also, we buy scrap platinum wire.**



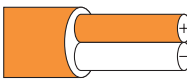
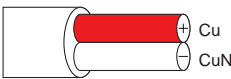
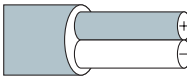

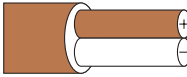
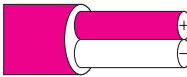


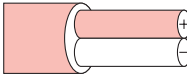
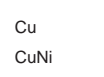
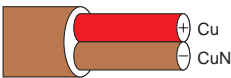

# Portable Thermometers


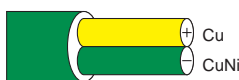

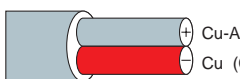
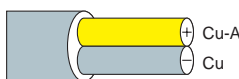
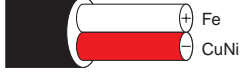

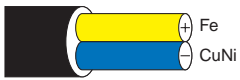
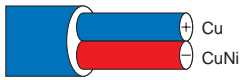
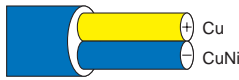
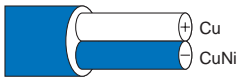
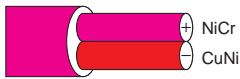
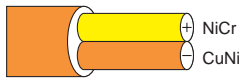
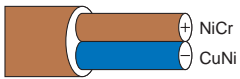

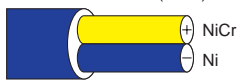
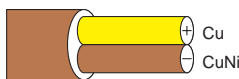
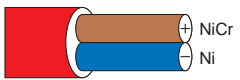
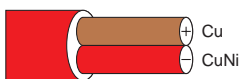
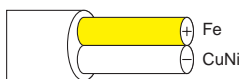

Code	SKS type	FIM	€
<b>DOSTMANN Pt100</b>			
910356	H200/5000-0200 1-channel $\pm 0,3\%$ 3J - range -100...+500°C	877,00	147,50
910358	6000-0006 3,5/150 Handle 1000 mm - range -50...+450°C	836,00	140,61
1024606	P500/5000-0500 1-channel $\pm 0,2\%$ 2J - range -200...+800°C	2638,00	443,68
903610	P505/5000-0505 2-channel $\pm 0,2\%$ 2J - range -200...+800°C	4148,00	697,00
903611	6000-0002 3,5/300 Handle 1000 mm - range -200...+500°C	1006,00	169,20
1024630	6000-0015 6/150 Handle 1000 mm - range -40...+300°C	1570,00	264,06
1000771	6000-0027 6/300 Handle 1000 mm - range -200...+600°C	2516,00	243,16
903352	P550/5000-0550 1-channel $\pm 0,05\%$ 4J - range -200...+200°C	5134,00	863,48
860551	P555/5000-0555 2-channel $\pm 0,05\%$ 4J - range -200...+200°C	6246,00	1050,50
1000772	6000-0005 3/300 Handle 1000 mm - range -200...+500°C	1460,00	245,55
1024635	6000-0004 3/150 Handle 1000 mm - range -200...+500°C	1332,00	224,03
<b>DOSTMANN Thermocouples</b>			
1023793	P310/5000-1310 1-channel $\pm 1\%$ - range -99,9...+1100°C	990,00	166,51
1024637	6010-0065 6/120 Handle 1000 mm - range -200...+1100°C (surface)	850,00	142,96
1023795	6010-0019 1/3/100 Handle 1000 mm - range -200...+1100°C (fast)	945,00	158,94
1023794	6010-0057 14,5/100 1000 mm - range max. +400°C (surface)	1013,00	170,37
1023796	5600-0027 Adapter, type K	197,00	33,13
1024639	P510/5000-0510 1-channel $\pm 0,3\%$ - range -200...+1370°C	2638,00	443,68
907241	P515/5000-0515 2-channel $\pm 0,3\%$ - range -200...+1370°C	4148,00	697,64
1024669	6010-0009 3/500 Handle 1000 mm - range -200...+1100°C	999,00	168,02
907242	6010-0010 6/1500 Handle 1000 mm - range -200...+1100°C	1519,00	255,48
<b>DOSTMANN Pt100/humidity</b>			
1024643	H270/5000-0270 1-channel , incl. sensors - ranges -30 ...+80°C $\pm 0,3\%$ 0% rF ... 98% rF $\pm 3\%$ rF	1965,00	330,49
<b>Pocket Thermometers</b>			
1022688	SA 880 SSX -50...+260°C - timer, alarms	450,00	75,68
1022687	5020-0345 DIGITEMP. -40...+200°C	220,00	37,00
1024646	5020-0328 pocket temperature gauge . -20...+200°C	197,00	33,13
<b>LAND MINI Series Portable IR Thermometers</b>			
1015175	MINILASER	5525,00	929,24
1016410	MINILASER+	6920,00	1163,86

Also available a large selection of other portable and fixed installation IR thermometers.



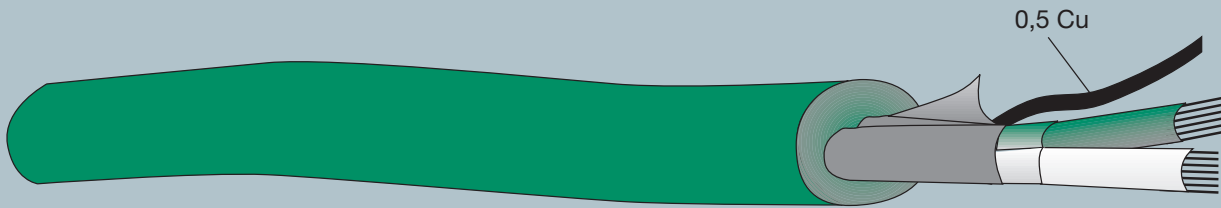
# Thermocouple Cables: Standards

THERMOCOUPLE		IEC 584	DIN IEC 584	DIN 43710
Type	Material			
<b>R</b> <b>S</b>	⊕ Platinum - 13 % Rhodium ⊖ Platinum	<b>RCA/SCA</b> 0°C...+100°C <b>RCB/SCB</b> 0°C...+200°C	Copper / Copper - Nickel (Class 1: _____) (Class 2: ±30 μV / ±2,5°C)	<b>SoPtRh/SoPt</b> Copper / Copper - Nickel
	⊕ Platinum - 10 % Rhodium ⊖ Platinum		Copper / Copper - Nickel (Class 1: _____) (Class 2: ±60 μV / ±5°C)	
				
<b>B</b>	⊕ Platinum - 30 % Rhodium ⊖ Platinum - 6 % Rhodium	<b>BC</b> 0°C...+100°C	Copper / Copper (±40 μV / ±3,5°C)	-----
				
<b>J</b>	⊕ Steel ⊖ Copper - Nickel	<b>JX</b> -25°C...+200°C	Steel / Copper - Nickel (Class 1: ±85 μV / ±1,5°C) (Class 2: ±140 μV / ±2,5°C)	<b>See LX</b>
				
<b>T</b>	⊕ Copper ⊖ Copper - Nickel	<b>TX</b> -25°C...+100°C	Copper / Copper - Nickel (Class 1: ±30 μV / ±0,5°C) (Class 2: ±60 μV / ±1,0°C)	<b>See UX</b>
				
<b>E</b>	⊕ Nickel - Chromium ⊖ Copper - Nickel	<b>EX</b> -25°C...+200°C	Nickel - Chromium / Copper - Nickel (Class 1: ±120 μV / ±1,5°C) (Class 2: ±200 μV / ±2,5°C)	-----
				
<b>K</b>	⊕ Nickel - Chromium ⊖ Nickel	<b>KX</b> -25°C...+200°C	Nickel - Chromium / Nickel (Class 1: ±60 μV / ±1,5°C) (Class 2: ±100 μV / ±2,5°C)	<b>NiCr/Ni</b> Nickel - Chromium / Nickel
		<b>KCB</b> 0°C...+100°C	Copper / Copper - Nickel (Class 1: _____) (Class 2: ±100 μV / ±2,5°C)	<b>SoNiCr/SoNi</b> Steel / Copper - Nickel
		<b>KCA</b> 0°C...+150°C	Steel / Copper - Nickel (Class 1: _____) (Class 2: ±100 μV / ±2,5°C)	
				
<b>N</b>	⊕ Nickel - Chromium - Silicon ⊖ Nickel - Silicon	<b>NX</b> -25°C...+200°C	Nickel - Chromium - Silicon / Nickel - Silicon (Class 1: ±60 μV / ±1,5°C) (Class 2: ±100 μV / ±2,5°C)	
		<b>NC</b> 0°C...+150°C	Copper / Copper - Nickel (Class 1: _____) (Class 2: ±100 μV / ±2,5°C)	
				
<b>U</b>	⊕ Copper ⊖ Copper - Nickel			<b>UX</b> 0°C...+200°C Copper / Copper - Nickel (±3°C) 
<b>L</b>	⊕ Steel ⊖ Copper - Nickel			<b>LX</b> 0°C...+200°C Steel / Copper - Nickel (±3°C) 

ANSI MC 96.1	NF C 42-324	BS 4937
<p><b>SX</b> 0°C...+200°C (±57 μV / ±5°C)</p> 	<p><b>SC</b> -25°C...+200°C Copper / Copper - Nickel (±7°C)</p> 	<p><b>RX/SX</b> Copper / Copper - Nickel (Parts 1 and 2)</p> 
<p><b>BX</b> 0°C...+100°C (+0,0 μV / +0°C) (-33 μV / -3,7°C)</p> 	<p><b>BC</b> -25°C...+200°C Copper Alloy / Copper (±4°C)</p> 	<p><b>BX</b> Copper Alloy / Copper (Copper / Copper) (Part 7)</p> <p>Colours not specified</p>
<p><b>JX</b> 0°C...+200°C Steel / Copper - Nickel (Specific: ±1,1°C) (Constant: ±2,2°C)</p> 	<p><b>JX/JC</b> -25°C...+250°C Steel / Copper - Nickel (JX: ±1,5°C) (JC: ±3°C)</p> 	<p><b>JX</b> Steel / Copper - Nickel (Part 3)</p> 
<p><b>TX</b> 0°C...+100°C Copper / Copper - Nickel (Specific: ±0,5°C) (Constant: ±1,0°C)</p> 	<p><b>TX/TC</b> Copper / Copper - Nickel TX: -25°C...+250°C (±0,5°C) TC: -25°C...+100°C (±1°C)</p> 	<p><b>TX</b> Copper / Copper - Nickel (Part 5)</p> 
<p><b>EX</b> 0°C...+200°C Nickel - Chromium / Copper - Nickel (±1,7°C)</p> 	<p><b>EX/EC</b> -25°C...+250°C Nickel - Chromium / Copper - Nickel (EX: ±1,5°C) (EC: ±3°C)</p> 	<p><b>EX</b> Nickel - Chromium / Copper - Nickel (Part 6)</p> 
<p><b>KX</b> 0°C...+200°C Nickel - Chromium / Nickel (±2,2°C)</p> 	<p><b>KX/KC</b> Nickel - Chromium / Nickel KX: -25°C...+250°C (±1,5°C) KC: -25°C...+200°C (±3°C)</p>  <p><b>VC</b> -25°C...+100°C Copper / Copper - Nickel (±3°C)</p> 	<p><b>KX</b> Nickel - Chromium / Nickel (Part 4)</p> 
<p><b>VX</b> ISARP 1.1 0°C...+100°C Copper / Copper - Nickel (±2,2°C)</p> 	<p><b>WC</b> -25°C...+200°C Steel / Copper - Nickel (±3°C)</p> 	<p><b>VX</b> Copper / Copper - Nickel (Part 4)</p> 
<p>-----</p>	<p>-----</p>	<p><b>NX</b> Nickel - Chromium - Silicon Nickel - Silicon (Part 8)</p> <p>Colours not specified</p>
<p>-----</p>	<p>-----</p>	<p>-----</p>
<p>-----</p>	<p>-----</p>	<p>-----</p>



# Thermocouple Cables



## Stock Types

### Single-pair

The cables are multi-stranded, 2-core and silicone rubber insulated, size 2x1.5 mm<sup>2</sup>. Static screen of plastic-coated aluminium film, outer insulation silicone rubber. Max. operating temperature +200 °C.

Conductor	Type	Colour code, + core	Colour code, - core	Outer insulation
Fe/CuNi	2G (ST) 2G J	Black	White	Black
NiCr/Ni	2G (ST) 2G K	Green	White	Green
PtRh/Pt	2G (ST) 2G S	Brown	White	Brown

## On Special Order

- multicore
- based on other norms
- special configuration