LUDWIG
SCHNEIDER

RESISTANCE THERMOMETERS

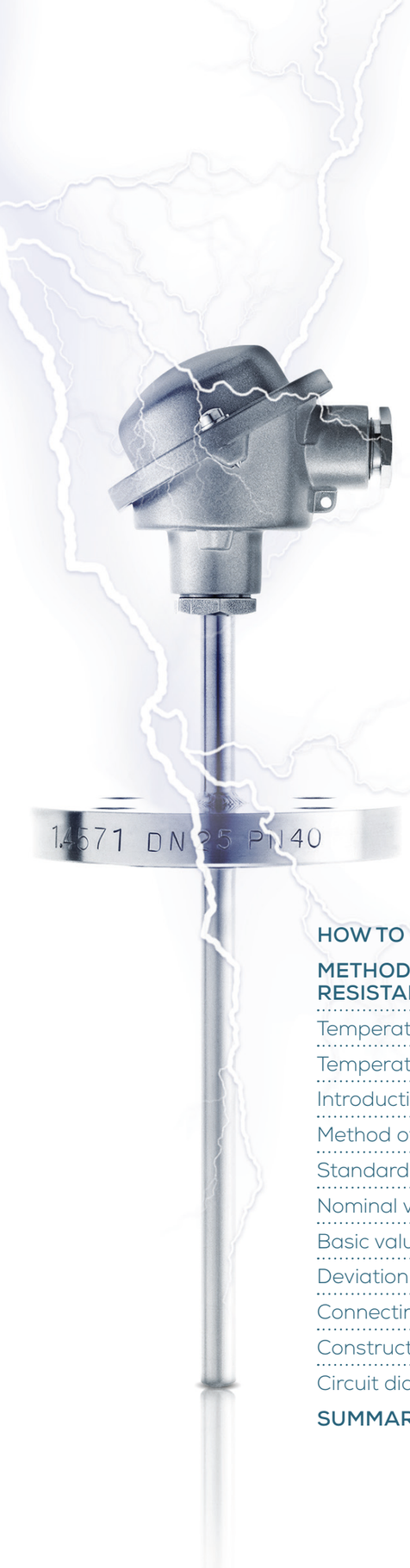


TABLE OF CONTENTS

HOW TO ORDER

All resistance thermometers in this catalogue are exactly described in their technical execution and correspond to valid standards and prescribed manufacturing methods. All resistance thermometers in standard design have an own catalogue number, which is sufficient for your order specification.

Under the point "options" you will find additional numbers, with which you can modify the resistance thermometers. These additional numbers are to be appended to the catalogue numbers of the standard design, whereat no sequence must be considered.

EXAMPLE 1 : Order of a resistance thermometer in standard design

Catalogue number: 1111111

EXAMPLE 2: Order of a resistance thermometer with modification

Catalogue number: 1111111 Additional numbers: - 01 ..... - 99

EXAMPLE 3: Order of a resistance thermometer with questionnaire

In all cases where you cannot combine your requirements with the options available in the catalogue, please fill out the questionnaire on page 62. Enter the required parameters and send the filled out form to us.

The questionnaire is also available on our Internet site:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

METHOD OF FUNCTIONING AND CONSTRUCTION OF RESISTANCE THERMOMETERS

TEMPERATURE

Temperature is one of 7 physical basic quantities. The general symbol for the temperature is the character T. Kelvin (K) is used as the physical unit for the temperature. In normal use degrees Centigrade (°C) has established itself as the unit for the absolute value. However, the unit Kelvin is used for the temperature difference or the measurement uncertainty. The following correlation exists between the two units:

0 K = –273.15 °C **0 °C = 273.15 K**

TEMPERATURE SCALE

The physical basis for temperature measurement is the thermodynamic temperature scale. It is based on the valid equation for ideal gases:

$p \cdot V = R \cdot T$ **p = pressure, V = specific volume, R = specific gas constant, T = temperature**

The thermodynamic temperature can be realized with a gas thermometer. Since this process is complicated, an international temperature scale has been created which has been specified by defined fixpoints of pure materials. The term fixpoints is used for states of equilibrium at phase transitions. The International Temperature Scale (ITS 90) has been valid since 1990. This superseded the International Practical Temperature Scale (IPTS 68) of 1968 due to its improved possibilities with regard to the reproducibility of fixpoints.

INTRODUCTION

Measuring resistors, which are built into resistance thermometers, are very often used in electrical temperature measurement. This measuring method is based on the electrical resistance of metals in relation to the temperature. In this connection one speaks of the positive temperature coefficient (PTC). In order for this property to be used the metal material must be selected so that the change in resistance can be reproduced reliably. This means that the specific characteristic may not be changed by internal and external influences causing measuring errors to arise. For this reason platinum has become the norm in industrial temperature measurement, since it can be mined in a highly pure form meaning that the electrical properties can be reproduced very well. It is easy to work – a property which is essential for forming wires. In addition it has a high melting point and very high chemical stability.

METHOD OF FUNCTIONING

The measuring resistor is connected via its connectors to a constant measuring current and the voltage drop caused by the resistance is measured. This voltage drop can be derived directly from Ohm's law:

$U = R \cdot I$ **U = voltage in V, R = resistance in Ω, I = current intensity in A**

The measuring voltage must be transferred genuine to the point of evaluation or display as far as possible. Particularly the 2-wire connection, which will be discussed later, causes the additional wire resistance and an increase in the overall resistance and thus measuring inaccuracies. The measuring current should be selected as low as possible so that the measuring resistor is not heated up by the current. It can be assumed that a measuring current of ≤ 1 mA causes a negligible warm-up heat in the measuring resistor.

STANDARD FOR MEASURING RESISTORS

IEC 751 resp. DIN EN 60751 describe the requirements placed on industrial platinum measuring resistors whose electrical resistance is a function of the temperature. These standards apply for the temperature range of -200 °C to 850 °C and ensure international comparability as well the exchange of resistance thermometers. They specify the nominal value, the basic and the deviation limits of measuring resistors. The data specified in the standards only apply for the Pt100 platinum measuring resistor. On the other hand other measuring resistors, such as Pt500 or the Pt1000 are also used in practical applications. Their advantage lies in their greater sensitivity, meaning that a greater change in their resistance value is caused in relation to the temperature. The values which are specified in the standards have to be multiplied correspondingly by 5 or 10 for these measuring resistors.

NOMINAL VALUE

The nominal value in a measuring resistor is the value in Ohm which it has at 0 °C.
The term Pt is used for platinum measuring resistor. This means that:

a measuring resistor **Pt100** has **100 Ω** at **0 °C**,
a measuring resistor **Pt500** has **500 Ω** at **0 °C**,
a measuring resistor **Pt1000** has **1000 Ω** at **0 °C**.

BASIC VALUE

Basic values were calculated with specific equations of the electrical resistance values depending on temperature.
The International Temperature Scale (ITS 90) of 1990 was used for the specifications of the temperature.

The equation for the temperature range -200 °C to 0 °C is: $R_t = R_0 \cdot [1 + A \cdot t + B \cdot t^2 + C \cdot (t - 100\ °C) \cdot t^3]$

The equation for the temperature range 0 °C to 850 °C is: $R_t = R_0 \cdot (1 + A \cdot t + B \cdot t^2)$

The following constants apply in these equations for the quality of platinum which is commonly used for industrial measuring resistors: $A = 3.9083 \cdot 10^{-3}\ °C$, $B = -5.7750 \cdot 10^{-7}\ °C$, $C = -4.1830 \cdot 10^{-12}\ °C$
In the case of platinum measuring resistors which fulfill the above requirements the temperature coefficient **α** is defined as:

$$\alpha = \frac{R_{100} - R_0}{100 \cdot R_0} = 0.00385\ °C^{-1} \qquad R_{100} = \text{Resistance at 100 °C},\ R_0 = \text{Resistance at 0 °C}$$

Note: For calculations the exact value of **α** is used as **α** = 0.00385055 $°C^{-1}$.

DEVIATION LIMIT

The deviation limit is the maximum permissible deviation in °C of a platinum measuring resistor from the standardized basic values. The deviation limits are based on the measuring resistor Pt100 with a nominal value of 100 Ω at 0 °C. Two tolerance classes called class B and class A are standardized. Tolerance class B is the basic tolerance class and applies across the entire temperature range of -196 °C to 600 °C. The continued development in the field of measuring resistors and the requirements arising from diverse applications have led to narrower tolerance classes, which are however only partially standardized.

Tolerance class	Deviation limit in °C	For temperature range
B standardized	± 0.30 + 0.00500 · t	–196 °C to 600 °C
A standardized	± 0.15 + 0.00200 · t	–100 °C to 450 °C
AA standardized	± 0.10 + 0.00167 · t	–50 °C to 250 °C
1/5 B	± 0.06 + 0.00100 · t	–50 °C to 250 °C
1/10 B	± 0.03 + 0.00050 · t	–30 °C to 250 °C

t = Numerical value of the temperature in °C without taking the preceding sign into consideration.

CONNECTING TECHNIQUES

2-WIRE CONNECTION

The resistance thermometer is connected to the display or to the measured value logger by means of a 2-core connecting lead. This alternative is the simplest but also most inaccurate connecting technique, because the additional resistance of the connecting lead which is added to the measuring resistor value increases the total resistance. This increase inevitably causes a higher temperature to be displayed and leads to considerable distortions in the case of a long connection.

$$R_{Display} = R_{Sensor} + R_{Connecting\ lead}$$

The error can be avoided by compensating for the lead resistance. To this purpose the resistance thermometer is initially replaced by a resistor with 100.00 Ω and a compensating resistance is switched into one core of the connecting lead. The compensating resistance is then changed until 0 °C is indicated at the display or measured value logger. This procedure is cumbersome and does not take any changes in the lead resistance into account which are caused by temperature influences.

3-WIRE CONNECTION

The resistance thermometer is connected by means of a 3-core connecting lead. The use of two measuring circuits, of which one is used as a bridge circuit or proportionate circuit, means that the lead resistance can be compensated almost completely. The lead resistance error is minimized to such an extent that the temperature-specific changes in the lead resistance are also eliminated by the additional loop. However, all 3 cores must change in the same way.

$$R_{Display} = (R_{Sensor} + R_{Connecting\ lead}) - R_{Connecting\ lead}$$

In this connecting technique the lead resistance no longer has to be compensated. For this reason it is used most often in industrial temperature measurement.

4-WIRE CONNECTION

This is the optimum connecting technique because the resistance thermometer is connected by means of a 4-core connecting lead. In this alternative the measuring current is fed in through 2 cores and the voltage drop is picked off at the other two cores. This means that the influence of the lead resistance is eliminated completely.

$$R_{Display} = R_{Sensor}$$

This connecting technique is used wherever extremely precise temperature measurements are required.

CONSTRUCTION AND DESIGN

Resistance thermometers are nowadays produced and used in innumerable designs. A resistance thermometer basically consists of a measuring resistor, appropriate housing and the required means of connection. Only a very small part of these construction types are defined by standard DIN 43772, in which components and dimensions are specified. These standardised resistance thermometers always consist of a connection head, a thermowell and a exchangeable measuring insert, and can be assembled as modules.

In standard DIN EN 50446, the connection heads are subdivided into types A and B. They can be made of cast iron, light metal or plastic and allow sufficient room for mounting a ceramic terminal block or a head transmitter. There are also other types of construction that have been developed for special requirements. The connection heads are attached to the thermowell by screwing on or clamping. Ludwig Schneider GmbH & Co. KG resistance thermometers are supplied as standard with connection head type B made of light metal.

Thermowells are subdivided into types 1 to 9 according to standard DIN 43772, which defines construction types and dimensions. Depending on construction type, the thermowell are produced either in welded design or made of solid material and can be fitted by clamping, screwing in, flange-mounting or welding in. Thermowells are preferably made of stainless steel 1.4571 (AISI 316Ti). As the thermowell comes into direct contact with the measured medium, it is essential to take account of pressure loads, flow velocities and temperature loads when selecting the type of thermowell. The load diagrams of standard DIN 43772 can be used for this. When selecting the material, chemical stability and mechanical load capacity must also be taken into account. When it come to thermowell, besides the standard types there are also innumerable non standardised designs which are also manufactured by us for customer-specific applications. Fitting an exchangeable measuring insert has the great advantage that the system does not have to be emptied or depressurized.

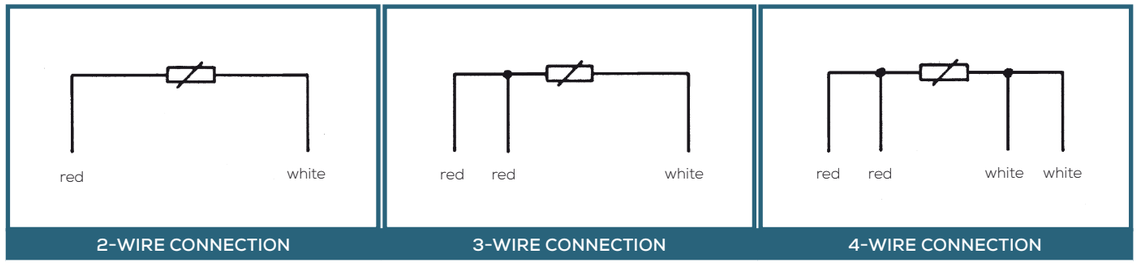
The measuring insert is an independent and pre-wired assembly. It consists mainly of a tube insert, the actual measuring resistor and the ceramic terminal block. Construction and dimensions are defined according to standard DIN 43735. The thin-walled tube of the measuring insert is in stainless steel and forms the outer sleeve for the measuring resistor, which is always directly at the tip of the measuring insert. Ceramically isolated extension wires on the measuring resistor are used to transfer measured values to the ceramic terminal block. To improve response performance and mechanical load capacity, all interstices in the measuring insert tube are filled with aluminium oxide powder.

2 pressure springs on the fixing screws are used to press the assembled measuring insert into the inside of the thermowell base in order to ensure efficient heat transfer. The 2 pressure springs also compensate any differences in length between the thermowell and the measuring insert. The diameter and length of the measuring insert are coordinated to the respective thermowell with connection head.

We also produce measuring inserts in mineral-insulated design, based on standard DIN 43735. One type mineral-insulated cable consists of a cable with an outer sheath of stainless, in which the inner conductors are embedded in highly compacted magnesium oxide. The measuring resistor is thereby connected with the inner conductors and is also protected by a short insert tube welded to the mineral-insulated cable. This variant allows very long measuring inserts to be produced which are flexible at the mineral-insulated cable. This design is also used with mechanical loads and vibration.

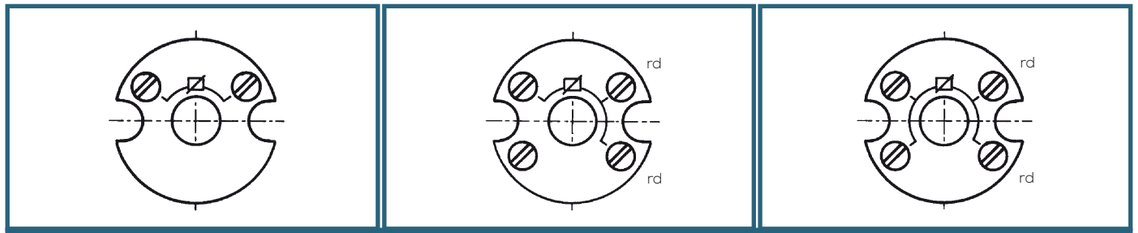
CIRCUIT DIAGRAMS AND COLOUR CODING

A resistance thermometer can be designed in various connection systems requiring corresponding coding of the connectors. This coding is defined by international standards IEC 751 resp. DIN EN 60751 and may be applied either in symbols or colour. The standard coding is shown below, which refers to resistor 1x Pt100 only.

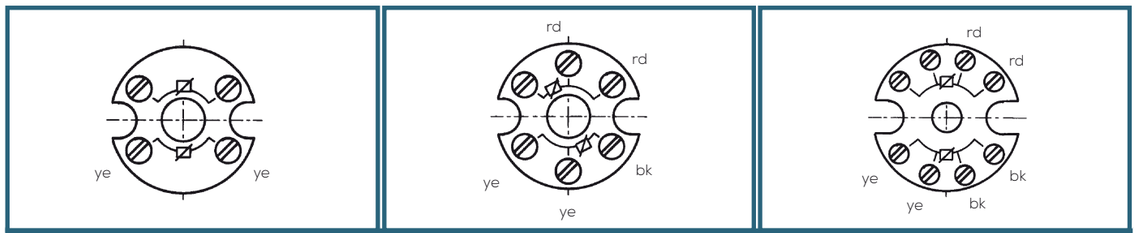


2-WIRE CONNECTION	3-WIRE CONNECTION	4-WIRE CONNECTION

In order to fulfill the demand for coding, the connection pins are marked at the ceramic terminal block by either in symbols or colour. The following circuit diagrams explains our labeling.

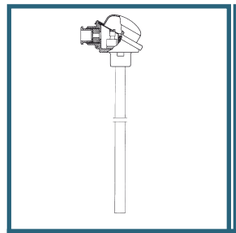


2-WIRE CONNECTION	3-WIRE CONNECTION	4-WIRE CONNECTION
1x Pt100	1x Pt100	1x Pt100



2-WIRE CONNECTION	3-WIRE CONNECTION	4-WIRE CONNECTION
2x Pt100	2x Pt100	2x Pt100

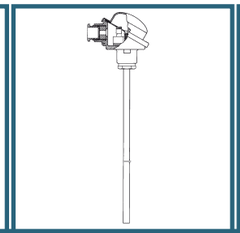
SUMMARY OF **RESISTANCE THERMOMETERS** AND **INSERTS**



WT-BA

DIN 43772 form 1

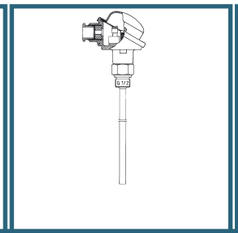
Page 16



WT-BE

DIN 43772 form 2

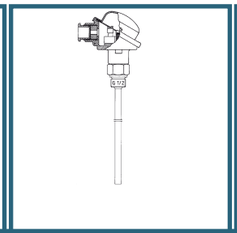
Page 18



WT-BB-ko

DIN 43772 form 2G

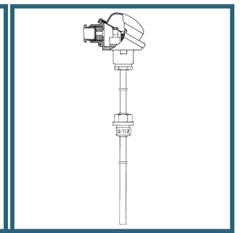
Page 20



WT-BB-k

DIN 43772 form 2G

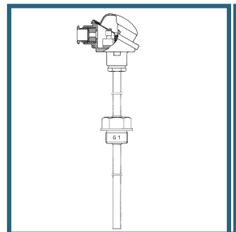
Page 22



WT-BB

DIN 43772 form 2G

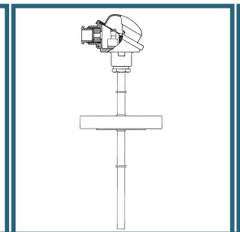
Page 24



WT-BC

DIN 43772 form 2G

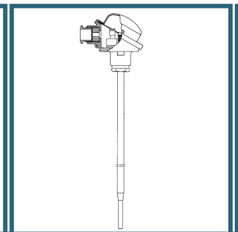
Page 26



WT-BF

DIN 43772 form 2F

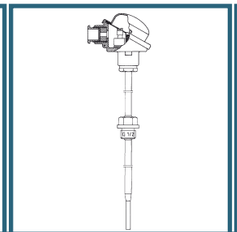
Page 28



WT-BE (R)

DIN 43772 form 3

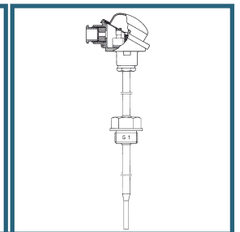
Page 30



WT-BB (R)

DIN 43772 form 3G

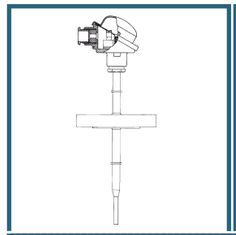
Page 32



WT-BC (R)

DIN 43772 form 3G

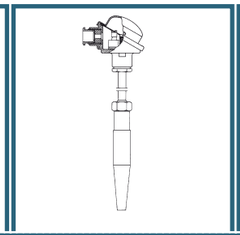
Page 34



WT-BF (R)

DIN 43772 form 3F

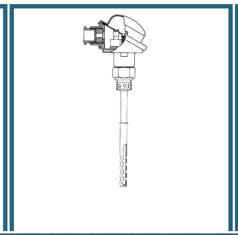
Page 36



WT-BD

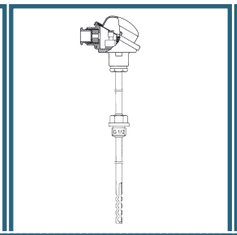
DIN 43772 form 4

Page 38-42



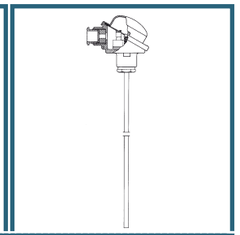
WT-BB-k perf.

Page 44



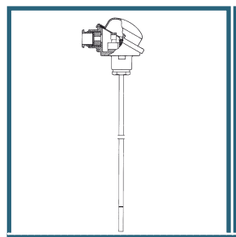
WT-BB perf.

Page 46



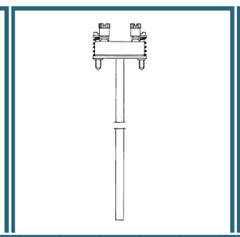
WT-BL-ME

Page 48



WT-BL-MI

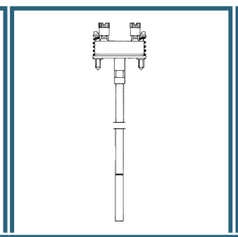
Page 50



WT-ME

DIN 43735

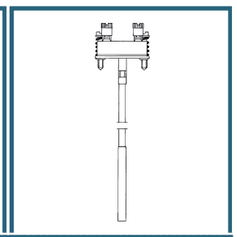
Page 52



WT-ME-MI-_-D

DIN 43735

Page 54



WT-ME-MI-_-SV

DIN 43735

Page 56

BASIC VALUES ACC. TO IEC 751 RESP. DIN EN 60751

The basic values are standardized for the measuring resistor Pt100 and listed in steps of 1 °C. The values are specified in Ohm and calculated in accordance with the International Temperature Scale ITS 90. The basic values are defined for the temperature range of -200 °C to 850 °C.

°C	0	–1	–2	–3	–4	–5	–6	–7	–8	–9
–200	18.52									
–190	22.83	22.40	21.97	21.54	21.11	20.68	20.25	19.82	19.38	18.95
–180	27.10	26.67	26.24	25.82	25.39	24.97	24.54	24.11	23.68	23.25
–170	31.34	30.91	30.49	30.07	29.64	29.22	28.80	28.37	27.95	27.52
–160	35.54	35.12	34.70	34.28	33.86	33.44	33.02	32.60	32.18	31.76
–150	39.72	39.31	38.89	38.47	38.05	37.64	37.22	36.80	36.38	35.96
–140	43.88	43.46	43.05	42.63	42.22	41.80	41.39	40.97	40.56	40.14
–130	48.00	47.59	47.18	46.77	46.36	45.94	45.53	45.12	44.70	44.29
–120	52.11	51.70	51.29	50.88	50.47	50.06	49.65	49.24	48.83	48.42
–110	56.19	55.79	55.38	54.97	54.56	54.15	53.75	53.34	52.93	52.52
–100	60.26	59.85	59.44	59.04	58.63	58.23	57.82	57.41	57.01	56.60
–90	64.30	63.90	63.49	63.09	62.68	62.28	61.88	61.47	61.07	60.66
–80	68.33	67.92	67.52	67.12	66.72	66.31	65.91	65.51	65.11	64.70
–70	72.33	71.93	71.53	71.13	70.73	70.33	69.93	69.53	69.13	68.73
–60	76.33	75.93	75.53	75.13	74.73	74.33	73.93	73.53	73.13	72.73
–50	80.31	79.91	79.51	79.11	78.72	78.32	77.92	77.52	77.12	76.73
–40	84.27	83.87	83.48	83.08	82.69	82.29	81.89	81.50	81.10	80.70
–30	88.22	87.83	87.43	87.04	86.64	86.25	85.85	85.46	85.06	84.67
–20	92.16	91.77	91.37	90.98	90.59	90.19	89.80	89.40	89.01	88.62
–10	96.09	95.69	95.30	94.91	94.52	94.12	93.73	93.34	92.95	92.55
0	100.00	99.61	99.22	98.83	98.44	98.04	97.65	97.26	96.87	96.48

(Continued on page 12)

BASIC VALUES ACC. TO IEC 751 RESP. DIN EN 60751

(Continuation of page 11)

°C	0	+1	+2	+3	+4	+5	+6	+7	+8	+9
0	100.00	100.39	100.78	101.17	101.56	101.95	102.34	102.73	103.12	103.51
10	103.90	104.29	104.68	105.07	105.46	105.85	106.24	106.63	107.02	107.40
20	107.79	108.18	108.57	108.96	109.35	109.73	110.12	110.51	110.90	111.29
30	111.67	112.06	112.45	112.83	113.22	113.61	114.00	114.38	114.77	115.15
40	115.54	115.93	116.31	116.70	117.08	117.47	117.86	118.24	118.63	119.01
50	119.40	119.78	120.17	120.55	120.94	121.32	121.71	122.09	122.47	122.86
60	123.24	123.63	124.01	124.39	124.78	125.16	125.54	125.93	126.31	126.69
70	127.08	127.46	127.84	128.22	128.61	128.99	129.37	129.75	130.13	130.52
80	130.90	131.28	131.66	132.04	132.42	132.80	133.18	133.57	133.95	134.33
90	134.71	135.09	135.47	135.85	136.23	136.61	136.99	137.37	137.75	138.13
100	138.51	138.88	139.26	139.64	140.02	140.40	140.78	141.16	141.54	141.91
110	142.29	142.67	143.05	143.43	143.80	144.18	144.56	144.94	145.31	145.69
120	146.07	146.44	146.82	147.20	147.57	147.95	148.33	148.70	149.08	149.46
130	149.83	150.21	150.58	150.96	151.33	151.71	152.08	152.46	152.83	153.21
140	153.58	153.96	154.33	154.71	155.08	155.46	155.83	156.20	156.58	156.95
150	157.33	157.70	158.07	158.45	158.82	159.19	159.56	159.94	160.31	160.68
160	161.05	161.43	161.80	162.17	162.54	162.91	163.29	163.66	164.03	164.40
170	164.77	165.14	165.51	165.89	166.26	166.63	167.00	167.37	167.74	168.11
180	168.48	168.85	169.22	169.59	169.96	170.33	170.70	171.07	171.43	171.80
190	172.17	172.54	172.91	173.28	173.65	174.02	174.38	174.75	175.12	175.49
200	175.86	176.22	176.59	176.96	177.33	177.69	178.06	178.43	178.79	179.16
210	179.53	179.89	180.26	180.63	180.99	181.36	181.72	182.09	182.46	182.82
220	183.19	183.55	183.92	184.28	184.65	185.01	185.38	185.74	186.11	186.47
230	186.84	187.20	187.56	187.93	188.29	188.66	189.02	189.38	189.75	190.11
240	190.47	190.84	191.20	191.56	191.92	192.29	192.65	193.01	193.37	193.74
250	194.10	194.46	194.82	195.18	195.55	195.91	196.27	196.63	196.99	197.35
260	197.71	198.07	198.43	198.79	199.15	199.51	199.87	200.23	200.59	200.95
270	201.31	201.67	202.03	202.39	202.75	203.11	203.47	203.83	204.19	204.55
280	204.90	205.26	205.62	205.98	206.34	206.70	207.05	207.41	207.77	208.13
290	208.48	208.84	209.20	209.56	209.91	210.27	210.63	210.98	211.34	211.70
300	212.05	212.41	212.76	213.12	213.48	213.83	214.19	214.54	214.90	215.25
310	215.61	215.96	216.32	216.67	217.03	217.38	217.74	218.09	218.44	218.80
320	219.15	219.51	219.86	220.21	220.57	220.92	221.27	221.63	221.98	222.33
330	222.68	223.04	223.39	223.74	224.09	224.45	224.80	225.15	225.50	225.85
340	226.21	226.56	226.91	227.26	227.61	227.96	228.31	228.66	229.02	229.37
350	229.72	230.07	230.42	230.77	231.12	231.47	231.82	232.17	232.52	232.87
360	233.21	233.56	233.91	234.26	234.61	234.96	235.31	235.66	236.00	236.35
370	236.70	237.05	237.40	237.74	238.09	238.44	238.79	239.13	239.48	239.83
380	240.18	240.52	240.87	241.22	241.56	241.91	242.26	242.60	242.95	243.29
390	243.64	243.99	244.33	244.68	245.02	245.37	245.71	246.06	246.40	246.75
400	247.09	247.44	247.78	248.13	248.47	248.81	249.16	249.50	249.85	250.19
410	250.53	250.88	251.22	251.56	251.91	252.25	252.59	252.93	253.28	253.62
420	253.96	254.30	254.65	254.99	255.33	255.67	256.01	256.35	256.70	257.04

°C	0	+1	+2	+3	+4	+5	+6	+7	+8	+9
430	257.38	257.72	258.06	258.40	258.74	259.08	259.42	259.76	260.10	260.44
440	260.78	261.12	261.46	261.80	262.14	262.48	262.82	263.16	263.50	263.84
450	264.18	264.52	264.86	265.20	265.53	265.87	266.21	266.55	266.89	267.22
460	267.56	267.90	268.24	268.57	268.91	269.25	269.59	269.92	270.26	270.60
470	270.93	271.27	271.61	271.94	272.28	272.61	272.95	273.29	273.62	273.96
480	274.29	274.63	274.96	275.30	275.63	275.97	276.30	276.64	276.97	277.31
490	277.64	277.98	278.31	278.64	278.98	279.31	279.64	279.98	280.31	280.64
500	280.98	281.31	281.64	281.98	282.31	282.64	282.97	283.31	283.64	283.97
510	284.30	284.63	284.97	285.30	285.63	285.96	286.29	286.62	286.95	287.29
520	287.62	287.95	288.28	288.61	288.94	289.27	289.60	289.93	290.26	290.59
530	290.92	291.25	291.58	291.91	292.24	292.56	292.89	293.22	293.55	293.88
540	294.21	294.54	294.86	295.19	295.52	295.85	296.18	296.50	296.83	297.16
550	297.49	297.81	298.14	298.47	298.80	299.12	299.45	299.78	300.10	300.43
560	300.75	301.08	301.41	301.73	302.06	302.38	302.71	303.03	303.36	303.69
570	304.01	304.34	304.66	304.98	305.31	305.63	305.96	306.28	306.61	306.93
580	307.25	307.58	307.90	308.23	308.55	308.87	309.20	309.52	309.84	310.16
590	310.49	301.81	311.13	311.45	311.78	312.10	312.42	312.74	313.06	313.39
600	313.71	314.03	314.35	314.67	314.99	315.31	315.64	315.96	316.28	316.60
610	316.92	317.24	317.56	317.88	318.20	318.52	318.84	319.16	319.48	319.80
620	320.12	320.43	320.75	321.07	321.39	321.71	322.03	322.35	322.67	322.98
630	323.30	323.62	323.94	324.26	324.57	324.89	325.21	325.53	325.84	326.16
640	326.48	326.79	327.11	327.43	327.74	328.06	328.38	328.69	329.01	329.32
650	329.64	329.96	330.27	330.59	330.90	331.22	331.53	331.85	332.16	332.48
660	332.79	333.11	333.42	333.74	334.05	334.36	334.68	334.99	335.31	335.62
670	335.93	336.25	336.56	336.87	337.18	337.50	337.81	338.12	338.44	338.75
680	339.06	339.37	339.69	340.00	340.31	340.62	340.93	341.24	341.56	341.87
690	342.18	342.49	342.80	343.11	343.42	343.73	344.04	344.35	344.66	344.97
700	345.28	345.59	345.90	346.21	346.52	346.83	347.14	347.45	347.76	348.07
710	348.38	348.69	348.99	349.30	349.61	349.92	350.23	350.54	350.84	351.15
720	351.46	351.77	352.08	352.38	352.69	353.00	353.30	353.61	353.92	354.22
730	354.53	354.84	355.14	355.45	355.76	356.06	356.37	356.67	356.98	357.28
740	357.59	357.90	358.20	358.51	358.81	359.12	359.42	359.72	360.03	360.33
750	360.64	360.94	361.25	361.55	361.85	362.16	362.46	362.76	363.07	363.37
760	363.67	363.98	364.28	364.58	364.89	365.19	365.49	365.79	366.10	366.40
770	366.70	367.00	367.30	367.60	367.91	368.21	368.51	368.81	369.11	369.41
780	369.71	370.01	370.31	370.61	370.91	371.21	371.51	371.81	372.11	372.41
790	372.71	373.01	373.31	373.61	373.91	374.21	374.51	374.81	375.11	375.41
800	375.70	376.00	376.30	376.60	376.90	377.19	377.49	377.79	378.09	378.39
810	378.68	378.98	379.28	379.57	379.87	380.17	380.46	380.76	381.06	381.35
820	381.65	381.95	382.24	382.54	382.83	383.13	383.42	383.72	384.01	384.31
830	384.60	384.90	385.19	385.49	385.78	386.08	386.37	386.67	386.96	387.25
840	387.55	387.84	388.14	388.43	388.72	389.02	389.31	389.60	389.90	390.19
850	390.48									

DEVIATION LIMITS ACC. TO IEC 751 RESP. DIN EN 60751

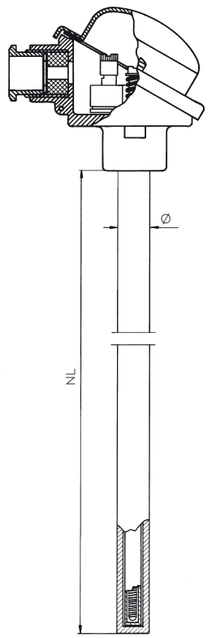
The deviation limits for class B, A and AA are standardized for the measuring resistor Pt100. The deviation limits for the narrower tolerance classes 1/5 B and 1/10 B are defined by us. The values are calculated and specified in Ohm and °C.

		B		A		AA		1/5 B		1/10 B	
°C	Ω	±Ω	±°C	±Ω	±°C	±Ω	±°C	±Ω	±°C	±Ω	±°C
–200	18.520	0.562	1.30								
–150	39.723	0.438	1.05								
–100	60.256	0.324	0.80	0.142	0.35						
–50	80.306	0.218	0.55	0.099	0.25	0.073	0.18	0.044	0.11		
–40	84.271	0.198	0.50	0.091	0.23	0.066	0.17	0.040	0.10		
–30	88.222	0.178	0.45	0.083	0.21	0.059	0.15	0.036	0.09	0.018	0.045
–20	92.160	0.157	0.40	0.075	0.19	0.052	0.13	0.031	0.08	0.016	0.040
–10	96.086	0.137	0.35	0.067	0.17	0.046	0.12	0.027	0.07	0.014	0.035
0	100.000	0.117	0.30	0.059	0.15	0.039	0.10	0.023	0.06	0.012	0.030
10	103.903	0.136	0.35	0.066	0.17	0.045	0.12	0.027	0.07	0.014	0.035
20	107.794	0.155	0.40	0.074	0.19	0.052	0.13	0.031	0.08	0.016	0.040
30	111.673	0.174	0.45	0.081	0.21	0.058	0.15	0.035	0.09	0.017	0.045
40	115.541	0.193	0.50	0.089	0.23	0.064	0.17	0.039	0.10	0.019	0.050
50	119.397	0.212	0.55	0.096	0.25	0.071	0.18	0.042	0.11	0.021	0.055
60	123.242	0.230	0.60	0.104	0.27	0.077	0.20	0.046	0.12	0.023	0.060
70	127.075	0.249	0.65	0.111	0.29	0.083	0.22	0.050	0.13	0.025	0.065
80	130.897	0.267	0.70	0.118	0.31	0.089	0.23	0.053	0.14	0.027	0.070
90	134.707	0.285	0.75	0.125	0.33	0.095	0.25	0.057	0.15	0.029	0.075
100	138.506	0.303	0.80	0.133	0.35	0.101	0.27	0.061	0.16	0.030	0.080
110	142.293	0.321	0.85	0.140	0.37	0.107	0.28	0.064	0.17	0.032	0.085
120	146.068	0.339	0.90	0.147	0.39	0.113	0.30	0.068	0.18	0.034	0.090
130	149.832	0.357	0.95	0.154	0.41	0.119	0.32	0.071	0.19	0.036	0.095
140	153.584	0.374	1.00	0.161	0.43	0.125	0.33	0.075	0.20	0.037	0.100
150	157.325	0.392	1.05	0.168	0.45	0.131	0.35	0.078	0.21	0.039	0.105
160	161.054	0.409	1.10	0.175	0.47	0.136	0.37	0.082	0.22	0.041	0.110
170	164.772	0.427	1.15	0.182	0.49	0.142	0.38	0.085	0.23	0.043	0.115
180	168.478	0.444	1.20	0.189	0.51	0.148	0.40	0.089	0.24	0.044	0.120
190	172.173	0.461	1.25	0.195	0.53	0.154	0.42	0.092	0.25	0.046	0.125
200	175.856	0.478	1.30	0.202	0.55	0.159	0.43	0.096	0.26	0.048	0.130
210	179.528	0.495	1.35	0.209	0.57	0.165	0.45	0.099	0.27	0.049	0.135
220	183.188	0.511	1.40	0.215	0.59	0.170	0.47	0.102	0.28	0.051	0.140
230	186.836	0.528	1.45	0.222	0.61	0.176	0.48	0.106	0.29	0.053	0.145
240	190.473	0.544	1.50	0.229	0.63	0.181	0.50	0.109	0.30	0.054	0.150
250	194.098	0.561	1.55	0.235	0.65	0.187	0.52	0.112	0.31	0.056	0.155
260	197.712	0.577	1.60	0.242	0.67						
270	201.314	0.593	1.65	0.248	0.69						
280	204.905	0.609	1.70	0.254	0.71						
290	208.484	0.625	1.75	0.261	0.73						
300	212.052	0.641	1.80	0.267	0.75						

		B		A		AA		1/5 B		1/10 B	
°C	Ω	±Ω	±°C	±Ω	±°C	±Ω	±°C	±Ω	±°C	±Ω	±°C
310	215.608	0.656	1.85	0.273	0.77						
320	219.152	0.672	1.90	0.279	0.79						
330	222.685	0.687	1.95	0.285	0.81						
340	226.206	0.703	2.00	0.292	0.83						
350	229.716	0.718	2.05	0.298	0.85						
360	233.214	0.733	2.10	0.304	0.87						
370	236.701	0.748	2.15	0.310	0.89						
380	240.176	0.763	2.20	0.315	0.91						
390	243.640	0.777	2.25	0.321	0.93						
400	247.092	0.792	2.30	0.327	0.95						
410	250.533	0.806	2.35	0.333	0.97						
420	253.962	0.821	2.40	0.339	0.99						
430	257.379	0.835	2.45	0.344	1.01						
440	260.785	0.849	2.50	0.350	1.03						
450	264.179	0.863	2.55	0.355	1.05						
460	267.562	0.877	2.60								
470	270.933	0.891	2.65								
480	274.293	0.905	2.70								
490	277.641	0.918	2.75								
500	280.978	0.932	2.80								
550	297.487	0.997	3.05								
600	313.708	1.060	3.30								

WT-BA

INSERTIBLE RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 1, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell at stainless steel 1.4571
- Nominal length NL acc. to table
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell ø mm	Material	Nominal Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BA-15	15	1,4571 X6CrNiMoTi 17-12-2	500	8	525	7611062	7611162	7611262	7611362	7611462	7611562
			710		735	7611063	7611163	7611263	7611363	7611463	7611563
			1,000		1,025	7611064	7611164	7611264	7611364	7611464	7611564
			1,400		1,425	7611065	7611165	7611265	7611365	7611465	7611565
			2,000		2,025	7611066	7611166	7611266	7611366	7611466	7611566

Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

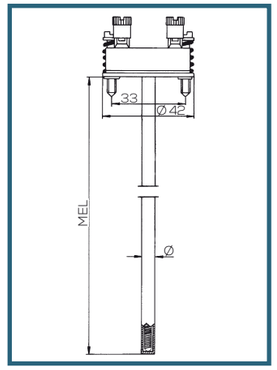
The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

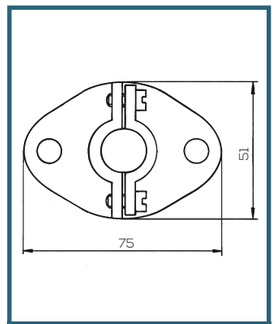
- See the standard design

	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-8	8	525	7661080	7661180	7661280	7661380	7661480	7661580
		735	7661082	7661182	7661282	7661382	7661482	7661582
		1,025	7661083	7661183	7661283	7661383	7661483	7661583
		1,425	7661084	7661184	7661284	7661384	7661484	7661584
		2,025	7661086	7661186	7661286	7661386	7661486	7661586

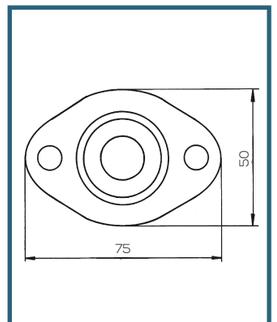


ACCESSORIES

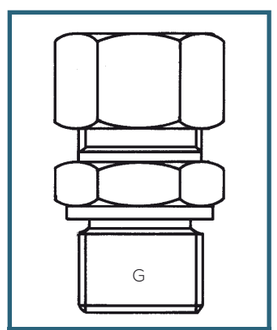
Flange acc. to DIN EN 50446	**Order-No.**
+ At GTW-35, max. temperature range to 400 °C	**7631601**
Mating flange NW15 acc. to DIN EN 50446	
+ At GTW-38, max. temperature range to 400 °C	**7631701**
Coupling adjustable (at steel, gas-tight up to 1 bar)	
+ With threading G 1/2 (BSP)	**7631801**
+ With threading G 3/4 (BSP)	**7631851**
+ With threading G 1 (BSP)	**7631900**



FLANGE



MATING FLANGE



COUPLING

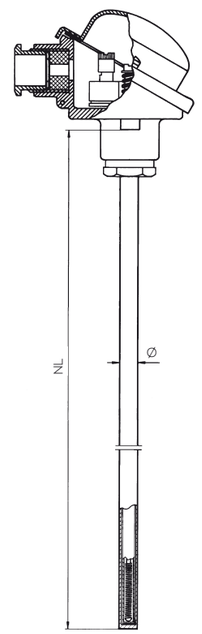
OPTIONS (Order note on page 4)

Material	**Add.-No.**
+ Thermowell at steel 1.0305 (St 35.8)	**No. -92**
+ Thermowell at steel 1.0305 (St 35.8 enamelled)	**No. -93**
Complete instruments with connection heads (from page 58)	
+ Type BBK	**No. -11**
+ Type BBG	**No. -12**
+ Type DAN	**No. -13**
+ Type DAN-S	**No. -14**
+ Type DANH	**No. -15**
+ Type DANH-S	**No. -16**
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	**No. -01**
+ AA acc. to DIN EN 60751	**No. -02**
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	**No. -31**
+ With head transmitter type 1 (fixed range, low-cost version)*	**No. -32**
+ With head transmitter type 2 (programmable, elect. insulation)*	**No. -33**
+ With head transmitter type 3 (as type 2, but EEx-Version)*	**No. -34**

* Name the desired measuring range.

WT-BE

INSERTIBLE RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 2, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell at stainless steel 1.4571
- Nominal length NL acc. to table
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell ø mm	Material	Nominal Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BE-9	9	1.4571 X6CrNiMoTi 17-12-2	305	6	315	7612001	7612101	7612201	7612301	7612401	-
			395		405	7612002	7612102	7612202	7612302	7612402	-
			545		555	7612003	7612103	7612203	7612303	7612403	-
WT-BE-11	11		305	6	315	7612011	7612111	7612211	7612311	7612411	-
			395		405	7612012	7612112	7612212	7612312	7612412	-
			545		555	7612013	7612113	7612213	7612313	7612413	-
WT-BE-12	12		305	6	315	7612021	7612121	7612221	7612321	7612421	-
			395		405	7612022	7612122	7612222	7612322	7612422	-
			545		555	7612023	7612123	7612223	7612323	7612423	-
WT-BE-14	14		305	8	315	7612031	7612131	7612231	7612331	7612431	7612531
			395		405	7612032	7612132	7612232	7612332	7612432	7612532
			545		555	7612033	7612133	7612233	7612333	7612433	7612533

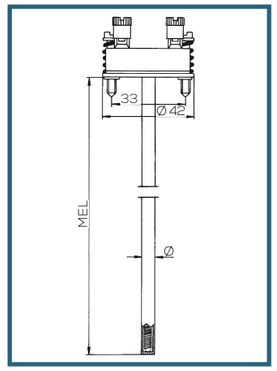
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

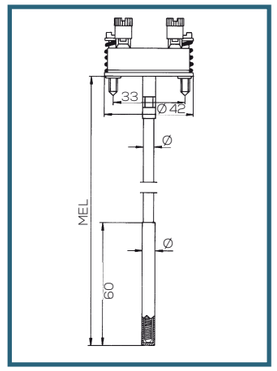


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		405	7661046	7661146	7661246	7661346	7661446	-
		555	7661050	7661150	7661250	7661350	7661450	-
WT-ME-8	8	315	7661074	7661174	7661274	7661374	7661474	7661574
		405	7661076	7661176	7661276	7661376	7661476	7661576
		555	7661081	7661181	7661281	7661381	7661481	7661581

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		405	7671086	7671186	7671286	7671386	7671486	-
		555	7671090	7671190	7671290	7671390	7671490	-
WT-ME-MI-8-SV	8	315	7681004	7681104	7681204	7681304	7681404	-
		405	7681006	7681106	7681206	7681306	7681406	-
		555	7681011	7681111	7681211	7681311	7681411	-

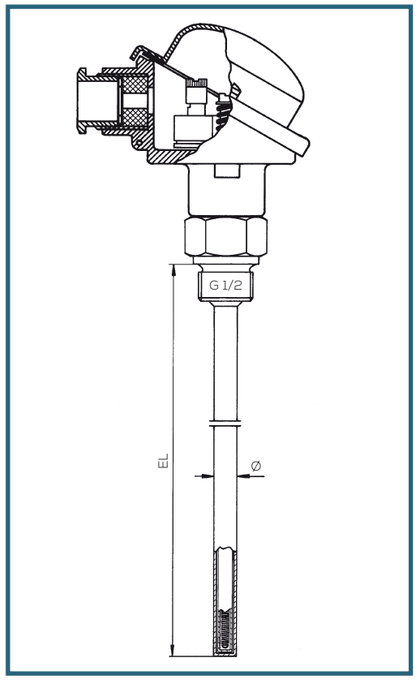
OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BB-ko

SCREW-IN RESISTANCE THERMOMETER SIMILAR DIN 43772 FORM 2G, INSERT NOT EXCHANGEABLE



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell at stainless steel 1.4571
- Mounting bush G 1/2 (BSP) at stainless steel 1.4571
- Immersion length EL acc. to table
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell ø mm	Material	Immersion Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
				1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BB-ko-6	6	1.4571 X6CrNiMoTi 17-12-2	100	7613001	7613101	7613201	7613301	7613401	-
			160	7613002	7613102	7613202	7613302	7613402	-
			200	7613003	7613103	7613203	7613303	7613403	-
			250	7613004	7613104	7613204	7613304	7613404	-
			300	7613005	7613105	7613205	7613305	7613405	-
WT-BB-ko-8	8		100	7613011	7613111	7613211	7613311	7613411	-
			160	7613012	7613112	7613212	7613312	7613412	-
			200	7613013	7613113	7613213	7613313	7613413	-
			250	7613014	7613114	7613214	7613314	7613414	-
			300	7613015	7613115	7613215	7613315	7613415	-
			400	7613016	7613116	7613216	7613316	7613416	-
WT-BB-ko-9	9		100	7613021	7613121	7613221	7613321	7613421	-
			160	7613022	7613122	7613222	7613322	7613422	-
			200	7613023	7613123	7613223	7613323	7613423	-
			250	7613024	7613124	7613224	7613324	7613424	-
			300	7613025	7613125	7613225	7613325	7613425	-
			400	7613026	7613126	7613226	7613326	7613426	-
WT-BB-ko-11	11		100	7613031	7613131	7613231	7613331	7613431	7613531
			160	7613032	7613132	7613232	7613332	7613432	7613532
			200	7613033	7613133	7613233	7613333	7613433	7613533
			250	7613034	7613134	7613234	7613334	7613434	7613534
			300	7613035	7613135	7613235	7613335	7613435	7613535
			400	7613036	7613136	7613236	7613336	7613436	7613536

OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

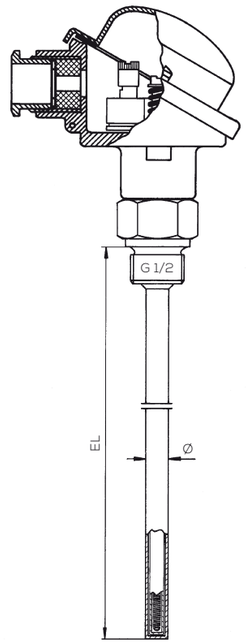
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

* Name the desired measuring range.

WT-BB-k

SCREW-IN RESISTANCE THERMOMETER SIMILAR DIN 43772 FORM 2G, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell at stainless steel 1.4571
- Mounting bush G 1/2 (BSP) at stainless steel 1.4571
- Immersion length EL acc. to table
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BB-k-9	9	1.4571 X6CrNiMoTi 17-12-2	160	6	205	7614001	7614101	7614201	7614301	7614401	-
			250		295	7614002	7614102	7614202	7614302	7614402	-
			400		445	7614003	7614103	7614203	7614303	7614403	-
WT-BB-k-11	11		160	6	205	7614011	7614111	7614211	7614311	7614411	-
			250		295	7614012	7614112	7614212	7614312	7614412	-
			400		445	7614013	7614113	7614213	7614313	7614413	-
WT-BB-k-12	12		160	6	205	7614021	7614121	7614221	7614321	7614421	-
			250		295	7614022	7614122	7614222	7614322	7614422	-
			400		445	7614023	7614123	7614223	7614323	7614423	-
WT-BB-k-14	14		160	8	205	7614031	7614131	7614231	7614331	7614431	7614531
			250		295	7614032	7614132	7614232	7614332	7614432	7614532
			400		445	7614033	7614133	7614233	7614333	7614433	7614533

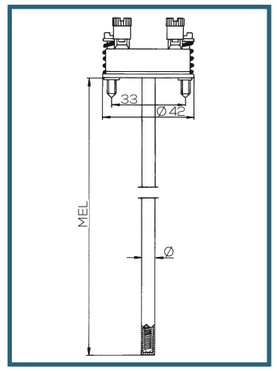
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

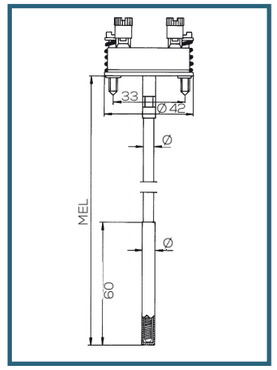


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	205	7661042	7661142	7661242	7661342	7661442	-
		295	7661043	7661143	7661243	7661343	7661443	-
		445	7661048	7661148	7661248	7661348	7661448	-
WT-ME-8	8	205	7661072	7661172	7661272	7661372	7661472	7661572
		295	7661073	7661173	7661273	7661373	7661473	7661573
		445	7661078	7661178	7661278	7661378	7661478	7661578

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	205	7671082	7671182	7671282	7671382	7671482	-
		295	7671083	7671183	7671283	7671383	7671483	-
		445	7671088	7671188	7671288	7671388	7671488	-
WT-ME-MI-8-SV	8	205	7681002	7681102	7681202	7681302	7681402	-
		295	7681003	7681103	7681203	7681303	7681403	-
		445	7681008	7681108	7681208	7681308	7681408	-

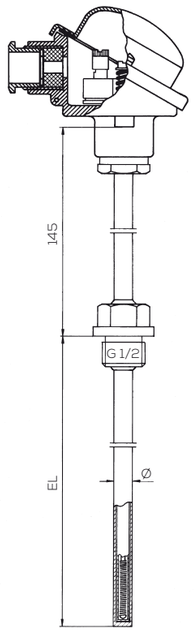
OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BB

SCREW-IN RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 2G, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell at stainless steel 1.4571
- Mounting bush G 1/2 (BSP) at stainless steel 1.4571
- Immersion length EL acc. to table
- Lagging tube length HL = 145 mm
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell & Lagging Tube ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BB-9	9	1.4571 X6CrNiMoTi 17-12-2	160	6	315	7615001	7615101	7615201	7615301	7615401	-
			250		405	7615002	7615102	7615202	7615302	7615402	-
			400		555	7615003	7615103	7615203	7615303	7615403	-
WT-BB-11	11		160	6	315	7615011	7615111	7615211	7615311	7615411	-
			250		405	7615012	7615112	7615212	7615312	7615412	-
			400		555	7615013	7615113	7615213	7615313	7615413	-
WT-BB-12	12		160	6	315	7615021	7615121	7615221	7615321	7615421	-
			250		405	7615022	7615122	7615222	7615322	7615422	-
			400		555	7615023	7615123	7615223	7615323	7615423	-
WT-BB-14	14		160	8	315	7615031	7615131	7615231	7615331	7615431	7615531
			250		405	7615032	7615132	7615232	7615332	7615432	7615532
			400		555	7615033	7615133	7615233	7615333	7615433	7615533

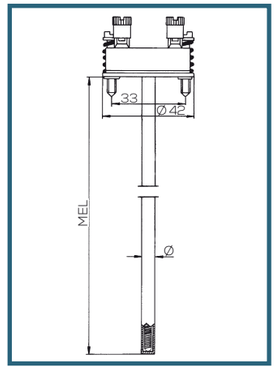
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

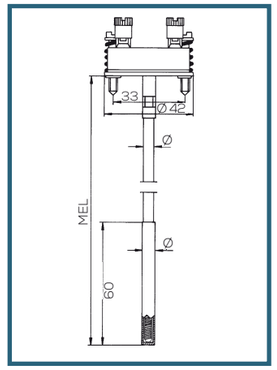


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	205	7661042	7661142	7661242	7661342	7661442	-
		295	7661043	7661143	7661243	7661343	7661443	-
		445	7661048	7661148	7661248	7661348	7661448	-
WT-ME-8	8	205	7661072	7661172	7661272	7661372	7661472	7661572
		295	7661073	7661173	7661273	7661373	7661473	7661573
		445	7661078	7661178	7661278	7661378	7661478	7661578

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		405	7671086	7671186	7671286	7671386	7671486	-
		555	7671088	7671190	7671290	7671390	7671490	-
WT-ME-MI-8-SV	8	315	7681004	7681104	7681204	7681304	7681404	-
		405	7681006	7681106	7681206	7681306	7681406	-
		555	7681011	7681111	7681211	7681311	7681411	-

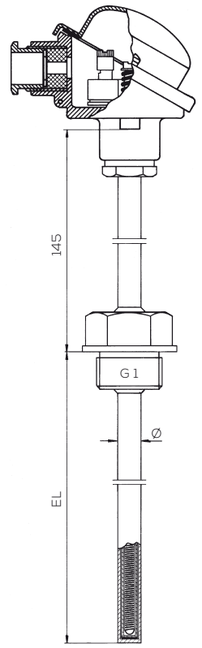
OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BC

SCREW-IN RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 2G, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell and lagging tube at stainless steel 1.4571
- Mounting bush G 1 (BSP) at stainless steel 1.4571
- Immersion length EL acc. to table
- Lagging tube length HL = 145 mm
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell & Lagging Tube ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BC-11	11	1.4571 X6CrNiMoTi 17-12-2	160	6	315	7616001	7616101	7616201	7616301	7616401	-
			250		405	7616002	7616102	7616202	7616302	7616402	-
			400		555	7616003	7616103	7616203	7616303	7616403	-
WT-BC-12	12		160	6	315	7616011	7616111	7616211	7616311	7616411	-
			250		405	7616012	7616112	7616212	7616312	7616412	-
			400		555	7616013	7616113	7616213	7616313	7616413	-
WT-BC-14	14		160	8	315	7616021	7616121	7616221	7616321	7616421	7616521
			250		405	7616022	7616122	7616222	7616322	7616422	7616522
			400		555	7616023	7616123	7616223	7616323	7616423	7616523

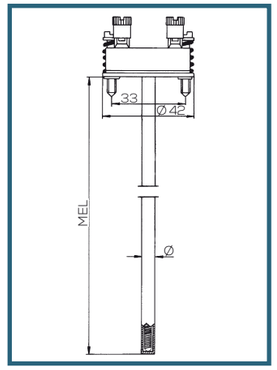
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

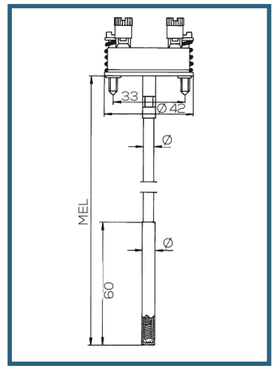


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		405	7661046	7661146	7661246	7661346	7661446	-
		555	7661050	7661150	7661250	7661350	7661450	-
WT-ME-8	8	315	7661074	7661174	7661274	7661374	7661474	7661574
		405	7661076	7661176	7661276	7661376	7661476	7661576
		555	7661081	7661181	7661281	7661381	7661481	7661581

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		405	7671086	7671186	7671286	7671386	7671486	-
		555	7671090	7671190	7671290	7671390	7671490	-
WT-ME-MI-8-SV	8	315	7681004	7681104	7681204	7681304	7681404	-
		405	7681006	7681106	7681206	7681306	7681406	-
		555	7681011	7681111	7681211	7681311	7681411	-

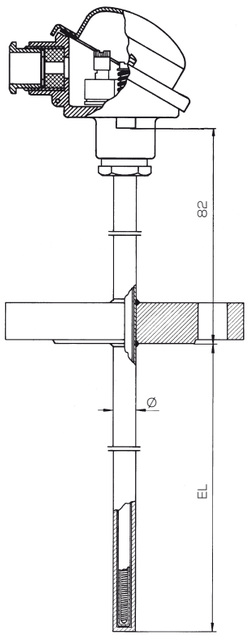
OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BF

FLANGED RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 2F, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell and lagging tube at stainless steel 1.4571
- Flange NW25 ND40 form C at stainless steel 1.4571 (acc. to DIN 2526)
- Immersion length EL acc. to table
- Lagging tube length HL = 82 mm
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell & Lagging Tube ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BF-11	11	1.4571 X6CrNiMoTi 17-12-2	225	6	315	7617001	7617101	7617201	7617301	7617401	-
			315		405	7617002	7617102	7617202	7617302	7617402	-
			465		555	7617003	7617103	7617203	7617303	7617403	-
WT-BF-12	12		225	6	315	7617011	7617111	7617211	7617311	7617411	-
			315		405	7617012	7617112	7617212	7617312	7617412	-
			465		555	7617013	7617113	7617213	7617313	7617413	-
WT-BF-14	14		225	8	315	7617021	7617121	7617221	7617321	7617421	7617521
			315		405	7617022	7617122	7617222	7617322	7617422	7617522
			465		555	7617023	7617123	7617223	7617323	7617423	7617523

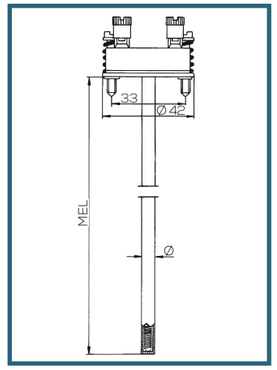
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

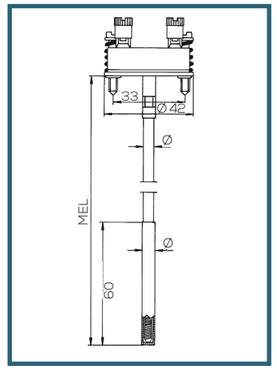


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		405	7661046	7661146	7661246	7661346	7661446	-
		555	7661050	7661150	7661250	7661350	7661450	-
WT-ME-8	8	315	7661074	7661174	7661274	7661374	7661474	7661574
		405	7661076	7661176	7661276	7661376	7661476	7661576
		555	7661081	7661181	7661281	7661381	7661481	7661581

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		405	7671086	7671186	7671286	7671386	7671486	-
		555	7671090	7671190	7671290	7671390	7671490	-
WT-ME-MI-8-SV	8	315	7681004	7681104	7681204	7681304	7681404	-
		405	7681006	7681106	7681206	7681306	7681406	-
		555	7681011	7681111	7681211	7681311	7681411	-

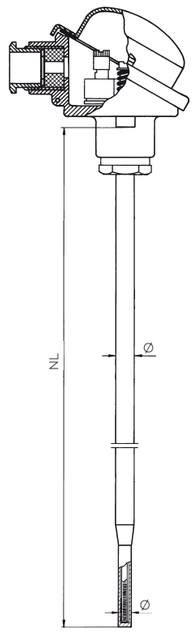
OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BE (R)

INSERTIBLE RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 3, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- (R) = fast reaction
- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell at stainless steel 1.4571
- Nominal length NL acc. to table
- Sensor length approx. 50 mm tapered
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell ø mm	Material	Nominal Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BE-12 (R)	12 (9)	1.4571 X6CrNiMoTi 17-12-2	307	6	315	7618001	7618101	7618201	7618301	7618401	-
			367		375	7618002	7618102	7618202	7618302	7618402	-
			427		435	7618003	7618103	7618203	7618303	7618403	-
WT-BE-14 (R)	14 (11)		307	8	315	7618011	7618111	7618211	7618311	7618411	7618511
			367		375	7618012	7618112	7618212	7618312	7618412	7618512
			427		435	7618013	7618113	7618213	7618313	7618413	7618513

Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

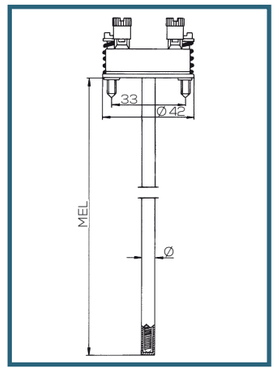
The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		375	7661045	7661145	7661245	7661345	7661445	-
		435	7661047	7661147	7661247	7661347	7661447	-
WT-ME-8	8	315	7661074	7661174	7661274	7661374	7661474	7661574
		375	7661075	7661175	7661275	7661375	7661475	7661575
		435	7661085	7661185	7661285	7661385	7661485	7661585

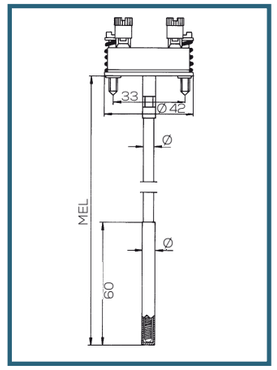


SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C

	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		375	7671085	7671185	7671285	7671385	7671485	-
		435	7671087	7671187	7671287	7671387	7671487	-
WT-ME-MI-8-SV	8	315	7681004	7681104	7681204	7681304	7681404	-
		375	7681005	7681105	7681205	7681305	7681405	-
		435	7681015	7681115	7681215	7681315	7681415	-



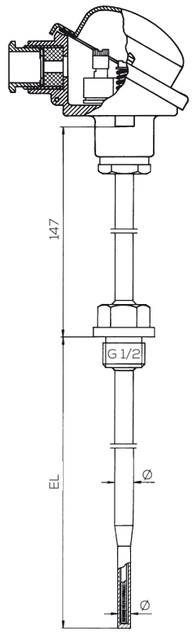
OPTIONS (Order note page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BB (R)

SCREW-IN RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 3G, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- (R) = fast reaction
- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell and lagging tube at stainless steel 1.4571
- Mounting bush G 1/2 (BSP) at stainless steel 1.4571
- Immersion length EL acc. to table
- Lagging tube length HL = 147 mm
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BB-12 (R)	12 (9)	1.4571 X6CrNiMoTi 17-12-2	160	6	315	7619001	7619101	7619201	7619301	7619401	-
			220		375	7619002	7619102	7619202	7619302	7619402	-
			280		435	7619003	7619103	7619203	7619303	7619403	-
WT-BB-14 (R)	14 (11)		160	8	315	7619011	7619111	7619211	7619311	7619411	7619511
			220		375	7619012	7619112	7619212	7619312	7619412	7619512
			280		435	7619013	7619113	7619213	7619313	7619413	7619513

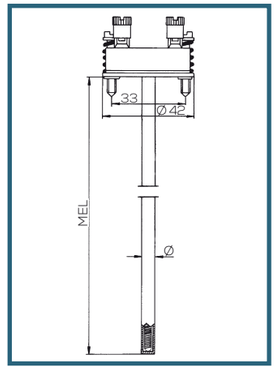
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

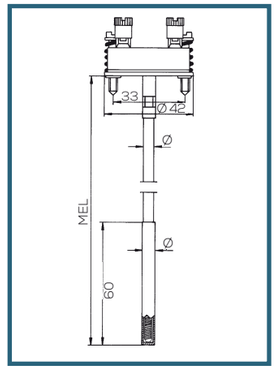


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		375	7661045	7661145	7661245	7661345	7661445	-
		435	7661047	7661147	7661247	7661347	7661447	-
WT-ME-8	8	315	7661074	7661174	7661274	7661374	7661474	7661574
		375	7661075	7661175	7661275	7661375	7661475	7661575
		435	7661085	7661185	7661285	7661385	7661485	7661585

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		375	7671085	7671185	7671285	7671385	7671485	-
		435	7671087	7671187	7671287	7671387	7671487	-
WT-ME-MI-8-SV	8	315	7681004	7681104	7681204	7681304	7681404	-
		375	7681005	7681105	7681205	7681305	7681405	-
		435	7681015	7681115	7681215	7681315	7681415	-

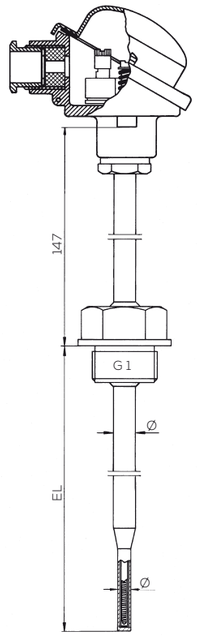
OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BC (R)

SCREW-IN RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 3G, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- (R) = fast reaction
- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell and lagging tube at stainless steel 1.4571
- Mounting bush G 1 (BSP) at stainless steel 1.4571
- Immersion length EL acc. to table
- Lagging tube length HL = 147 mm
- Sensor length approx. 50 mm tapered
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BC-12 (R)	12 (9)	1.4571 X6CrNiMoTi 17-12-2	160	6	315	7620001	7620101	7620201	7620301	7620401	-
			220		375	7620002	7620102	7620202	7620302	7620402	-
			280		435	7620003	7620103	7620203	7620303	7620403	-
WT-BC-14 (R)	14 (11)		160	8	315	7620011	7620111	7620211	7620311	7620411	7620511
			220		375	7620012	7620112	7620212	7620312	7620412	7620512
			280		435	7620013	7620113	7620213	7620313	7620413	7620513

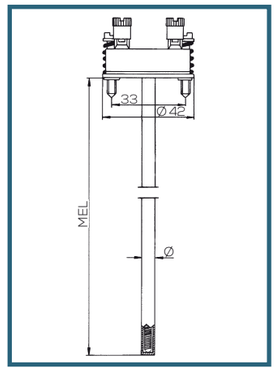
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

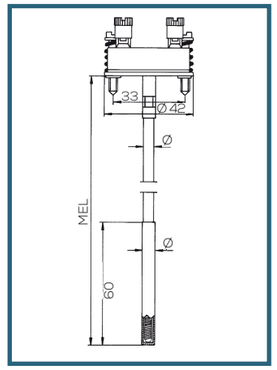


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		375	7661045	7661145	7661245	7661345	7661445	-
		435	7661047	7661147	7661247	7661347	7661447	-
WT-ME-8	8	315	7661074	7661174	7661274	7661374	7661474	7661574
		375	7661075	7661175	7661275	7661375	7661475	7661575
		435	7661085	7661185	7661285	7661385	7661485	7661585

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		375	7671085	7671185	7671285	7671385	7671485	-
		435	7671087	7671187	7671287	7671387	7671487	-
WT-ME-MI-8-SV	8	315	7681004	7681104	7681204	7681304	7681404	-
		375	7681005	7681105	7681205	7681305	7681405	-
		435	7681015	7681115	7681215	7681315	7681415	-

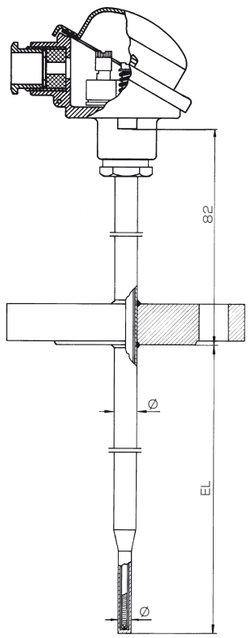
OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BF (R)

FLANGED RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 3F, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- (R) = fast reaction
- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell and lagging tube at stainless steel 1.4571
- Flange NW25 ND40 form C at stainless steel 1.4571
- Immersion length EL acc. to table
- Lagging tube length HL = 82 mm
- Sensor length approx. 50 mm tapered
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Thermowell & Lagging Tube ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BF-12 (R)	12 (9)	1.4571 X6CrNiMoTi 17-12-2	225	6	315	7622001	7622101	7622201	7622301	7622401	-
			285		375	7622002	7622102	7622202	7622302	7622402	-
			345		435	7622003	7622103	7622203	7622303	7622403	-
WT-BF-14 (R)	14 (11)		225	8	315	7622011	7622111	7622211	7622311	7622411	7622511
			285		375	7622012	7622112	7622212	7622312	7622412	7622512
			345		435	7622013	7622113	7622213	7622313	7622413	7622513

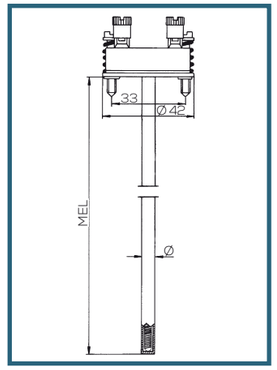
Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

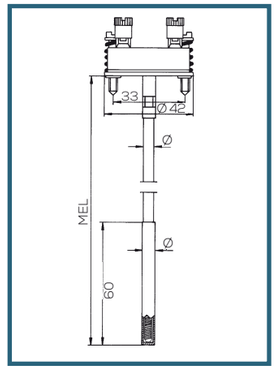


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		375	7661045	7661145	7661245	7661345	7661445	-
		435	7661047	7661147	7661247	7661347	7661447	-
WT-ME-8	8	315	7661074	7661174	7661274	7661374	7661474	7661574
		375	7661075	7661175	7661275	7661375	7661475	7661575
		435	7661085	7661185	7661285	7661385	7661485	7661585

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		375	7671085	7671185	7671285	7671385	7671485	-
		435	7671087	7671187	7671287	7671387	7671487	-
WT-ME-MI-8-SV	8	315	7681004	7681104	7681204	7681304	7681404	-
		375	7681005	7681105	7681205	7681305	7681405	-
		435	7681015	7681115	7681215	7681315	7681415	-

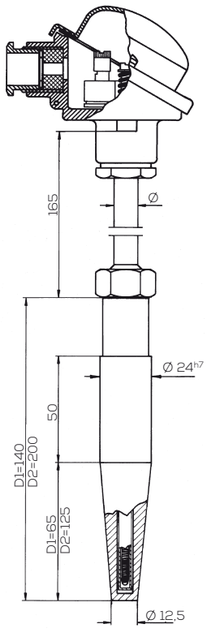
OPTIONS (Order note on page 4)

Material	Add.-No.
+ Thermowell at stainless steel 1.4541 X6CrNiTi 18-10	No. -91
Vibration-Proof	
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99
Complete instruments with connection heads (from page 58)	
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BD

WELD-IN RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 4, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Lagging tube ø 11 mm at stainless steel 1.4571
- Lagging tube length HL = 165 mm
- Weld-in thermowell ø 24 h7 mm
- Material of weld-in thermowell acc. to table
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range -60 °C to 500 °C

SPARE WELD-IN THERMOWELLS ACC. TO DIN 43772 FORM 4

SPECIFICATION:

- See the standard design

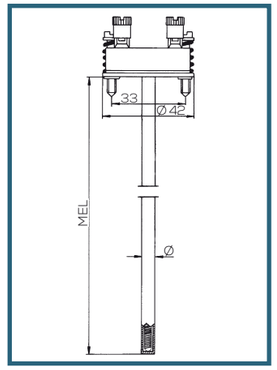
	1.0460 C22.8	1.5415 15Mo 3	1.7335 13CrMo 44	1.7380 10CrMo 9 10	1.4571 X6CrNiMoTi 17-12-2
D1	437006	437002	437003	437004	437005
D2	437106	437102	437103	437104	437105

	Weld-in Thermo-well Length in mm	Taper Length	Material	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BD-D1	140	65	1.0460 C22.8	6	315	7641041	7641141	7641241	7641341	7641441	-
			1.5415 15Mo 3			7641042	7641142	7641242	7641342	7641442	-
			1.7335 13CrMo 44			7641043	7641143	7641243	7641343	7641443	-
			1.7380 10CrMo 9 10			7641044	7641144	7641244	7641344	7641444	-
			1.4571 X6CrNiMoTi 17-12-2			7641045	7641145	7641245	7641345	7641445	-
WT-BD-D2	200	125	1.0460 C22.8	6	375	7641051	7641151	7641251	7641351	7641451	-
			1.5415 15Mo 3			7641052	7641152	7641252	7641352	7641452	-
			1.7335 13CrMo 44			7641053	7641153	7641253	7641353	7641453	-
			1.7380 10CrMo 9 10			7641054	7641154	7641254	7641354	7641454	-
			1.4571 X6CrNiMoTi 17-12-2			7641055	7641155	7641255	7641355	7641455	-

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

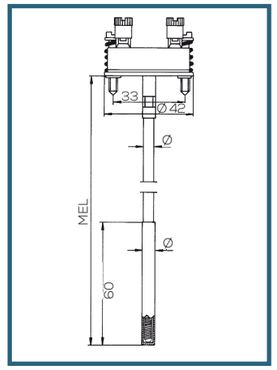


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		375	7661045	7661145	7661245	7661345	7661445	-

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	315	7671084	7671184	7671284	7671384	7671484	-
		375	7671085	7671185	7671285	7671385	7671485	-

OPTIONS (Order note on page 4)

Vibration-Proof	**Add.-No.**
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	**Nr. - 99**

Complete instruments with connection heads (from page 58)

+ Type BBK	**No. -11**	+ Type DAN-S	**No. -14**
+ Type BBG	**No. -12**	+ Type DANH	**No. -15**
+ Type DAN	**No. -13**	+ Type DANH-S	**No. -16**

Resistor in accuracy classes

+ A acc. to DIN EN 60751	**No. -01**
+ AA acc. to DIN EN 60751	**No. -02**

Head transmitters (from page 60)

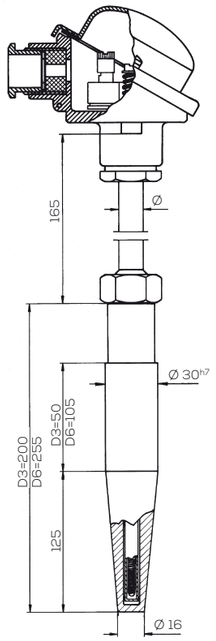
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	**No. -31**
+ With head transmitter type 1 (fixed range, low-cost version)*	**No. -32**
+ With head transmitter type 2 (programmable, elect. insulation)*	**No. -33**
+ With head transmitter type 3 (as type 2, but EEx-Version)*	**No. -34**

Order: You didn't find a suitable option? You can find your required parameters here: **www.ludwig-schneider.de/en/resistance-thermometers-questionnaire** or send us the filled-out questionnaire on page 62.

* Name the desired measuring range.

WT-BD

WELD-IN RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 4, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Lagging tube ø 11 mm at stainless steel 1.4571
- Lagging tube length HL = 165 mm
- Weld-in thermowell ø 30 h7 mm
- Material of weld-in thermowell acc. to table
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range -60 °C to 500 °C

SPARE WELD-IN THERMOWELLS ACC. TO DIN 43772 FORM 4

SPECIFICATION:

- See the standard design

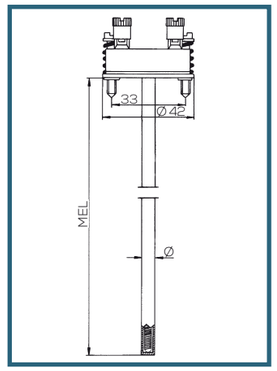
	1.0460 C22.8	1.5415 15Mo 3	1.7335 13CrMo 44	1.7380 10CrMo 9 10	1.4571 X6CrNiMoTi 17-12-2
D3	437206	437202	437203	437204	437205
D6	437506	437502	437503	437504	437505

	Weld-in Thermo-well Length in mm	Taper Length	Material	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BD-D3	200	125	1.0460 C22.8	8	375	7641061	7641161	7641261	7641361	7641461	7641561
			1.5415 15Mo 3			7641062	7641162	7641262	7641362	7641462	7641562
			1.7335 13CrMo 44			7641063	7641163	7641263	7641363	7641463	7641563
			1.7380 10CrMo 9 10			7641064	7641164	7641264	7641364	7641464	7641564
			1.4571 X6CrNiMoTi 17-12-2			7641065	7641165	7641265	7641365	7641465	7641565
WT-BD-D6	255	125	1.0460 C22.8	8	430	7641071	7641171	7641271	7641371	7641471	7641571
			1.5415 15Mo 3			7641072	7641172	7641272	7641372	7641472	7641572
			1.7335 13CrMo 44			7641073	7641173	7641273	7641373	7641473	7641573
			1.7380 10CrMo 9 10			7641074	7641174	7641274	7641374	7641474	7641574
			1.4571 X6CrNiMoTi 17-12-2			7641075	7641175	7641275	7641375	7641475	7641575

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

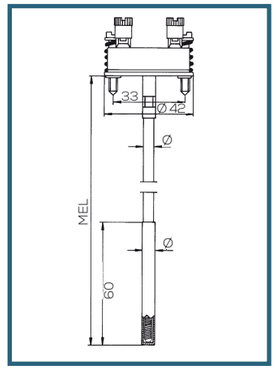


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-8	8	375	7661075	7661175	7661275	7661375	7661475	7661575
		430	7661077	7661177	7661277	7661377	7661477	7661577

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
- Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-8-SV	8	375	7681005	7681105	7681205	7681305	7681405	-
		430	7681007	7681107	7681207	7681307	7681407	-

OPTIONS (Order note on page 4)

Vibration-Proof	**Add.-No.**
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	**Nr. - 99**

Complete instruments with connection heads (from page 58)

+ Type BBK	**No. -11**	+ Type DAN-S	**No. -14**
+ Type BBG	**No. -12**	+ Type DANH	**No. -15**
+ Type DAN	**No. -13**	+ Type DANH-S	**No. -16**

Resistor in accuracy classes

+ A acc. to DIN EN 60751	**No. -01**
+ AA acc. to DIN EN 60751	**No. -02**

Head transmitters (from page 60)

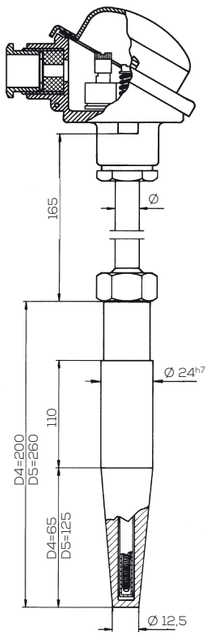
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	**No. -31**
+ With head transmitter type 1 (fixed range, low-cost version)*	**No. -32**
+ With head transmitter type 2 (programmable, elect. insulation)*	**No. -33**
+ With head transmitter type 3 (as type 2, but EEx-Version)*	**No. -34**

Order: You didn't find a suitable option? You can find your required parameters here: **www.ludwig-schneider.de/en/resistance-thermometers-questionnaire** or send us the filled-out questionnaire on page 62.

* name the desired measuring range.

WT-BD

WELD-IN RESISTANCE THERMOMETER ACC. TO DIN 43772 FORM 4, WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

+ Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
+ Lagging tube ø 11 mm at stainless steel 1.4571
+ Lagging tube length HL = 165 mm
+ Weld-in thermowell ø 24 h7 mm
+ Material of weld-in thermowell acc. to table
+ Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
+ Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
+ 2-, 3- or 4-wire connection
+ Connection via ceramic terminal block with connection pins
+ Range -60 °C to 500 °C

SPARE WELD-IN THERMOWELLS ACC. TO DIN 43772 FORM 4

SPECIFICATION:

+ See the standard design

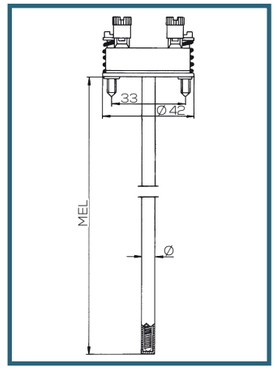
	1.0460 C22.8	1.5415 15Mo 3	1.7335 13 13CrMo 44	1.7380 10CrMo 9 10	1.4571 X6CrNiMoTi 17-12-2
D4	437306	437302	437303	437304	437305
D5	437406	437402	437403	437404	437405

	Weld-in Thermo-well Length in mm	Taper Length	Material	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BD-D4	200	65	1.0460 C22.8	6	375	7641081	7641181	7641281	7641381	7641481	-
			1.5415 15Mo 3			7641082	7641182	7641282	7641382	7641482	-
			1.7335 13CrMo 44			7641083	7641183	7641283	7641383	7641483	-
			1.7380 10CrMo 9 10			7641084	7641184	7641284	7641384	7641484	-
			1.4571 X6CrNiMoTi 17-12-2			7641085	7641185	7641285	7641385	7641485	-
WT-BD-D5	260	125	1.0460 C22.8	6	435	7641091	7641191	7641291	7641391	7641491	-
			1.5415 15Mo 3			7641092	7641192	7641292	7641392	7641492	-
			1.7335 13CrMo 44			7641093	7641193	7641293	7641393	7641493	-
			1.7380 10CrMo 9 10			7641094	7641194	7641294	7641394	7641494	-
			1.4571 X6CrNiMoTi 17-12-2			7641095	7641195	7641295	7641395	7641495	-

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

+ See the standard design

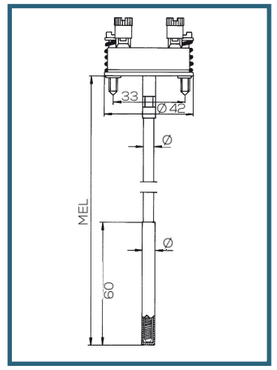


	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	375	7661045	7661145	7661245	7661345	7661445	-
		435	7661047	7661147	7661247	7661347	7661447	-

SPARE INSERTS AT VIBRATION-PROOF DESIGN

SPECIFICATION:

+ Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
+ Glass-resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B
+ Temperature range -50 °C to 300 °C



	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	375	7681085	7681185	7681285	7681385	7681485	-
		435	7681087	7681187	7681287	7681387	7681487	-

OPTIONS (Order note on page 4)

Vibration-Proof	Add.-No.
+ Complete instrument in vibration-proof design with insert WT-ME-MI-_-SV (not 2x Pt100 in 4-wire connection)	Nr. - 99

Complete instruments with connection heads (from page 58)

+ Type BBK	No. -11	+ Type DAN-S	No. -14
+ Type BBG	No. -12	+ Type DANH	No. -15
+ Type DAN	No. -13	+ Type DANH-S	No. -16

Resistor in accuracy classes

+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02

Head transmitters (from page 60)

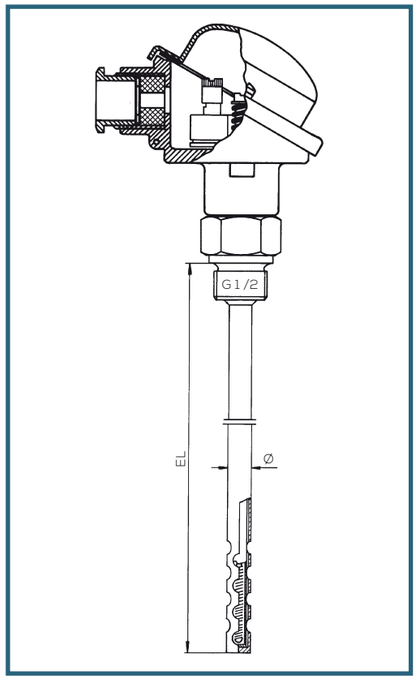
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

Order: You didn't find a suitable option? You can find your required parameters here: **www.ludwig-schneider.de/en/resistance-thermometers-questionnaire** or send us the filled-out questionnaire on page 62.

* Name the desired measuring range.

WT-BB-k perf.

AIR-DUCT RESISTANCE THERMOMETER WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell at stainless steel 1.4571
- Mounting bush G 1/2 (BSP) at stainless steel 1.4571
- Immersion length EL acc. to table
- Thermowell perforated over a length of 45 mm
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –30 °C to 300 °C

	Thermo-well ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BB-k-9 perf.	9	1.4571 X6CrNiMoTi 17-12-2	100	6	145	7651071	7651171	7651271	7651371	7651471	-
			160		205	7651072	7651172	7651272	7651372	7651472	-
			250		295	7651073	7651173	7651273	7651373	7651473	-
			400		445	7651074	7651174	7651274	7651374	7651474	-
WT-BB-k-11 perf.	11		100	8	145	7651091	7651191	7651291	7651391	7651491	7651591
			160		205	7651092	7651192	7651292	7651392	7651492	7651592
			250		295	7651093	7651193	7651293	7651393	7651493	7651593
			400		445	7651094	7651194	7651294	7651394	7651494	7651594

Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

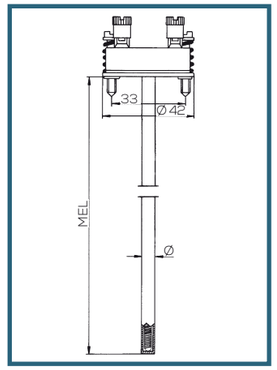
The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	145	7661041	7661141	7661241	7661341	7661441	-
		205	7661042	7661142	7661242	7661342	7661442	-
		295	7661043	7661143	7661243	7661343	7661443	-
		445	7661048	7661148	7661248	7661348	7661448	-
WT-ME-8	8	145	7661071	7661171	7661271	7661371	7661471	7661571
		205	7661072	7661172	7661272	7661372	7661472	7661572
		295	7661073	7661173	7661273	7661373	7661473	7661573
		445	7661078	7661178	7661278	7661378	7661478	7661578



OPTIONS (Order note on page 4)

Complete instruments with connection heads (from page 58)	**Add.-No.**		
+ Type BBK	**No. -11**	+ Type DAN-S	**No. -14**
+ Type BBG	**No. -12**	+ Type DANH	**No. -15**
+ Type DAN	**No. -13**	+ Type DANH-S	**No. -16**

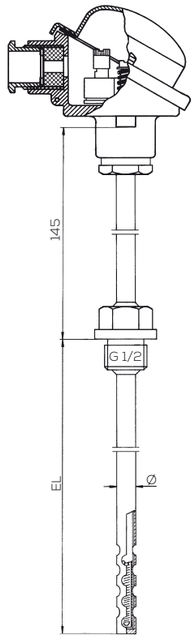
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	**No. -01**
+ AA acc. to DIN EN 60751	**No. -02**

Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	**No. -31**
+ With head transmitter type 1 (fixed range, low-cost version)*	**No. -32**
+ With head transmitter type 2 (programmable, elect. insulation)*	**No. -33**
+ With head transmitter type 3 (as type 2, but EEx-Version)*	**No. -34**

* name the desired measuring range.

WT-BB perf.

AIR-DUCT RESISTANCE THERMOMETER WITH EXCHANGEABLE INSERT



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Thermowell and lagging tube at stainless steel 1.4571
- Mounting bush G 1/2 (BSP) at stainless steel 1.4571
- Immersion length EL acc. to table
- Lagging tube length HL = 145 mm
- Thermowell perforated over a length of 45 mm
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –30 °C to 300 °C

	Thermowell & Lagging Tube ø mm	Material	Immersion Length in mm	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
						1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BB-9 perf.	9	1.4571 X6CrNiMoTi 17-12-2	160	6	315	7661011	7661111	7661211	7661311	7661411	-
			250		405	7661012	7661112	7661212	7661312	7661412	-
			300		455	7661013	7661113	7661213	7661313	7661413	-
			400		555	7661014	7661114	7661214	7661314	7661414	-
WT-BB-11 perf.	11		160	8	315	7661031	7661131	7661231	7661331	7661431	7661531
			250		405	7661032	7661132	7661232	7661332	7661432	7661532
			300		455	7661033	7661133	7661233	7661333	7661433	7661533
			400		555	7661034	7661134	7661234	7661334	7661434	7661534

Order: You can't find an option suitable for you on the right? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

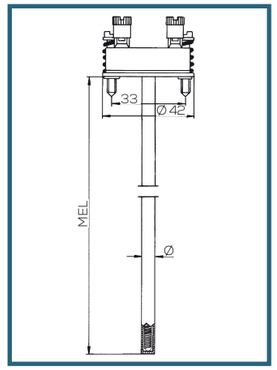
The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

SPARE INSERTS AT STANDARD DESIGN

SPECIFICATION:

- See the standard design

	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	315	7661044	7661144	7661244	7661344	7661444	-
		405	7661046	7661146	7661246	7661346	7661446	-
		455	7661049	7661149	7661249	7661349	7661449	-
		555	7661050	7661150	7661250	7661350	7661450	-
WT-ME-8	8	315	7661074	7661174	7661274	7661374	7661474	7661574
		405	7661076	7661176	7661276	7661376	7661476	7661576
		455	7661079	7661179	7661279	7661379	7661479	7661579
		555	7661081	7661181	7661281	7661381	7661481	7661581



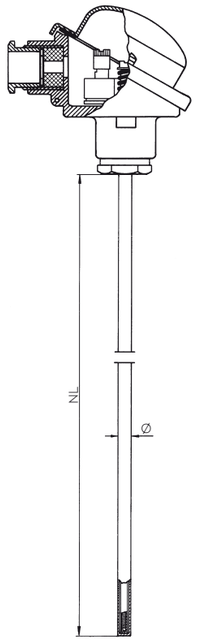
OPTIONS (Order note on page 4)

Complete instruments with connection heads (from page 58)	Add.-No.
+ Type BBK	No. -11
+ Type BBG	No. -12
+ Type DAN	No. -13
+ Type DAN-S	No. -14
+ Type DANH	No. -15
+ Type DANH-S	No. -16
Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

* Name the desired measuring range.

WT-BL-ME

RESISTANCE THERMOMETER WITHOUT ADDITIONAL THERMOWELL WITH RIGID INSERT INSERT EXPOSED AND NOT EXCHANGEABLE



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Nominal length NL acc. to table
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Insert ø mm	Material	Nominal Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
				1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BL-ME-6	6	Stainless Steel	250	7611001	7611101	7611201	7611301	7611401	-
			350	7611002	7611102	7611202	7611302	7611402	-
			380	7611003	7611103	7611203	7611303	7611403	-
			500	7611004	7611104	7611204	7611304	7611404	-
			530	7611005	7611105	7611205	7611305	7611405	-
			630	7611006	7611106	7611206	7611306	7611406	-
			710	7611007	7611107	7611207	7611307	7611407	-
			800	7611008	7611108	7611208	7611308	7611408	-
WT-BL-ME-8	8		250	7611021	7611121	7611221	7611321	7611421	7611521
			350	7611022	7611122	7611222	7611322	7611422	7611522
			500	7611023	7611123	7611223	7611323	7611423	7611523
			530	7611024	7611124	7611224	7611324	7611424	7611524
			630	7611025	7611125	7611225	7611325	7611425	7611525
			710	7611026	7611126	7611226	7611326	7611426	7611526
			800	7611027	7611127	7611227	7611327	7611427	7611527
			1000	7611028	7611128	7611228	7611328	7611428	7611528

COUPLING GENERALLY	Ord.-No.
+ For insert Ø 6 mm	
+ Coupling and cutting ring at stainless steel	
with threading G 1/8	GEV-06L-G1.8-D
with threading G 1/4	GEV-06L-G1.4-D
with threading G 3/8	GEV-06L-G3.8-D
with threading G 1/2	GEV-06L-G1.2-D
with threading M10 x 1	GEV-06L-M10x1-D
with threading 1/8"NPT	GEV-06L-NPT1.8-D
with threading 1/4"NPT	GEV-06L-NPT1.4-D
with threading 3/8"NPT	GEV-06L-NPT3.8-D
with threading 1/2"NPT	GEV-06L-NPT1.2-D

COUPLING GENERALLY	Ord.-No.
+ For insert Ø 8 mm	
+ Coupling and cutting ring at stainless steel	
with threading G 1/4	GEV-08L-G1.4-D
with threading G 3/8	GEV-08L-G3.8-D
with threading G 1/2	GEV-08L-G1.2-D
with threading M12 x 1,5	GEV-08L-M12x1,5-D
with threading 1/4"NPT	GEV-08L-NPT1.4-D
with threading 3/8"NPT	GEV-08L-NPT3.8-D
with threading 1/2"NPT	GEV-08L-NPT1.2-D

OPTIONS (Order note on page 4)

Clamping ring at teflon	Add.-No.
+ Coupling with clamping ring at teflon	No. -PTFE

Complete instruments with connection heads (from page 58)			
+ Type BBK	No. -11	+ Type DAN-S	No. -14
+ Type BBG	No. -12	+ Type DANH	No. -15
+ Type DAN	No. -13	+ Type DANH-S	No. -16

Resistor in accuracy classes	
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02

Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

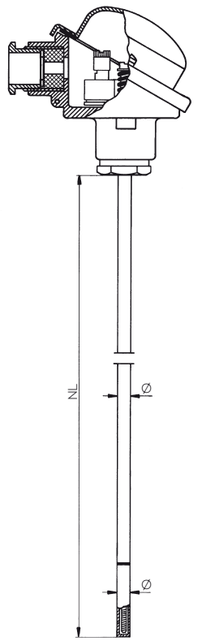
Order: You can't find an option suitable for you? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

* name the desired measuring range.

WT-BL-MI

RESISTANCE THERMOMETER WITHOUT ADDITIONAL THERMOWELL WITH FLEXIBLE INSERT INSERT EXPOSED AND NOT EXCHANGEABLE



COMPLETE INSTRUMENTS

SPECIFICATION OF THE STANDARD DESIGN:

- Connection head type B at light metal with cable gland M 20 x 1,5 (acc. to DIN EN 50446)
- Nominal length NL acc. to table
- Insert with rigid protection tube at stainless steel (acc. to DIN 43735)
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

	Insert ø mm	Material	Nominal Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
				1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-BL-MI-6-D	6	Stainless Steel	250	7681071	7681171	7681271	7681371	7681471	-
			350	7681072	7681172	7681272	7681372	7681472	-
			380	7681073	7681173	7681273	7681373	7681473	-
			500	7681074	7681174	7681274	7681374	7681474	-
			530	7681075	7681175	7681275	7681375	7681475	-
			630	7681076	7681176	7681276	7681376	7681476	-
			710	7681077	7681177	7681277	7681377	7681477	-
			800	7681078	7681178	7681278	7681378	7681478	-
WT-BL-MI-8-D	8		250	7681081	7681181	7681281	7681381	7681481	-
			350	7681082	7681182	7681282	7681382	7681482	-
			500	7681083	7681183	7681283	7681383	7681483	-
			530	7681084	7681184	7681284	7681384	7681484	-
			630	7681085	7681185	7681285	7681385	7681485	-
			710	7681086	7681186	7681286	7681386	7681486	-
			800	7681087	7681187	7681287	7681387	7681487	-
			1000	7681088	7681188	7681288	7681388	7681488	-

COUPLING GENERALLY	Ord.-No.
+ For insert Ø 6 mm	
+ Coupling and cutting ring at stainless steel	
with threading G 1/8	**GEV-06L-G1.8-D**
with threading G 1/4	**GEV-06L-G1.4-D**
with threading G 3/8	**GEV-06L-G3.8-D**
with threading G 1/2	**GEV-06L-G1.2-D**
with threading M10 x 1	**GEV-06L-M10x1-D**
with threading 1/8"NPT	**GEV-06L-NPT1.8-D**
with threading 1/4"NPT	**GEV-06L-NPT1.4-D**
with threading 3/8"NPT	**GEV-06L-NPT3.8-D**
with threading 1/2"NPT	**GEV-06L-NPT1.2-D**

COUPLING GENERALLY	Ord.-No.
+ For insert Ø 8 mm	
+ Coupling and cutting ring at stainless steel	
with threading G 1/4	**GEV-08L-G1.4-D**
with threading G 3/8	**GEV-08L-G3.8-D**
with threading G 1/2	**GEV-08L-G1.2-D**
with threading M12 x 1,5	**GEV-08L-M12x1,5-D**
with threading 1/4"NPT	**GEV-08L-NPT1.4-D**
with threading 3/8"NPT	**GEV-08L-NPT3.8-D**
with threading 1/2"NPT	**GEV-08L-NPT1.2-D**

OPTIONS (Order note on page 4)

Clamping ring at teflon	Add.-No.
+ Coupling with clamping ring at teflon	**No. -PTFE**

Complete instruments with connection heads (from page 58)			
+ Type BBK	**No. -11**	+ Type DAN-S	**No. -14**
+ Type BBG	**No. -12**	+ Type DANH	**No. -15**
+ Type DAN	**No. -13**	+ Type DANH-S	**No. -16**

Resistor in accuracy classes	
+ A acc. to DIN EN 60751	**No. -01**
+ AA acc. to DIN EN 60751	**No. -02**

Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	**No. -31**
+ With head transmitter type 1 (fixed range, low-cost version)*	**No. -32**
+ With head transmitter type 2 (programmable, elect. insulation)*	**No. -33**
+ With head transmitter type 3 (as type 2, but EEx-Version)*	**No. -34**

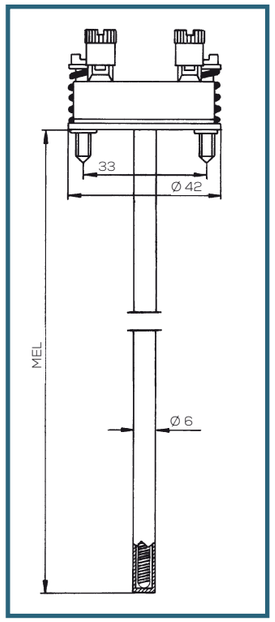
Order: You can't find an option suitable for you? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

* Name the desired measuring range.

WT-ME

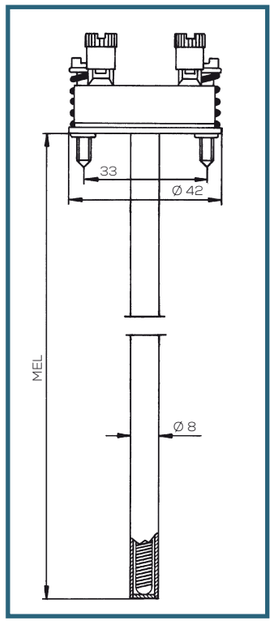
INSERT FOR RESISTANCE THERMOMETER ACC. TO DIN 43735 STANDARD DESIGN



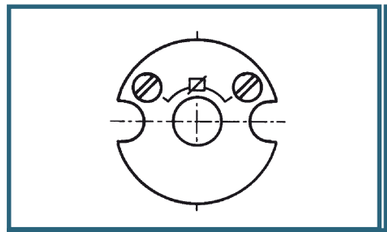
SPECIFICATION OF THE STANDARD DESIGN:

- Insert with rigid protection tube at stainless steel
- Insert length MEL acc. to table
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

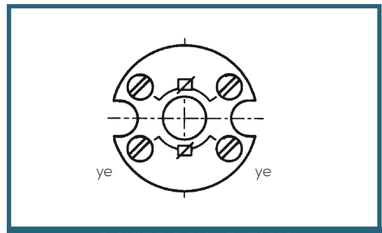
	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-6	6	145	7661041	7661141	7661241	7661341	7661441	-
		205	7661042	7661142	7661242	7661342	7661442	-
		295	7661043	7661143	7661243	7661343	7661443	-
		315	7661044	7661144	7661244	7661344	7661444	-
		375	7661045	7661145	7661245	7661345	7661445	-
		405	7661046	7661146	7661246	7661346	7661446	-
		435	7661047	7661147	7661247	7661347	7661447	-
		445	7661048	7661148	7661248	7661348	7661448	-
		455	7661049	7661149	7661249	7661349	7661449	-
		555	7661050	7661150	7661250	7661350	7661450	-

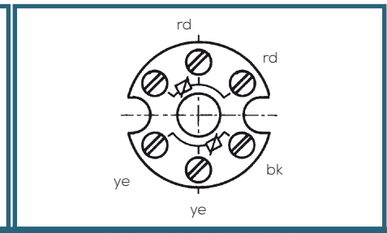


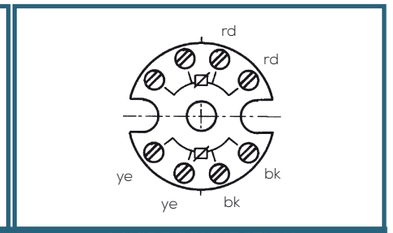
	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-8	8	145	7661071	7661171	7661271	7661371	7661471	7661571
		205	7661072	7661172	7661272	7661372	7661472	7661572
		295	7661073	7661173	7661273	7661373	7661473	7661573
		315	7661074	7661174	7661274	7661374	7661474	7661574
		375	7661075	7661175	7661275	7661375	7661475	7661575
		405	7661076	7661176	7661276	7661376	7661476	7661576
		430	7661077	7661177	7661277	7661377	7661477	7661577
		435	7661085	7661185	7661285	7661385	7661485	7661585
		445	7661078	7661178	7661278	7661378	7661478	7661578
		455	7661079	7661179	7661279	7661379	7661479	7661579
		525	7661080	7661180	7661280	7661380	7661480	7661580
		555	7661081	7661181	7661281	7661381	7661481	7661581
		735	7661082	7661182	7661282	7661382	7661482	7661582
		1025	7661083	7661183	7661283	7661383	7661483	7661583
		1425	7661084	7661184	7661284	7661384	7661484	7661584
		2025	7661086	7661186	7661286	7661386	7661486	7661586



2-WIRE CONNECTION	3-WIRE CONNECTION	4-WIRE CONNECTION
1x Pt100	1x Pt100	1x Pt100







2-WIRE CONNECTION	3-WIRE CONNECTION	4-WIRE CONNECTION
2x Pt100	2x Pt100	2x Pt100

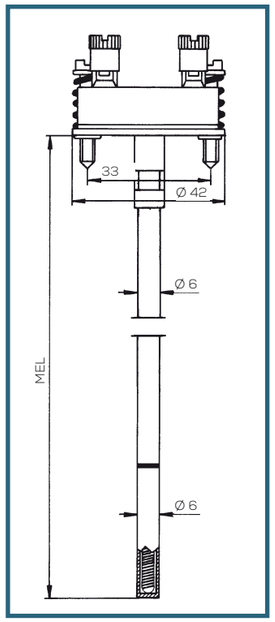
Order: You can't find an option suitable for you? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

* Name the desired measuring range.

WT-ME-MI-_-D

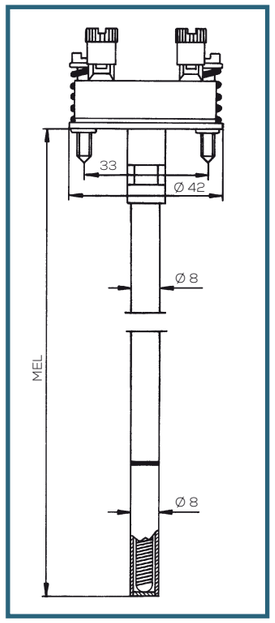
INSERT FOR RESISTANCE THERMOMETER ACC. TO DIN 43735 FLEXIBLE DESIGN WITH RIGID PROBE



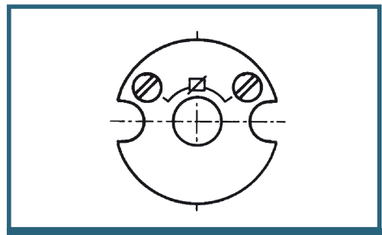
SPECIFICATION OF THE STANDARD DESIGN:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Insert with constant diameter
- Insert length MEL acc. to table
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –100 °C to 500 °C

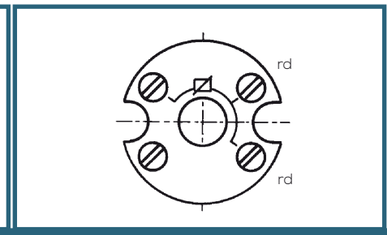
	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-D	6	145	7671001	7671101	7671201	7671301	7671401	-
		205	7671002	7671102	7671202	7671302	7671402	-
		295	7671003	7671103	7671203	7671303	7671403	-
		315	7671004	7671104	7671204	7671304	7671404	-
		375	7671005	7671105	7671205	7671305	7671405	-
		405	7671006	7671106	7671206	7671306	7671406	-
		435	7671007	7671107	7671207	7671307	7671407	-
		445	7671008	7671108	7671208	7671308	7671408	-
		455	7671009	7671109	7671209	7671309	7671409	-
		555	7671010	7671110	7671210	7671310	7671410	-



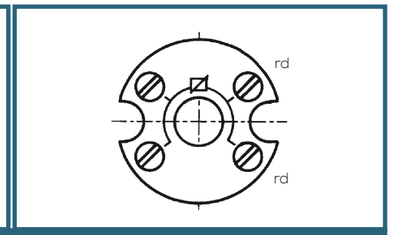
	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-8-D	8	145	7671021	7671121	7671221	7671321	7671421	-
		205	7671022	7671122	7671222	7671322	7671422	-
		295	7671023	7671123	7671223	7671323	7671423	-
		315	7671024	7671124	7671224	7671324	7671424	-
		375	7671025	7671125	7671225	7671325	7671425	-
		405	7671026	7671126	7671226	7671326	7671426	-
		430	7671027	7671127	7671227	7671327	7671427	-
		435	7671035	7671135	7671235	7671335	7671435	-
		445	7671028	7671128	7671228	7671328	7671428	-
		455	7671029	7671129	7671229	7671329	7671429	-
		525	7671030	7671130	7671230	7671330	7671430	-
		555	7671031	7671131	7671231	7671331	7671431	-
		735	7671032	7671132	7671232	7671332	7671432	-
		1025	7671033	7671133	7671233	7671333	7671433	-
		1425	7671034	7671134	7671234	7671334	7671434	-
		2025	7671036	7671136	7671236	7671336	7671436	-



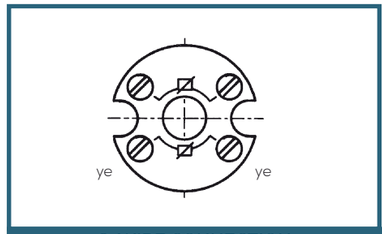
2-WIRE CONNECTION
1x Pt100



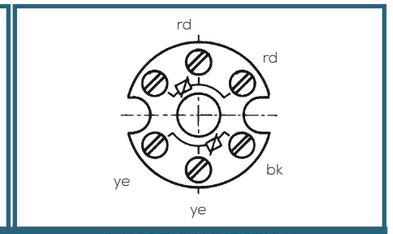
3-WIRE CONNECTION
1x Pt100



4-WIRE CONNECTION
1x Pt100



2-WIRE CONNECTION
2x Pt100



3-WIRE CONNECTION
2x Pt100

OPTIONS (Order note on page 4)

Resistor in accuracy classes	Add.-No.
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

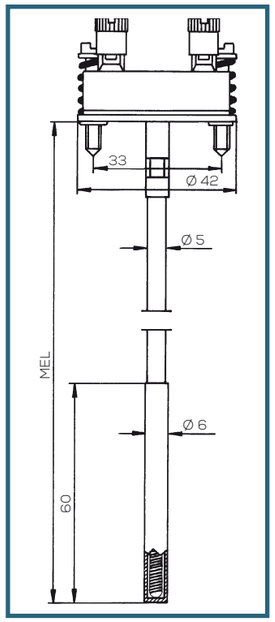
Order: You can't find an option suitable for you? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

* Name the desired measuring range.

WT-ME-MI-_-SV

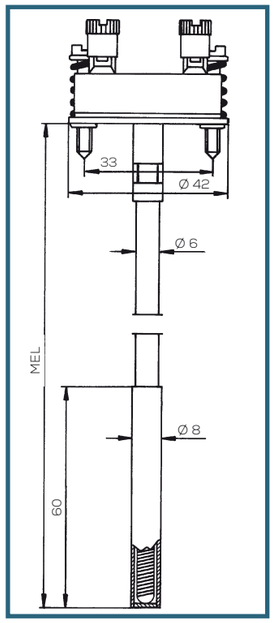
INSERT FOR RESISTANCE THERMOMETER ACC. TO DIN 43735 VIBRATION-PROOF DESIGN



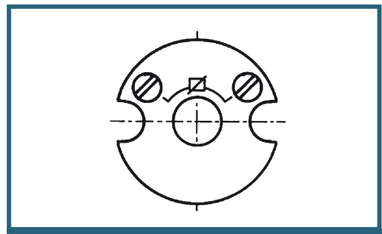
SPECIFICATION OF THE STANDARD DESIGN:

- Insert with rigid probe fitted on mineral-insulated cable (flexible) at stainless steel
- Insert with graduated diameter
- Insert length MEL acc. to table
- Resistor 1x Pt100 or 2x Pt100 acc. to DIN EN 60751 class B (ceramic resistor with bifilary wire winding)
- 2-, 3- or 4-wire connection
- Connection via ceramic terminal block with connection pins
- Range –50 °C to 300 °C

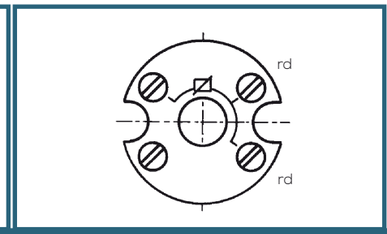
	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-6-SV	6	145	7671081	7671181	7671281	7671381	7671481	-
		205	7671082	7671182	7671282	7671382	7671482	-
		295	7671083	7671183	7671283	7671383	7671483	-
		315	7671084	7671184	7671284	7671384	7671484	-
		375	7671085	7671185	7671285	7671385	7671485	-
		405	7671086	7671186	7671286	7671386	7671486	-
		435	7671087	7671187	7671287	7671387	7671487	-
		445	7671088	7671188	7671288	7671388	7671488	-
		455	7671089	7671189	7671289	7671389	7671489	-
		555	7671090	7671190	7671290	7671390	7671490	-



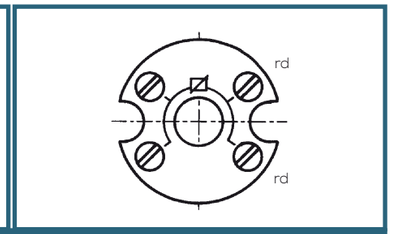
	Insert ø mm	Insert Length in mm	2-Wire Connection		3-Wire Connection		4-Wire Connection	
			1x Pt100	2x Pt100	1x Pt100	2x Pt100	1x Pt100	2x Pt100
WT-ME-MI-8-SV	8	145	7681001	7681101	7681201	7681301	7681401	-
		205	7681002	7681102	7681202	7681302	7681402	-
		295	7681003	7681103	7681203	7681303	7681403	-
		315	7681004	7681104	7681204	7681304	7681404	-
		375	7681005	7681105	7681205	7681305	7681405	-
		405	7681006	7681106	7681206	7681306	7681406	-
		430	7681007	7681107	7681207	7681307	7681407	-
		435	7681015	7681115	7681215	7681315	7681415	-
		445	7681008	7681108	7681208	7681308	7681408	-
		455	7681009	7681109	7681209	7681309	7681409	-
		525	7681010	7681110	7681210	7681310	7681410	-
		555	7681011	7681111	7681211	7681311	7681411	-
		735	7681012	7681112	7681212	7681312	7681412	-
		1025	7681013	7681113	7681213	7681313	7681413	-
		1425	7681014	7681114	7681214	7681314	7681414	-
		2025	7681016	7681116	7681216	7681316	7681416	-



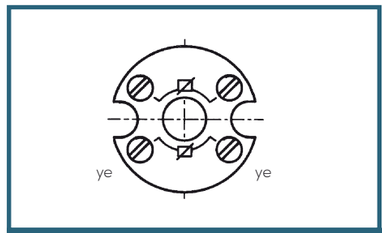
2-WIRE CONNECTION
1x Pt100



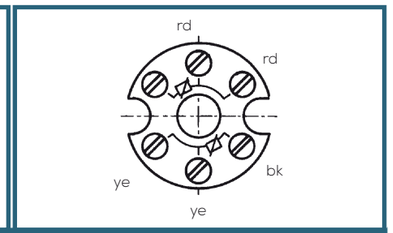
3-WIRE CONNECTION
1x Pt100



4-WIRE CONNECTION
1x Pt100



2-WIRE CONNECTION
2x Pt100



3-WIRE CONNECTION
2x Pt100

OPTIONS (Order note on page 4)

Resistor in accuracy classes	Add.-No.
+ A acc. to DIN EN 60751	No. -01
+ AA acc. to DIN EN 60751	No. -02
Head transmitters (from page 60)	
+ With 45 mm long open wire ends for connection of a head transmitter subsequently	No. -31
+ With head transmitter type 1 (fixed range, low-cost version)*	No. -32
+ With head transmitter type 2 (programmable, elect. insulation)*	No. -33
+ With head transmitter type 3 (as type 2, but EEx-Version)*	No. -34

Order: You can't find an option suitable for you? Then please enter your required parameters in the questionnaire on page 62. We will then contact you as fast as possible.

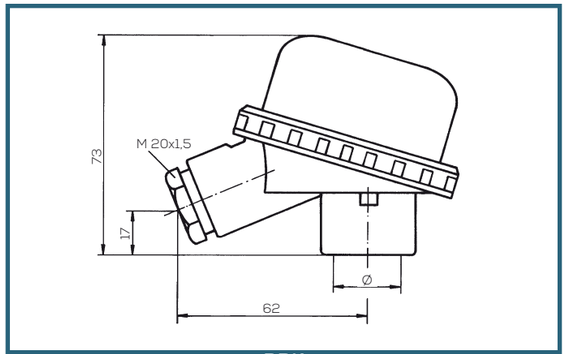
The questionnaire is also available online:
www.ludwig-schneider.de/en/resistance-thermometers-questionnaire

* Name the desired measuring range.

SUMMARY OF CONNECTION HEADS

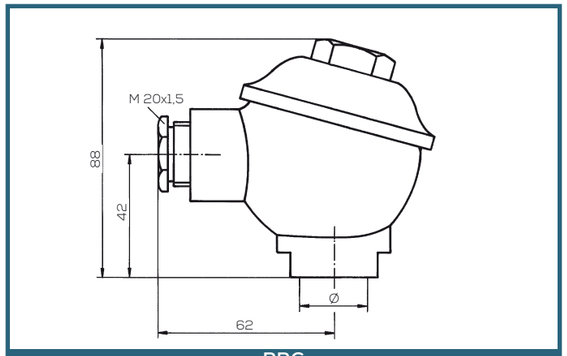
All the connection heads are similary form B acc. to DIN EN 50446 and are suitable for mounting of a terminal block or a head transmitter (max. Ø 44 mm). They are generally furnished with a rubber sealing in the cable threading and in the folding cover. The max. temperature load is 80 °C.

Further the high folding cover of the connection heads DANH and DANH-S are suitable for mounting of an additional terminal block or head transmitter.



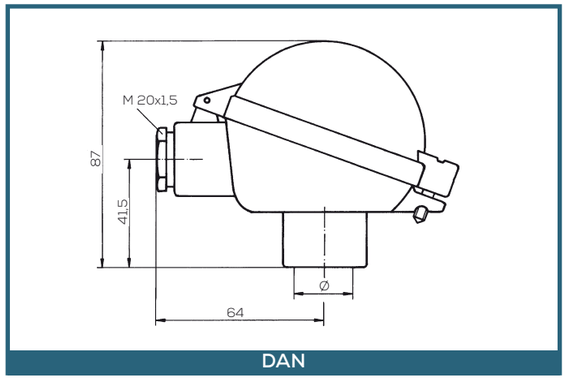
BBK

SPECIFICATION
- Material: black plastic
- Protection class: IP54
- Screw cover in black (optional in white, yellow, green, transparent)
- Cable gland M 20 x 1,5



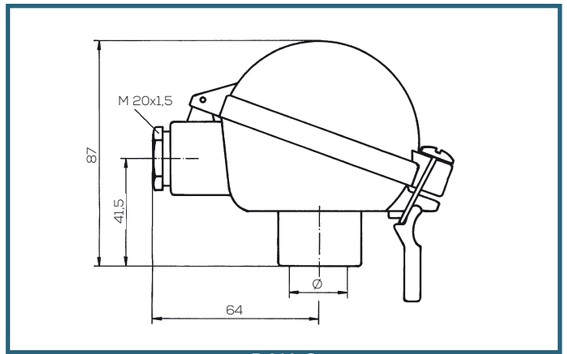
BBG

SPECIFICATION
- Material: cast iron
- Protection class: IP54
- Screw cover
- Cable gland M 20 x 1,5



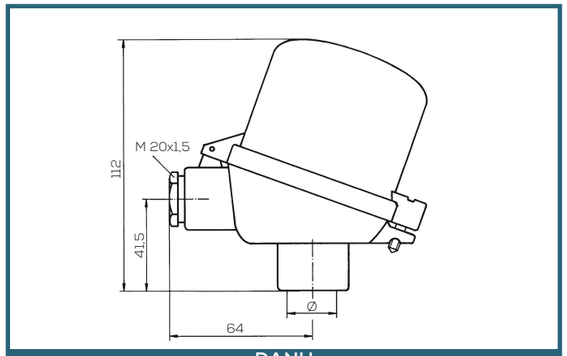
DAN

SPECIFICATION
- Material: light metal
- Protection class: IP54
- Folding cover and fastening screw
- Cable gland M 20 x 1,5



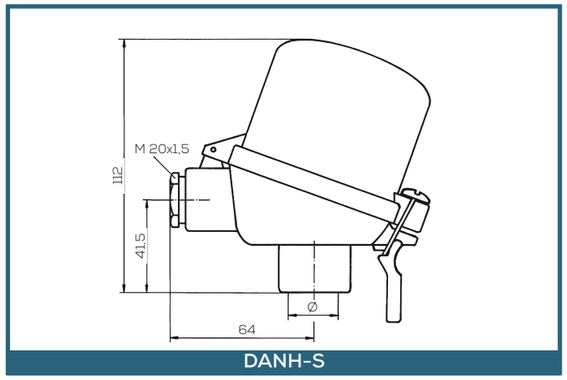
DAN-S

SPECIFICATION
- Material: light metal
- Protection class: IP54
- Folding cover and fast clamping device
- Cable gland M 20 x 1,5



DANH

SPECIFICATION
- Material: light metal
- Protection class: IP54
- High folding cover and fastening screw
- Cable gland M 20 x 1,5



DANH-S

SPECIFICATION
- Material: light metal
- Protection class: IP54
- High folding cover and fast clamping device
- Cable gland M 20 x 1,5

HEAD TRANSMITTER

The following head transmitters are mainly designed for mounting in connection head form B acc. to DIN EN 50446 or any larger size. They are all dual-wire temperature transmitters (loop-transmitters).

SPECIFICATION OF TYPE 1:
Low-cost transmitter for Pt100 only, temperature range fixed, output temperature linear.

SPECIFICATION OF TYPE 2:
Universal transmitter for RTD, TC, lin. Ω and mV, input free programmable, elect. insulation, temperature range free programmable, output temperature linear, sensor error detection.

SPECIFICATION OF TYPE 3:
Universal transmitter for RTD, TC, lin. Ω and mV, EEx-version, input free programmable, elect. insulation, temperature range free programmable, output temperature linear, sensor error detection.

COMMON SPECIFICATIONS	TYPE 1	TYPE 2	TYPE 3
Supply Voltage	10 to 36 VDC	7.2 to 35 VDC	7.2 to 28 VDC
Supply Voltage Influx	0.002 % VDC	< 0.005 % VDC	< 0.005 % VDC
Isolation Voltage	-	1500 VAC	1500 VAC
Linearity Error	0.1 %	≤ 0.05 %	≤ 0.05 %
Response Time	≤ 0.2 s	1 to 60 s*	1 to 60 s*
EEprom error check (output by error)	-	< 3.5 s (≤ 3.5 mA)	< 3.5 s (≤ 3.5 mA)
Licence for explosion area	-	-	EEx ia IIC T1 - T6
Max. wire size	1.5 mm²	1.5 mm²	1.5 mm²
Working temperature	–40 °C to 85 °C	–40 °C to 85 °C	–40 °C to 85 °C
Relative air humidity	0 to 95 %	0 to 95 %	0 to 95 %
Dimensions	ø 44 x 17 mm	ø 44 x 20.2 mm	ø 44 x 20.2 mm
Weight	20 g	50 g	50 g

INPUT SPECIFICATIONS FOR RTD	TYPE 1	TYPE 2	TYPE 3
Temperature span for Pt100	–50 °C to 600 °C**	–200 °C to 850 °C	–200 °C to 850 °C
Temperature span for Ni100	-	–60 °C to 250 °C	–60 °C to 250 °C
Min. meausuring span	50 °C	25 °C	25 °C
Wire connection	2, 3	2, 3, 4*	2, 3, 4*
Resistor current	1 mA	0.2 mA	0.2 mA
Basic accuracy	± 0.3 °C	± 0.2 °C	± 0.2 °C
Max. lead resistance per wire	10 Ω	5 Ω	5 Ω
Effect of the lead resistance	0.05 °C/Ω***	< 0.008 °C / Ω***	< 0.008 °C / Ω***

* Programmable
** By preference –50 °C to 50 °C, 0 °C to 50 °C, 0 °C to 100 °C, 0 °C to 150 °C, 0 °C to 200 °C
*** At 3- and 4-wire connection
**** Name the adjustments

INPUT SPECIFICATIONS FOR TC	TYPE 1	TYPE 2	TYPE 3
Temperature span for type B	-	400 °C to 1,820 °C*	400 °C to 1,820 °C*
Temperature span for type E	-	–100 °C to 1,000 °C*	–100 °C to 1,000 °C*
Temperature span for type J	-	–100 °C to 1,200 °C*	–100 °C to 1,200 °C*
Temperature span for type K	-	–180 °C to 1,372 °C*	–180 °C to 1,372 °C*
Temperature span for type L	-	–100 °C to 900 °C*	–100 °C to 900 °C*
Temperature span for type N	-	–180 °C to 1,300 °C*	–180 °C to 1,300 °C*
Temperature span for type R	-	–50 °C to 1,760 °C*	–50 °C to 1,760 °C*
Temperature span for type S	-	–50 °C to 1,760 °C*	–50 °C to 1,760 °C*
Temperature span for type T	-	–200 °C to 400 °C*	–200 °C to 400 °C*
Temperature span for type U	-	–200 °C to 600 °C*	–200 °C to 600 °C*
Temperature span for type W3	-	0 °C to 2,300 °C*	0 °C to 2,300 °C*
Temperature span for type W5	-	0 °C to 2,300 °C*	0 °C to 2,300 °C*
Min. measuring span for type E, J, K, L, T	-	50 °C	50 °C
Min. measuring span for type U	-	75 °C	75 °C
Min. measuring span for type N	-	100 °C	100 °C
Min. measuring span for type B, R, S, W3, W5	-	200 °C	200 °C
Basic accuracy for type E, J, K, L, N, T, U	-	≤ 1 °C	≤ 1 °C
Basic accuracy for type B, R, S, W3, W5	-	≤ 2 °C	≤ 2 °C
Cold junction	-	internal, external*	internal, external*
Cold junction compensation	-	< 1 °C	< 1 °C

INPUT SPECIFICATIONS FOR LIN. RESISTOR	TYPE 1	TYPE 2	TYPE 3
Measuring span	-	0 to 5,000 Ω*	0 to 5,000 Ω*
Min. measuring span	-	30 Ω	30 Ω
Max. lead resistance per wire	-	5 Ω	5 Ω
Resistor current	-	0.2 mA	0.2 mA
Effect of the lead resistance	-	< 0.002 Ω / Ω***	< 0.002 Ω / Ω***

INPUT SPECIFICATIONS FOR VOLTAGE	TYPE 1	TYPE 2	TYPE 3
Measuring span	-	–12 to 800 mV*	–12 to 800 mV*
Min. measuring span	-	5 mV	5 mV
Input resistance	-	10 MΩ	10 MΩ

OUTPUT SPECIFICATIONS	TYPE 1	TYPE 2	TYPE 3
Current signal	4 - 20 mA	4 - 20 mA, 20 - 4 mA*	4 - 20 mA, 20 - 4 mA*

SENSOR ERROR DETECTIONS	TYPE 1	TYPE 2	TYPE 3
No function	-	-	-
Upscale	-	≥ 23 mA*	≥ 23 mA*
Downscale	-	≤ 3.8 mA*	≤ 3.8 mA*
Acc. to Namur NE43 upscale	-	23 mA*	23 mA*
Acc. to Namur NE43 downscale	-	3.5 mA*	3.5 mA*

ORDER NUMBER	TYPE 1	TYPE 2	TYPE 3
	7691211****	7691111****	7691011****

QUESTIONNAIRE

If you haven't found a resistance thermometer in the version required by you in our catalogue, please fill out this questionnaire. Enter your required parameters and send it to us. We will then contact you as fast as possible.

1. VARIANT THERMOMETER-TYPES
(FROM PAGE 10)
❑ WT-BA ❑ WT-BE ❑ WT-BB-ko ❑ WT-BB-k ❑ WT-BB
❑ WT-BC ❑ WT-BF ❑ WT-BE (R) ❑ WT-BB (R) ❑ WT-BC (R)
❑ WT-BF (R) ❑ WT-BD ❑ WT-BB-k perf. ❑ WT-BB perf. ❑ WT-BL-ME
❑ WT-BL-MI ❑ WT-ME ❑ WT-ME-MI-_-D ❑ WT-ME-MI-_-SV

2. VARIANT CONNECTION HEADS
(FROM PAGE 58 + 59)
❑ BBK ❑ BBG ❑ DAN
❑ DAN-S ❑ DANH ❑ DANH-S

3. THERMOWELL ❑ **YES** MATERIAL ..... DIAMETER .....

VARIANT THERMOWELL
❑ STANDARD IMMERSION LENGTH ..... ❑ LAGGING TUBE LENGTH .....
❑ PERFORATED IMMERSION LENGTH ..... ❑ LAGGING TUBE LENGTH .....
❑ WELD-IN LAGGING TUBE LENGTH .....

❑ **NO** NOMINAL LENGTH ..... SENSOR-DIAMETER .....

VARIANT COUPLING
❑ CUTTING RING AT STAINLESS STEEL ❑ CLAMPING RING

4. WIRE CONNECTION ❑ 2-WIRE CONNECTION ❑ 3-WIRE CONNECTION ❑ 4-WIRE CONNECTION

5. TEMPERATURE RANGE ..... ° C

6. ACCURACY CLASS PT100 ❑ CLASS B ❑ CLASS A ❑ CLASS AA
❑ CLASS 1/5B ❑ CLASS 1/10B

7. HEAD TRANSMITTER
(FROM PAGE 60 + 61) ❑ TYPE 1 ❑ TYPE 2 ❑ TYPE 3

8. ADDITIONAL OPTIONS ❑ 2X PT100 ❑ VIBRATION-PROOF

9. QUESTIONS ABOUT DELIVERY

DATE ..... NUMBER OF PIECES ..... DATE OF DELIVERY .....

YOUR ADRESS

COMPANY NAME ..... CONTACT PERSON .....

STREET, NR. ..... COUNTRY, POSTAL CODE, TOWN .....

PHONE NUMBER ..... EMAIL .....

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FOR TEMPERATURE & DENSITY

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We measure temperatures from –196 °C to 1,850 °C and vouch for highest precision to all international standards. We document and certify measuring instruments in accordance with the individual requirements of our customers.

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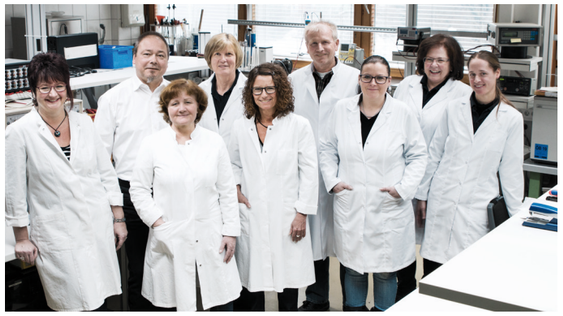
In our modern calibration laboratory we offer our clients a wide variety of measurements including documentation:

+ **CALIBRATION TO FIXED POINTS**
  Resistance thermometers
+ **ADJUSTMENT OF**
  digital and analog measured-value detection systems
+ **COMPARISON MEASUREMENTS OF**
  Resistance thermometers
  Thermocouples
  Liquid-in-glass thermometers
  Mechanical thermometers
  Block calibrators
  Calibration baths and simulators
  Hydrometers and alcoholmeters



BEYOND THE USUAL OUR SERVICE PERFORMANCE

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PRODUCT SUMMARY

Catalogue	PRECISION LABORATORY THERMOMETERS / GROUND JOINT THERMOMETERS
Catalogue	PRECISION THERMOMETERS FOR MATERIAL TESTING ASTM, ETC.
Catalogue	GENERAL PURPOSE THERMOMETERS / THERMOMETERS FOR SPECIAL APPLICATION
Catalogue	CABLE-TEMPERATURE PROBES
Catalogue	RESISTANCE THERMOMETERS
Catalogue	THERMOCOUPLES
Catalogue	ACCU-SAFE
Catalogue	PRECISION THERMOMETERS FOR METEOROLOGY
Catalogue	ENGINE THERMOMETERS
Catalogue	PRECISION HYDROMETERS

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