Thermo Speed Edition

2012

UTECO Express Catalogue Temperature Sensor

UTECO

Temperature Sensor Sector

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Thermo Speed

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Content

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Dear Customers,

You will find below a standardized list of special cables from us, which are always in stock at our warehouse, capable of solving the immediate need of the most demanding applications.
The catalogue includes code, type, basic technical description and a photo for visual recognition of our product.

This is a indicative list. Cables with different numbers of cores or pairs, different sections (mm2), insulation or color codes (standard), etc. are also available.
If your requests are not covered by this list, please contact us.

Thermo Speed

Resistance thermometer head type suitable for measuring temperatures of liquids and gases with screw in mounting fitting

Type	Diameter	Length	Temperature	Product Code	Article No
1xPt100	8mm	100mm	260° C	4-07-ZE-8B-42-8	4070001
1xPt100	8mm	100mm	400° C	4-07-ZE-8B-43-2	4070002
2xPt100	8mm	100mm	260° C	4-07-HE-8B-40-8	4070003
2xPt100	8mm	100mm	400° C	4-07-HE-8B-40-6	4070004

Specifications

Resistance type and tolerances: resistance thermometer PT100, Class B, single or double, IEC 751, 2, 3, 4 or 6 wire system
Outside diameter: 8mm
Sheath material: AISI 316 Ti
Process connection: R1/2 BSP
Probe length: 100mm or to be specified
Temperature range: from -50° C to +400° C
Terminal head: TYPE BUZ IP 65

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Resistance thermometer head type suitable for measuring temperatures of liquids and gases with screw in compression fitting

Type	Diameter	Length	Temperature	Product Code	Article No
1xPt100	10mm	300mm	400° C	4-07-ZH-EB-41-9	4070005
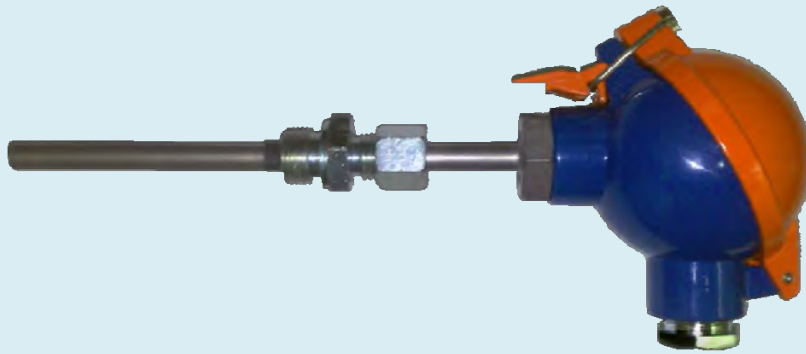
Specifications

Resistance type and tolerances: resistance thermometer PT100, Class B, single or double, IEC 751, 2, 3, 4 or 6 wire system
Outside diameter: 10mm
Sheath material: AISI 316 Ti
Process connection: R1/2 BSP ERMETO
Probe length: 300mm or to be specified
Temperature range: from -50° C to +400° C
Terminal head: TYPE BUZ IP 65

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⑦ ## Temperature sensor for diesel exhaust systems Temperature sensor for Diesel Exhaust System Excellent vibration proof and shock performance at high temperature

Type	Sort of Element	Length in mm	Diameter in mm	Temperature	Product Code	Article No
1x100	12mm	100mm	R 3/4 BSP	0-650° C	4-07-ZI-8B-53-9	4072221
1x100	12mm	110mm	R 3/4 BSP	0-650° C	4-07-ZI-9B-54-5	4072229
1x100	12mm	150mm	R 3/4 BSP	0-650° C	4-07-ZI-AB-54-0	4072222
1x100	12mm	200mm	R 3/4 BSP	0-650° C	4-07-ZI-BB-54-6	4072223
1x100	15mm	200mm	R 3/4 BSP	0-650° C	4-07-ZM-BB-52-0	4072224
1x100	15mm	250mm	R 3/4 BSP	0-650° C	4-07-ZM-GB-52-0	4072225
1x100	12mm	250mm	R 3/4 BSP	0-650° C	4-07-ZI-GB-52-1	4072230
1x100	15mm	300mm	R 3/4 BSP	0-650° C	4-07-ZM-EB-50-5	4072231
1x100	12mm	80mm	R 3/4 BSP	0-200° C	4-07-ZI-6B-51-9	4072228
1x100	12mm	100mm	R 3/4 BSP	0-200° C	4-07-ZI-8B-54-0	4072226
1x100	12mm	150mm	R 3/4 BSP	0-200° C	4-07-ZI-AB-54-4	4072227
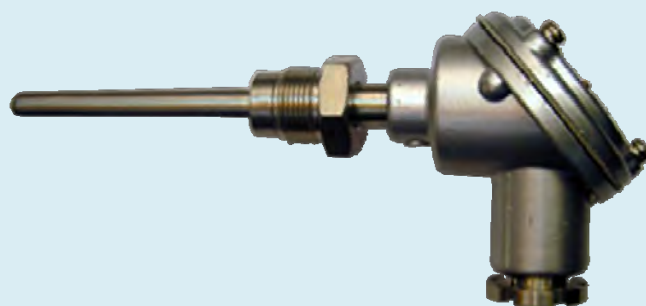
Specifications

Resistance type and tolerances: resistance thermometer PT100, Class B, 3 wire system
Outside diameter: 12mm or 15mm
Sheath material: AISI 316 Ti Nr.14571
Process connection: R1/2 BSP
Probe length: 80mm - 300mm or to be specified
Temperature range: from -0° C to +650° C
Terminal head: Cast Aluminum IP65

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Resistance thermometer with terminal head form J suitable for measuring temperatures of liquids and gases

Type	Diameter	Length	Temperature	Product Code	Article No
1x100	7mm	50mm	260° C	4-23-ZD-3B-40-2	4231001

Specifications

Resistance type and tolerances: resistance thermometer PT100, Class A, IEC 751, 2, 3, or 4 wire system
Outside diameter: 7mm
Sheath material: AISI 316 Ti
Process connection: Thread R1/2 BSP **Probe length:** 50mm or to be specified
Temperature range: from -50° C to +260° C
Terminal head: terminal head form J Pg9, IP54

Thermo Speed

Bearing oil Resistance thermometer with spring loaded system

Type	Diameter	Length	Temperature	Product Code	Article No
2xPT100	8mm	360mm	-50 +260° C	4-23-HE-ZB-40-1	4230002
2xPT100		690mm	-50 +260° C	4-23-HE-MB-40-1	4230003

Specifications

Resistance type and tolerances: resistance thermometer PT100, Class B, IEC 751,3 wire system
Outside diameter: 8,0mm
Sheath material: AISI 316 Ti
Cold end: 40mm
Process connection: thread ½ pipe
Probe length: 155mm, 360mm, 690mm or to be specified
Temperature range: -50° C to +260° C
Terminal head:

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Resistance thermometer suitable for measuring temperatures for food and pharmaceutical industries

Type	Diameter	Length	Temperature	Product Code	Article No
1xPt100	3mm	33 mm	260° C	4-23-Z4-2B-01-1	4234001
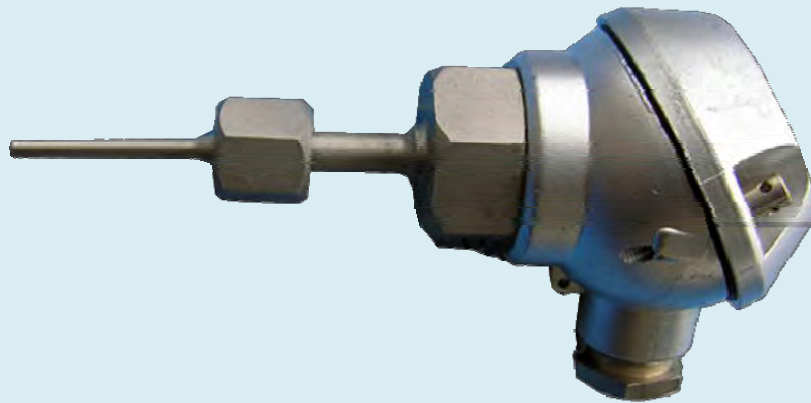
Specifications

Resistance type and tolerances: resistance thermometer PT100, Class A, IEC 751, 2, 3, or 4 wire system
Outside diameter: 3mm
Sheath material: AISI 316 Ti
Cold end: 20mm
Process connection: Thread R1/2 BSP female
Probe length: 33mm
Temperature range: from -50° C to +260° C
Terminal head: terminal head form J, Aluminum die – Casting, Pg9, IP54

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Thermocouples with terminal head form A. Preferred choice for measuring temperatures in liquids and gases. Application includes heating installations, ovens, furnace and plant engineering

Measure- ment insert	Diameter in mm	Length in mm	Tempera- ture	Material	Product Code	Article No
1 x K	22x2	710	1150° C	1.4841	4-11-4S-MA-00-4	4114001
1 x K	22x2	1000	1150° C	1.4841	4-11-4S-P0-00-1	4114002
1 x K	22x2	1200	1150° C	1.4841	4-11-4S-R0-00-1	4114003
2 x K	22x2	1000	1150° C	1.4841	4-11-5S-P0-00-1	4115001
2 x K	22x2	1200	1150° C	1.4841	4-11-5S-R0-00-1	4115002
1 x K	22x2	1400	1150° C	1.4841	4-11-4S-SA-00-2	4114004
1 x K	21,3x2,6	710	1150° C	4C54(14749)	4-11-4S-MA-00-3	4114005
1 x K	21,3x2,6	1000	1150° C	4C54(14749)	4-11-4S-PA-00-1	4114006
1 x K	21,3x2,6	1200	1150° C	4C54(14749)	4-11-4S-RA-00-2	4114007
2 x K	21,3x2,6	1200	1150° C	4C54(14749)	4-11-5S-RA-00-5	4115003

Specifications

The measuring insert is fitted with thermocouples according to class1 or class2 or EN 60584 and DIN 43710 respectively.

Probe diameter: 17,15 x 2,31mm / 21,3 x 2,65mm / 22 x 2mm
                (26 x 18mm can also be supplied)

Sheath material: EN 1.4841, EN 14749, EM4845, EN 14835, 353MA, 24816, Kanthal AF
                (Kanthal APM can also be supplied)

Process connection: Screwed pipe joint ¾", 1" or to be specified
                Stop flange 22mm diameter to DIN 43734

Probe length: 500mm, 1000mm, 120mm, 1400mm or to be specified

Temperature range: from -200° C to +1400° C

Terminal head: Form A DIN 43729, aluminum die-casting, M 20 x 1,5 IP 54 or BUZH

Transmitter: programmable transmitter output. 4 – 20 mA / 20 – 4 mA
            (Profibus PA can also be supplied)

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Outdoor resistance thermometer for HVAC applications mainly used for measuring temperatures outdoors

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Measurement insert	Output	Temperature	Product Code	Article No
1xPt100	-	-30°C +80°C	4-35-ZO-00-01-2	4351300
1xPt100	0-10V	-50°C +50°C	4-35-Z0-0B-00-1	4351301
1xPt100	4-20 mA	-30°C +60°C	4-35-Z0-00-00-7	4351302
1xPt1000	-	-30°C +80°C	4-35-K6-1B-00-1	4351303

Specifications

Resistance type and tolerances: Resistance thermometer Pt100 or Pt1000 class A accuracy ±0,150°C to 0°C, IEC751 3-wire system
Terminal Box: Plastic PC housing IP65
Transmitter: analog transmitter, output 4 – 20 mA or 0-10V
Versions: Pt500, Ni1000, Ni120, or NTC10KΩ can also be supplied

Thermo Speed

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Indoor resistance thermometer for HVAC applications Mainly used for measuring temperatures in rooms and in air ducts

Measurement insert	Output	Temperature	Product Code	Article No
1xPt100	-	-30° C +80°C	4-35-ZO-00-00-0	4351000
1xPt100	4-20 mA	0° C +50°C	4-35-ZO-00-00-4	4351001
1xPt100	0-10V	0° C +50°C	4-35-ZO-00-01-3	4351002
1xPt1000	-	-30° C +80°C	4-35-KO-00-00-0	4351003

Specifications

Resistance type and tolerances: Resistance thermometer Pt100 or Pt1000 class A accuracy ±0,15°C to 0°C, IEC751 3-wire system
Terminal Box: Plastic PC housing IP20
Transmitter: analog transmitter, output 4 – 20 mA or 0-10V
Versions: Pt500, Ni1000, Ni120, or NTC10KΩ can also be supplied

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Duct Resistance thermometer for HVAC

Measurement insert	Diameter	Length	Temperature	Product Code	Article No
1xPt100	8mm	200mm	-50°C +260°C	4-35-ZE-BB-00-2	4352006
1xPt1000	8mm	200mm	-50°C +260°C	4-35-KE-BB-00-1	4352007
0-10V	8mm	200mm	0°C + 50°C	4-35-ZE-BB-00-1	4352008
4-20MA	8mm	200mm	-30°C + 60°C	4-35-ZE-BB-00-5	4352009
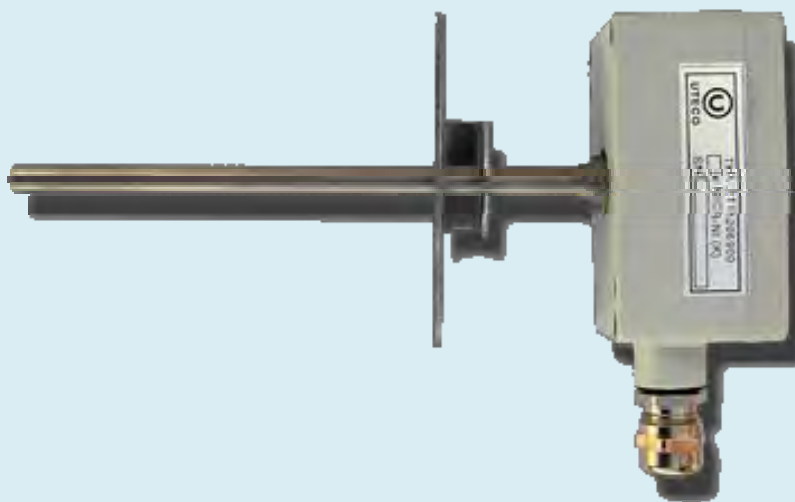
Specifications

The measuring insert is normally fitted with a Pt100 or Pt1000 Temp. Sensor to EN 60751 Class A in 2-wire, 3-wire and 4-wire circuit. Version with Pt500, Ni 1000, Ni 120, NTC 10 KΩ, KTx 11-6 can also be supplied.
Terminal Box: Plastic PVC housing IP65
Protection Tube: Stainless steel 1-4571 diameter 8mm or to be specified
Immersion length: 200mm or to be specified
Transmitter: analog transmitter, output 4 – 20 mA or 0-10V by Jumo Germany

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(15) **Outdoor temperature sensor** For temperature measuring in outdoor areas, cold stores and greenhouses

Measurement insert	Temperature	Product Code	Article No
1xPT 100	from -50°C to +90°C	4-35-Z0-00-10-0	4353001
1xPT1000	from -50°C to +90°C	4-35-K0-00-10-0	4353002

Specifications

Resistance type an tolerance thermometer P+100 or P+1000 class A accuracy ±0,15°C (IEC 751), 2 0 3 system wire
Terminal box: Material PA6, Color: pure white similar to RAC 9010
Cable entry: PE 14
Protection: IP65
Terminal Clamp: Screwing terminal max 1,5mm2 Version Pt500, Ni 1000, NTC 10KΩ, KTY 21-5 can also be supplied

Thermo Speed

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TSS Temperature Sensor Sector

Resistance thermometer for refrigerated warehouses & outdoors

Measurement insert	Diameter	Length	Temperature	Product Code	Article No
1xPt100	14mm	150mm	-50°C +260°C	4-35-ZL-AB-00-0	4351006
2xPt100	14mm	150mm	-50°C +260°C	4-35-HL-98-00-1	4351007
1xPt100	8mm	100mm	-50°C +260°C	4-35-ZE-8B-00-5	4351008
4-20MA	8mm	100mm	-50°C +260°C	4-35-ZE-8B-00-3	4351009
0-10V	8mm	100mm	-50°C +260°C	4-35-ZE-8B-00-2	4351010

Specifications

The measuring insert is normally fitted with a Pt100 Temp. Sensor to EN 60751 Class A in 2-wire, 3-wire, 4-wire and 6-wire circuit, single or duplex resistance thermometer.
Connection Box: Material Aluminum, Protection IP65
Protection Tube: round 14mm stainless steel perforated with open end
Measuring Insert: Pt100 Class A, 1/3 or 1/5 DIN
Transmitter: analog transmitter, output signal 4 – 20 mA or 0-10V by Jumo Germany

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Resistance thermometer with PVC extension cable Preferred for temperature measurement of liquids, gases, solids such as hot plates and welding jaws. Application includes HVAC and refrigeration, heating installations, ovens, plan engineering and laboratories.

Measurement insert	Diameter	Length	Temperature	Cable length	Product Code	Article No
1xPt100	6mm	50mm	80° C	3m	4-25-ZA-3B-00-3	4256501
1xPt100	6mm	50mm	80° C	5m	4-25-ZA-3B-05-8	4256502
1xPt1000	6mm	50mm	80° C	5m	4-25-KA-3B-00-3	4256505
NTC 10ko	6mm	50mm	80° C	3m	4-25-XA-3B-00-9	4256507
AD 592	6mm	200mm	80° C	5m	4-25-XA-BB-00-1	4256200
KTY 11-6	6mm	50mm	80° C	3,5m	4-25-XA-2B-00-1	4256509
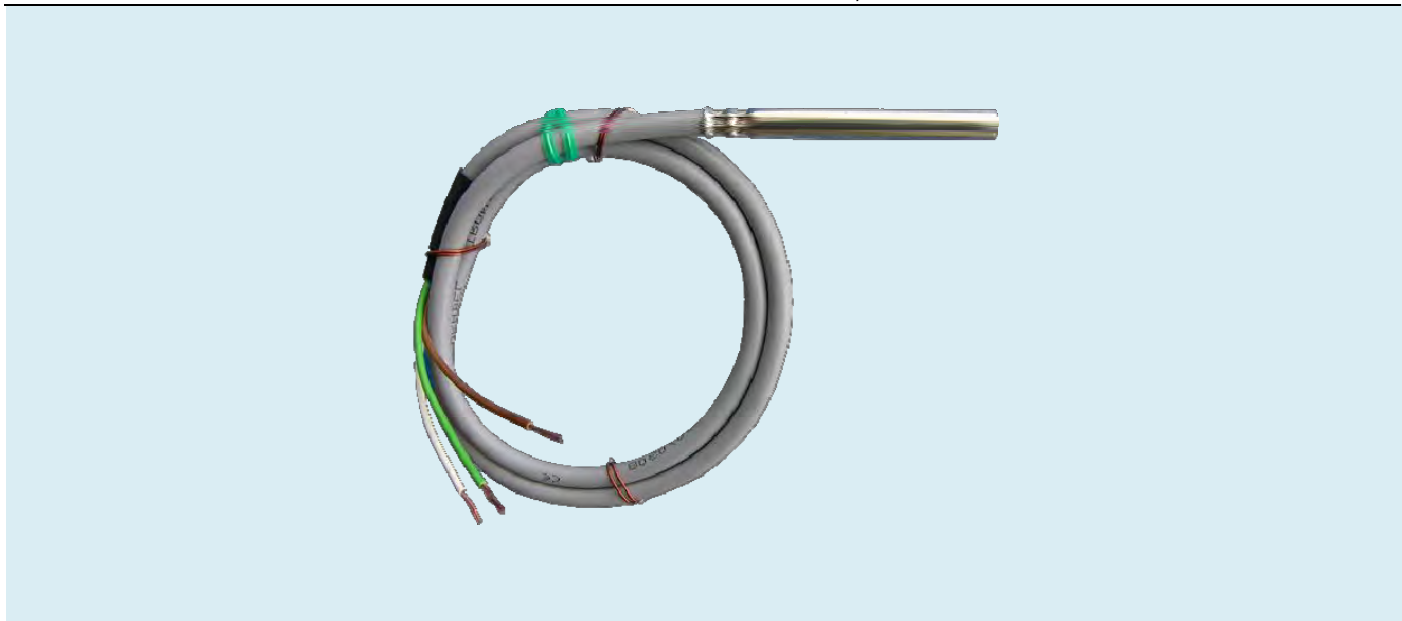
Specifications

Resistance thermometer Pt100 to EN 60751 class A or B available with 2, 3 or 4 wire circuit. Versions with Pt1000, Pt500,Ni1000, Ni120, NTC10Ko, KTY 11-6, KTY84, AD592 (available with single or twin resistance thermometer)
Probe Diameter: 6mm or to be specified
Probe Length: 50mm, 160mm or to be specified
Protection tube: Stainless steel 14571
Protection: IP 67

Thermo Speed

UTECO

TSS Temperature Sensor Sector

Resistance thermometer with silicon extension cable Preferred for temperature measurement of liquids, gases, solids such as hot plates and welding jaws. Application includes HVAC and refrigeration, heating installations, ovens, plan engineering and laboratories.

Measurement insert	Diameter	Length	Temperature	Cable length	Product Code	Article No
1xPt100	6mm	50mm	180° C	3m	4-25-ZA-3B-01-2	4256500
1xPt100	6mm	160mm	180° C	3m	4-25-ZA-AB-01-6	4256160
1xPt1000	6mm	50mm	180° C	5m	4-25-KA-3B-01-3	4256506
KTY 84	6mm	50mm	180° C	0,3m	4-25-XA-3B-01-0	4256508

Specifications

Resistance thermometer Pt100 to EN 60751 class A, B or 1/3 DIN available with 2, 3 or 4 wire circuit. Versions with Pt1000, Pt500,Ni1000, Ni120, NTC10Ko, KTY 11-6, KTY84, AD592 (available with single or twin resistance thermometer)
Probe Diameter: 6mm or to be specified
Probe Length: 50mm, 160mm or to be specified
Protection tube: Stainless steel 14571
Protection: IP 67

Thermo Speed

TSS Temperature Sensor Sector

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(19) **Resistance thermometer with Teflon extension cable** Preferred for temperature measurement of liquids, gases, solids such as hot plates and welding jaws. Application includes HVAC and refrigeration, heating installations, ovens, plan engineering and laboratories.

Measurement insert	Diameter	Length	Temperature	Cable length	Product Code	Article No
1xPt100	4mm	40mm	260°C	1,5m	4-25-Z6-2B-00-5	4257501
1xPt100	3mm	22mm	260°C	2m	4-25-Z4-1B-00-4	4257502
1xPt100	3mm	22mm	260°C	3m	4-25-Z4-1B-00-2	4257505

Specifications

Resistance thermometer Pt100 to EN 60751 class A or B available with 2, 3 or 4 wire circuit. Versions with Pt1000, Pt500,Ni1000, Ni120, NTC10Ko, KTY 11-6, KTY84, AD592 (available with single or twin resistance thermometer)
Probe Diameter: 6mm or to be specified
Probe Length: 50mm, 160mm or to be specified
Protection tube: Stainless steel 14571
Protection: IP 67

Thermo Speed

TSS Temperature Sensor Sector

Encapsulated resistance thermometer cable type IP65 Preferred for
temperature measurement of liquids and gases

Type	Diameter	Cable Length	Temperature Range	Product Code	Article No
1x100	5mm	5000mm	-50°C +105°C	3-88-10-3G-01-8	3880001
1x1000	5mm	5000mm	-50°C +105°C	3-88-10-3G-02-1	3880002
10KΩ	5mm	1500mm	-50°C +105°C	3-88-12-00-01-3	3880003

Specifications

Resistance type and tolerances: resistance thermometer PT100,Class B or A IEC 751 3or4 wire system, thermistor 10KΩ ±1% @25°C B(25/85)=3977 ± 0.75%
Compensating cable: Stranded copper wires 2 or 4x0,30mm2(22AWG)with single conductor polypropylene insulation and overall thermoplastic elastomer insulation outer diam.~3.5mm
**Protection:** IP68
Insulation resistance: 100MΩ with 100VDC

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(21) **Resistance thermometer with fiber glass – braided extension cable** Preferred for temperature measurement in dry environments at temperature range between 0°C and +400°C

Type	Diameter	Probe Length	Cable Length	Product Code	Article No
1xPt100	6mm	50mm	2m	4-25-ZA-3B-05-9	4251001
1xPt100	6mm	50mm	5m	4-25-ZA-3B-07-3	4251002
1xPt100	6mm	160mm	1.5m	4-25-ZA-AB-00-3	4251003
1xPt1000	6mm	50mm	2m	4-25-KA-3B-00-7	4251004
1xPt1000	8mm	150mm	1.5m	4-25-KE-AB-00-1	4251005
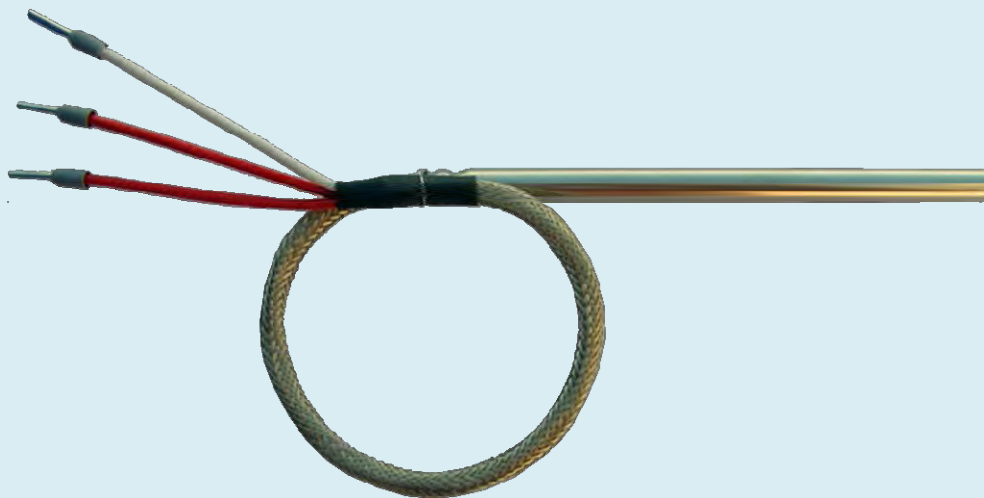
Specifications

Resistance type and tolerances: resistance thermometer PT100 ή PT1000, Class B (single or twin) Accuracy: ±0,20^o C to 0 ^{o}C , IEC 751,2 or 3 or 4 wire circuit
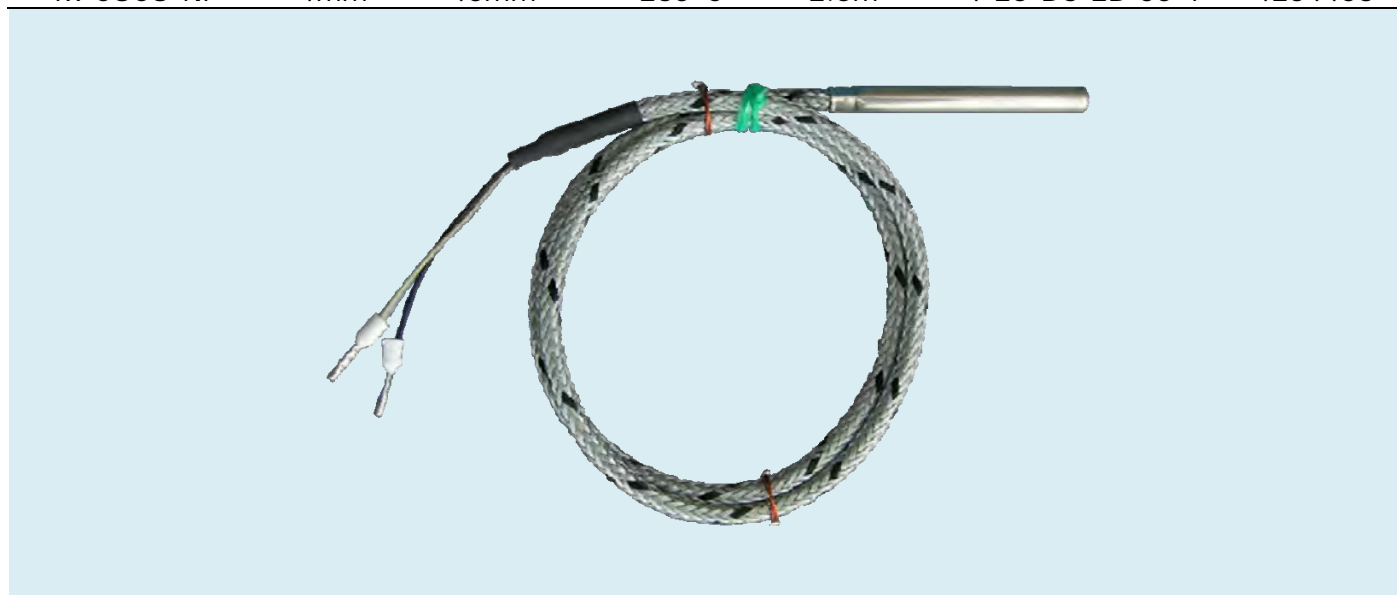**Outside diameter:** 6,8mm or to be specified
Sheath material: St.St. 1.4571
Probe Length: 50mm,150mm or to specified
Temperature range: 0°C +400°C

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Thermocouple with extension cable preferred use in measuring temperatures of gases, on solids, welding jaws, heating installations, ovens and plant engineering.

Measurement insert	Diameter	Length	Temperature	Cable length	Product Code	Article No
1xFe-Konst.	3mm	25mm	400°C	1m	4-25-24-1B-00-4	4253250
1xFe-Konst.	4mm	25mm	400°C	1m	4-25-26-1B-00-4	4254251
1xFe-Konst.	4mm	40mm	400°C	2m	4-25-26-2B-02-3	4254402
1xFe-Konst.	4mm	50mm	400°C	1m	4-25-26-3B-00-3	4254501
1xFe-Konst.	5mm	70mm	400°C	3m	4-25-29-5B-00-2	4255701
1xFe-Konst.	6mm	30mm	400°C	1.5m	4-25-2A-2B-00-6	4256300
1xFe-Konst.	3mm	80mm	400°C	1m	4-25-24-6B-00-2	4253800
1xNICR-Ni	4mm	40mm	400°C	3m	4-25-46-2B-00-6	4254401
1xNICR-Ni	6mm	50mm	400°C	6m	4-25-4A-3B-00-8	4256504
1xNICR-N	6mm	100mm	400°C	3m	4-25-4A-8B-00-6	4256100
1x-CUCU-Ni	4mm	40mm	260°C	2.5m	4-25-D6-2B-00-1	4254406

Specifications

Thermocouple to EN 60584 or Din 43710 Class 1 or 2 type of thermocouple J,K,T,L,E (available with single or twin resistance thermometer)
Probe Diameter: 3mm,4mm,5mm,6mm,8mm or to be specified
 Probe Length: 25mm,40mm,50mm 70mm, 100mm or to be specified
Protection tube: stainless steel 1.4571

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(23)

Thermocouple and resistance thermometers with bayonet lock Preferred for measuring temperatures in solids, on bearings and molding tools.

Measurement insert	Diameter	Probe Length	Cable length	Product Code	Article No
Fe-Konst.(J)	8mm	10mm	3m	4-30-2E-09-11-7	4302800
Fe-Konst.(J)	8mm	10mm	2m	4-30-2E-09-11-8	4302801
Fe-Konst.(J)	8mm	10mm	5m	4-30-2E-O9-10-3	4302802
Fe-Konst.(J)	8mm	10mm	4m	4-30-2E-O9-11-9	4302803
Pt100	8mm	10mm	3m	4-30-ZE-O9-10-1	4302804
Pt100	8mm	10mm	4m	4-30-ZE-O9-11-0	4302805

Specifications

The measuring insert is normally fitted with thermocouples to EN 60584 Class 2.
The sensor is normally PT100 Temperature sensor to EN 60751,Class B or 3 wire circuit.
Probe Diameter: 8mm
Probe Length: 10mm
Material: AISI 304
Process connection: Bayonet lock,12mm or to be specified R ¼ BSP
Connection cable: Metal braiding, temperature 0-400°C

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Surface resistance thermometer and thermocouple ring type Preferred use for measuring temperatures on round or flat surfaces of closed pipe systems

Measuring Insert	Length	Cable Length	Temperature Range	Product Code	Article No
Fe-konst.	20mm	3m	0°C +400°C	4-33-2E-07-00-1	4332000
1xPt100	20mm	3m	-50°C +260°C	4-33-Z6-1B-60-7	4332002

Specifications

Pt100 Temperature Sensor EN60751 Cl.B, 2 or 3 wire and thermocouple Type J to EN 60584
For temperature from -50°C +400°C
Quick and easy installation
Low thermal mass
Protection tube: Stainless steel 1.4571
Ring dimension: Φ10x5mm

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Thermocouple temperature sensor with cable and single protection tube.
Preferred for measuring temperature exhaust system. Excellent vibration proof and shock proof.

Measurement insert	Diameter	Probe Length	Cable length	Emperature	Product Code	Article No
1xK	9,5m	186mm	3m	0-800°C	4-27-4Z-BB-01-7	4270001
1xK	9,5m	236mm	3m	0-800°C	4-27-4Z-GB-00-2	4270002
1xK	9,5m	286mm	3m	0-800°C	4-27-4Z-EB-00-9	4270003
1xK	9,5m	316mm	3m	0-800°C	4-27-4Z-EB-00-9	4270004
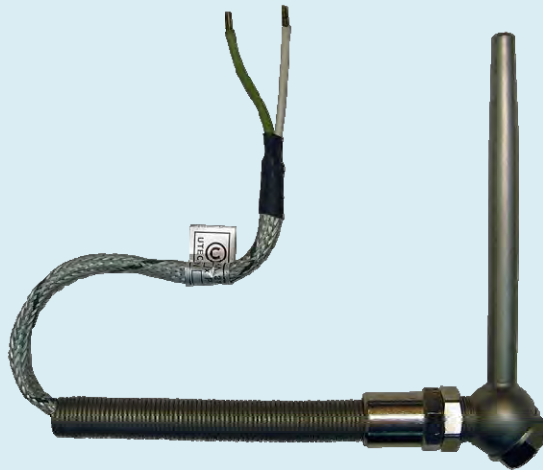
Specifications

The measuring insert is fitted with thermocouple to EN60581

Tube Diameter: 9,5mm or to be specified
Probe Length: 186mm, 236 mm, 286 mm, 316 mm or to be specified
Compensating cable: Silicone-Fiberglass-Braiding and steel flexible tube
Protection: IP67
Temperature: 0-800°C

Thermo Speed

TSS Temperature Sensor Sector

Mineral insulated thermocouple (type Mantel) Preferred for temperature measurement of liquids and gases on solids such as hot plates and welding jaws. Application include heating installations, ovens, plant engineering and laboratories.

Measurement insert	Diameter	Length	Temperature	Cable length	Product Code	Article No
1xJ	1.5mm	110mm	600°C	3m	3-88-10-I4-06-3	38810000
1xK	1.5mm	150mm	600°C	1.5m	3-88-10-84-04-0	38810001
1xJ	2mm	80mm	600°C	1.5m	3-88-10-I6-04-3	38810002
1xJ	1mm	150mm	600°C	2m	3-88-10-Z3-07-2	38810003
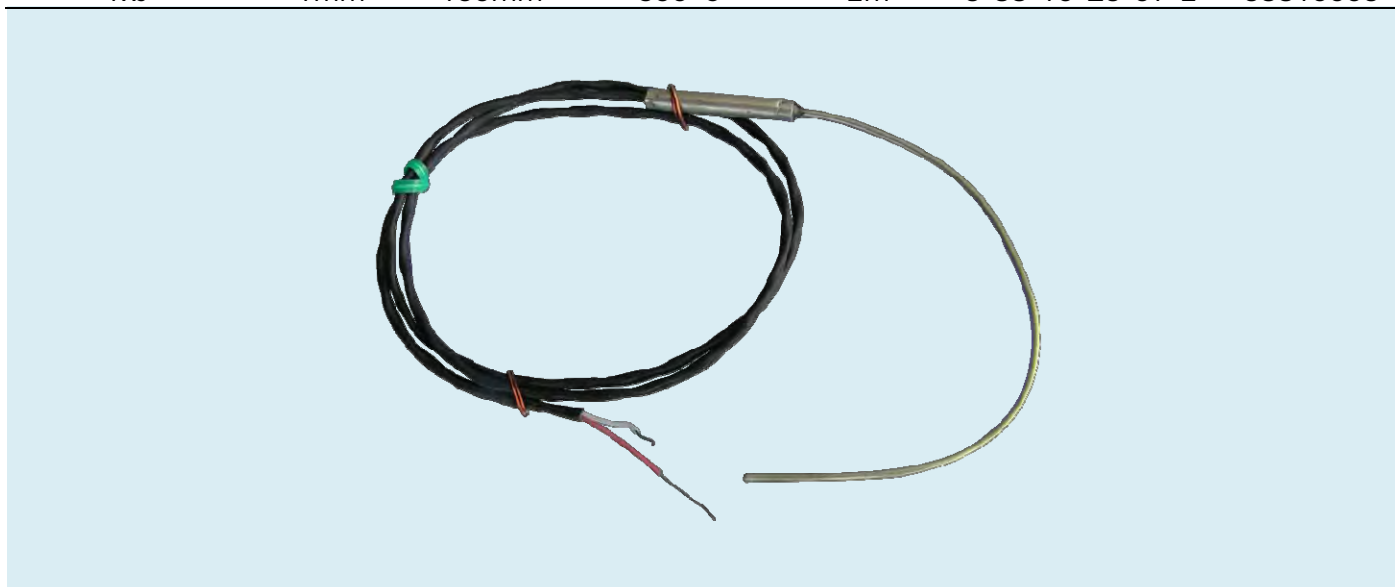
Specifications

Probe Diameter: Thermocouple typ K or J to EN 60584 or Din 43710 flexible sheath with shock protected sensor as single or twin thermocouple
Tube diam. : 0,5mm,1mm,1,5mm,2mm,3mm or to be specified
Tube Length: 100mm,150mm,200mm or to be specified
Sheath material: stainless steel 1.4571 (thermocouple typ J) Inconell 600(thermocouple typ k)
Connecting cable: silicon, ambient temp.-50 to +180°C
                    Teflon: ambient temp. -190°C to +260°C
                    Metal braiding, ambient, ambient temp. :-20°C to +350°C

Thermo Speed

TSS Temperature Sensor Sector

Mineral insulated thermometer (type Mantel). Preferred for temperature measurement of temperatures in pipe and tank systems e.g. in oil tankers, or part of a volume measuring system.

Measurement insert	Diameter	Length	Temperature	Cable length	Product Code	Article No
1xPT100	3mm	2000mm	-50 to +260°C	0.5m	3-88-10-38-52-3	4440000
1xPT100	3mm	4000mm	-50 to +260°C	0.5m	3-88-10-38-52-2	4440001
1xPT100	3mm	6000mm	-50 to +260°C	0.5m	3-88-10-38-00-3	4440002
1xPT100	3mm	8000mm	-50 to +260°C	0.5m	3-88-10-38-00-4	4440003
1xPT100	3mm	9000mm	-50 to +260°C	0.5m	3-88-10-38-00-5	4440004
1xPT100	3mm	10000mm	-50 to +260°C	0.5m	3-88-10-38-01-7	4440005
1xPT100	3mm	12000mm	-50 to +260°C	0.5m	3-88-10-38-02-2	4440006
1xPT100	3mm	14000mm	-50 to +260°C	0.5m	3-88-10-38-67-0	4440007
1xPT100	3mm	15000mm	-50 to +260°C	0.5m	3-88-10-38-01-8	4440008
1xPT100	3mm	17000mm	-50 to +260°C	0.5m	3-88-10-38-01-9	4440009
1xPT100	3mm	20000mm	-50 to +260°C	0.5m	3-88-10-3A-56-6	4440010
1xPT100	3mm	22000mm	-50 to +260°C	0.5m	3-88-10-38-02-1	4440011
1xPT100	3mm	25000mm	-50 to +260°C	0.5m	3-88-10-38-02-0	4440012
1xPT100	3mm	27000mm	-50 to +260°C	0.5m	3-88-10-38-01-9	4440013
1xPT100	3mm	31000mm	-50 to +260°C	0.5m	3-88-10-38-00-6	4440014

Specifications

Resistance thermometer Pt100 ± 0,2 at 0°C or Class A ± 0,15 at 0°C acc. To IEK 751 3wire or 4wire system
Probe Diameter: 3mm, 4.5mm or to be specified
Process Connection : 1/8 BSP (male)
Response Time: (main values) measured at velocities in water 0.4m/s   t 0.5=11sec
**Sheath Material:** A151 316
Connecting Cable: Teflon: ambient temp. -50°C to +260°C

Thermo Speed

TSS Temperature Sensor Sector

Film surface resistance thermometer Preferred for temperature measurement of round or flat surfaces

Nominal Value	Type	Sensor Body			Cable Length	Product Code	Article No
		W	L	T			
1xPt100	PF 12150	21	50	0.3	3m	4-33-Z0-3J-00-1	4331200
1xPt100	PF 12150	21	50	0.3	5m	4-33-Z0-00-00-1	4331201
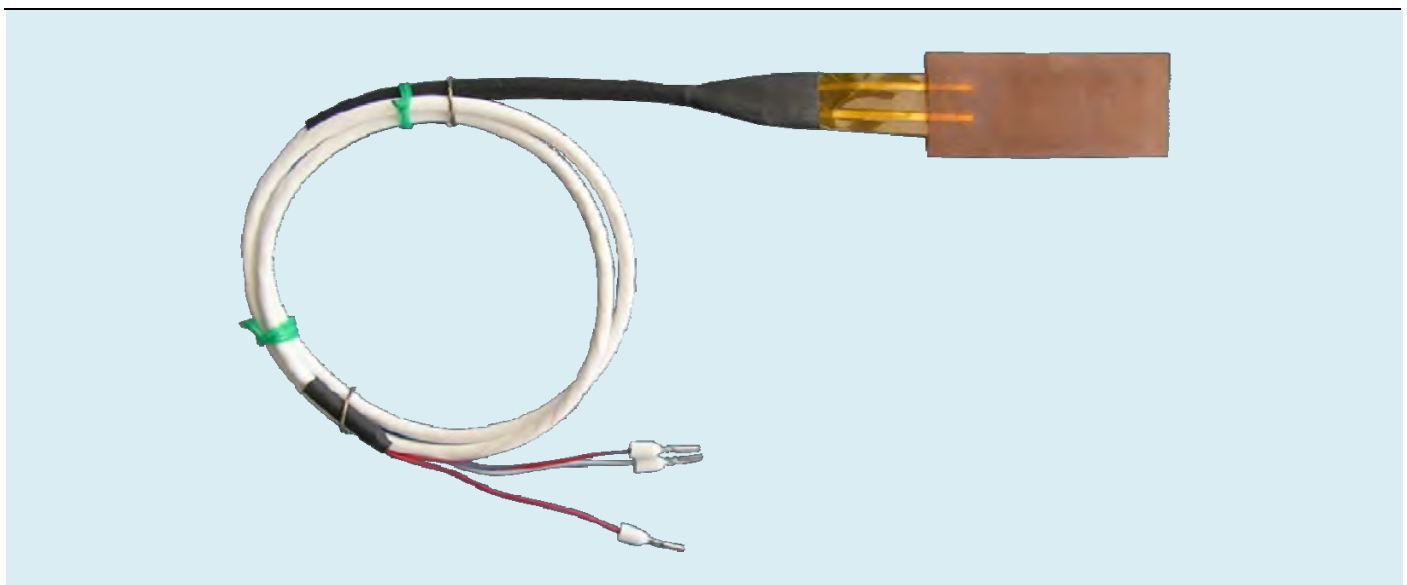
Specifications

Resistance type and tolerances:
Resistance thermometers Pt100, Class B +-(0,30K+0,005 x|t|) Alpha=3.850-10-3/o C, IEC 751
2-3 wire system
Temperature range: -80°C +180°C
Sensor body: 21X50X0,3mm

Thermo Speed

TSS Temperature Sensor Sector

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(29) **Slot Surface Sensor** For temperature measurement on surfaces and is primarily used for temperature measurement in solar installations

Measurement insert	Temperature	Product Code	Article No
1xPt 100	from -20°C to +120°C	4-35-Z0-00-10-0	4330000
1xPt1000	from -20°C to +120°C	4-35-K0-00-10-0	4330001
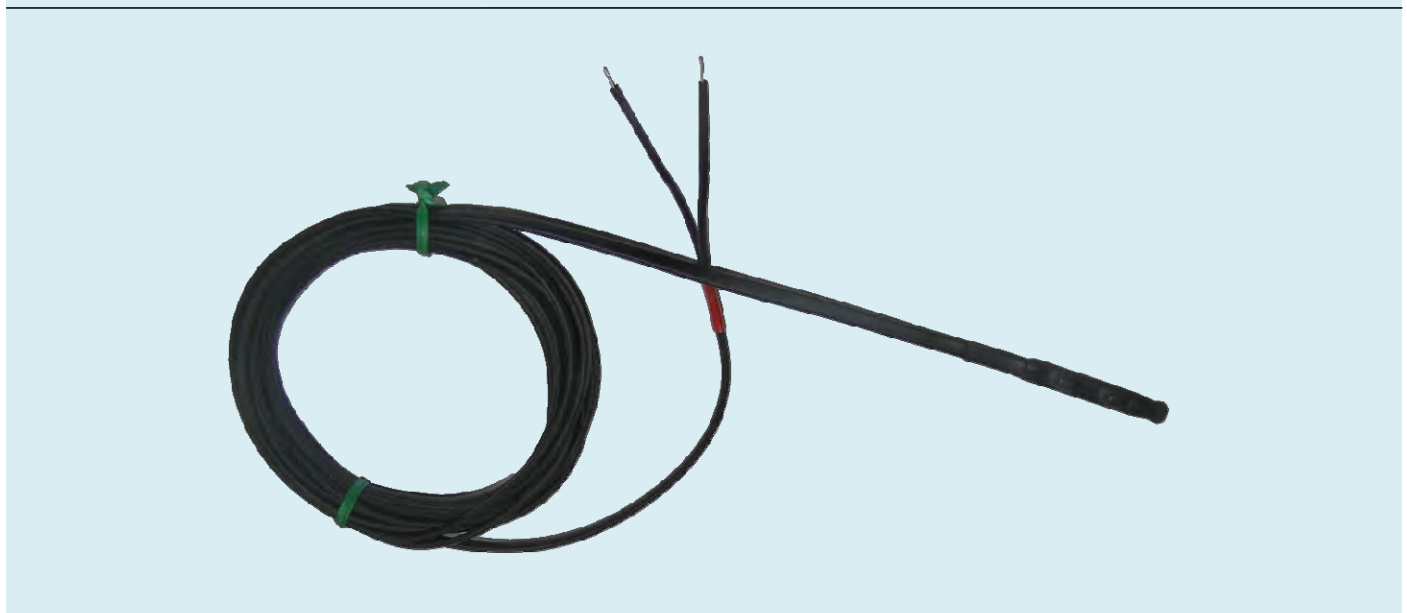
Specifications

Resistance type and tolerance: Resistance thermometer P+100 or P+1000 class B from ±0,30°C to 0°C (IEC 751), 2 0 3 system wire
Temperature range: from -20°C to 120°C
Protection mode: IP65

Thermo Speed

TSS Temperature Sensor Sector

Food temperature Insertion Resistance Thermometer Particularly suitable for cooking and baking processes in all areas of food processing and preservation

Measurement insert	Diameter	length	Cable length	Product Code	Article No
1xPt100	4mm	150mm	4m	4-49-Z6-AB-02-3	4491001
1xPt100	4mm	150mm	5m	4-49-Z6-AB-01-7	4491002
1xPt100	4mm	150mm	3m	4-49-Z6-AB-02-4	4491003
1xPt1000	4mm	150mm	4m	4-49-K6-AB-00-3	4492001
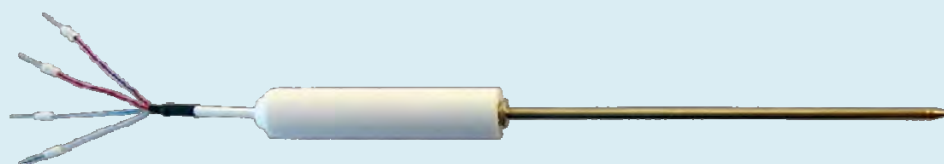
Specifications

Resistance type and tolerances: Resistance thermometer Pt100 ,class A,(single or twin)
accuracy ±0,15°C to 0°C, IEC751 3,4 or 6wire circuit
Outside diam.: 4mm (oblique, angled at 45o)
Sheath material : St.St.1.4571
Probe length: 150mm
Connecting cable: Teflon (PTFE)-Braiding—
Protection : IP67
Temp. range: -50°C +260°C

Thermo Speed

UTECO

TSS Temperature Sensor Sector

Food temperature Insertion Resistance Thermometers are particularly suitable for cooking and baking processes in all areas of food processing and preservation

Measurement insert	Diameter length	Cable Length	Product Code	Article No
	4mm			
	150mm			
1xPt100	4mm	4m	4-49-Z6-AB-00-3	4490001
1xPt100	150mm	3m	4-49-Z6-AB-00-9	4490002
1xPt100	4mm	5m	4-49-Z6-AB-01-6	4490003
2xPt100	150mm	3m	4-49-H6-AB-00-6	4490004
	4mm			
	150mm			
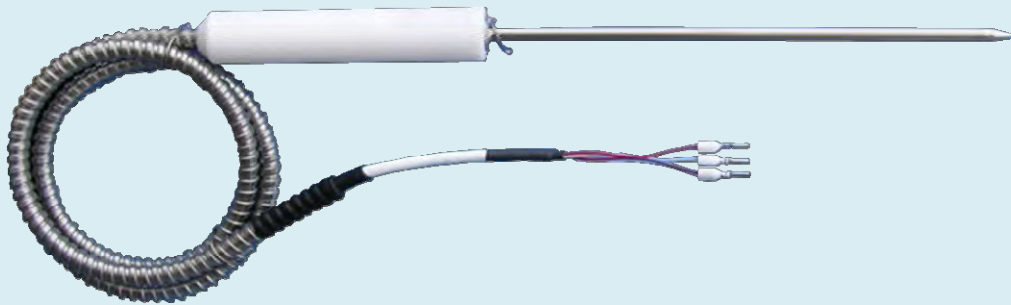
Specifications

Resistance type and tolerances: Resistance thermometer Pt100 ,class A,(single or twin) accuracy ±0,15°C to 0°C,   IEC751 3,4 or 6wire circuit
Outside diam.:4mm (oblique, angled at 45°)
Sheath material : St.St.1.4571
Probe length: 150mm
Connecting cable: Teflon (PTFE)-Braiding—Teflon and stainless steel corrugated tube
Protection : IP67
Temp. range:-50+260° C

Thermo Speed

TSS Temperature Sensor Sector

High temperature handheld probes for bigieta surface measurement For temperature from 0 to 1260°C Type K (NICR-NI) measures hot metal surfaces. Specially designed for heavy duty.

Measurement insert	Diameter	length	Cable Length	Product Code	Article No
1xK	50mm	150mm	2m	4-39-4X-A9-00-1	4394444

Specifications

Specifically designed for use where surface temperatures reach at to 1260°C and rough handling is routine UTECO's foundry probe uses large, heavy duty tips that can penetrate surface slag to measure the true temperature of the casting.
The surface to be measured must be electrically conductive.
The lead wires are 16-gage stranded wire with high temperature insulation and stainless steel overbraiding for added protection length 760mm

Thermo Speed

UTECO

TSS Temperature Sensor Sector

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(33) **Portable temperature sensor type K (NIR-NI)** Suitable for measurement in gases, fluids and liquids

Measurement insert	Diameter	length	Cable Length	Product Code	Article No
1xK	3mm	400mm	2m	4-39-44-HE-00-5	4394444
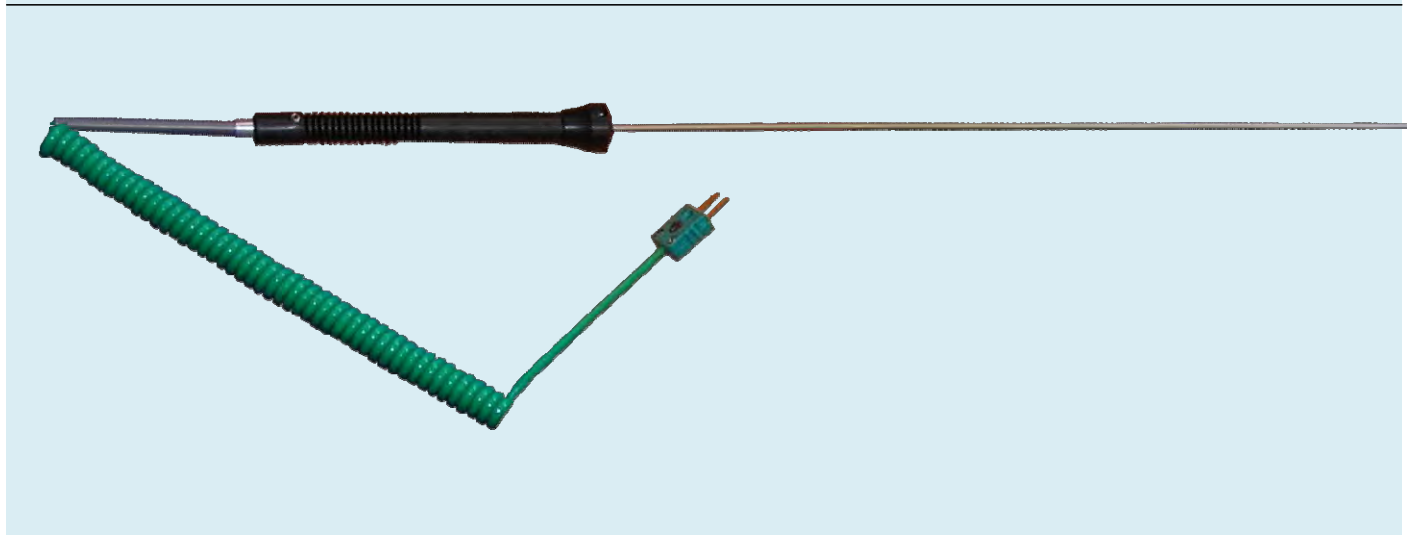
Specifications

Measuring temperature: from **-**200°C up to+1160°C
Thermocouple type: (NIR-NI) type K
Accuracy: class1
Hand ; grip material: PVC suitable up to 90°C
Length 100mm
Pocket material: INcone 11600
Mini thermocouple plug: (NIR-NI)
Length: 300mm,400mm,600mm or to be specified
Diameter: 0,5mm, 1,0mm, 1,5mm, 3,0mm, 4,5mm or 6,00mm

Thermo Speed

TSS Temperature Sensor Sector

Heavy-Duty Industrial Thermocouple Wire Shielded Extension Cables

Measurement insert	Cable Length	Temperature	Product Code	Article No
1xK	5m		4-47-42-AB-00-3	4474222
1xK	7m		4-47-42-AB-00-9	4474233
1xK	11m		4-47-42-AB-01-6	4474244

Specifications

Temperature measurement on Aluminium Solid round Bar for temperature monitoring in the core of the bar, in order to avoid temperature over 580°C

Conductors: 20 AWG solid special limits thermocouple typ K per ASTM E 230
Insulation: Nominal .012″ wall braided 703°C
   Fiberglass with silicone
   Impregnation color coded
   Positive (KKP)-yellow
   Negative (KK)-red
Construction: two conductors twisted
Covering : spirally wrapped half-oval galvanized steel nominal OD=.136″

Thermo Speed

UTECO

TSS Temperature Sensor Sector

Cost-optimized Adjustable 2-wire Transmitter for Thermocouple Input

Analog, multirange 2-wire temperature transmitter for in-head mounting in DIN B or larger connection heads.

Input	Adjust-ments	Temperature	Output	Mounting	Product Code	Article No
Thermocouple Type J, L, T, K and N	0 to 50 mV	-40°C to +85°C	4-20 mA	DIN B-head or larger	3-94-12-02-04-0	70APHCF001

APAQ-HCF T/C

Thermo Speed

TSS Temperature Sensor Sector

Specifications

Input: Thermocouples selectable: type J, L, T, K and N with ranges within -5 to +55 mV
Input: impedance: >5 MΩ
Input: Max. sensor wire resistance: 500 Ω (total loop)
Monitoring: Sensor break detection, selectable: Upscale ~25 mA, downscale ~3 mA
Adjustments: Span, selectable: 10 to 50 mV
Adjustments: Span, fine adjustment: ±10 %
Output: Current: 4 - 20 mA
Output: Current limitation: ~ 25 mA
Output: Permissible load: 700 Ω @ 24 VDC, 25 mA
Temperature: Ambient, operating: -40°C to +85° C
Response time 10-90%: ≤ 0.2 s
Power supply voltage: 6.5 to 32 VDC (polarity protected)
Permissible ripple: 4 Vp-p @ 50/60 Hz
Linearity (mA output to mV input) ±0.1 % of mV span
Calibration ±0.1 % of span
Material / Flammability(UL) Zinc alloy + ABS / V0
Mounting: DIN B-head or larger
Connection, single/stranded wires ≤2.5 mm2, AWG 14
Protection, housing with cover/terminals IP 20 / IP 10

Thermo Speed

TSS Temperature Sensor Sector

Head mounted transmitter d TRANS T01 universal input 4-20mA for systems
where drain- or pressure- less installations / exchanging of thermocouples or resistance
thermometers are required

Type	Product Code	Article No
d TRANS T01	3-20-12-00-01-0	707033/881-001-040/000
Fixing bracket for mounting	3-20-12-00-01-3	70/00352463

Specifications

Programmable 2-wire transmitter with isolation of the standard signal for installation in terminal head Form B

Input: Programmable: RTD or Thermocouple (default: Pt100 4-wire)
Output: Programmable (default: 4-20 mA)
Range: Programmable (default: 0 to +100°C)
Supply: 8-35V DC

Accessories

- PC setup program, multilingual
- PC interface with TTL/RS232 converter and adapter (socket) for Types 707010/..., 707012/... and 707015/...
- PC interface with USB/TTL converter, adapter (socket) and adapter (pins) for Types 707010/..., 707012/... and 707015/...
- Bracket for mounting on DIN rail, Sales No. 70/00352463
- HART® modem USB (for Types 707011/..., 707013/... and 707016/...), Sales No. 40/00443447
- Power supply units 1- and 4-way (Data Sheet 70.7500)
- Isolating amplifier and supply isolator (Data Sheet 70.7510)
- Ex supply unit with isolating transformer, HART® capable for Type 707016/... (Data Sheet 40.4757)

Thermo Speed

(37) **Head mounted transmitter d TRANS T03 BU PT100 - from 0 to 10V** 3-wire
Temperature Transmitter for Head-Mounting

Type	Product Code	Article No
d TRANS T03 BU	3-20-12-00-01-1	707033/881-001-040/000
Fixing bracket for mounting	3-20-12-00-01-3	70/00352463

Specifications

Analog 3-wire transmitter with digital adjustment for installation in terminal head Form B

Input: Pt100, 3-wire
Output: 0-10V
Range: 0 to +100°C (adjustable)
Supply: 7.5-30V DC

Accessories
- PC setup program, multilingual
- PC interface (electrically isolated) with TTL/RS232 converter, power supply (230V AC) and adapter (socket)
- PC interface (electrically isolated) with TTL/RS232 converter, power supply (115V AC) and adapter (socket)
- supply units 1-way and 4-way (Data Sheet 70.7500)
- isolating amplifier and supply isolator (Data Sheet 70.7510)

supply unit for transmitters (Data Sheet 70.7520)

Thermo Speed

TSS Temperature Sensor Sector

Head mounted transmitter d TRANS T03 BPT100 - 4-20mA

Analog 2-wire transmitter with digital adjustment

Type	Product Code	Article No
d TRANS T03 B	3-20-12-00-00-6	707031/880-001-005/000
Fixing bracket for mounting	3-20-12-00-01-3	70/00352463

Specifications

Analog 2-wire transmitter with digital adjustment for installation in terminal head Form B

Input: Pt100, 3-wire
Output: 4-20 mA
Range: 0 to +100°C (programmable)
Supply: 7.5 - 30V DC

Accessories
- PC setup program, multilingual
- PC interface (electrically isolated) with TTL/RS232 converter, power supply (230V AC) and adapter (socket)
- PC interface (electrically isolated) with TTL/RS232 converter, power supply (115V AC) and adapter (socket)
- supply units 1-way and 4-way (Data Sheet 70.7500)
- isolating amplifier and supply isolator (Data Sheet 70.7510)
- supply unit for transmitters (Data Sheet 70.7520)

UTECO

TSS Temperature Sensor Sector

39

2-wire DIN Rail transmitter APAQ-LR   Pt100 4-20mA Analog adjustable 2-wire transmitters

Product Code	Article No
3-94-12-00-00-0	APAQLR
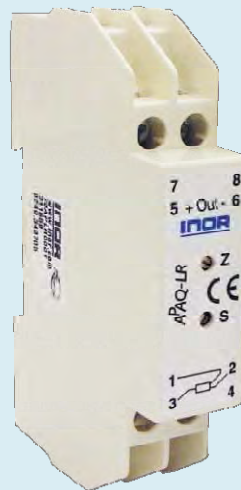
Specifications

Input: Pt100 3-wire connection
Sensor Failure upscale, downscale
Fine adjustment: ± 10%
Zero from -50°C to +50°C (from -60°F to +120°F)
Output: 4-20 MA
Operating temperature: from -20°C to +70°C
Galvanic isolation NO
Power supply: from 6,5 to 32VDC
Typical accuracy: ± 0,15% of temperature span

Thermo Speed

TSS Temperature Sensor Sector

2-wire DIN Rail transmitter APAQ-LC   T/C 4-20mA for systems where drain- or pressure- less installations / exchanging of thermocouples or resistance thermometers are required

Product Code	Article No
3-94-12-00-00-2	APAQ-LC

Specifications

Input: T/C J,L,T,K,N
Sensor Failure upscale, downscale
Span: from 10 to 50MV continuously
Fine adjustment: ± 10%
Output: 4-20 MA
Operating temperature: from -20°C to +70°C
Galvanic isolation NO
Power supply: from 6,5 to 32VDC
Typical accuracy: ±0,5% to ±1,0% of temperature span

Thermo Speed

41

DIN Rail transmitter d trans T03T PT100 4-20mA Analog 2-wire transmitter for rail mounting

Product Code	Article No
1-20-01-02-30-1	707032

Specifications

Transmitters T03T are designed for industrial applications, used to measure temperatures through Pt100 resistance thermometers in 2-/3-wire circuit connections. Output 4-20mA is linear with temperature calibration / configuration of the transmitter from a PC using Jumo's setup program for adjustable / configurable parameters.
It features fine calibration / adjustment of the output signal of a transmitter.
Input: Pt100 (EN 60751) from -200°C to +850°C
Analogue output: 4-20mA
Supply voltage: 7,5 – 30 V DC
Calibration / configuration accuracy: ≤ ±0,2% or   ≤ ±0,2°C

Accessories

- PC setup program, multilingual
- PC interface (electrically isolated) with TTL/RS232 converter, power supply (230V AC) and adapter (socket)
- PC interface (electrically isolated) with TTL/RS232 converter, power supply (115V AC) and adapter (socket)

Thermo Speed

DIN Rail universal-programmable transmitter d TRANS T02 PCP Signal conditioner for rail-mounting

Product Code	Article No
1-20-01-02-28-0	707021

Specifications

The dTRANS T02 PCP is a digital 4-wire transmitter/signal conditioner with isolation of the standard signal, custom linearization, 2 alarms, 2 LEDs and fine adjustment with 2 push buttons or the setup program. Features **excellent long-term stability** and **probe break and short circuit detection.** Utilization of setup software allows true **online communication** with display of actual value.

Input: Pt100, 0-100°C
TC, RTD, voltage, current, resistance transmitter, potentiometer
Analog Output: 0-20mA or 4-20mA or 0-10V or 2-10V
Digital Output:
   alarm: 2 open-collector outputs
   switching capacity: 35V, 100mA
 Supply: 20-53V AC/DC or 110-240V AC

Accessories

- Setup program, multilingual 70/00378730
- PC interface with TTL/RS232 converter and adapter (socket) 70/00350260
- PC interface with USB/TTL converter, adapter (socket) and adapter (pins) 70/00456352

Thermo Speed

Screw-in pocket for systems where drain- or pressure- less installations / exchanging of thermocouples or resistance thermometers are required

Process Connection	Stem Diameter	Bore Diameter	Immersion Length	Material	Product Code	Article No
½ m. - ½ f. BSP	12mm	9mm	100mm	1.4571	4-60-OI-8B-40-2	4600001
½ m. - ½ f. BSP	10mm	7mm	100mm	1.4571	4-60-0H-8B-40-1	4600002
½ m. - ½ f. BSP	8mm	6mm	100mm	1.4571	4-60-0E-8B-40-1	4600003
¾ m. - ¾ f. BSP	15mm	12mm	100mm	1.4571	4-60-0M-8B-50-1	4600004

Specifications

pockets in different materials: steel 1.0305, stainless steel 1.4571, steel 1.7335 or to be specified
operating pressure : up to 450 bar
Immersion Length: 50mm,100mm,200mm,250mm or to be specified
Outside diameter: 6mm,8mm,10mm,12mm,15mm or to be specified
Process Connection: R ½ BSP, ¾ BSP or NPT or to be specified
Temperature range: up to 800°C

Thermo Speed

UTECO

TSS Temperature Sensor Sector

Miniature Connector with thermocouple material contacts

Type	Contacts	Color	Product Code	Article No
Iron / Const.(J) Iron	Plug	Black	3-83-16-22-86-4	CNN-21100-JX
/ Const.(J) Chrome /	Jack	Black	3-83-16-22-86-5	CNN-22100JX
Alumer(K) Chrome /	Plug	Green	3-83-16-32-82-6	CNN-21200KX
Alumer(K) Copper /	Jack	Green	3-83-16-32-17-4	CNN-22200KX
Const.(T) Copper /	Plug	Blue	3-83-16-42-83-6	CNN-21300TX
Const.(T) PtRh /	Jack	Blue	3-83-16-42-13-7	CNN-22300TX
Pt(S,R)	Plug	Green	3-83-16-52-85-2	CNN-21400-SX/RX
PtRh / Pt(S,R)	Jack	Green	3-83-16-52-15-3	CNN-22400-S/RXX
Chrome / Const.(E)	Plug	Violet	3-83-16-72-16-9	CNN-21500-EX
Chrome / Const.(E)	Jack	Violet	3-83-16-72-87-0	CNN-22500-EX
Nicrosil / Nisil(N)	Plug	Orange	3-83-16-82-96-4	CNN-21700-NX
Nicrosil / Nisil(N)	jack	orange	3-83-16-82-96-5	CNN-22700-NX
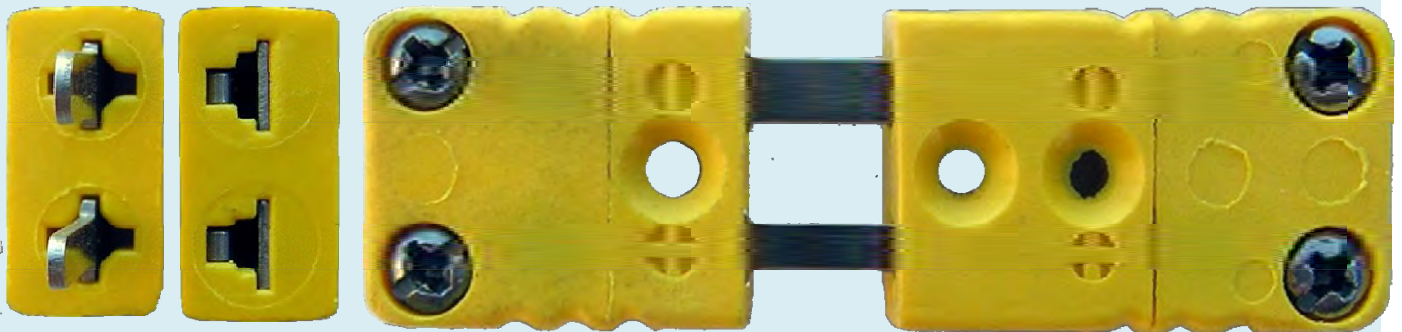
Specifications

Body material: Tough, self-extinguishing thermoplastic compound with low moisture absorption rate and good dielectric strength
Maximum cable diameter: min. 0,12mm, max. 0,8mm
Wire terminals: screw type for quick wiring , 5mm
Maximum temperature rating: 200°C

Thermo Speed

UTECO

TSS Temperature Sensor Sector

Standard Connector with thermocouple material contacts

Type	Contacts	Color	Product Code	Article No
Iron / Const. Iron	Plug	Black	3-83-16-12-92-0	CNN-11100-JX
/ Const. Chrome	Jack	Black	3-83-16-22-28-1	CNN-12100-JX
/ Alumer Chrome	Plug	Yellow	3-83-16-32-93-3	CNN-11200-KX
/ Alumer Copper	Jack	Yellow	3-83-16-32-23-5	CNN-12200 KX
/ Const. Copper /	Plug	Blue	3-83-16-52-00-0	CNN-11300-TX
Const. PtRh / Pt	Jack	Blue	3-83-16-52-00-1	CNN-12300-TX
PtRh / Pt	Plug	Green	3-83-16-52-94-1	CNN-11400-SX/RX
Nicrosil / Nisil	Jack	Green	3-83-16-52-25-0	CNN-12400-SX/RX
Nicrosil / Nisil	Plug	Orange	3-83-16-82-96-2	CNN-11700-NX
	Jack	Orange	3-83-16-82-96-3	CNN-12700-NX
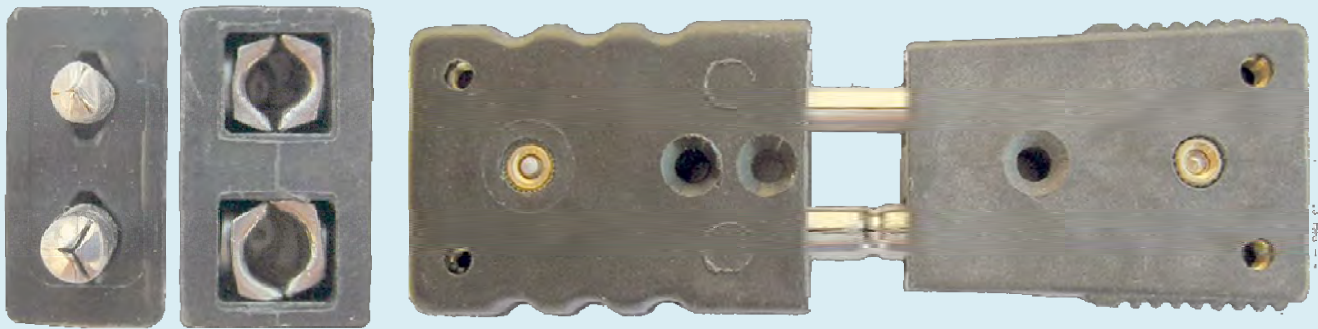
Specifications

Body material: Tough, self-extinguishing thermoplastic compound with low moisture absorption rate and good dielectric strength
Maximum cable diameter: 1.6mm
Wire terminals: 6.4mm
Maximum temperature rating: 200°C

Thermo Speed

TSS Temperature Sensor Sector

Standard panel with Thermocouple material contacts

Type	Color	Product Code	Article No
Iron / Constantan(J)	Black	3-83-16-22-36-8	PAN-13101-JX
Chrome1 / Alume1(K)	Black	3-83-16-32-38-2	PAN-13201-KX
PtRh / Pt(S,R)	Green	3-83-16-52-34-0	PAN-13401-SX/RX
NICROSIL / NiSil(N)	orange	3-83-16-82-36-1	PAN-13701-NX

Specifications

Front panel: anodized aluminum 2,4mm thick
Panel dimensions: 38x38mm
Panel cut out: square or round 30mm
Depth behind panel: 20mm
Maximum temperature rating: 200°C
Maximum conductor dimension: 1.6mm

Thermo Speed

Level sensors for conductive limit value detection

Diam. rod	Length	Process Connection	Number rod electrode	Product Code	Article No
4mm	500mm	R ½ BSP	1	4-42-06-IB-40-2	4420001
4mm	1000mm	R 1 ½ BSP	2	4-42-06-PB-70-2	4420002
4mm	1000mm	R 1 ½ BSP	3	4-42-06-PB-70-1	4420003
4mm	1000mm	R 1 ½ BSP	4	4-42-06-PB-70-4	4420004
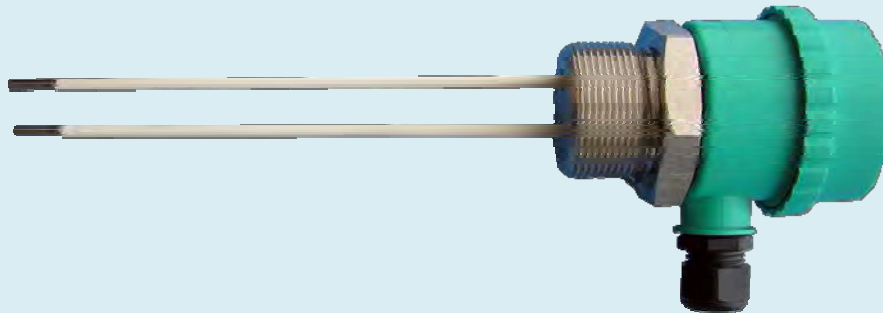
Specifications

Material: st. st. 14571
Diameter rod: 4mm
Process connection: R ½ or 1½ BSP
Insulation rod electrode: PFA
Temperature range: from 0° C to 200° C
Length rod electrode: 500 – 1000mm or to be specified
Number of electrode: 1,2,3,4 or 5 electrode
Terminal box: Form B, IP65, aluminum die-casting or plastic IP65

Thermo Speed

TSS Temperature Sensor Sector

Level sensors for conductive limit value detection without head

Diam. rod	Length	Process Connection	Number rod electrode	Product Code	Article No
4mm	1000mm	R ¼ BSP	1	4-42-06-PB-10-1	4420600
4mm	500mm	R ¼ BSP	1	4-42-06-IB-10-1	4420601
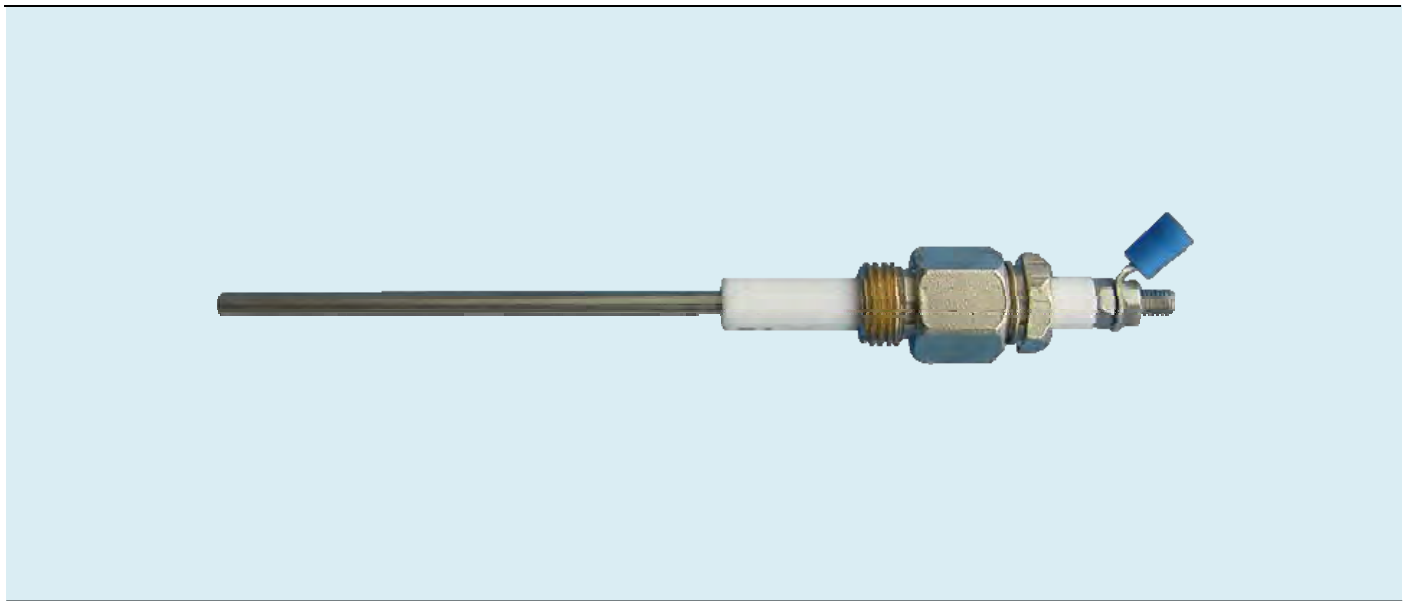
Specifications

Material: st. st. 14571
Diameter rod: 4 mm
Process connection: R ¼ BSP **Insulation rod electrode:** PFA **Temperature range:** from 0° C to 260° C
Length rod electrode: -
Number of electrode: -
Terminal box: -
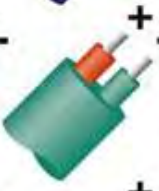
Thermo Speed

TSS Temperature Sensor Sector

International Color Code for Compensating & Extension Cables

Thermo Speed

TSS Temperature Sensor Sector

Ordering Form
Please print this form out and send it to +30 211 1206 999

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Company Name	
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City	
Area	
Country	
Company Phone	
Company Fax	

Product Code	Length	Other Characteristics

Signature