



EuroSensors

Surface thermistors



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What are the characteristics of surface thermistors ?

Surface thermistors detect surface temperature. The most important issue in surface temperature measurement is to keep measurement errors as small as possible. This is achieved by an appropriate design of the measuring head, so that only very little heat is extracted from the measuring point and the measurement error is negligible.

The perfectly adapted geometry increases the contact surface. At the same time, the low thermal mass of the measuring head ensures that comparatively fast response times can be achieved when measuring the surface temperature.

Different types of surface thermistors

Attaching a thermistor to a surface for an accurate reading can be difficult. The sensor must respond quickly to avoid heat dissipation and remain attached under vibration or other stress.

We offer a number of constructions to suit every surface application.

Washer and ring thermistors can be attached to a stud welded to the surface or to an existing bolt on a section of machinery.

Bayonets are simply inserted through a drilled opening to a desired depth of a surface. The opening is then tapped to accept a number of mounting adapters. These adapters feature a locking pin allowing the thermistors cap to be installed with a twist.

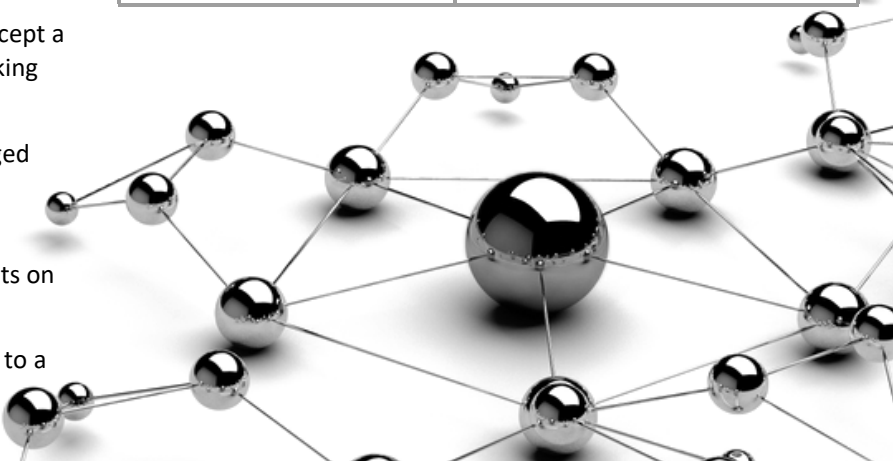
Weld pad thermistors which need not require the more rugged industrial construction can be tig welded or soldered and held with a number of clamping devices.

Pipe-clamp thermistor is ideal for temperature measurements on pipes in laboratories and industrial applications.

Magnet thermistors are ideal for a temporary measurement to a magnetic surface or magnetic surface which doesn't allow any alteration.

Material conductivity

Material	Thermal conductivity W/(m.K)
Air	≈ 0,25
Stainless steel	≈ 14
Brass	≈ 109
Aluminum	≈ 205
Copper	≈ 385
Silver	≈ 406





What is an RTD sensor ?

An RTD (Resistance Temperature Detector) is a type of sensor used to measure temperature. RTDs are used for accurate, stable and reliable temperature measurements in generally high temperature ranges.

RTDs advantages

RTDs have several advantages over other types of temperature sensors:

High precision

RTDs have high temperature sensitivity, typically in the range of 0.1% to 0.2% per °C, allowing for accurate temperature measurement.

Long term stability

RTDs have long-term stability and longer life than thermistors, making them more reliable for long-term applications.

Wide operating temperature range

RTDs can operate in a temperature range of -200 to +850°C, making them suitable for many industrial applications.

Low ohmic resistance

RTDs have a low ohmic resistance compared to thermistors, which makes them easier to use with electronic circuits.

How does an RTD work ?

An RTD is a sensor that measures temperature using the variation of the electrical resistance of a conductive material. RTDs are usually made from platinum, gold or nickel. The operating principle of RTDs is based on Ohm's law of electrical resistance, which establishes a relationship between the electrical resistance of a conductor and its temperature.

According to this law, the electrical resistance of a conductor generally increases when its temperature increases.

What is a thermistor ?

A thermistor is an electrical component that changes its resistance according to temperature. It consists of a conductive material that is wrapped in an insulating material. As the temperature increases, the resistance of the conductive material decreases (NTC), or increases (PTC), which can be detected and measured.

What are the two types of thermistor ?

NTC (*Negative Temperature Coefficient*) are made of a conductive material based on transition metals and are used to measure temperatures up to 300 °C.

PTC (*Positive Temperature Coefficient*) are made of a conductive material based on polymer or ceramic and are used to measure temperatures up to 200 °C.

What is the difference between an NTC and a PTC ?

NTCs and PTCs are both thermistors, i.e. temperature sensors that change resistance depending on the temperature.

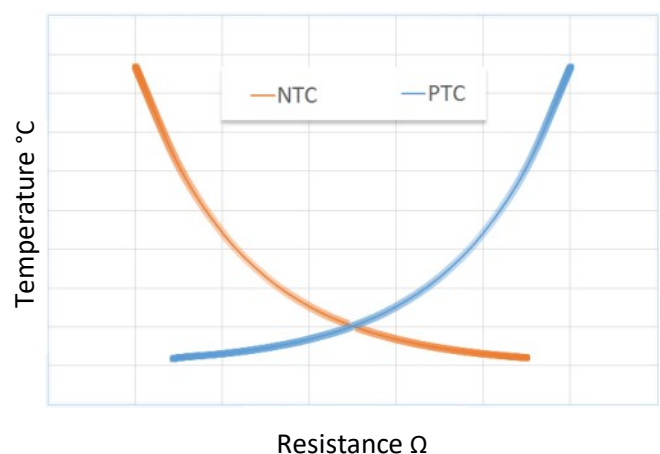
However, there is a major difference between these two types of thermistors:

NTC thermistors

NTCs have a resistance that decreases as the temperature increases. They are commonly used in thermostats and temperature control devices to measure room temperature.

PTC thermistors

PTCs have a resistance that increases as the temperature rises. They are commonly used in thermostatic fuses and overcurrent protection devices to shut off power in the event of overheating.





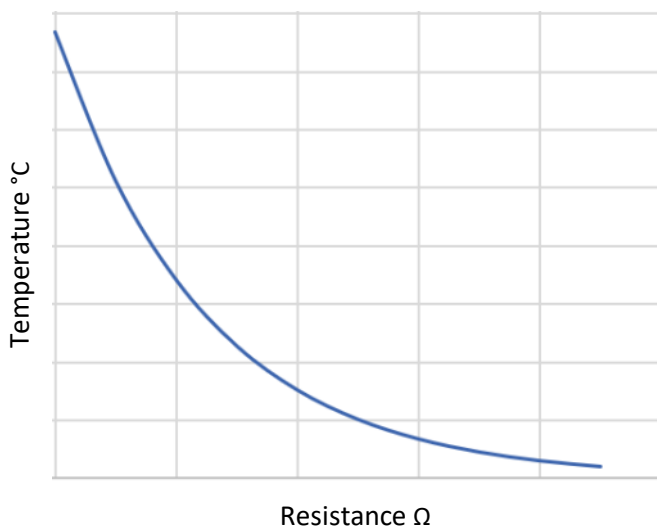
Surface thermistors - Technical information



The β beta value

A thermistor's " β " value, or beta value, is an indication of the shape of the curve representing the relationship between resistance and temperature of an NTC thermistor.

Calculating the beta value is a vital step in the component selection process as it gives the characteristic at a given temperature vs the resistance for a specific application.



NTC thermistors are non-linear resistors that alter their resistance characteristics with temperature. Simply put, as temperature increases the thermistor's resistance decreases.

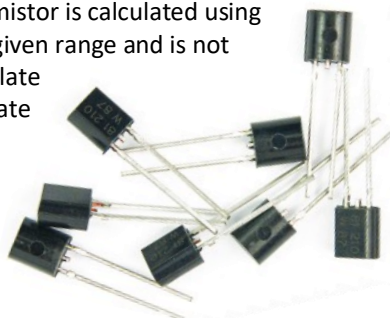
The manner in which the resistance of a thermistor decreases is related to a constant known in the thermistor industry as beta (β). Beta is measured in degrees Kelvin (K) and is computed based on the formulation given below.

Where:

- Rt1 = Resistance at Temperature 1
- Rt2 = Resistance at Temperature 2
- T1 = Temperature 1 (K)
- T2 = Temperature 2 in (K)

$$\beta = \frac{\ln\left(\frac{R_{T1}}{R_{T2}}\right)}{\left(\frac{1}{T_1} - \frac{1}{T_2}\right)}$$

The beta value of an NTC Thermistor is calculated using only two temperatures over a given range and is not the most accurate way to calculate the R vs. T curve. A more accurate method is to use the Steinhart and Hart method, which uses three temperatures over a given range.



Types of thermistors

Type	Resistance	Beta value	Temperature
PTC KTY81/121	990 Ω at 25°C	/	T° (-55/+150°C)
NTC	3,3k Ω at 100°C	$\beta=3970$	T° (-40/+200°C)
NTC	10k Ω at 25°C	$\beta=3977$	T° (-40/+125°C)
NTC	10k Ω at 25°C	$\beta=3435$	T° (-40/+150°C)
NTC	20k Ω at 25°C	$\beta=4260$	T° (-40/+125°C)

Thermistor connectors

Due to the lack of standardization in RTD connectors, our company takes pride in its ability to produce a wide range of RTD connectors. We understand that different industries and applications have unique requirements when it comes to temperature measurement, and that includes the connectors used. With our expertise and advanced manufacturing capabilities, we have the flexibility to design and produce various types of RTD connectors.



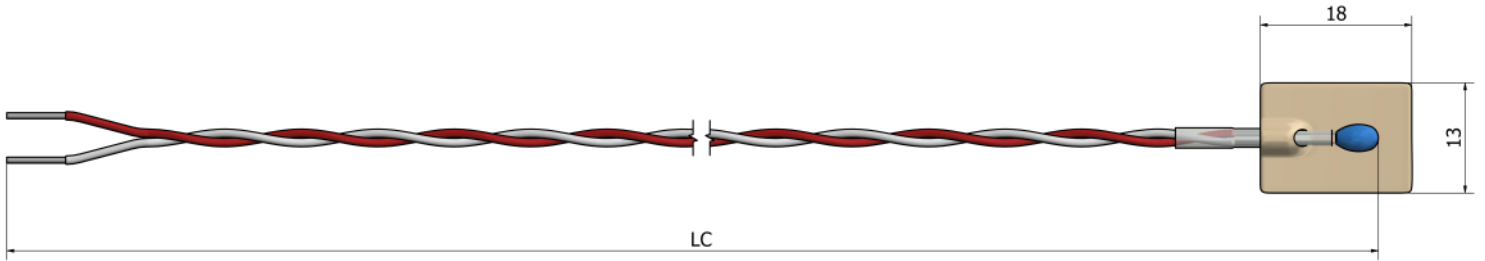
Global cable insulation characteristics

	PVC	Silicone	Teflon	Fiberglass
Abrasion resistance	Very good	Fair	Good	Fair
Chemical resistance	Very good	Poor	Excellent	Good
Moisture resistance	Good	Good	Excellent	Poor
Fire resistance	Good	Good	Excellent	Excellent



HS00 – Surface thermistors

Adhesive tape



*Adhesive tape material **Fiberglass/PTFE**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- Teflon (260°C)
- Other:

4. Cable length LC (mm):

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

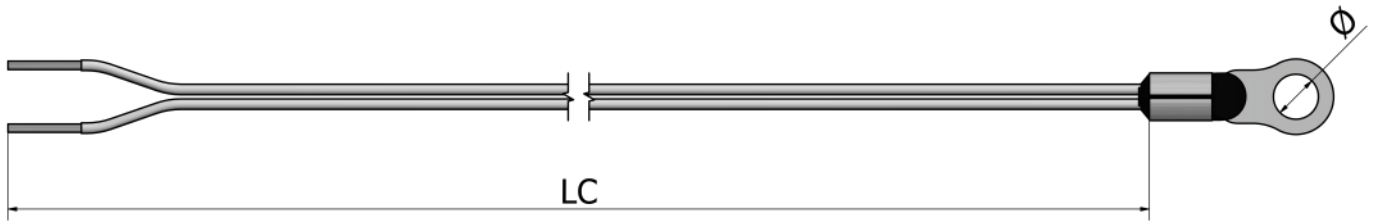
How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS01 – Surface thermistors

Washer mount



**Washer mount material Tinned copper*

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C B3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C B4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C B3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- Teflon (260°C)
- Other:

4. Cable length LC (mm):

5. Hole size Ø (mm):

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?

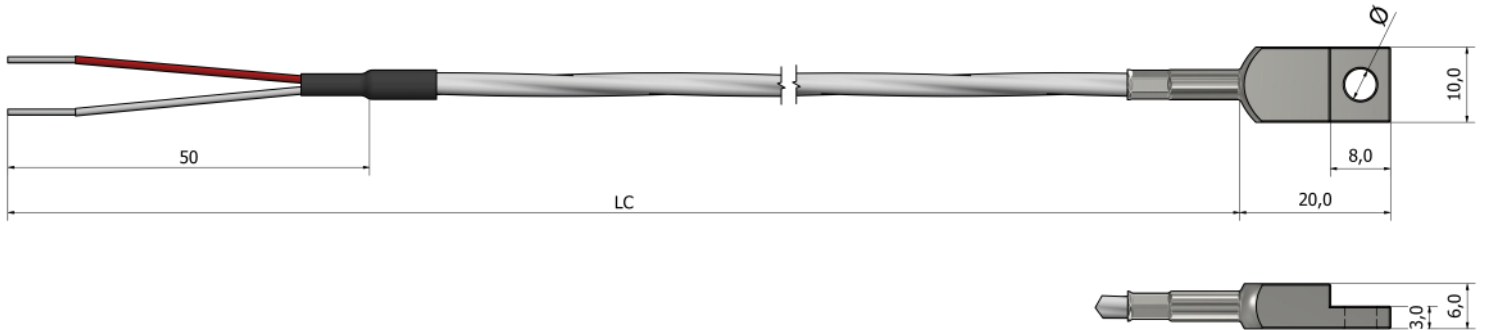


Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS02 – Surface thermistors

Reinforced washer mount



*Washer mount material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Hole diameter Ø (mm):

6. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

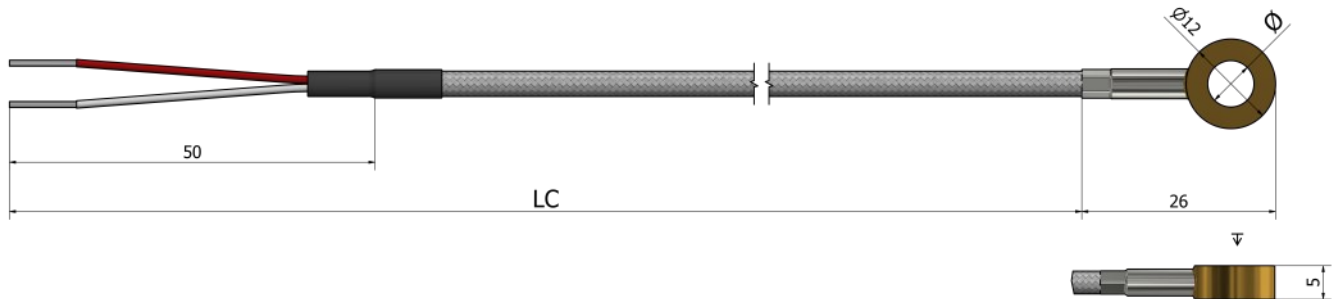
How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS03 – Surface thermistors

Ring mount



Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

4. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

5. Cable length LC (mm):

6. Ring material:

- Brass
- AISI 316L
- Other:

7. Ring size:

- M5
- M6
- Other:

8. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

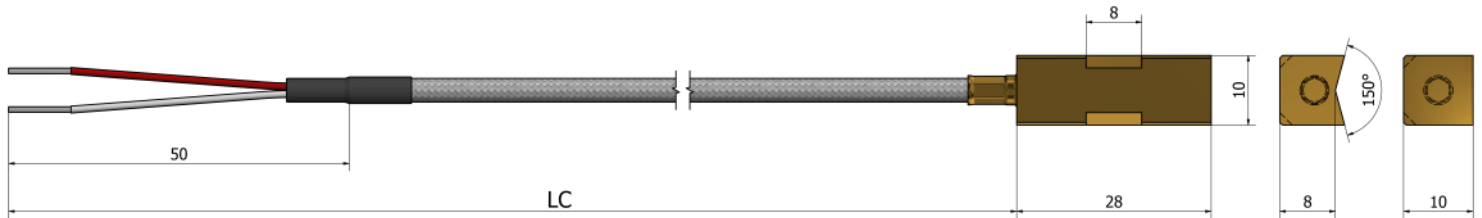
How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS05 – Surface thermistors

Contact block



*Contact block material **Brass or aluminum**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C B3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C B4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C B3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Contact block material:

- Brass
- Aluminum
- Other:

6. Contact block shape:



V-shape



Flat

7. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

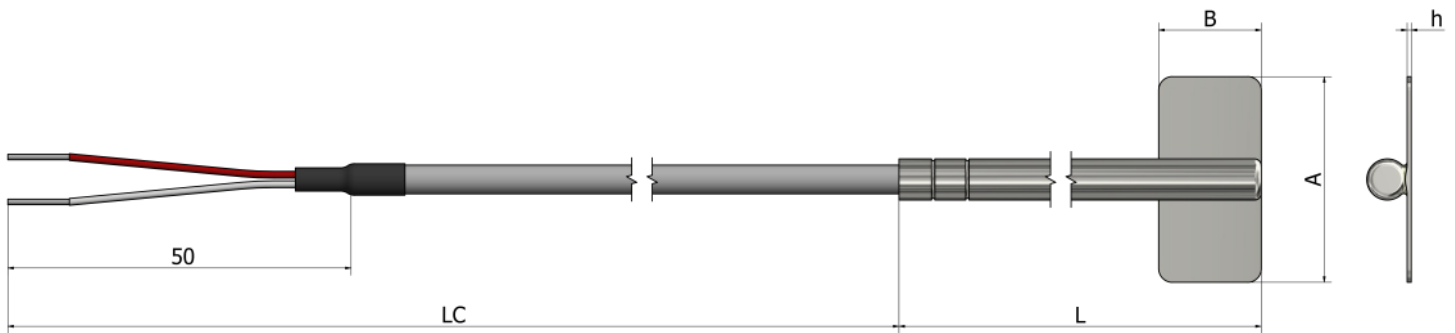
How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS10 – Surface thermistors

Weld pad



*Weld pad and tube material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Tube length L (mm):

6. Pad material: AISI 316L Other:

7. Pad dimensions A x B (mm):

- 15 x 10
- 25 x 10
- 30 x 10
- Other:

8. Pad thickness h (mm): 0,5 Other:

9. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

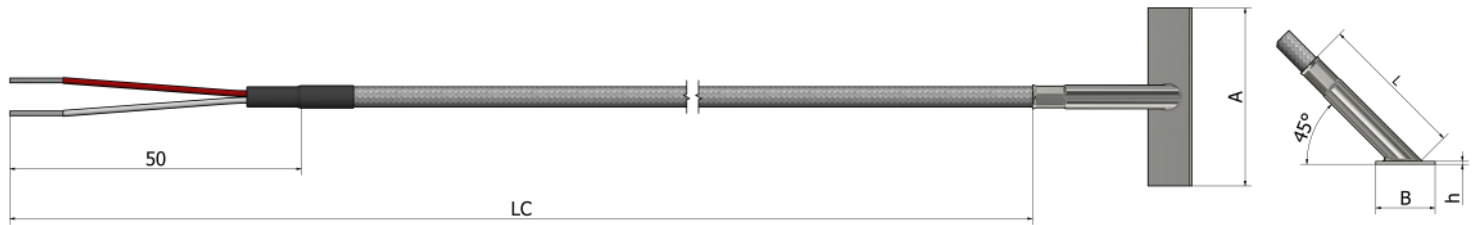
How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS11 – Surface thermistors

Weld pad (45° angle)



*Weld pad and tube material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Tube length L (mm):

6. Pad material: AISI 316L Other:

7. Pad dimensions A x B (mm):

- 15 x 10
- 25 x 10
- 30 x 10
- Other:

8. Pad thickness h (mm): 0,5 Other:

9. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?

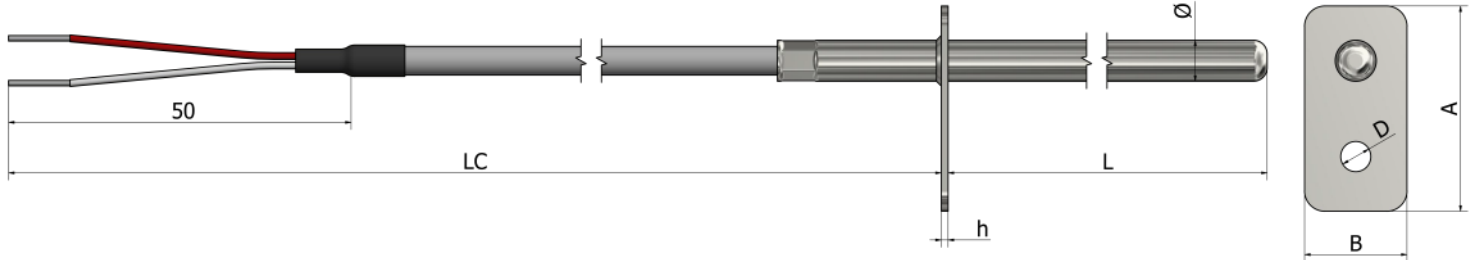
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.





HS12 – Surface thermistors

Weld pad (plug-in)



*Weld pad and tube material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:

(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Pad material: AISI 316L Other:

6. Pad dimensions A x B (mm):

- 15 x 10
- 25 x 10
- 30 x 10
- Other:

7. Pad thickness h (mm): 0,5 Other:

8. Hole size Ø D (mm):

9. Insertion diameter Ø (mm):

- 4
- 5
- 6
- Other:

10. Insertion depth L (mm):

11. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

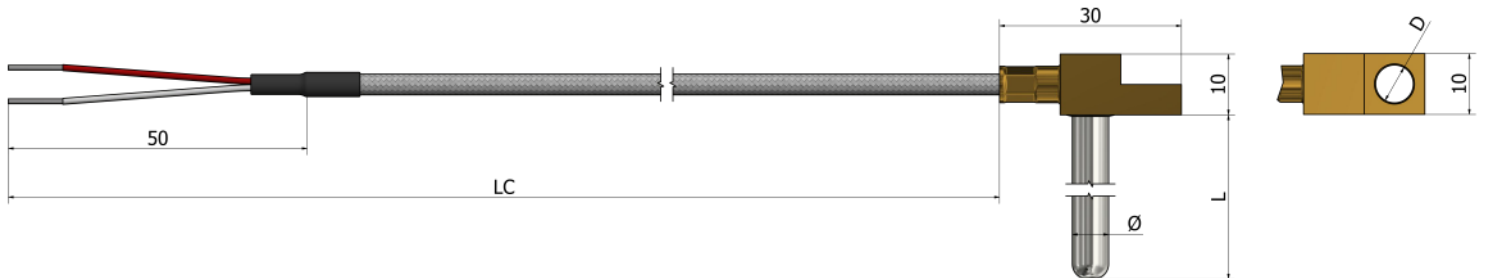
How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS20 – Surface thermistors

Angle / plug-in



*Mounting block material **Brass** *Tube material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Hole size Ø D (mm):

6. Insertion diameter Ø (mm):

- 4
- 5
- 6
- Other:

7. Insertion depth L (mm):

8. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?

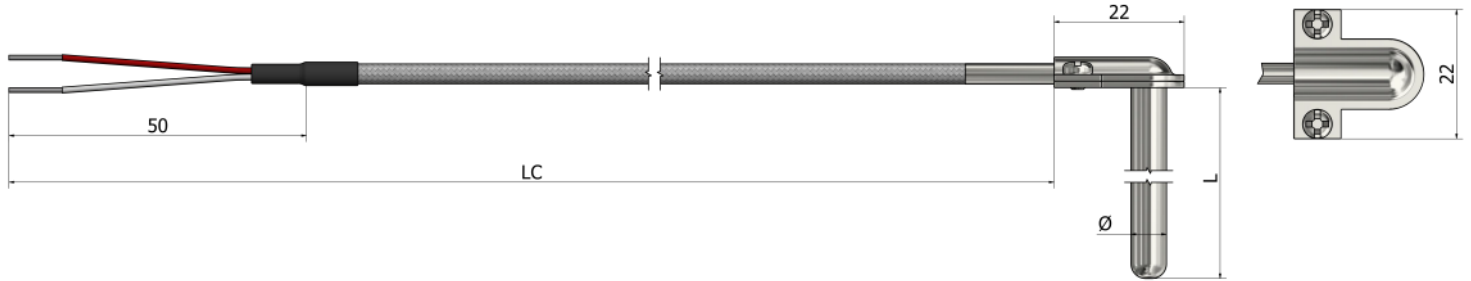
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.





HS21 – Surface thermistors

Angle / plug-in (clamp)



*Clamp material **Stainless steel 316L** *Tube material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Insertion diameter Ø (mm):

- 4
- 5
- 6
- Other:

6. Insertion depth L (mm):

7. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

How to order?

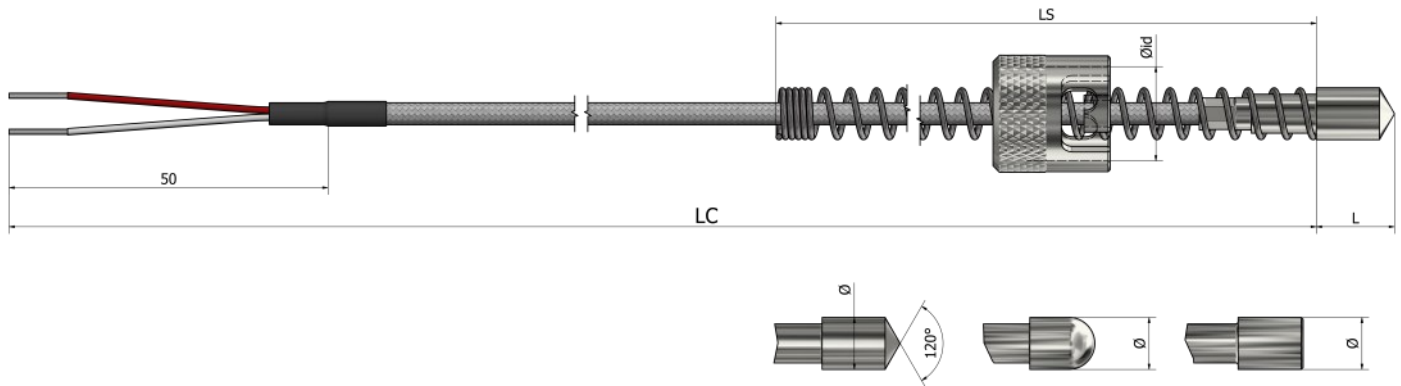
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.





HS30 – Surface thermistors

Bayonet



Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
 PTC KTY 81/121 (-40°C / +150°C)
 NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
 NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
 NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
 Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

2. Wiring configuration: *(number of wires)*

- 2 Other:

3. Cable prolongation:

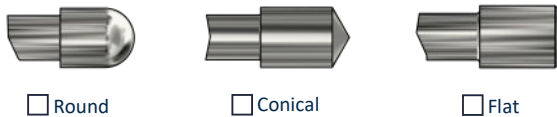
- Fiberglass (400°C) Other:

4. Cable length LC (mm):

5. Dimensions Ø x L (mm):

- 5 x 12 6 x 10 8 x 10 Other:

6. Sheath tip: *(material Stainless steel 316L)*



- Round Conical Flat

7. Bayonet cap Øid (mm): *(material Nickel-plated brass)*

- 10,5 12,5 14,5 Other:

8. Spring length LS (mm):

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?

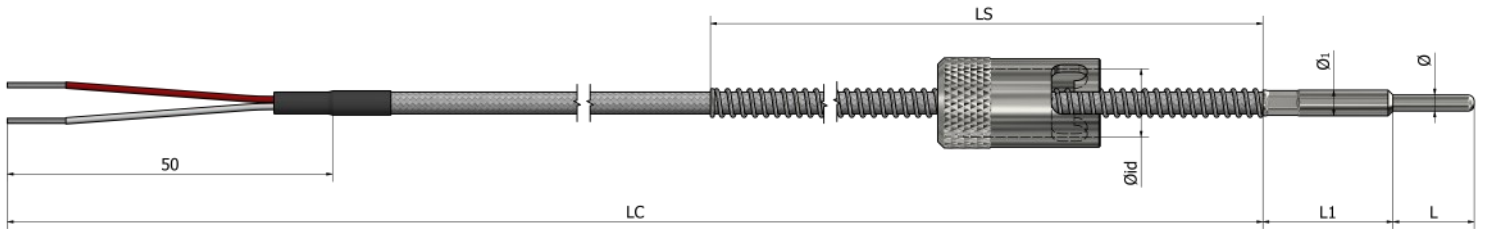
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.





HS31 – Surface thermistors

Bayonet with reduced tip



*Tube and tip material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Dimensions L and Ø (mm):

L _____ Ø _____

6. Dimensions L1 and Ø1 (mm):

L1 _____ Ø1 _____

7. Bayonet cap Øid (mm): (material **Nickel-plated brass**)

- 10,5
- 12,5
- 14,5
- Other:

8. Spring length LS (mm):

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

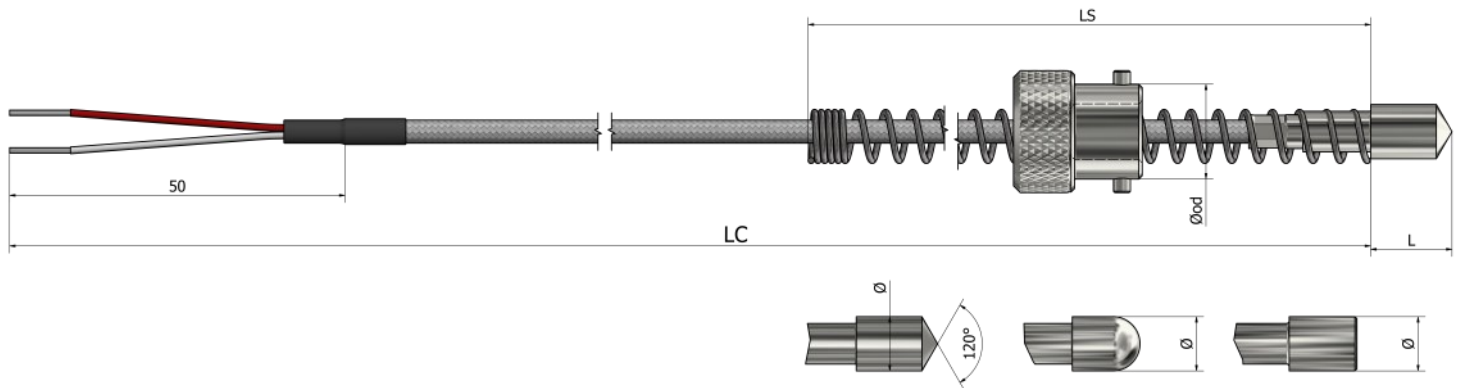
How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS33 – Surface thermistors

Bayonet (reverse)



Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

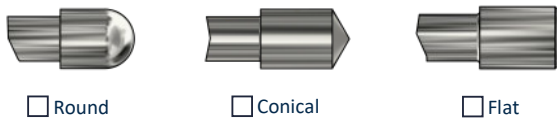
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Dimensions Ø x L (mm):

- 5 x 12
- 6 x 10
- 8 x 10
- Other:

6. Sheath tip: (material Stainless steel 316L)



- Round
- Conical
- Flat

7. Bayonet adapter Øod (mm): (material Nickel-plated brass)

- 10,5
- 12,5
- 14,5
- Other:

8. Spring length LS (mm):

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?

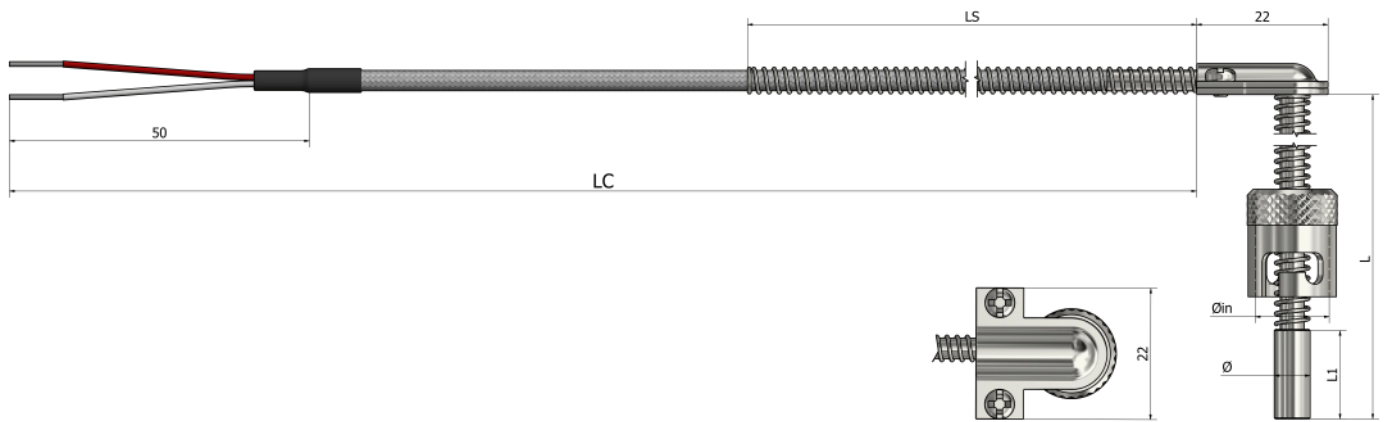


Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS34 – Surface thermistors

Bayonet with clamp (90° angle)



Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
 PTC KTY 81/121 (-40°C / +150°C)
 NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
 NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
 NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
 Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2 Other:

3. Cable prolongation:

- Fiberglass (400°C) Other:

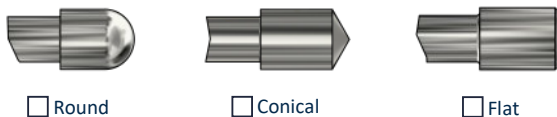
4. Cable length LC (mm):

5. Cable length L (mm):

6. Dimensions Ø x L1 (mm):

- 5 x 12 6 x 10 8 x 10 Other:

7. Sheath tip: (material Stainless steel 316L)



8. Bayonet cap Øid (mm): (material Nickel-plated brass)

- 10,5 12,5 14,5 Other:

9. Spring length LS (mm):

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?

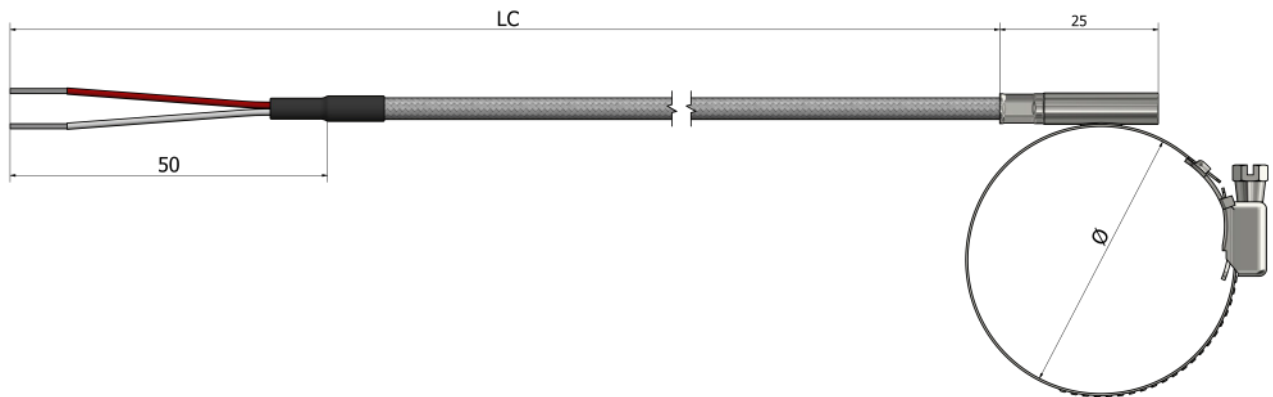
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.





HS41 – Surface thermistors

Pipe-Clamp (type 1)



*Tube and clamp material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β 3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β 4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β 3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

7. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

2. Wiring configuration: (number of wires)

- 2
- Other:

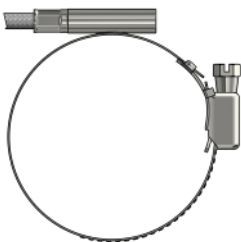
3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Clamp size Ø (mm):

6. Clamp direction:



V1



V2

How to order?

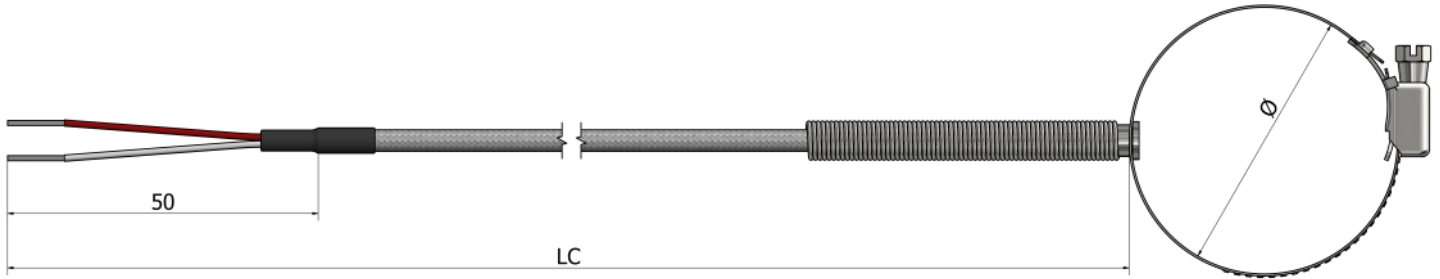
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.





HS42 – Surface thermistors

Pipe-Clamp (type 2)



*Tube and clamp material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C B3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C B4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C B3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Clamp size Ø (mm):

6. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

How to order?

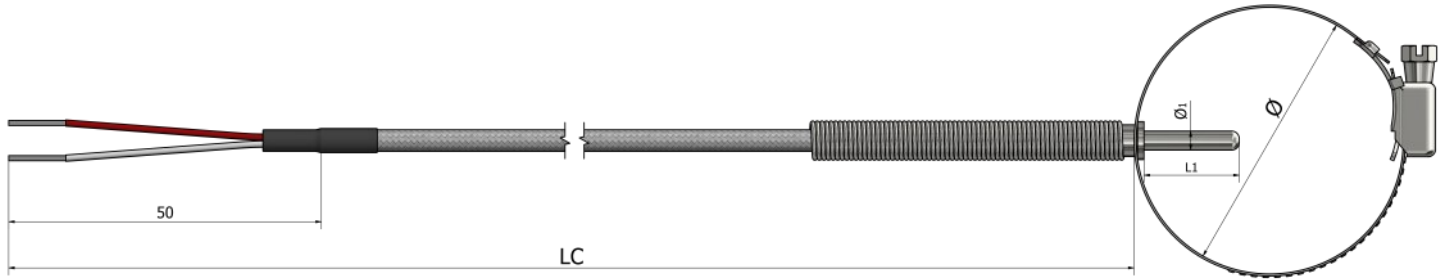


Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS43 – Surface thermistors

Pipe-Clamp (type 3)



*Clamp material **Stainless steel 316L** *Tube material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

2. Wiring configuration: (number of wires)

- 2 Other:

3. Cable prolongation:

- PVC (105°C) Silicone (180°C) Teflon (260°C)
- Fiberglass (400°C) Other:

4. Cable length LC (mm):

5. Clamp size Ø (mm):

6. Insertion diameter Ø1 (mm):

- 4 5 6 Other:

7. Insertion depth L1 (mm):

8. Crimp protection:

- Spring Heat shrink sleeve Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

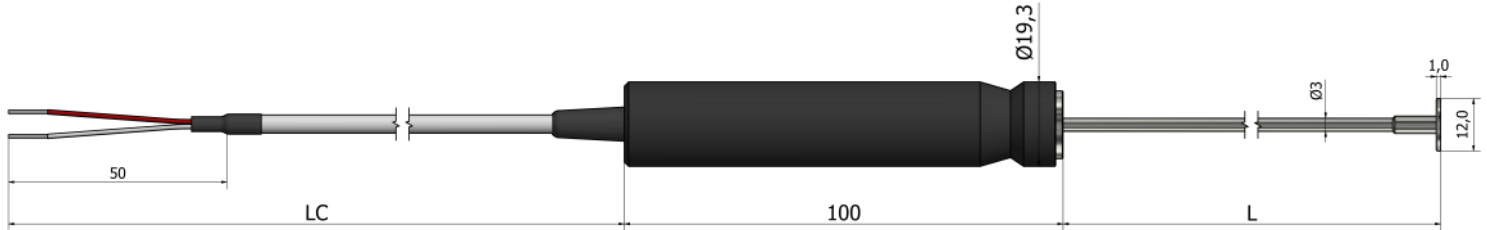
Note:

How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS50 – Surface thermistors Handheld



*Handle material **Plastic** *Tube material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C B3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C B4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C B3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Length L (mm):

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?



Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HS60 – Surface thermistors

Spring loaded magnet



Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

4. Cable length LC (mm):

5. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?

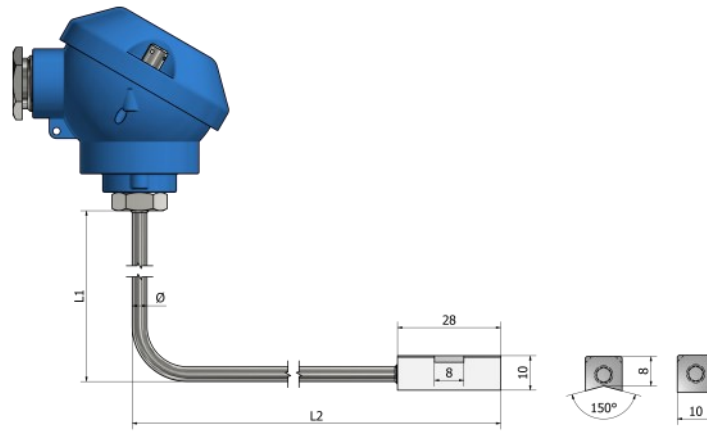


Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HH25 – Surface thermistors

Contact block (surface mount) with therminal head



*Tube material **Stainless steel 316L**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Lengths L1 and L2 (mm):

L1 _____ L2 _____

4. Diameter Ø (mm):

5. Connection head: (see the part "Accessories")

- Type B
- Type DAN
- Type M
- Type N
- Type Ex
- Type NS
- Other:

6. Mounting:

- Wires
- Terminal block
- Transmitter (°C):
Specify temperature range

7. Contact block material:

- Brass
- Aluminum
- Other:

8. Contact block shape:



V-shape



Flat

Additional:

Application: _____

Operating temperature (min/max): _____

Type of environment: _____

Accessories:
See the part "Accessories"

Quantity: _____

Note: _____

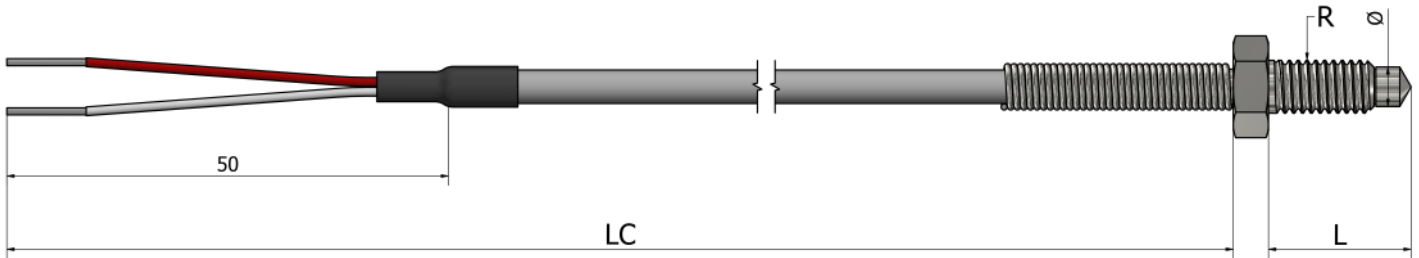
How to order?



Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HR20 – Surface thermistors Nozzle



*Nozzle and thread material *Stainless steel (304 / 304L / 316 / 316L)*

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value, tolerance)

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Length L (mm):

4. Diameter Ø (mm):

5. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

6. Cable length LC (mm):

7. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

8. Thread:

- 1/2" BSPP
- 1/4" BSPP
- 1/4" BSPT
- M10
- 1/2" NPT
- Other:

How to order?

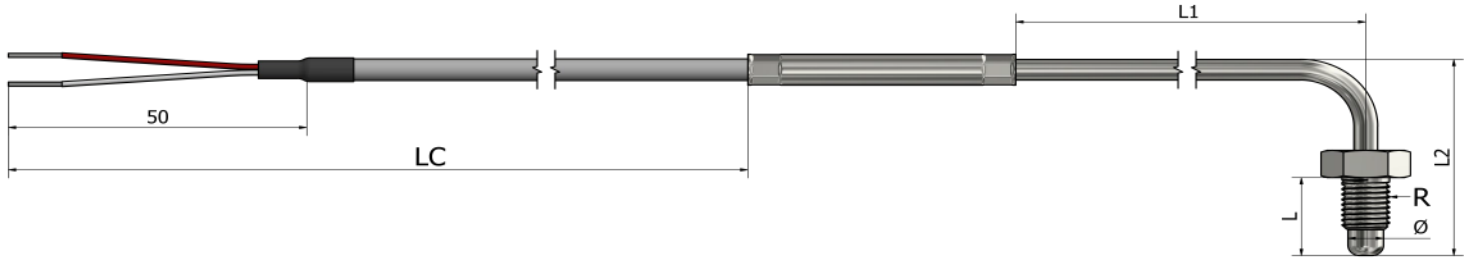


Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HR21 – Surface thermistors

Nozzle (90° bend)



*Tube material **Stainless steel 316L**

*Nozzle and thread material **Stainless steel (304 / 304L / 316 / 316L)**

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:

(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Lengths (mm):

L1 _____ L2 _____

4. Length L (mm):

5. Diameter Ø (mm):

6. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

7. Cable length LC (mm):

8. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

10. Thread:

- 1/2" BSPP
- 1/4" BSPP
- 1/4" BSPT
- M10
- 1/2" NPT
- Other:

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

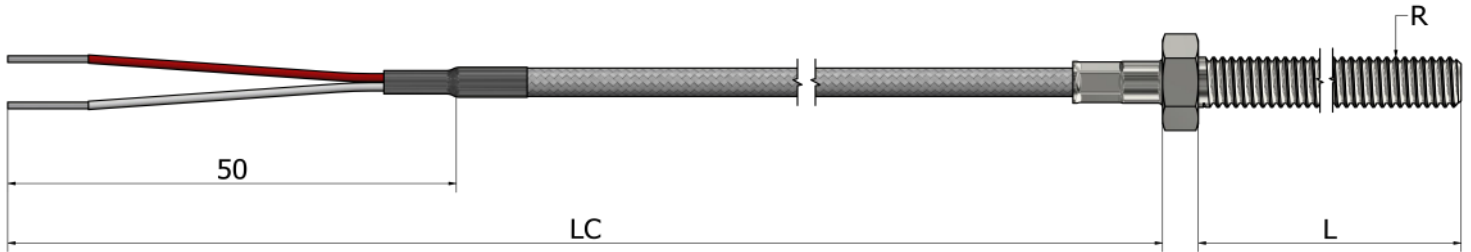
Note:

How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



HR22 – Surface thermistors Bolt



*Bolt material *Stainless steel (304 / 304L / 316 / 316L)*

Ordering information

1. Element type:

- PTC KTY 81/110 (-40°C / +150°C)
- PTC KTY 81/121 (-40°C / +150°C)
- NTC 10kΩ at 25°C β3977 (-40°C / +125°C)
- NTC 20kΩ at 25°C β4260 (-40°C / +125°C)
- NTC 3,3kΩ at 100°C β3970 (-40°C / +200°C)
- Other:
(NTC / PTC , T° (min / max) , β value , tolerance)

2. Wiring configuration: (number of wires)

- 2
- Other:

3. Length L (mm):

4. Cable prolongation:

- PVC (105°C)
- Silicone (180°C)
- Teflon (260°C)
- Fiberglass (400°C)
- Other:

5. Cable length LC (mm):

6. Crimp protection:

- Spring
- Heat shrink sleeve
- Without

7. Thread:

- 1/2" BSPP
- 1/4" BSPP
- 1/4" BSPT
- M10
- 1/2" NPT
- Other:

Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:
See the part "Accessories"

Quantity:

Note:

How to order?

Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.