

## Contents

Technical Information .....	03
TS00 - Adhesive tape .....	04
TS01 - Washer mount .....	05
TS02 - Reinforced washer mount .....	06
TS03 - Ring mount .....	07
TS05 - Contact block .....	08
TS10 - Weld pad .....	09
TS11 - Weld pad (45° angle) .....	10
TS12 - Weld pad (plug-in) .....	11
TS20 - Angle / plug-in .....	12
TS21 - Angle / plug-in (clamp) .....	13
TS30 - Bayonet .....	14
TS31 - Bayonet with reduced tip .....	15
TS32 - Bayonet with ceramic tip .....	16
TS33 - Bayonet (reverse) .....	17
TS34 - Bayonet with clamp (90° angle) .....	18
TS41 - Pipe-Clamp (type 1) .....	19
TS42 - Pipe-Clamp (type 2) .....	20
TS43 - Pipe-Clamp (type 3) .....	21
TS50 - Handheld .....	22
TS60 - Spring loaded magnet .....	23
TS61 - Crocodile clip magnet .....	24
TH25 - Contact block (surface mount) with terminal head. ....	25
TR20 - Nozzle .....	26
TR21 - Nozzle (90° bend) .....	27
TR22 - Bolt .....	28



## Types of thermocouples

Thermocouples are adapted to specific applications depending on the temperature range to be measured, the accuracy required and the environment in which they will be used. They are differentiated by letters (Type K, J, N, T, etc....) which correspond to the presence of materials that can measure a certain temperature range.

The most commonly used is the type K which is capable of measuring temperatures from  $-40\text{ }^{\circ}\text{C}$  to  $+1200\text{ }^{\circ}\text{C}$ . It is made from a chrome and an aluminum wire.

Note that connector colors vary by standard and country. Check the *"International Color Codes applied to temperature measuring engineering"*.

## Thermocouple classes

Classes of thermocouples have certain tolerance values and temperature limits of validity. The most common classes are **class 1** and **class 2**.

With **class 1** you get more precise measurement values while **class 2** provides a wider tolerance values.

## Material conductivity

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

## What are the characteristics of surface thermocouples ?

Surface temperature probes 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 thermocouples

Attaching a thermocouple 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 thermocouples 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 thermocouple cap to be installed with a twist.

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

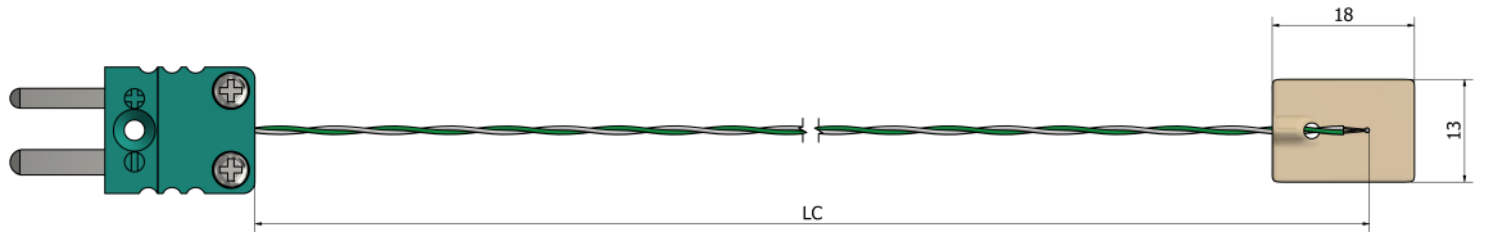
Pipe-clamp thermocouples is ideal for temperature measurements on pipes in laboratories and industrial applications.

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



# TS00 – Surface thermocouples

## Adhesive tape



\*Adhesive tape material **Fiberglass/PTFE**

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 2. Number of thermocouples:

- x 1     x 2

#### 3. Class:

- Class 1     Class 2

#### 4. Cable prolongation:

- Teflon (260°C)     Other:

#### 5. Cable length LC (mm):

#### 6. Junction type: Exposed

#### 7. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 8. Connector temperature:

- 200°C     350°C     650°C

#### 9. Option:

- Cable clamp     Custom ID label     Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

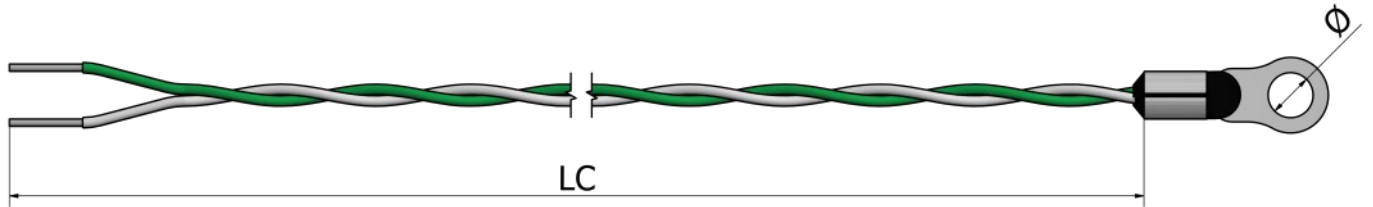
### How to order?

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.



# TS01 – Surface thermocouples

## Washer mount



*\*Washer mount material **Tinned copper***

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 2. Number of thermocouples:

- x 1     x 2

#### 3. Class:

- Class 1     Class 2

#### 4. Cable prolongation:

- Teflon (260°C)     Other:

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded     Grounded

#### 7. Hole size Ø (mm):

#### 8. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 9. Connector temperature:

- 200°C     350°C     650°C

#### 10. Option:

- Cable clamp     Custom ID label     Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

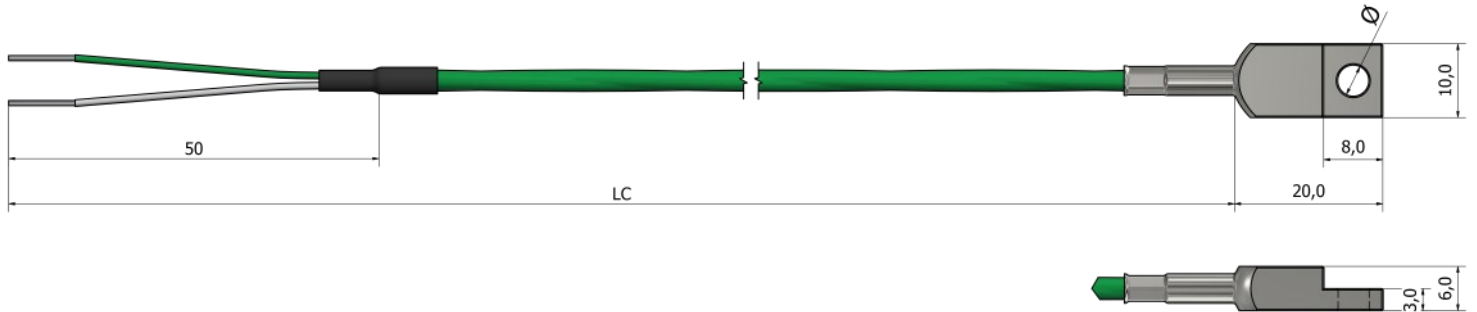
### How to order?

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.



# TS02 – Surface thermocouples

## Reinforced washer mount



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

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 9. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 2. Number of thermocouples:

- x 1     x 2

#### 10. Connector temperature:

- 200°C     350°C     650°C

#### 3. Class:

- Class 1     Class 2

#### 11. Option:

- Cable clamp     Custom ID label     Without

#### 4. Cable prolongation:

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

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded     Grounded

#### 7. Hole diameter $\varnothing$ (mm):

#### 8. Crimp protection:

- Spring     Heat shrink sleeve     Without

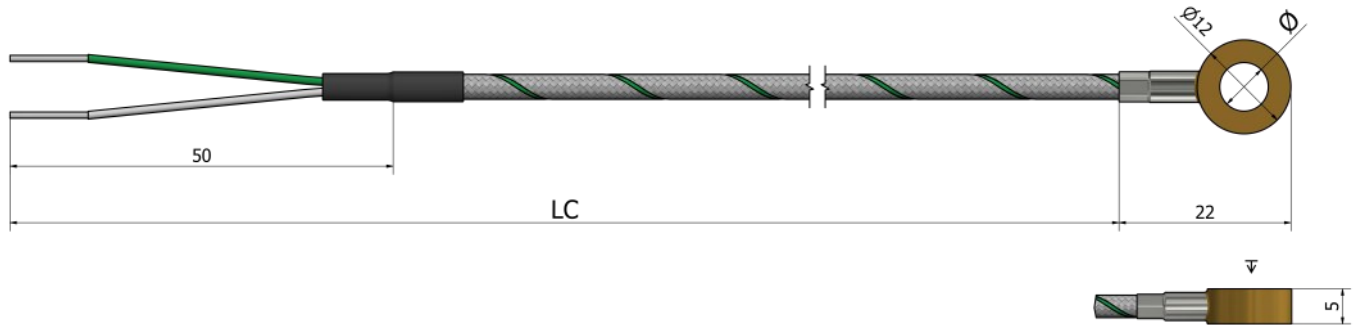
### How to order?

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.



# TS03 – Surface thermocouples

## Ring mount



### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 2. Number of thermocouples:

- x 1     x 2

#### 3. Class:

- Class 1     Class 2

#### 4. Cable prolongation:

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

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded     Grounded

#### 7. Ring material:

- Brass     AISI 316L     Other:

#### 8. Ring size:

- M5     M6     Other:

#### 9. Crimp protection:

- Spring     Heat shrink sleeve     Without

#### 10. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 11. Connector temperature:

- 200°C     350°C     650°C

#### 12. Option:

- Cable clamp     Custom ID label     Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:

See the part "Accessories"

Quantity:

Note:

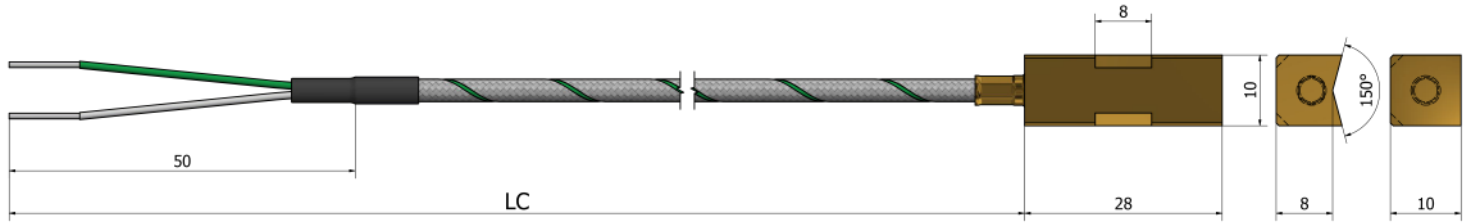
### How to order?

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.



# TS05 – Surface thermocouples

## Contact block



\*Contact block material **Brass or aluminum**

### Ordering information

#### 1. Thermocouple:

- Type K    Type N    Type J    Type T    Type E  
 Type R    Type S    Type B    Other:

#### 2. Number of thermocouples:

- x 1    x 2

#### 3. Class:

- Class 1    Class 2

#### 4. Cable prolongation:

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

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded    Grounded

#### 7. Contact block material:

- Brass    Aluminum    Other:

#### 8. Contact block shape:



V-shape



Flat

#### 9. Crimp protection:

- Spring    Heat shrink sleeve    Without

#### 10. Connector:

- Miniature Plug    Miniature Socket    Standard Plug    Standard Socket    Without

#### 11. Connector temperature:

- 200°C    350°C    650°C

#### 12. Option:

- Cable clamp    Custom ID label    Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

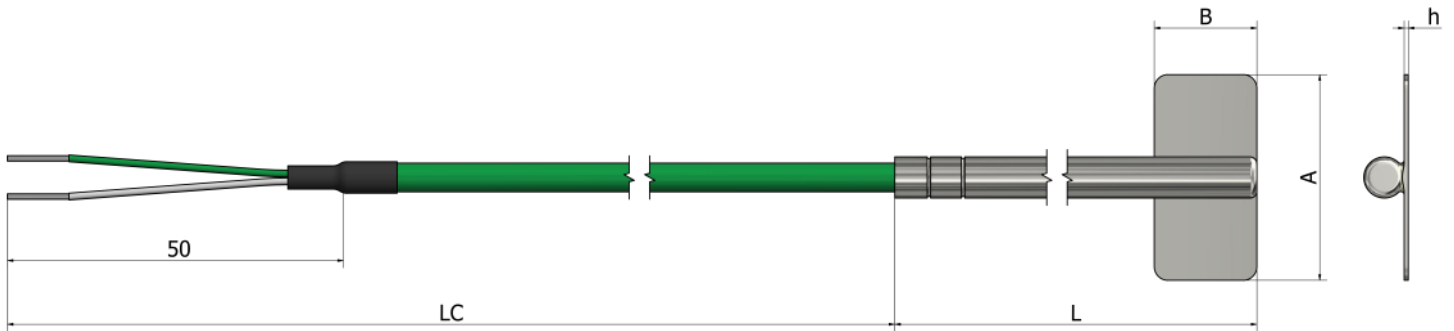
### How to order?

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.



# TS10 – Surface thermocouples

## Weld pad



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

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 2. Number of thermocouples:

- x 1     x 2

#### 3. Class:

- Class 1     Class 2

#### 4. Cable prolongation:

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

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded     Grounded

#### 7. Tube length L (mm):

#### 8. Pad material:

- AISI 316L     Other:

#### 9. Pad dimensions A x B (mm):

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

#### 10. Pad thickness h (mm):

- 0,5     Other:

#### 11. Crimp protection:

- Spring     Heat shrink sleeve     Without

#### 12. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 13. Connector temperature:

- 200°C     350°C     650°C

#### 14. Option:

- Cable clamp     Custom ID label     Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:

See the part "Accessories"

Quantity:

Note:

### How to order?

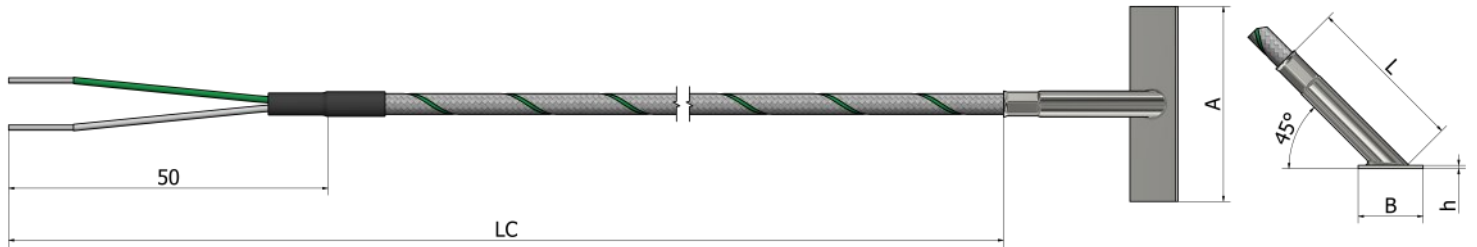
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.





# TS11 – Surface thermocouples

## Weld pad (45° angle)



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

### Ordering information

#### 1. Thermocouple:

- Type K    Type N    Type J    Type T    Type E  
 Type R    Type S    Type B    Other:

#### 2. Number of thermocouples:

- x 1    x 2

#### 3. Class:

- Class 1    Class 2

#### 4. Cable prolongation:

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

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded    Grounded

#### 7. Tube length L (mm):

#### 8. Pad material:

- AISI 316L    Other:

#### 9. Pad dimensions A x B (mm):

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

#### 10. Pad thickness h (mm):

- 0,5    Other:

#### 11. Crimp protection:

- Spring    Heat shrink sleeve    Without

#### 12. Connector:

- Miniature Plug    Miniature Socket    Standard Plug    Standard Socket    Without

#### 13. Connector temperature:

- 200°C    350°C    650°C

#### 14. Option:

- Cable clamp    Custom ID label    Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:

See the part "Accessories"

Quantity:

Note:

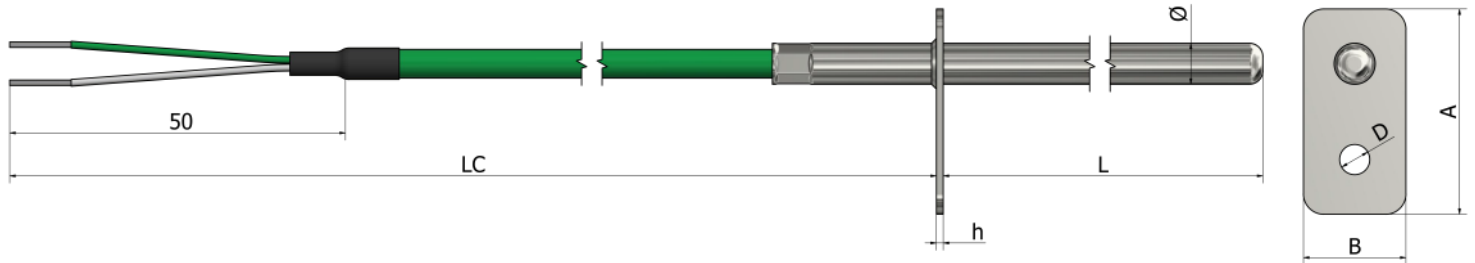
### How to order?

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.



# TS12 – Surface thermocouples

## Weld pad (plug-in)



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

### Ordering information

#### 1. Thermocouple:

- Type K    Type N    Type J    Type T    Type E  
 Type R    Type S    Type B    Other:

#### 2. Number of thermocouples:

- x 1    x 2

#### 3. Class:

- Class 1    Class 2

#### 4. Cable prolongation:

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

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded    Grounded

#### 7. Pad material:

- AISI 316L    Other:

#### 8. Pad dimensions A x B (mm):

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

#### 9. Pad thickness h (mm):

- 0,5    Other:

#### 10. Hole size Ø D (mm):

#### 11. Insertion diameter Ø (mm):

- 4    5    6    Other:

#### 12. Insertion depth L (mm):

#### 13. Crimp protection:

- Spring    Heat shrink sleeve    Without

#### 14. Connector:

- Miniature Plug    Miniature Socket    Standard Plug    Standard Socket    Without

#### 15. Connector temperature:

- 200°C    350°C    650°C

#### 16. Option:

- Cable clamp    Custom ID label    Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

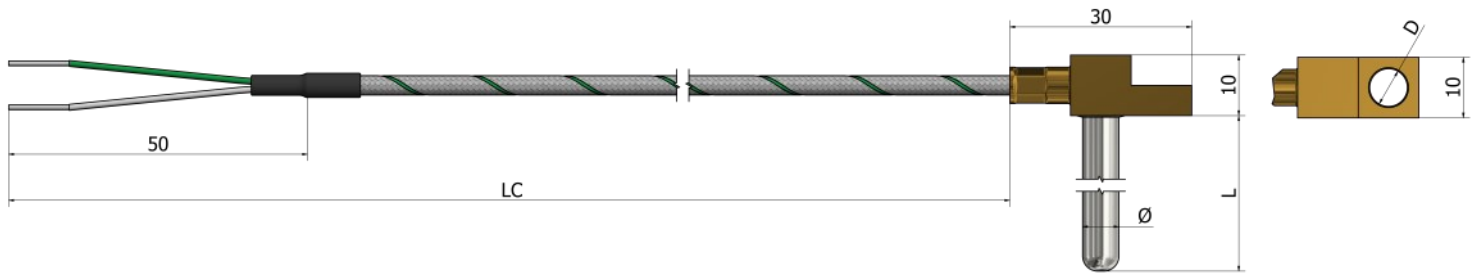
### How to order?

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.



# TS20 – Surface thermocouples

## Angle / plug-in



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

### Ordering information

#### 1. Thermocouple:

- Type K    Type N    Type J    Type T    Type E  
 Type R    Type S    Type B    Other:

#### 11. Connector:

- Miniature Plug    Miniature Socket    Standard Plug    Standard Socket    Without

#### 2. Number of thermocouples:

- x 1    x 2

#### 12. Connector temperature:

- 200°C    350°C    650°C

#### 3. Class:

- Class 1    Class 2

#### 13. Option:

- Cable clamp    Custom ID label    Without

#### 4. Cable prolongation:

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

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded    Grounded

#### 7. Hole size Ø D (mm):

#### 8. Insertion diameter Ø (mm):

- 4    5    6    Other:

#### 9. Insertion depth L (mm):

#### 10. Crimp protection:

- Spring    Heat shrink sleeve    Without

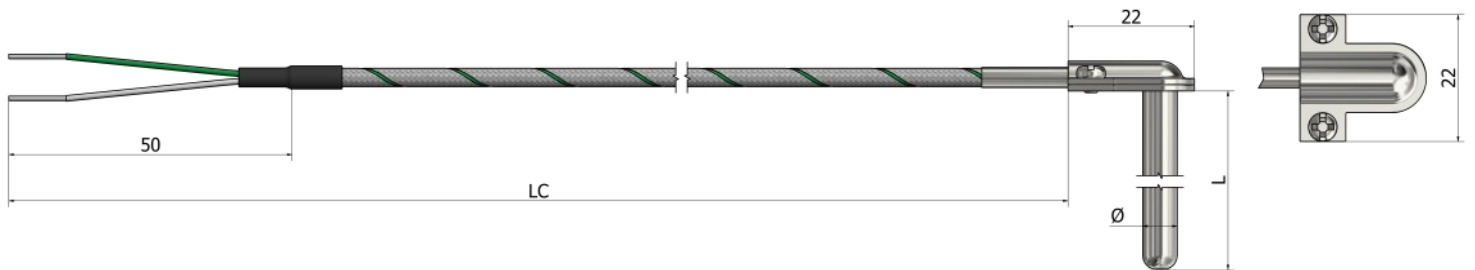
### How to order?

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.



# TS21 – Surface thermocouples

## Angle / plug-in (clamp)



\*Clamp and tube material **Stainless steel 316L**

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 10. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 2. Number of thermocouples:

- x 1     x 2

#### 11. Connector temperature:

- 200°C     350°C     650°C

#### 3. Class:

- Class 1     Class 2

#### 12. Option:

- Cable clamp     Custom ID label     Without

#### 4. Cable prolongation:

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

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded     Grounded

#### 7. Insertion diameter Ø (mm):

- 4     5     6     Other:

#### 8. Insertion depth L (mm):

#### 9. Crimp protection:

- Spring     Heat shrink sleeve     Without

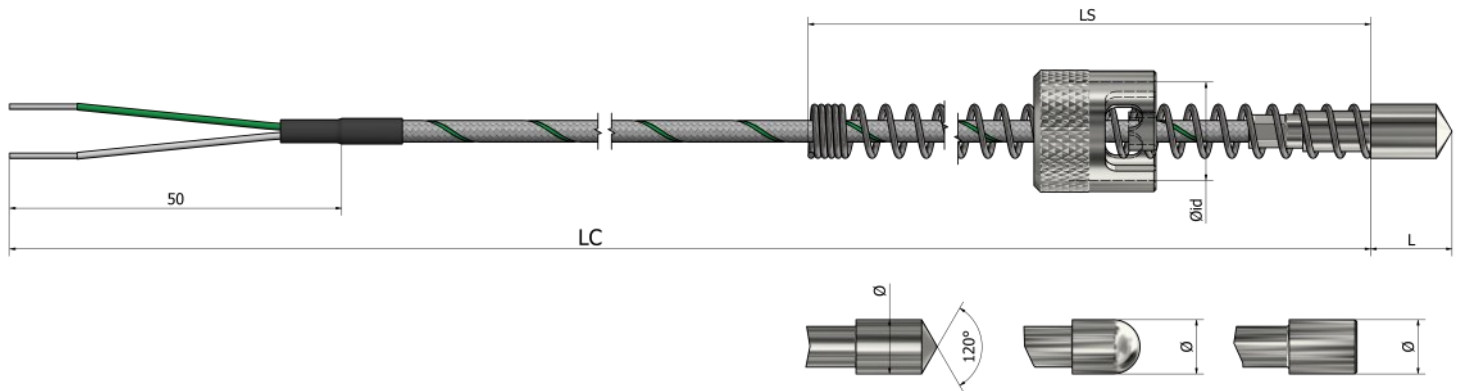
### How to order?



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.



# TS30 – Surface thermocouples Bayonet



## Ordering information

### 1. Thermocouple:

- Type K    Type N    Type J    Type T    Type E  
 Type R    Type S    Type B    Other:

### 2. Number of thermocouples:

- x 1    x 2

### 3. Class:

- Class 1    Class 2

### 4. Cable prolongation:

- Fiberglass (400°C)    Other:

### 5. Cable length LC (mm):

### 6. Junction type:

- Ungrounded    Grounded

### 7. Sheath tip dimensions $\varnothing \times L$ (mm):

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

### 8. Sheath tip type: (material *Stainless steel 316L*)



- Round    Conical    Flat

### 9. Bayonet cap $\varnothing_{id}$ (mm): (material *Nickel-plated brass*)

- 10,5    12,5    14,5    Other:

### 10. Spring length LS (mm):

### 11. Connector:

- Miniature Plug    Miniature Socket    Standard Plug    Standard Socket    Without

### 12. Connector temperature:

- 200°C    350°C    650°C

### 13. Option:

- Cable clamp    Custom ID label    Without

### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:

See the part "Accessories"

Quantity:

Note:

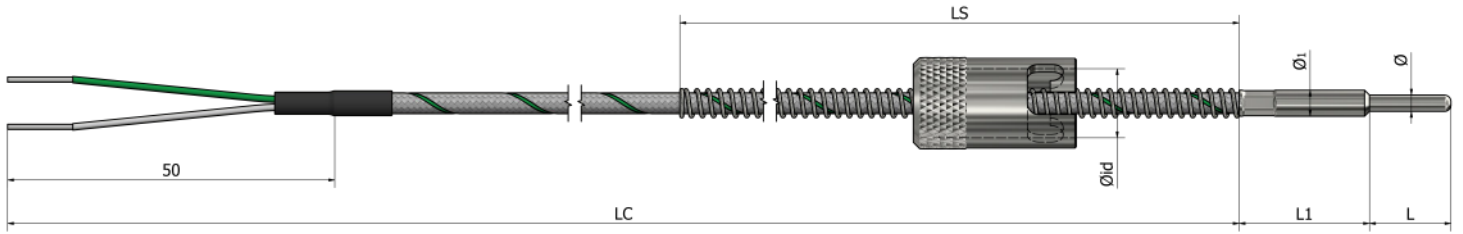
## How to order?

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.



# TS31 – Surface thermocouples

## Bayonet with reduced tip



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

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 11. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 2. Number of thermocouples:

- x 1     x 2

#### 12. Connector temperature:

- 200°C     350°C     650°C

#### 3. Class:

- Class 1     Class 2

#### 13. Option:

- Cable clamp     Custom ID label     Without

#### 4. Cable prolongation:

- Fiberglass (400°C)     Other:

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded     Grounded

#### 7. Dimensions L and Ø (mm):

L \_\_\_\_\_ Ø \_\_\_\_\_

#### 8. Dimensions L1 and Ø1 (mm):

L1 \_\_\_\_\_ Ø1 \_\_\_\_\_

#### 9. Bayonet cap Ø1d (mm): (material **Nickel-plated brass**)

- 10,5     12,5     14,5     Other:

#### 10. Spring length LS (mm):

### How to order?

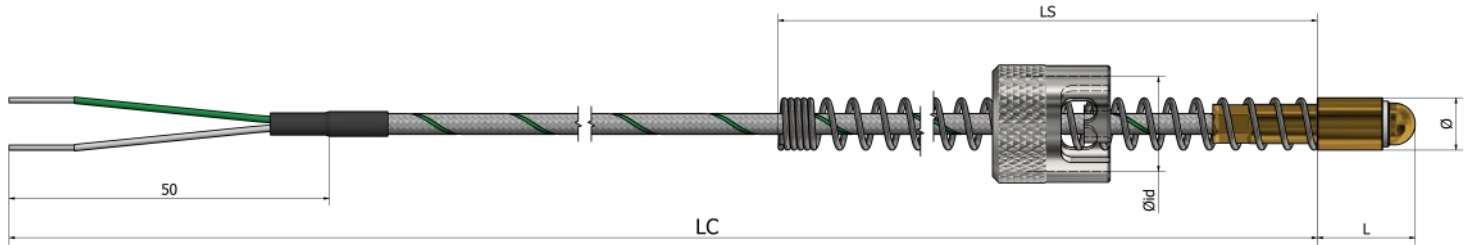


Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



# TS32 – Surface thermocouples

## Bayonet with ceramic tip



\*Tip material **Ceramic**

### Ordering information

#### 1. Thermocouple:

- Type K    Type N    Type J    Type T    Type E  
 Type R    Type S    Type B    Other:

#### 10. Connector:

- Miniature Plug    Miniature Socket    Standard Plug    Standard Socket    Without

#### 2. Number of thermocouples:

- x 1    x 2

#### 11. Connector temperature:

- 200°C    350°C    650°C

#### 3. Class:

- Class 1    Class 2

#### 12. Option:

- Cable clamp    Custom ID label    Without

#### 4. Cable prolongation:

- Fiberglass (400°C)    Other:

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded    Grounded

#### 7. Sheath tip dimensions Ø x L (mm):

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

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

- 10,5    12,5    14,5    Other:

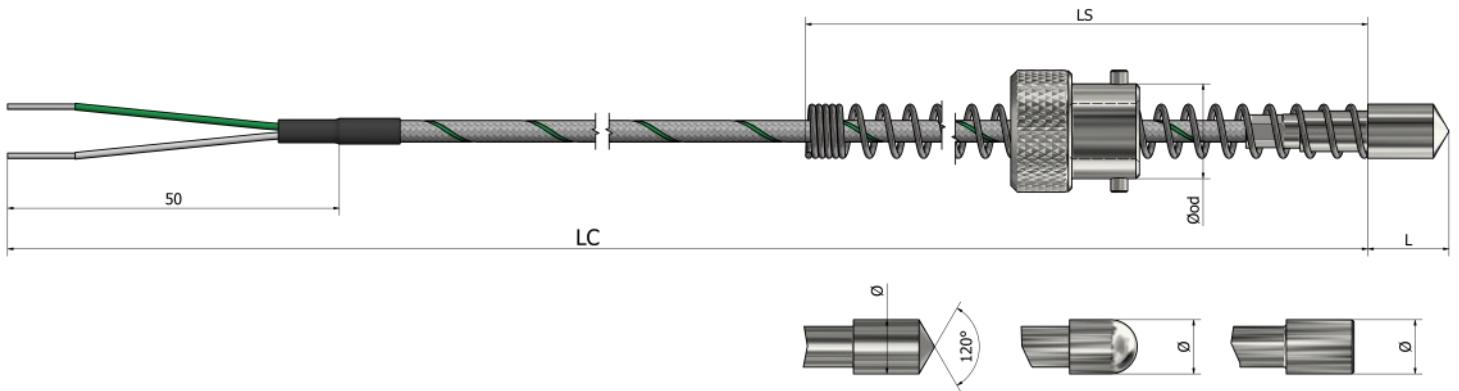
#### 9. Spring length LS (mm):

### 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.



# TS33 – Surface thermocouples Bayonet (reverse)



## Ordering information

### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

### 2. Number of thermocouples:

- x 1     x 2

### 3. Class:

- Class 1     Class 2

### 4. Cable prolongation:

- Fiberglass (400°C)     Other:

### 5. Cable length LC (mm):

### 6. Junction type:

- Ungrounded     Grounded

### 7. Sheath tip dimensions Ø x L (mm):

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

### 8. Sheath tip type: (material *Stainless steel 316L*)



- Round     Conical     Flat

### 9. Bayonet adapter Øod (mm): (material *Nickel-plated brass*)

- 10,5     12,5     14,5     Other:

### 10. Spring length LS (mm):

### 11. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

### 12. Connector temperature:

- 200°C     350°C     650°C

### 13. Option:

- Cable clamp     Custom ID label     Without

### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:

See the part "Accessories"

Quantity:

Note:

## How to order?

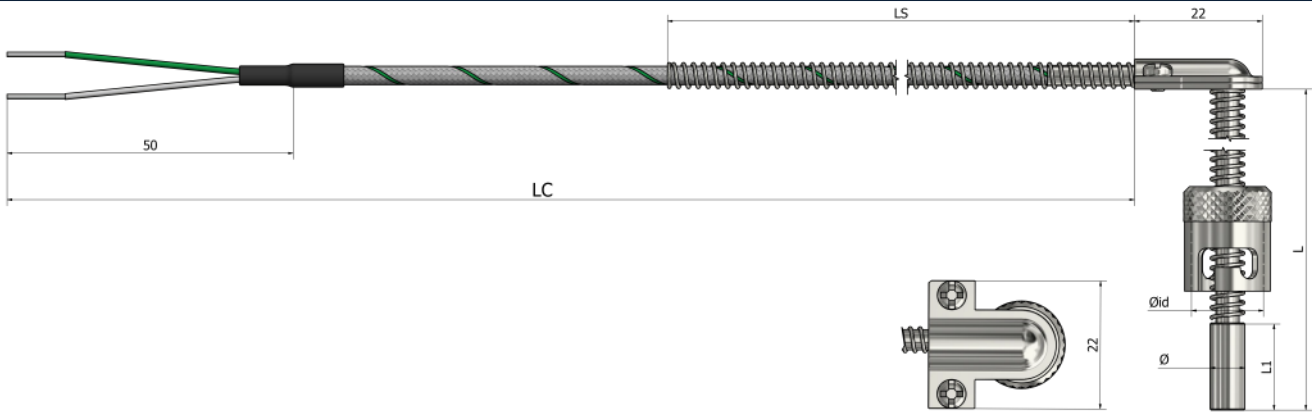
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.





# TS34 – Surface thermocouples

## Bayonet with clamp (90° angle)



\*Clamp and tube material **Stainless steel 316L**

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 2. Number of thermocouples:

- x 1     x 2

#### 3. Class:

- Class 1     Class 2

#### 4. Cable prolongation:

- Fiberglass (400°C)     Other:

#### 5. Cable length LC (mm):

#### 6. Cable length L (mm):

#### 7. Junction type:

- Ungrounded     Grounded

#### 8. Sheath tip dimensions Ø x L1 (mm):

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

#### 9. Sheath tip type: (material **Stainless steel 316L**)



- Round     Conical     Flat

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

- 10,5     12,5     14,5     Other:

#### 11. Spring length LS (mm):

#### 12. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 13. Connector temperature:

- 200°C     350°C     650°C

#### 14. Option:

- Cable clamp     Custom ID label     Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

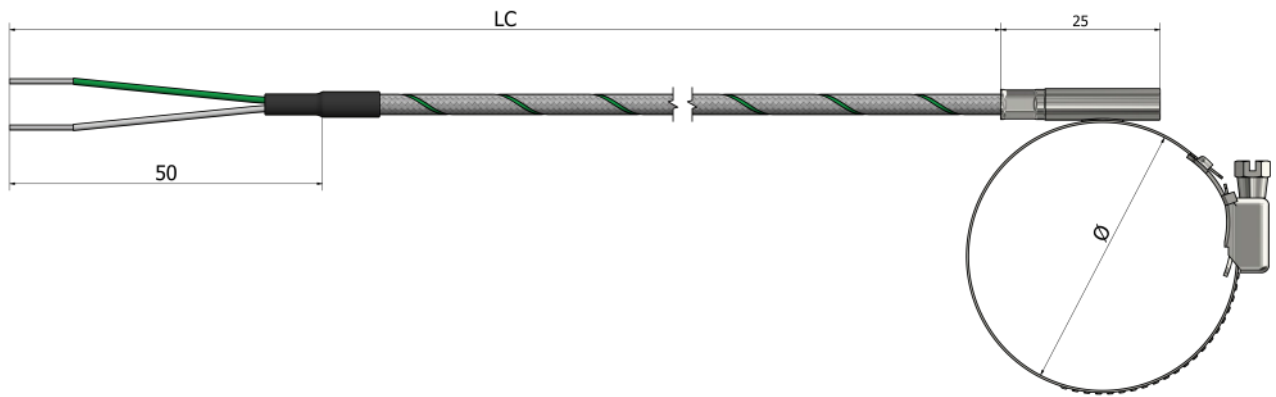
Note:

### 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.



# TS41 – Surface thermocouples Pipe-Clamp (type 1)



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

## Ordering information

### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

### 2. Number of thermocouples:

- x 1     x 2

### 3. Class:

- Class 1     Class 2

### 4. Cable prolongation:

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

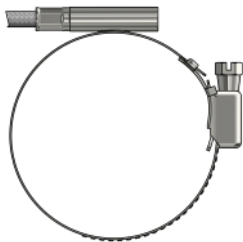
### 5. Cable length LC (mm):

### 6. Junction type:

- Ungrounded     Grounded

### 7. Clamp size Ø (mm):

### 8. Clamp direction:



V1



V2

### 9. Crimp protection:

- Spring     Heat shrink sleeve     Without

### 10. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

### 11. Connector temperature:

- 200°C     350°C     650°C

### 12. Option:

- Cable clamp     Custom ID label     Without

### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

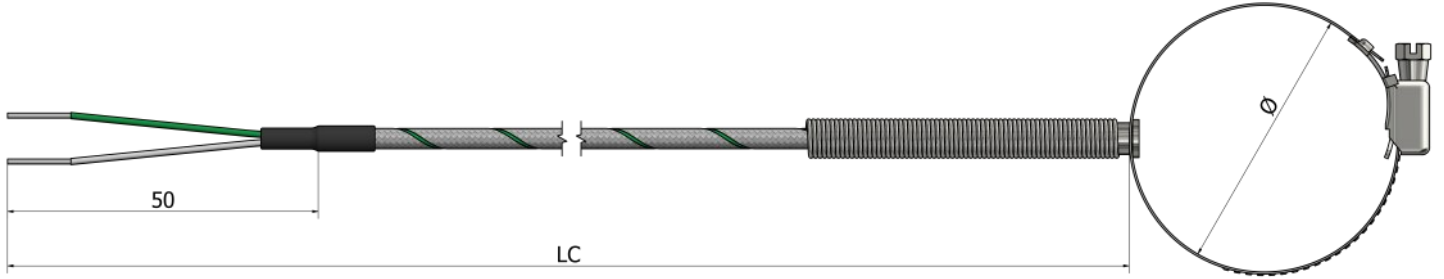
Note:

## 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.



# TS42 – Surface thermocouples Pipe-Clamp (type 2)



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

## Ordering information

### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

### 2. Number of thermocouples:

- x 1     x 2

### 3. Class:

- Class 1     Class 2

### 4. Cable prolongation:

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

### 5. Cable length LC (mm):

### 6. Junction type:

- Ungrounded     Grounded

### 7. Clamp size Ø (mm):

### 8. Crimp protection:

- Spring     Heat shrink sleeve     Without

### 9. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

### 10. Connector temperature:

- 200°C     350°C     650°C

### 11. Option:

- Cable clamp     Custom ID label     Without

### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

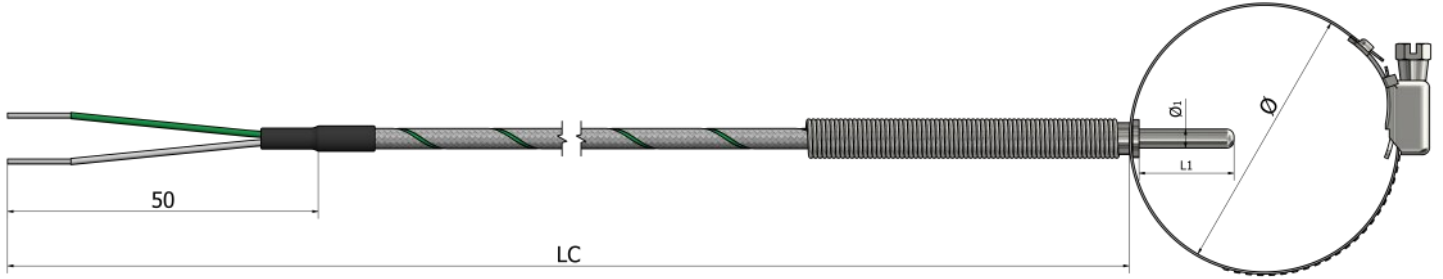
Note:

## 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.



# TS43 – Surface thermocouples Pipe-Clamp (type 3)



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

## Ordering information

### 1. Thermocouple:

- Type K    Type N    Type J    Type T    Type E  
 Type R    Type S    Type B    Other:

### 11. Connector:

- Miniature Plug    Miniature Socket    Standard Plug    Standard Socket    Without

### 2. Number of thermocouples:

- x 1    x 2

### 12. Connector temperature:

- 200°C    350°C    650°C

### 3. Class:

- Class 1    Class 2

### 13. Option:

- Cable clamp    Custom ID label    Without

### 4. Cable prolongation:

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

### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

### 5. Cable length LC (mm):

### 6. Junction type:

- Ungrounded    Grounded

### 7. Clamp size Ø (mm):

### 8. Insertion diameter Ø1 (mm):

- 4    5    6    Other:

### 9. Insertion depth L1 (mm):

### 10. Crimp protection:

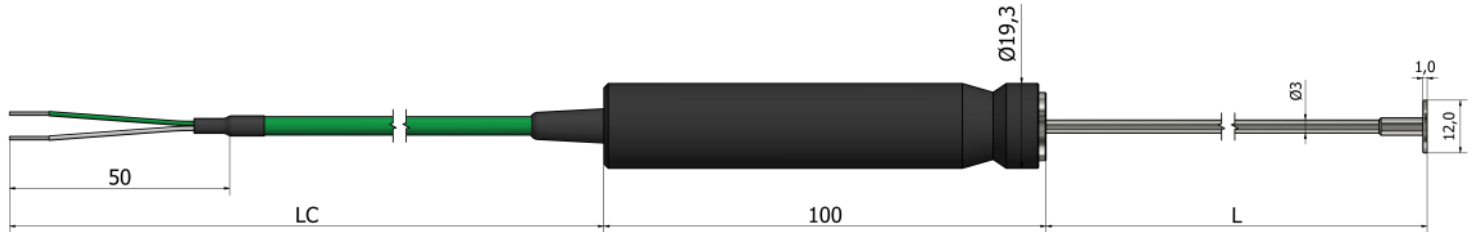
- Spring    Heat shrink sleeve    Without

## 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.



# TS50 – Surface thermocouples Handheld



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

## Ordering information

### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

### 2. Number of thermocouples:

- x 1     x 2

### 3. Class:

- Class 1     Class 2

### 4. Cable prolongation:

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

### 5. Cable length LC (mm):

### 6. Junction type:

- Grounded     Other:

### 7. Length L (mm):

### 8. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

### 9. Connector temperature:

- 200°C     350°C     650°C

### 10. Option:

- Cable clamp     Custom ID label     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.



# TS60 – Surface thermocouples

## Spring loaded magnet



### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 2. Number of thermocouples:

- x 1     x 2

#### 3. Class:

- Class 1     Class 2

#### 4. Cable prolongation:

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

#### 5. Cable length LC (mm):

#### 6. Junction type:

- Ungrounded     Grounded

#### 7. Crimp protection:

- Spring     Heat shrink sleeve     Without

#### 8. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 9. Connector temperature:

- 200°C     350°C     650°C

#### 10. Option:

- Cable clamp     Custom ID label     Without

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

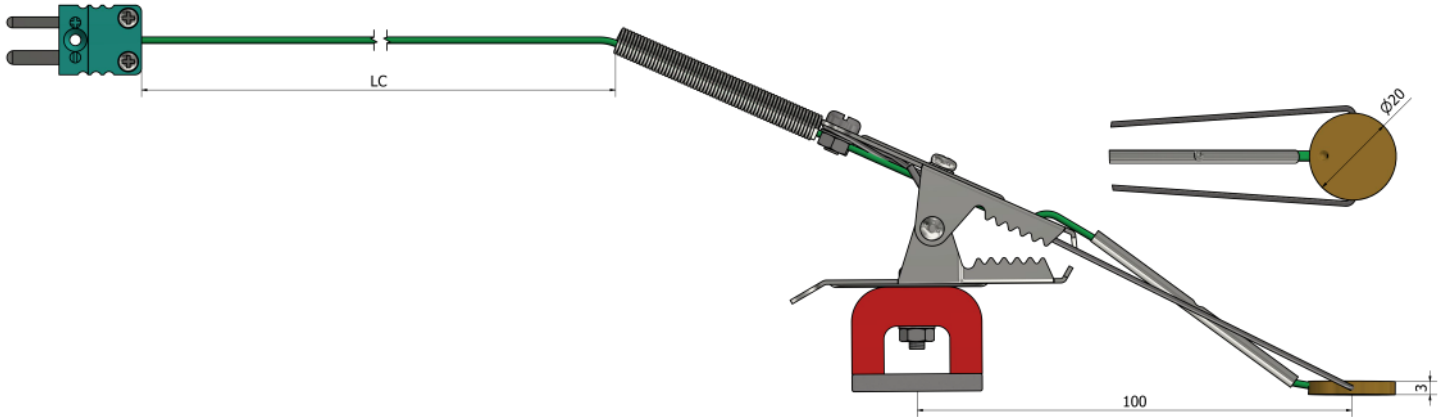
### How to order?

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.



# TS61 – Surface thermocouples

## Crocodile clip magnet



### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 8. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 2. Number of thermocouples:

- x 1     x 2

#### 9. Connector temperature:

- 200°C     350°C     650°C

#### 3. Class:

- Class 1     Class 2

#### 10. Option:

- Cable clamp     Custom ID label     Without

#### 4. Cable prolongation:

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

#### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:  
See the part "Accessories"

Quantity:

Note:

#### 5. Cable length LC (mm):

#### 6. Junction type: Ungrounded

#### 7. Crimp protection:

- Spring     Heat shrink sleeve     Without

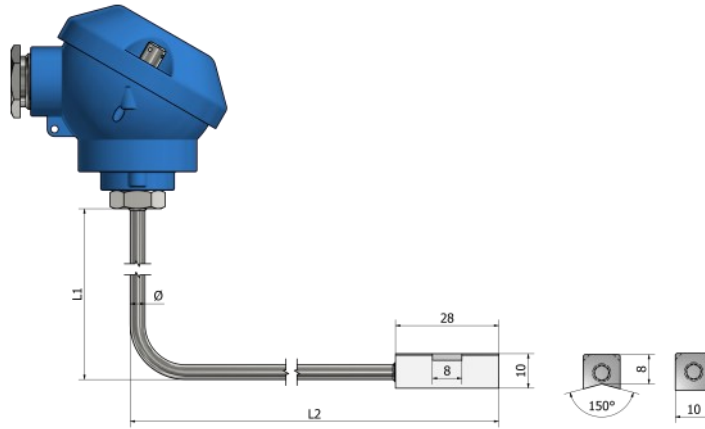
### How to order?

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.





## TH25 – Surface thermocouples Contact block (surface mount) with terminal head



\*Tube material **Stainless steel 316L**

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 2. Number of thermocouples:

- x 1     x 2

#### 3. Class:

- Class 1     Class 2

#### 4. Lengths L1 and L2 (mm):

L1 \_\_\_\_\_ L2 \_\_\_\_\_

#### 5. Diameter Ø (mm):

#### 6. Junction type:

- Ungrounded     Grounded

#### 7. Connection head: (see the part "Accessories")

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

#### 8. Mounting:

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

#### 9. Contact block material:

- Brass     Aluminum     Other:

#### 10. 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?

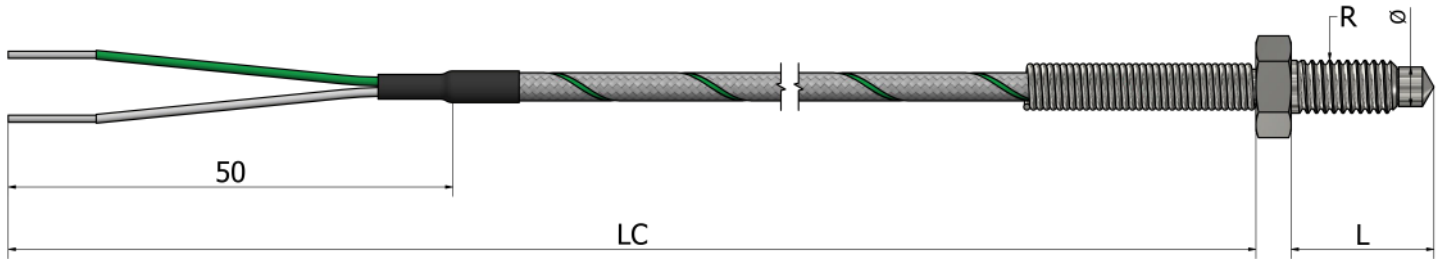
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.







# TR20 – Thermocouples with thread connection Nozzle



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

## Ordering information

### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

### 2. Class:

- Class 1     Class 2

### 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:

### 9. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

### 10. Connector temperature:

- 200°C     350°C     650°C

### 11. Option:

- Cable clamp     Custom ID label     Without

### Additional:

Application:

Operating temperature (min/max):

Type of environment:

Accessories:

See the part "Accessories"

Quantity:

Note:

## How to order?

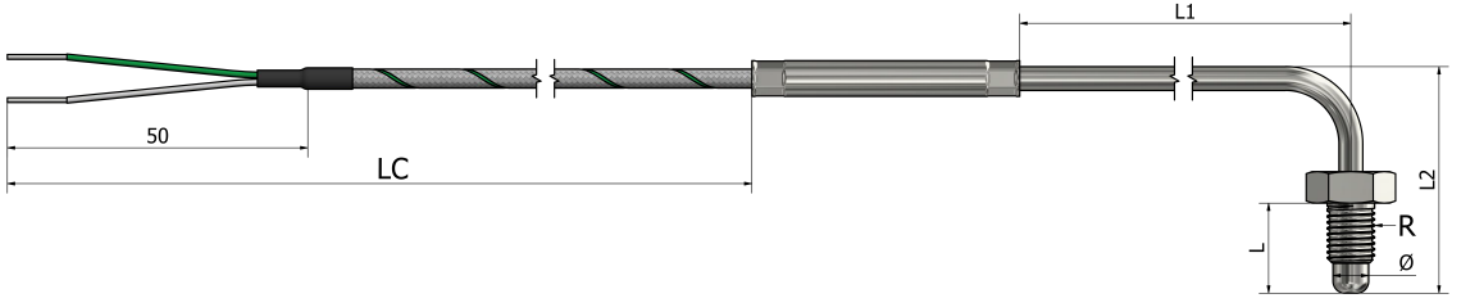


Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images, personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



# TR21 – Thermocouples with thread connection

## Nozzle (90° bend)



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

### Ordering information

#### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

#### 10. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

#### 2. Class:

- Class 1     Class 2

#### 11. Connector temperature:

- 200°C     350°C     650°C

#### 3. Lengths (mm):

L1 \_\_\_\_\_ L2 \_\_\_\_\_

#### 12. Option:

- Cable clamp     Custom ID label     Without

#### 4. Length L (mm):

#### 5. Diameter Ø (mm):

#### 6. Cable prolongation:

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

#### Additional:

Application: \_\_\_\_\_

Operating temperature (min/max): \_\_\_\_\_

Type of environment: \_\_\_\_\_

Accessories:  
See the part "Accessories"

Quantity: \_\_\_\_\_

Note: \_\_\_\_\_

#### 7. Cable length LC (mm):

#### 8. Crimp protection:

- Spring     Heat shrink sleeve     Without

#### 9. Thread:

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

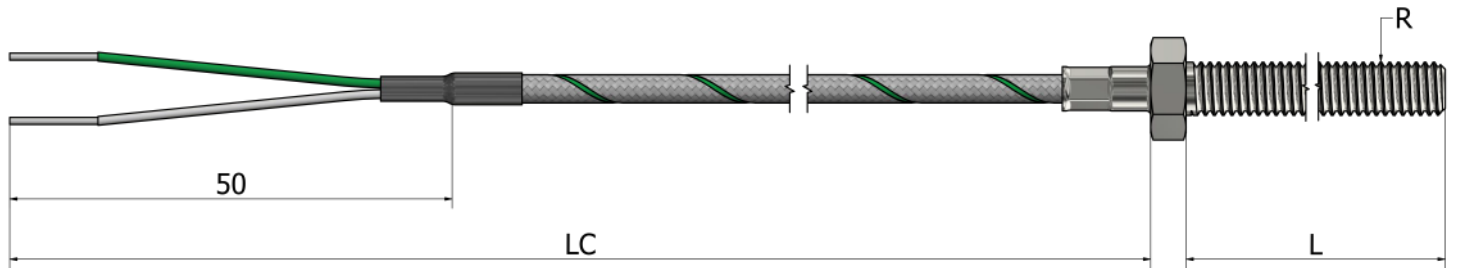
### How to order?



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.



# TR22 – Thermocouples with thread connection Bolt



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

## Ordering information

### 1. Thermocouple:

- Type K     Type N     Type J     Type T     Type E  
 Type R     Type S     Type B     Other:

### 2. Class:

- Class 1     Class 2

### 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:

### 8. Connector:

- Miniature Plug     Miniature Socket     Standard Plug     Standard Socket     Without

### 9. Connector temperature:

- 200°C     350°C     650°C

### 10. Option:

- Cable clamp     Custom ID label     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.