

Contents

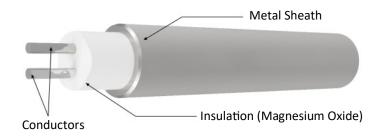
Taskwisal Information	03
Technical Information	
TM00 - Stripped	06
TM10 - Miniature connector termination	07
TM11 - Miniature connector termination (duplex)	80
TM12 - Standard connector termination	09
TM13 - Standard connector termination (duplex)	10
TM14 - LEMO connector	11
TM20 - Cable prolongation	12
TM21 - Cable prolongation with connector	13
TM22 - Cable prolongation (duplex)	14
TM23 - Cable prolongation with connector (duplex)	15
TM24 - For aggressive environments	16
TM25 - Multipoints with cable prolongation	17
TM30 - Penetration	18
TM40 - Cable prolongation with fixed threaded fitting	19
TM41 - Cable prolongation with fixed threaded fitting and connector	20
TM42 - Cables prolongation with fixed threaded fitting (duplex)	21
TM43 - Cables prolongation with fixed threaded fitting and connector (duplex)	22
TM50 - Washer mount	23
TM51 - Cable prolongation with washer mount	24
TM52 - Built-in for tank containers	25
TM53 - Bayonet	26
TM60 - Disk plate insert	27
TM61 - Insert with terminal block (spring loaded)	28
TM62 - Insert with transmitter (spring loaded)	29
	30
TM70 - Connection head	31
TM71 - Connection head with fixed threaded fitting	32
TM72 - Skin type with ring	
TM73 - Connection head (spring loaded)	33
TM75 - Multipoints with connection head	34

Mineral insulated thermocouples - Technical information



What is a mineral insulated probe?

Mineral insulated probes are made from mineral insulated cable. It has a metallic sheath and on the inside, the conductors are insulated with densely packed magnesium oxide (MgO).



This construction bears a lot of advantages for temperature sensors. Mineral insulated probes are often referred to as sheathed temperature sensors.

Characteristics of sheathed thermocouples

A sheathed thermocouple has an extremely wide temperature range: from below -200 °C up to more than 1600°C. Furthermore, sheathed thermocouples are resistant to vibration and scratches which proves their longevity.

At the same time, they are bendable.

Surprisingly, they are affordable as well: MI cable costs about the same as fiberglass cable.

We manufacture MI probes in diameters from 1mm up to 8mm. To ensure maximum water tightness, we make either a connector or a robust cable transition onto the probe.

Junction types

Exposed junction



This junction style provides the fastest possible response time but leaves the thermocouple wires unprotected against corrosive or mechanical damage.

Grounded junction



The grounded junction is recommended in the presence of liquids, moisture, gas or high pressure. The wire is protected from corrosive or erosive conditions. Response time with this style approaches that of the exposed junction.

Ungrounded junction



The ungrounded junction is excellent for applications where stray electric and magnetic fields (EMFs) would affect the reading and for frequent or rapid temperature cycling. Response time is longer than with the grounded junction.

Response time Diameter/Junction type

	Sheath diameter (mm)	Isolated measuring junction	Grounded measuring junction
	0.25	5 ms	2 ms
	0.5	14 ms	8 ms
	1.0	0.18 s	0.14 s
	1.5	0.2 s	0.15 s
la.	3.0	0.5 s	0.4 s
	4.5	1.2 s	0.7 s
1	6.0	2.4 s	1.2 s
00	8.0	3.9 s	2.1 s
1	0		



Mineral insulated thermocouples - Technical information



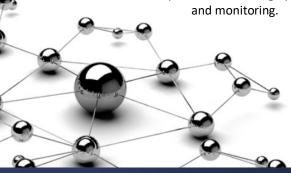
Sheath material types

When it comes to the production of mineral-insulated (MI) thermocouples, several materials are commonly used for the sheath and thermocouple wires. Let's explore four specific materials: (see annex)

- AISI (American Iron and Steel Institute) Stainless Steel
- Inconel
- Nicrobell / Pyrosil
- Platinum-Rhodium (Pt-Rh) Alloy

By utilizing these materials in the production of MI thermocouples, manufacturers can tailor the thermocouples to meet specific application requirements, considering factors such as temperature range, chemical exposure, mechanical stress, and accuracy needs.

This allows for reliable and accurate temperature measurements in diverse industrial processes, ensuring optimal control

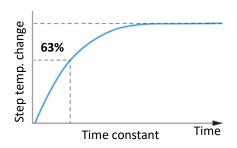


Response time

Response is a function of the mass of the sensor and its efficiency in transferring heat from its outer surfaces to the wire sensing element. A rapid time response is essential for accuracy in a system with sharp temperature changes.

Time response varies with the probe's physical size and design. Response times indicated represent standard industrial probes.

Time constant (thermal response time)



The smaller the diameter, the faster the thermocouple responds. Grounding the junction also improves response time by approximately 50 percent based on the sensor achieving 63.2 percent of the final reading or to the first time constant. It takes approximately five time constants to obtain steady state readings.

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.

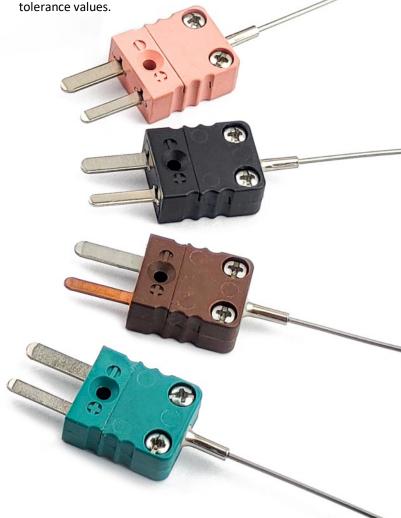
The most commonly used is the type K which is capable of measuring temperatures from -40 to +1200 °C. It is made from a chrome and an aluminum wire.

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 ${\bf 1}$ and class ${\bf 2}$.

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





Mineral insulated thermocouples - Technical information



Thermocouple accessories

Temperature sensor accessories are equipment used to improve the performance of temperature measuring devices.

It is important to choose quality sensor accessories to ensure optimal performance and long-term reliability.

Our accessories are made of strong and resistant materials to guarantee maximum durability.

Eurosensors offers a wide selection of temperature sensor accessories to meet your specific needs.

Accessories include: thermocouple cables for reliable and accurate data transmission, compression fittings for easy installation, thermowells to protect sensors from mechanical damage, terminal heads for easy access to sensors, transmitters for networked data transmission, and ceramic terminal blocks for electrical isolation.

Terminal heads

Many alternative types of terminal head are available to meet the requirements of various applications. Variations exist in size, material, accommodation, resistance to media, resistance to fire or even explosion and in other parameters. Common types are shown below but there are many special variants available to meet particular requirements.



Terminal block located in a "head" allow for the connection of extension wires. Various materials are used for screw or solder terminations including copper, plated brass and, for the best performance in the case of thermocouples, thermoelement alloys. The various head styles cater for a wide variety of probe diameters and cable entries.

Types of thermocouple cables

For additional information about thermocouple cables and RTD cables see "Accessories - Cables".

Types of connectors

Thermocouple connectors plugs and sockets are available in two sizes (miniature and standard).

Miniature thermocouple connectors are smaller and have flat pins, these are usually found on small diameter thermocouples or fitted to the end of cables for connection to hand held and panel instruments. Standard connectors have larger round pins and tend to be used for more industrial applications.

How to choose your accessory?

It is important to choose the right type of cable, fitting, thermowell, terminal head, connector and transmitter to ensure that your temperature sensor operates reliably and accurately.

The type of thermocouple cable must match the type of thermocouple you are using (e.g. type K, T, E, etc.).

The compression fittings must match the type of sensor you are using. It must also be compatible with the sensor diameter and location thread.

The thermowell protects the sensor from mechanical damage and high temperatures. It must be selected according to the operating temperature and the required mechanical strength.

The connection head must be compatible with the type of cable and the application. It must also be able to withstand the temperatures and environment in which it will be used.

The connector must be compatible with the type of cable and thermocouple used, as well as with the connection head. It must also be designed to withstand the temperatures and environment in which it will be used.

The thermocouple transmitter must be compatible with the type of sensor used and must be able to convert the signal to a standard electrical signal.

The ceramic terminal block is used to attach electrical cables to a control box. It must be compatible with the type of cable used and resistant to high temperatures.

Additional accessories

For more detailed information see "Accessories".





TM00 – Mineral insulated thermocouples Stripped

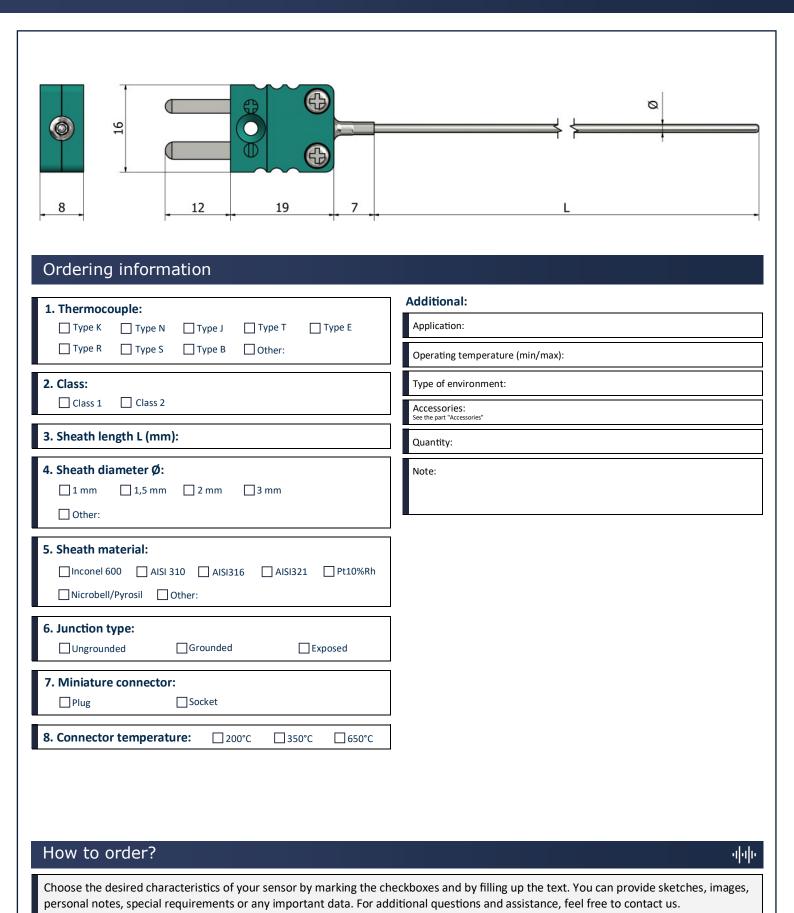


	0
L1	L
	
Ordering information	
1. Thermocouple:	Additional:
Type K ☐ Type N ☐ Type J ☐ Type T ☐ Type E	Application:
☐ Type R ☐ Type S ☐ Type B ☐ Other:	Operating temperature (min/max):
2. Class:	Type of environment:
☐ Class 1 ☐ Class 2	Accessories: See the part "Accessories"
3. Sheath length L (mm):	Quantity:
4. Sheath diameter Ø: ☐ 1 mm ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ 8 mm ☐ Other:	Note:
5. Sheath material: Inconel 600 AISI 310 AISI316 AISI321 Pt10%Rh Nicrobell/Pyrosil Other:	
6. Junction type: Ungrounded Grounded Exposed	
7. Stripping length L1 (mm):	
How to order?	ग्व
Choose the desired characteristics of your sensor by marking the cl personal notes, special requirements or any important data. For ac	heckboxes and by filling up the text. You can provide sketches, images,



TM10 – Mineral insulated thermocouples Miniature connector termination

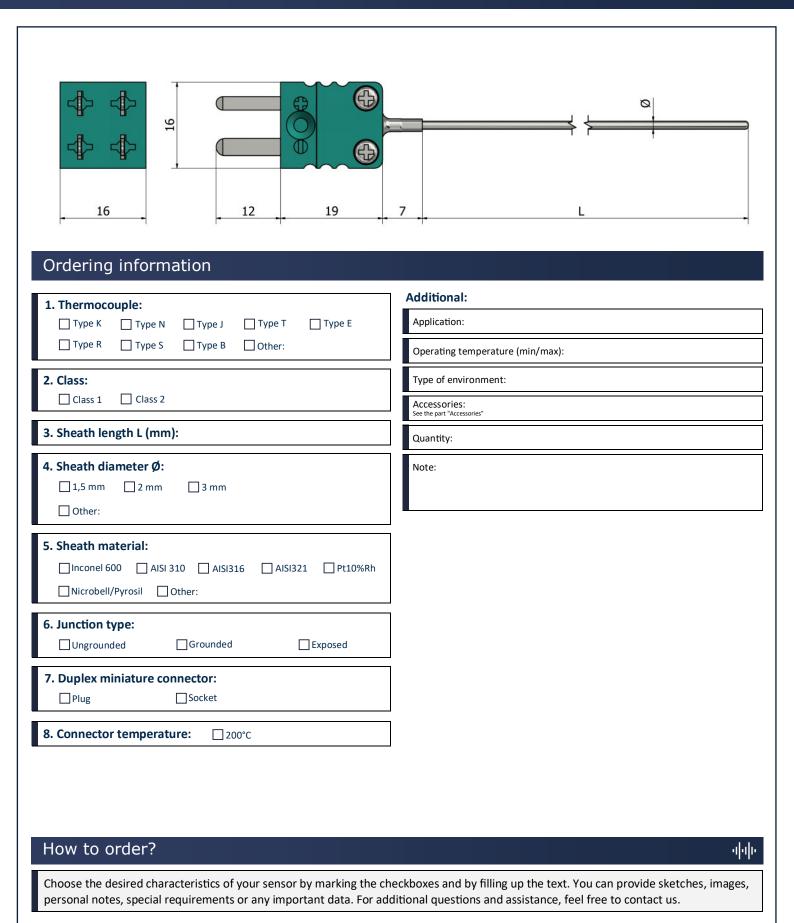






TM11 – Mineral insulated thermocouples Miniature connector termination (duplex)

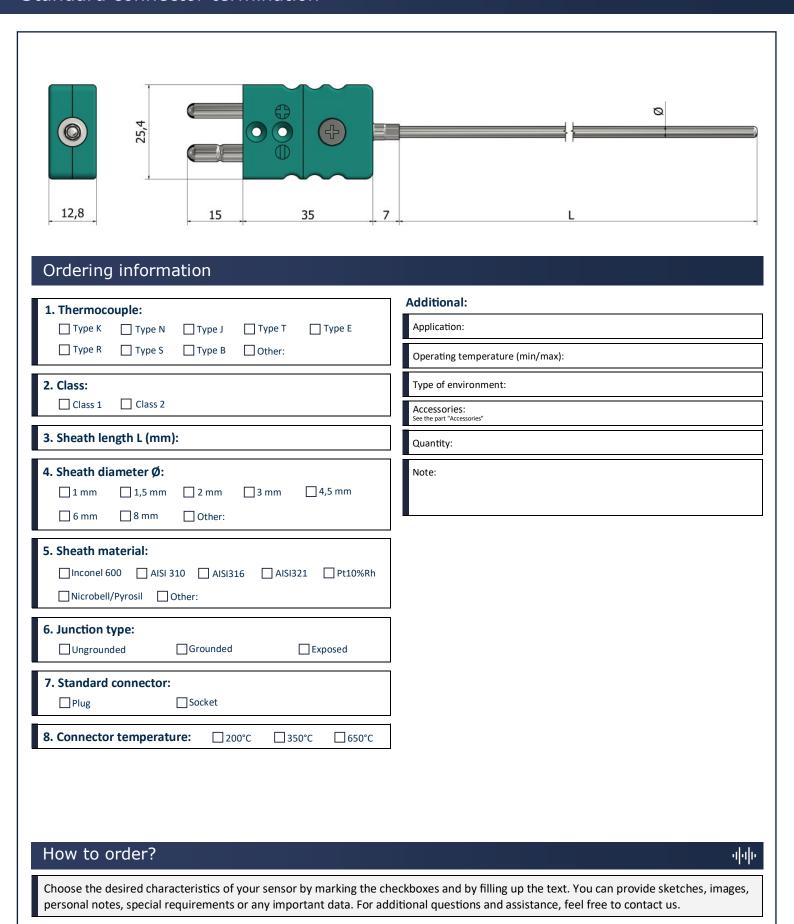






TM12 – Mineral insulated thermocouple Standard connector termination

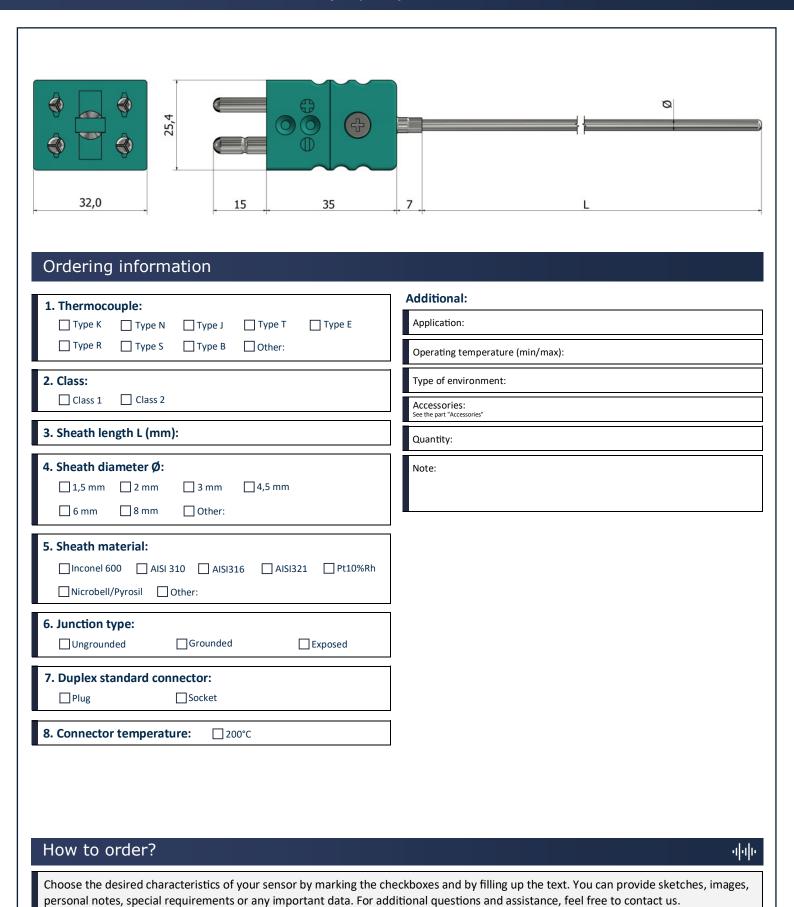






TM13 – Mineral insulated thermocouples Standard connector termination (duplex)







TM14 – Mineral insulated thermocouples LEMO connector



	L
Ordering information	
1. Thermocouple: ☐ Type K ☐ Type N ☐ Type J ☐ Type T ☐ Type E ☐ Type R ☐ Type S ☐ Type B ☐ Other:	Additional: Application: Operating temperature (min/max):
2. Class: Class 1 Class 2	Type of environment: Accessories: See the part "Accessories"
3. Sheath length L (mm):	Quantity:
4. Sheath diameter Ø:	Note:
☐ Inconel 600 ☐ AISI 310 ☐ AISI316 ☐ AISI321 ☐ Pt10%Rh☐ Nicrobell/Pyrosil ☐ Other:	
6. Junction type: Ungrounded Grounded Exposed	
7. LEMO connector type: Plug Socket	
8. LEMO connector size: (sheath from Ø mm to Ø mm) ☐ S0 (1 mm) ☐ S1 (1,5 mm to 3 mm) ☐ S2 (4,5 mm to 6 mm) ☐ S3 (8mm) ☐ Other:	
How to order?	ग्री



TM20 – Mineral insulated thermocouples Cable prolongation



50	LC	
Ordering infor	mation	Additional:
		Application:
Type R Type	S Type B Other:	Operating temperature (min/max):
2. Class:	2	Type of environment:
		Accessories: See the part "Accessories"
3. Sheath length L (m		Quantity:
4. Sheath diameter Q ☐ 1 mm ☐ 1,5 m ☐ 6 mm ☐ 8 mm	m	Note:
5. Sheath material: Inconel 600 A Nicrobell/Pyrosil	SI 310 AISI316 AISI321 Pt10%Rh	
	☐Grounded ☐Exposed	
6. Junction type:		_
	Silicone (180°C) Teflon (260°C)	
Ungrounded 7. Cable prolongation PVC (105°C)	☐ Silicone (180°C) ☐ Teflon (260°C) ☐ Other:	



TM21 – Mineral insulated thermocouples Cable prolongation with connector



LC	
Ordering information	
1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	10. Connector: Miniature Miniature Standard Standard Plug Socket Plug Socket Standard Sta
2. Class:	11. Connector temperature: 200°C 350°C 650°C
☐ Class 1 ☐ Class 2	12. Option:
3. Sheath length L (mm):	Cable clamp Custom ID label Without Additional:
4. Sheath diameter Ø: ☐ 1 mm ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ 8 mm ☐ Other:	Application: Operating temperature (min/max):
	Type of environment:
5. Sheath material: Inconel 600 AISI 310 AISI316 AISI321 Pt10%Rh	Accessories: See the part "Accessories"
□ Nicrobell/Pyrosil □ Other:	Quantity:
6. Junction type: Ungrounded Grounded Exposed	Note:
7. Cable prolongation: PVC (105°C) Silicone (180°C) Teflon (260°C) Fiberglass (400°C) Other:	
8. Cable length LC (mm):	
9. Crimp protection: Spring Heat shrink sleeve Without	
How to order?	जीव
Change the decired characteristics of your consor by marking the ch	neckboxes and by filling up the text. You can provide sketches, images,



TM22 – Mineral insulated thermocouples Cable prolongation (duplex)



			L Q
Ordering information			
1. Thermocouple: ☐ Type K ☐ Type N ☐ Type J ☐] Type T ☐ Type E	Additional: Application:	
	Other:	Operating temperature (min/max):	
2. Class:		Type of environment:	
Class 1 Class 2		Accessories: See the part "Accessories"	
3. Sheath length L (mm):		Quantity:	
4. Sheath diameter Ø:] 4,5 mm	Note:	
5. Sheath material: Inconel 600 AISI 310 AISI316 Nicrobell/Pyrosil Other:	☐ AISI321 ☐ Pt10%Rh		
6. Junction type: Ungrounded Grounded	☐ Exposed		
7. Cable prolongation: PVC (105°C) Silicone (180°C) Fiberglass (400°C) Other:	C) Teflon (260°C)		
8. Cable length LC (mm):			
9. Crimp protection: Spring Heat shrink slo	eeve Without		
How to order?			4



TM23 – Mineral insulated thermocouples Cable prolongation with connector (duplex)



LC LC	
Ordering information	
1. Thermocouple: ☐ Type K ☐ Type N ☐ Type J ☐ Type T ☐ Type E ☐ Type R ☐ Type S ☐ Type B ☐ Other:	10. Connector: Miniature Miniature Standard Standard Plug Socket Plug Socket
2. Class:	11. Connector temperature: 200°C 350°C 650°C
Class 1 Class 2	12. Option:
3. Sheath length L (mm):	Cable clamp Custom ID label Without
4. Sheath diameter Ø:	Additional: Application:
☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ 4,5 mm	Operating temperature (min/max):
☐ 6 mm ☐ 8 mm ☐ Other:	Type of environment:
5. Sheath material:	Accessories: See the part "Accessories"
☐ Inconel 600 ☐ AISI 310 ☐ AISI316 ☐ AISI321 ☐ Pt10%Rh ☐ Nicrobell/Pyrosil ☐ Other:	Quantity:
6. Junction type: Ungrounded Grounded Exposed	Note:
7. Cable prolongation: PVC (105°C) Silicone (180°C) Teflon (260°C) Fiberglass (400°C) Other:	
]]
8. Cable length LC (mm):	1
9. Crimp protection: Spring Heat shrink sleeve Without	
How to order?	ग्न



TM24 – Mineral insulated thermocouples For aggressive environments (with PTFE protection up to 250°C)



Ordering information	*Protection material P
1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	9. Crimp protection: Spring Heat shrink sleeve Without 10. Connector:
2. Class: Class 1 Class 2	☐ Miniature ☐ Miniature ☐ Standard ☐ Standard ☐ Without Plug Socket
3. Sheath length L (mm):	11. Connector temperature: 200°C 350°C 650°C
4. Sheath diameter Ø: (diameter with PTFE protection Ø mm) □ 1 mm (1,3mm) □ 1,5 mm (1,8mm) □ 2 mm (2,5mm) □ 3 mm (3,8mm) □ 4,5 mm (5,4mm) □ 6 mm (6,9mm) □ 8 mm (10mm) □ Other:	12. Option: Cable clamp Custom ID label Without Additional: Application:
5. Sheath material:	Operating temperature (min/max):
☐Inconel 600 ☐ AISI 310 ☐ AISI316 ☐ AISI321 ☐ Pt10%Rh	Type of environment: Accessories:
□ Nicrobell/Pyrosil □ Other:	See the part "Accessories" Quantity:
6. Junction type: ☐ Ungrounded ☐ Grounded ☐ Exposed	Note:
7. Cable prolongation: PVC (105°C) Silicone (180°C) Teflon (260°C) Fiberglass (400°C) Other:	
8. Cable length LC (mm):	



TM25 – Mineral insulated thermocouples Multipoints with cable prolongation



e length LC (mm): p protection: ing
nector: niature Miniature Standard Standard Without Plug Socket Miniature Standard Standard Without
niature Miniature Standard Standard Without Ig Socket Plug Socket
nector temperature: 200°C 350°C 650°C
ion: ple clamp
n:
temperature (min/max): vironment:
rS: ressories"
ie



TM30 – Mineral insulated thermocouples Penetration



	L O
Ordering information	
Thermocouple:	Additional: Application:
Type R Type S Type B Other:	Operating temperature (min/max):
2. Class:	Type of environment:
Class 1 Class 2	Accessories: See the part "Accessories"
3. Sheath length L (mm):	Quantity:
4. Sheath diameter Ø: ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ Other:	Note:
5. Sheath material: SS316 Other:	
6. Junction type: Ungrounded Grounded	
7. Connector: Miniature Miniature Standard Standard Without Plug Socket Plug Socket	
8. Connector temperature: 200°C 350°C 650°C	
How to order?	ժի



TM40 – Mineral insulated thermocouples Cable prolongation with fixed threaded fitting



50 LC	
Ordering information	*Thread material Stainless steel (304 / 304L / 316 / 31
1. Thermocouple: ☐ Type K ☐ Type N ☐ Type J ☐ Type T ☐ Type E ☐ Type R ☐ Type S ☐ Type B ☐ Other:	9. Crimp protection: Spring Heat shrink sleeve Without 10. Thread:
2. Class: Class 1 Class 2	1/2" BSPP
3. Sheath length L or L1 (mm):	Additional:
4. Sheath diameter Ø: ☐ 1 mm ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ 8 mm ☐ Other:	Application: Operating temperature (min/max): Type of environment:
5. Sheath material: Inconel 600 AISI 310 AISI316 AISI321 Pt10%Rh Nicrobell/Pyrosil Other:	Accessories: See the part "Accessories" Quantity: Note:
6. Junction type: ☐ Ungrounded ☐ Grounded ☐ Exposed	
7. Cable prolongation: PVC (105°C) Silicone (180°C) Teflon (260°C) Fiberglass (400°C) Other:	
8. Cable length LC (mm):	
How to order? Choose the desired characteristics of your sensor by marking the characteristics of your sensor by	ا اِل ا neckboxes and by filling up the text. You can provide sketches, images,



TM41 – Mineral insulated thermocouples Cable prolongation with fixed threaded fitting and connector



LC	*Thread material Stainless steel (304 / 304L / 316 / 316I
Ordering information	Tilleda Material Stainless Steel (504 / 504L/ 510 / 510L
1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	9. Crimp protection: Spring Heat shrink sleeve Without 10. Connector: Miniature Miniature Standard Standard
2. Class: ☐ Class 1 ☐ Class 2	Plug Socket Plug Socket
3. Sheath length L or L1 (mm):	11. Connector temperature: □ 200°C □ 350°C □ 650°C
4. Sheath diameter Ø: ☐ 1 mm ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ 8 mm ☐ Other:	12. Option: Cable clamp Custom ID label Without 13. Thread:
5. Sheath material: Inconel 600	☐ 1/2" BSPP ☐ 1/4" BSPP ☐ 1/4" BSPT ☐ M10 ☐ 1/2" NPT ☐ Other:
☐ Nicrobell/Pyrosil ☐ Other:	Additional: Application:
6. Junction type: ☐ Ungrounded ☐ Grounded ☐ Exposed	Operating temperature (min/max):
7. Cable prolongation:	Type of environment:
PVC (105°C) Silicone (180°C) Teflon (260°C)	Accessories: See the part "Accessories"
☐ Fiberglass (400°C) ☐ Other:	Quantity:
8. Cable length LC (mm):	Note:
How to order? Choose the desired characteristics of your sensor by marking the ch personal notes, special requirements or any important data. For additional contents of the characteristics of your sensor by marking the your sensor by marking the your	neckboxes and by filling up the text. You can provide sketches, images,



TM42 – Mineral insulated thermocouples Cables prolongation with fixed threaded fitting (duplex)

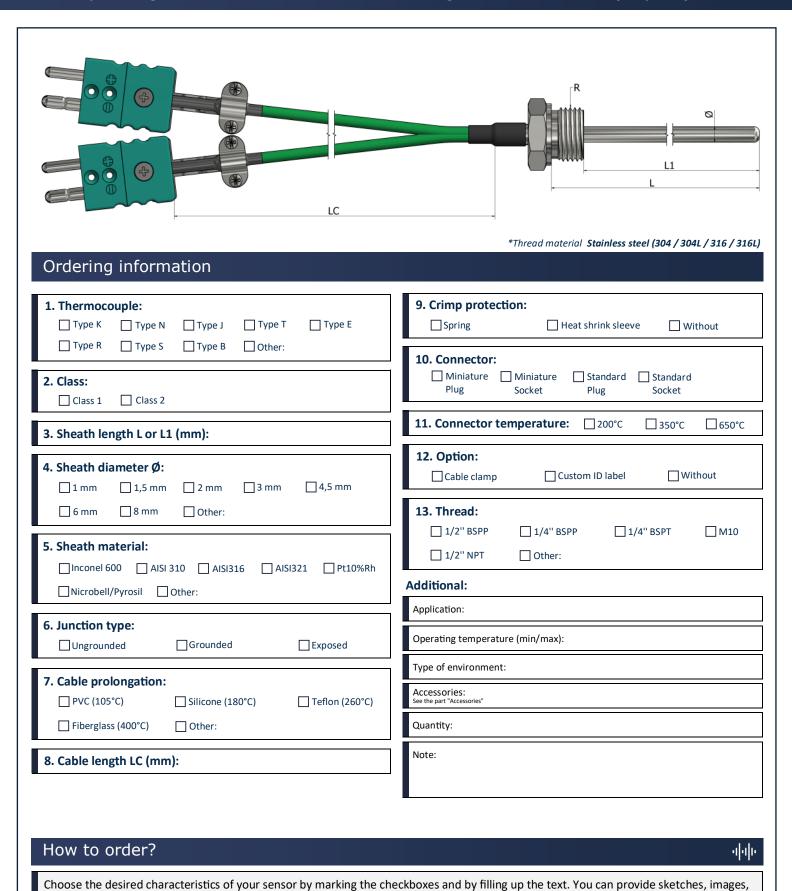


50 LC	
Ordering information	*Thread material Stainless steel (304 / 304L / 316 / 31
1. Thermocouple:	9. Crimp protection: Spring Heat shrink sleeve Without
2. Class: Class 1 Class 2	10. Thread: ☐ 1/2" BSPP ☐ 1/4" BSPP ☐ 1/4" BSPT ☐ M10 ☐ 1/2" NPT ☐ Other:
3. Sheath length L or L1 (mm):	Additional:
4. Sheath diameter Ø: ☐ 1 mm ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ 8 mm ☐ Other:	Application: Operating temperature (min/max): Type of environment:
5. Sheath material: Inconel 600	Accessories: See the part "Accessories" Quantity: Note:
6. Junction type: ☐ Ungrounded ☐ Grounded ☐ Exposed	
7. Cable prolongation: PVC (105°C) Silicone (180°C) Teflon (260°C) Fiberglass (400°C) Other:	
8. Cable length LC (mm):	



TM43 – Mineral insulated thermocouples Cables prolongation with fixed threaded fitting and connectors (duplex)





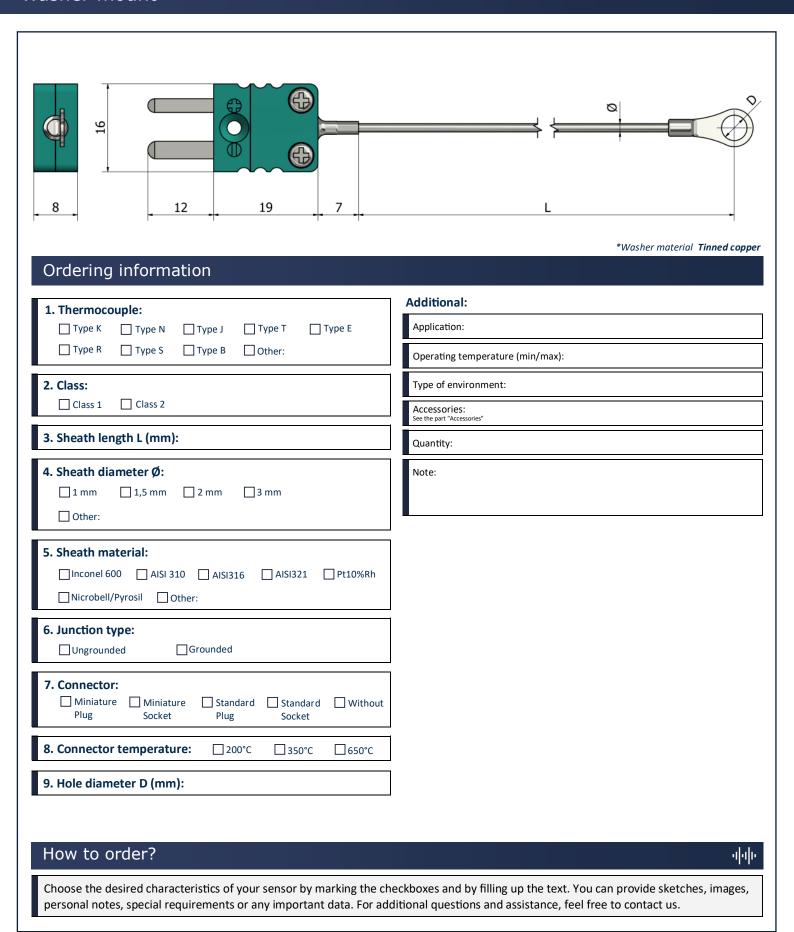
8 chemin des Grandes Combes 69360 Ternay, France +33 472 669 234

personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



TM50 – Mineral insulated thermocouples Washer mount







TM51 – Mineral insulated thermocouples Cable prolongation with washer mount



50LC	L
Ordering information	*Washer material Tinned cop
1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	10. Hole diameter D (mm): 11. Connector: Miniature
2. Class: Class 1 Class 2	12. Connector temperature: 200°C 350°C 650°C
4. Sheath diameter Ø: ☐ 1 mm ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ Other:	Cable clamp Custom ID label Without Additional: Application:
5. Sheath material: Inconel 600	Operating temperature (min/max): Type of environment: Accessories: See the part "Accessories"
6. Junction type: Ungrounded Grounded	Quantity: Note:
7. Cable prolongation: PVC (105°C) Silicone (180°C) Teflon (260°C) Fiberglass (400°C) Other:	
8. Cable length LC (mm):	
9. Crimp protection:	



TM52 – Mineral insulated thermocouples Built-in for tank containers



50 LC	R 3,6 8 1 1 1 1 1 1 1 1 1
Ordering information	*Housing material Stainless steel 316
Ordering information 1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	10. Connector: Miniature
2. Class: ☐ Class 1 ☐ Class 2	12. Option:
3. Sheath length L (mm):	Cable clamp Custom ID label Without
4. Sheath diameter Ø: 1 mm1,5 mm2 mm3 mmOther: 5. Sheath material:	13. Housing dimension (mm): (material Stainless steel 316L) L1 Ød B 14. Thread:
☐ Inconel 600 ☐ AISI 310 ☐ AISI316 ☐ AISI321 ☐ Pt10%Rh ☐ Nicrobell/Pyrosil ☐ Other:	Application:
6. Junction type:	Operating temperature (min/max):
☐ Ungrounded ☐ Grounded	Type of environment:
7. Cable prolongation: PVC (105°C) Silicone (180°C) Teflon (260°C)	Accessories: See the part "Accessories" Quantity:
☐ Fiberglass (400°C) ☐ Other:	Note:
8. Cable length LC (mm):	
9. Crimp protection: Spring Heat shrink sleeve Without	
How to order?	गंग



TM53 – Mineral insulated thermocouples Bayonet



L3	L1
	*Bayonet cap Nickel-plated bro
Ordering information	
1. Thermocouple: ☐ Type K ☐ Type N ☐ Type J ☐ Type T ☐ Type E ☐ Type R ☐ Type S ☐ Type B ☐ Other:	8. Connector: Miniature Miniature Standard Standard Withou Plug Socket Plug Socket
2. Class:	9. Connector temperature: 200°C 350°C 650°C
☐ Class 1 ☐ Class 2	Additional: Application:
3. Sheath lengths L1, L2, L3 (mm): L1	Operating temperature (min/max):
	Type of environment:
4. Sheath diameter Ø: ☐ 3 mm ☐ 4,5 mm ☐ 6 mm	Accessories: See the part "Accessories"
3 mm 4,5 mm 6 mm Other:	Quantity:
5. Sheath material: Inconel 600	Note:
6. Junction type: ☐ Ungrounded ☐ Grounded ☐ Exposed	
7. Bayonet cap Øin: (to suit sheath Ø mm) 10,3 mm (3 mm)	
How to order?	गुन



TM60 – Mineral insulated thermocouples Disc plate insert



33	*Disc plate material Stainless steel 304L
Ordering information	
1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	Additional: Application: Operating temperature (min/max):
2. Number of thermocouples: \Bigcup x1 \Bigcup x2	Type of environment:
3. Class: Class 1 Class 2 4. Sheath length L (mm):	Accessories: See the part "Accessories" Quantity: Note:
5. Sheath diameter Ø: ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ 8 mm ☐ Other:	
6. Sheath material: Inconel 600 AISI 310 AISI316 AISI321 Pt10%Rh Nicrobell/Pyrosil Other:	
7. Junction type: Ungrounded Grounded Exposed	

8 chemin des Grandes Combes 69360 Ternay, France +33 472 669 234

How to order?

 $d\phi |_{\Gamma}$

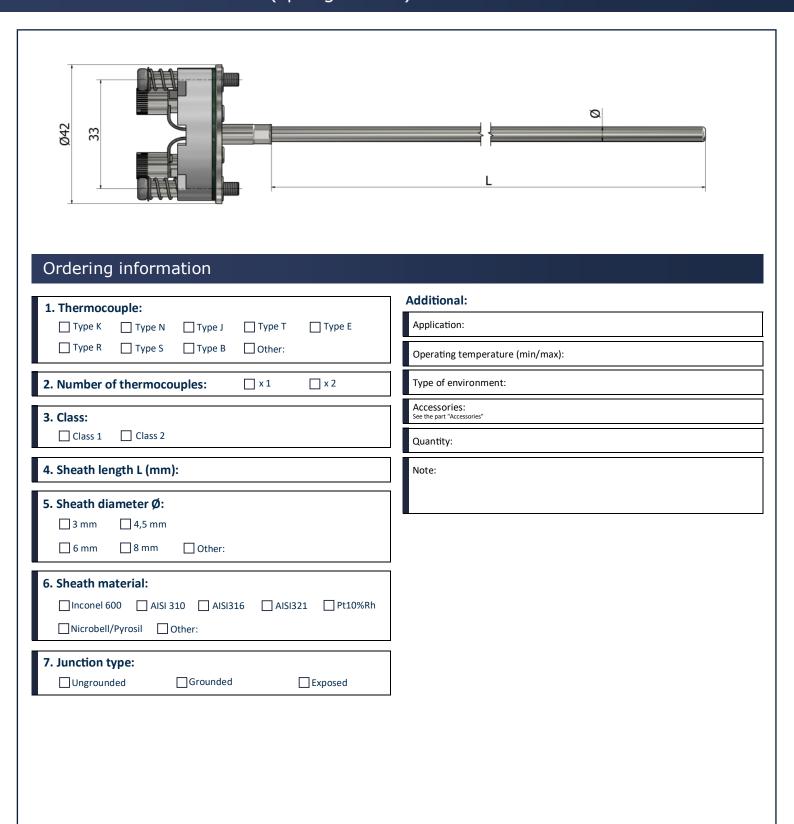
Choose the desired characteristics of your sensor by marking the checkboxes and by filling up the text. You can provide sketches, images,

personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



TM61 – Mineral insulated thermocouples Insert with terminal block (spring loaded)





How to order?

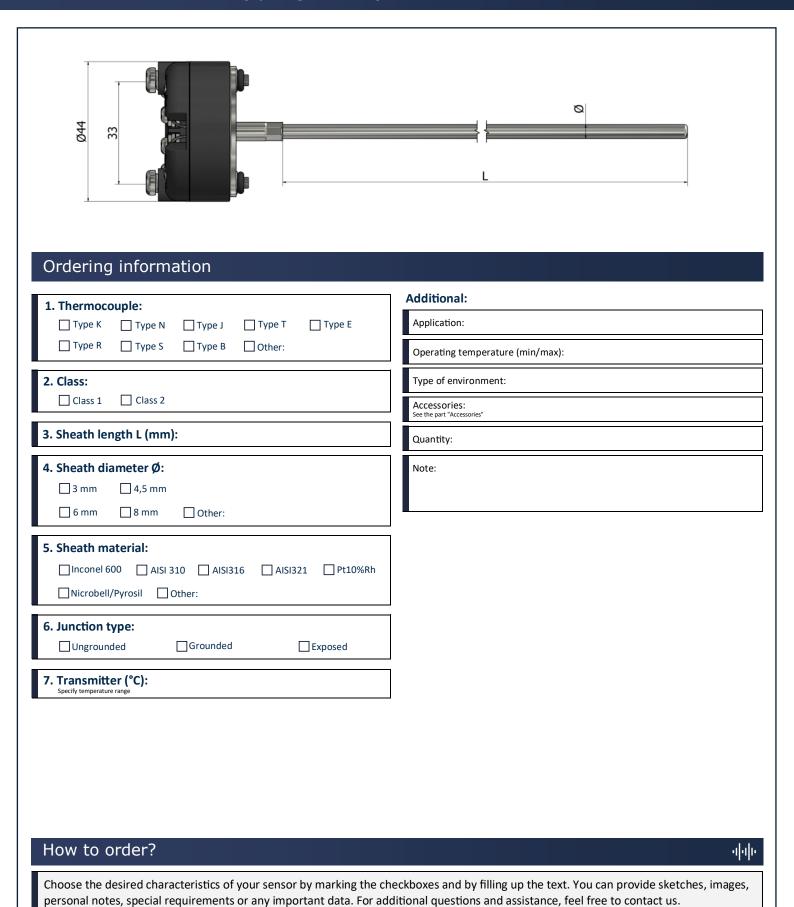
444

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.



TM62 – Mineral insulated thermocouples Insert with transmitter (spring loaded)







TM70 – Mineral insulated thermocouples Connection head



Ordering information	Additional:
1. Thermocouple: ☐ Type K ☐ Type N ☐ Type J ☐ Type T ☐ Type E	Application:
☐ Type R ☐ Type S ☐ Type B ☐ Other:	Operating temperature (min/max):
2. Number of thermocouples: \(\subseteq x1 \subseteq x2 \)	Type of environment:
3. Class:	Accessories: See the part "Accessories"
Class 1 Class 2	Quantity:
4. Sheath length L (mm):	Note:
5. Sheath diameter Ø: 3 mm 4,5 mm 6 mm 8 mm Other: 6. Sheath material:	
☐ Inconel 600 ☐ AISI 310 ☐ AISI316 ☐ AISI321 ☐ Pt10%Rh ☐ Nicrobell/Pyrosil ☐ Other:	
7. Junction type: Ungrounded Grounded Exposed	
8. Connection head: (see the part "Accessories") Type B Type DAN Type M Type N Type Ex Type NS Other:	
9. Mounting: Wires Terminal block Transmitter (°C): Specify temperature range	
How to order? Choose the desired characteristics of your sensor by marking the chapersonal notes, special requirements or any important data. For add	eckboxes and by filling up the text. You can provide sketches, images,



TM71 – Mineral insulated thermocouples Connection head with fixed threaded fitting



Ordering information	*Thread material Stainless steel (304 / 304L / 316 / 316L
1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	10. Thread: ☐ 1/2" BSPP ☐ 1/4" BSPP ☐ 1/4" BSPT ☐ M10 ☐ 1/2" NPT ☐ Other:
2. Number of thermocouples:	Additional:
3. Class: Class 1 Class 2	Application: Operating temperature (min/max):
4. Sheath length L or L1 (mm):	Type of environment:
5. Sheath diameter Ø:	Accessories: See the part "Accessories"
☐ 3 mm ☐ 4,5 mm ☐ 0ther:	Quantity: Note:
6. Sheath material: Inconel 600 AISI 310 AISI316 AISI321 Pt10%Rh Nicrobell/Pyrosil Other:	
7. Junction type: Ungrounded Grounded Exposed	
8. Connection head: (see the part "Accessories") Type B Type DAN Type M Type N Type Ex Type NS Other:	
9. Mounting: Wires Terminal block Transmitter (°C): Specify temperature range	
How to order?	փփ
Choose the desired characteristics of your sensor by marking the chapersonal notes, special requirements or any important data. For add	eckboxes and by filling up the text. You can provide sketches, images,



TM72 – Mineral insulated thermocouples Skin type with ring



Ordering information	*Mounting tube material Stainless steel *Ring material Stainless steel
1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	9. Cable prolongation: PVC (105°C) Silicone (180°C) Teflon (260°C) Fiberglass (400°C) Other:
2. Class: Class 1 Class 2	10. Cable length LC (mm):
3. Sheath length L (mm):	11. Ring size: (material Stainless steel) M5 M6 Other:
4. Sheath diameter Ø: ☐ 1 mm ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ Other:	Additional: Application: Operating temperature (min/max):
5. Sheath material: Inconel 600 AISI 310 AISI316 AISI321 Pt10%Rh Nicrobell/Pyrosil Other:	Type of environment: Accessories: See the part "Accessories"
6. Junction type: Ungrounded Grounded	Quantity: Note:
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	
How to order?	رابال neckboxes 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.



TM73 – Mineral insulated thermocouples Connection head (spring loaded)



	L1 *Thread material Stainless steel (304/304L/316/316)
Ordering information 1. Thermocouple: Type K Type N Type J Type T Type E Type R Type S Type B Other:	9. Thread: 1/2" BSPP
2. Class: ☐ Class 1 ☐ Class 2	Additional: Application:
3. Sheath lengths L1 , L2 , L3 (mm): L1	Operating temperature (min/max): Type of environment:
4. Sheath diameter Ø: ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ 8 mm ☐ Other:	Accessories: See the part "Accessories" Quantity: Note:
5. Sheath material: Inconel 600	
6. Junction type: ☐ Ungrounded ☐ Grounded ☐ Exposed	
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	
How to order?	गुन्।

personal notes, special requirements or any important data. For additional questions and assistance, feel free to contact us.



TM75 – Mineral insulated thermocouples Multipoints with connection head



LT	L2 L1
Ordering information 1. Thermocouple: Type K Type N Type J Type T Type E	*Mounting tube material Stainless steel 30 9. Mounting tube length LT (mm):
Type R Type S Type B Other:	Additional: Application: Operating temperature (min/max):
3. Number of sheaths and lengths L1, L2, L3 (mm): L1	Type of environment: Accessories: See the part "Accessories"
4. Sheath diameter Ø: ☐ 1 mm ☐ 1,5 mm ☐ 2 mm ☐ 3 mm ☐ 4,5 mm ☐ 6 mm ☐ 8 mm ☐ Other:	Quantity: Note:
5. Sheath material: Inconel 600	
6. Junction type: ☐ Ungrounded ☐ Grounded ☐ Exposed	
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	
How to order?	ग्री