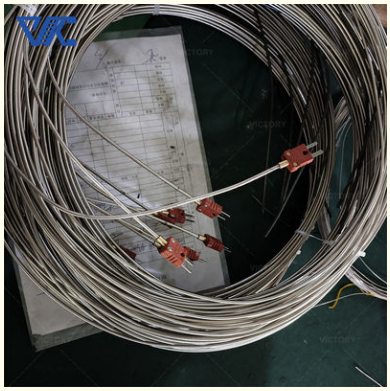
Mineral insulated Cable Type K J T E MI Thermocouple Heating MI Cables

Our Product Introduction

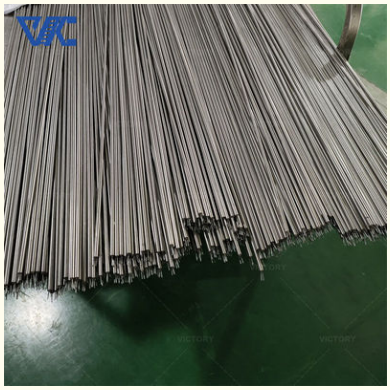
Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: K,N,E,J,T,B,R,S Types
- Minimum Order Quantity: 5 Kg
- Price: Negotiable
- Packaging Details: in coils, carton and wooden case.
- Delivery Time: 5-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 50 - 999 meters $2.88



Product Specification

- Product Name: MI Thermocouple Cable
- Warranty: 1 Year
- Conductor Material: NiCr-NiSi,NiCrSi-NiSi, NiCr-Konstantan, Fe-Konstantan, Cu-Kon
- Sheath Material: SS304,SS321, SS316, SS310, INCL600,601, Nicrobell,SS446
- Dia(mm): 0.25mm To 12.7mm
- Insulator: 99.6% High Purity MgO
- Temperature Range: 0~1100(℃)
- Application: Industrial Process Control Field
- Highlight: **Type K Mineral insulated Cable**, **Type E Mineral insulated Cable**, **Type T Mineral insulated Cable**



More Images

Product Description

Our Product Introduction

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Introduction:

Armored thermocouples are temperature measurement and control devices widely used in the field of industrial process control. They consist of wires of two different metals, usually a platinum-rhodium alloy and a nickel-chromium alloy. The two metal wires are connected by welding or brazing and are enclosed in a protective sleeve, usually made of stainless steel or other high-temperature-resistant material.

One of the main advantages of armored thermocouples is their adaptability and stability. They are capable of working in a wide range of industrial environments, including chemical, metallurgical, power generation, food processing and other fields. Armored thermocouples have good tolerance to high temperature environments and can stably measure and control processes at high temperatures.

When selecting an armored thermocouple, there are some key product parameters to consider. The first is the temperature range. Different types of armored thermocouples are suitable for different temperature ranges. Some models are suitable for low temperature ranges, such as -200°C to 400°C, while others are suitable for higher temperature ranges, such as 0°C to 1800°C.

Second is the material of the protective sleeve, which needs to be able to withstand high temperatures and corrosive environments. Common protective sleeve materials include stainless steel (such as 316 stainless steel), alloy steel and ceramics. Depending on the specific industrial application requirements, it is crucial to select the appropriate protective sleeve material.

Other product parameters include wire diameter, length and connector type. The choice of wire diameter depends on the required response speed and measurement accuracy. The wire length should be selected based on the actual installation location and measurement requirements. The connector type can be plug connection, threaded connection or welded connection, which needs to be determined according to the specific installation and connection method.

In summary, armored thermocouples play an important role in industrial process control. Through their stability, high temperature resistance and adaptability, they are able to accurately measure and control temperature in a variety of industrial environments. When selecting an armored thermocouple, product parameters such as temperature range, protective sleeve material, wire parameters, and connector type need to be considered to meet specific application needs.

Product Features:

High Temperature Range: Armored thermocouples can accommodate a wide temperature range, including low and high temperature conditions, from tens to thousands of degrees Celsius.
Fast response: Armored thermocouples have fast response capabilities to temperature changes, and can quickly sense temperature changes and output corresponding voltage signals.
Wide fluctuation range: Armored thermocouples have good adaptability to temperature fluctuations and can provide accurate and reliable temperature measurements within a wide fluctuation range.
High accuracy and stability: Armored thermocouples have high measurement accuracy and stability and can provide accurate temperature measurement results.
Corrosion resistance: Armored thermocouples are made of high temperature and corrosion resistant materials and can be used for a long time in harsh working environments.

Advantage:

Reliability: Armored thermocouples are strictly designed and manufactured to have stable and reliable performance and can provide accurate temperature measurements over long-term use.
Real-time: Armored thermocouples respond quickly to temperature changes and can provide temperature data in real time to meet the needs of real-time monitoring and control.
Durability: The shell of the armored thermocouple is made of materials such as metal or ceramics. It has good mechanical strength and durability and can adapt to the requirements of various industrial environments.

Specific applications:

Chemical process control: Armored thermocouples can be used to monitor and control temperatures in chemical processes, such as pipeline temperatures, reactor temperatures, etc., to ensure the safe and efficient operation of chemical processes.
Energy industry: In energy industries such as oil and natural gas, armored thermocouples are widely used in temperature monitoring and control of boilers, furnaces and other equipment to achieve effective energy utilization and production safety.
Metal processing and metallurgy: Armored thermocouples are used for temperature control in the heating and cooling processes of metal materials, such as smelting, annealing, quenching, etc., to improve the performance and quality of metal materials.
Aerospace and Automotive Industry: In engines and aerospace equipment, armored thermocouples are used to monitor and control the temperature of critical components to ensure the normal operation and safety of the equipment.

Other relevant knowledge:

Armored thermocouples are composed of two different metal wires, and the difference in thermoelectric potential generated by them at different temperatures is used to measure temperature.
Common armor materials include stainless steel, nickel alloys, ceramics, etc. Different materials are suitable for different working conditions and temperature ranges.
Armored thermocouples are usually connected to temperature transmitters or control systems to convert temperature signals into standard electrical signals (such as 4-20mA) or digital signals (such as Modbus, Profibus, etc.) for easy monitoring and control.
In summary, armored thermocouples have the advantages of reliability, real-time performance and durability in the field of industrial process control. They are widely used in chemical industry, energy, metal processing, aerospace and other fields for temperature monitoring and control to ensure the safety, efficient operation of industrial processes and the improvement of product quality.

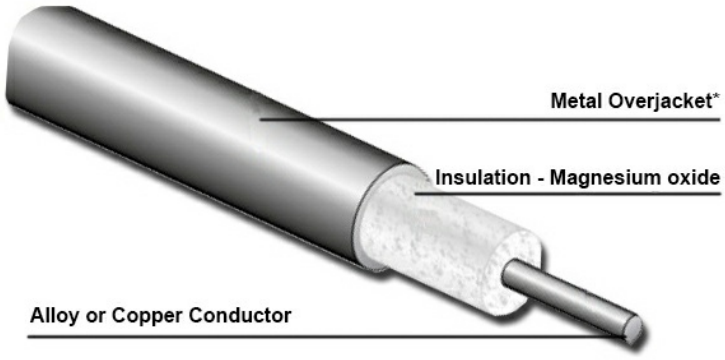
Parameter:

Code	Wire Component of the thermocouple	
	+Positive leg	- Negative Leg
N	Ni-Cr-Si(NP)	Ni-Si-magnesium (NN)
K	Ni-Cr(KP)	Ni-Al(Si) (KN)
E	Ni-Cr(EP)	Cu-Ni (EN)

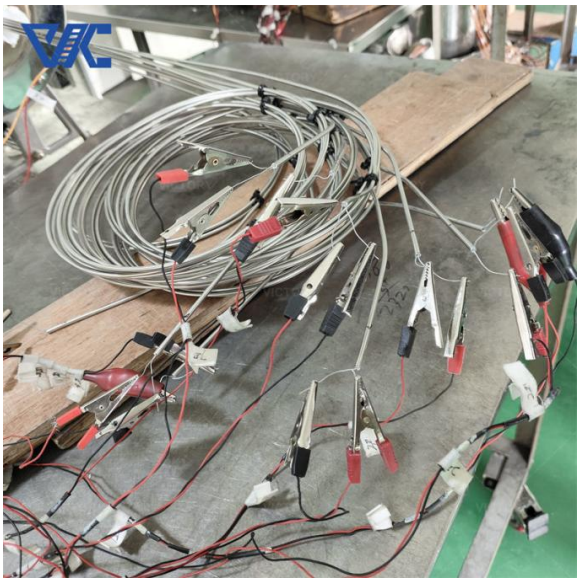
J	Iron (JP)	Cu-Ni (JN)
T	Copper (TP)	Cu-Ni (TN)
B	Platinum Rhodium-30%	Platinum Rhodium -6%
R	Platinum Rhodium-13%	Platinum
S	Platinum Rhodium -10%	Platinum

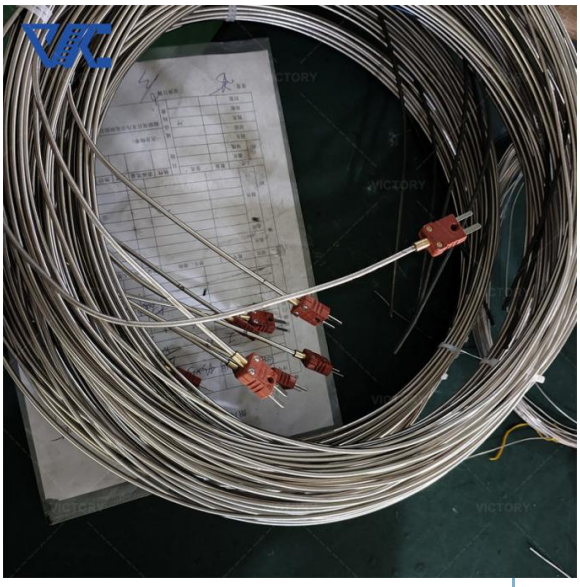
Material	Type	Grade	Working temperature (deg)		Tolerance	Standard
			Long Term	Short Term		
NiCr-NiSi	K	1	-40~1100	-40~1300	±1.5 deg	GB/T 2614-1998
		2			±2.5 deg	
NiCr-CuNi	E	1	-40~800	-40~900	±1.5 deg	GB/T 4993-1998
		2			±2.5 deg	
Fe-Constantan	J	1	-40~600	-40~800	±1.5 deg	GB/T 4994-1998
		2			±2.5 deg	
Cu-CuNi	T	1	-200~300	-200~400	±0.5 deg	GB/T 2903-1998

Outer Sheath(mm)		core wire Dia.(mm)		Outer Sheath(mm)o core wire Dia.(mm)				Length(m)
Out Dia	Wall Thickness	K,N,E,J,T Types	S,R,B Types	K,N Types	E,J,T Types	S,R Types	B Types	
0.5	0.05-0.10	0.08-0.12	...	SS304, SS321, SS316, SS310, INCL600	SS30, SS32, SS316	INCL60, INCL800	INCL60, INCL800	500
1.0	0.10-0.20	0.15-0.20	...					300
1.5	0.15-0.25	0.23-0.30	...					200
1.6	0.16-0.26	0.26-0.36	...					200
2.0	0.25-0.35	0.40-0.50	0.25-.030					180
3.0	0.38-0.48	0.50-0.60	0.30-0.40					80
3.2	0.48-0.58	0.58-0.68	0.30-0.40					75
4.0	0.52-0.62	0.60-0.70	0.35-0.40					70
4.8	0.73-0.83	0.75-0.85	0.40-0.45					40
5.0	0.78-0.88	0.80-0.90	0.40-0.45					40
6.0	0.98-1.08	0.90-1.10	0.45-0.50					30
6.4	1..05-1.15	1.02-1.12	0.45-0.50					30
8.0	1.30-1.44	1.30-1.40	0.45-0.50					20
12.7	1.75-1.90	1.95-2.05	...					10



Calibration	Tolerance		
	Special Limits (Grade I)	Standard Limits (Grade II)	Temperature Range (°C)
K (Chromel vs Alumel)	±1.5°C or ±0.4%	±2.5°C or ±0.75%	-40~1000
J (Iron vs Constantan)			-40~750
E (Chromel vs Constantan)			-40~800
T (Copper vs Constantan)		±1°C or ±0.75%	-40~350





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