

NiCr-NiSi Thermocouple Bare Wire Type K Thermocouple Alloy Wire

Basic Information

 Place of Origin: 	China
 Brand Name: 	Victory
 Certification: 	CE,ROHS,ISO 9001
 Model Number: 	Туре К
Minimum Order Quantity:	5 Kg
Price:	Negotiable
 Packaging Details: 	Thermocouple wire are rolled on ABS white spool and packed with plastic film,in cartoon boxes. Special packaging requirements can also be accommodated. OEM is also acceptable
 Delivery Time: 	5-21 days
 Payment Terms: 	L/C, T/T, Western Union, MoneyGram
 Supply Ability: 	300 tons per month



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之信利技有限公司

Product Specification

•	Highlight:	Type K Thermocouple Alloy Wire, NiSi Thermocouple Bare Wire, NiCr Thermocouple Bare Wire
•	Application:	Cable & Wire
•	Color:	Bright
•	Standard:	± 2.2C% Or ±.75%
•	Special Limits Of Error:	± 1.1C Or 0.4%
•	Grade:	IEC854-1/3
•	Diameter:	0.12-8mm
•	Negative:	Ni-Al(Si)
•	Positive:	Ni-Cr
•	Temperature Range:	-200~1300°C
•	Product Name:	Thermocouple Wire Type K



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Product Description

Introduction:

K-type thermocouple bare wire is one of the thermocouple temperature measurement devices commonly used in laboratories. It is composed of chromium-nickel alloy wire and nickel-aluminum alloy wire, and measures temperature changes through the thermoelectric effect.

Type K thermocouple bare wire is suitable for a wide temperature measurement range, typically from -200 degrees Celsius to 1,375 degrees Celsius. It has high accuracy and stability and is widely used in temperature monitoring and control in laboratory environments.

The structure of the K-type thermocouple bare wire is relatively simple and consists of two alloy wires. One end of the two wires is connected together to form a measurement point, and the other end is connected to a temperature transmitter or data acquisition system. The measuring point is exposed to the environment to be measured, and temperature changes will cause a slight potential difference between the alloy wires. By measuring this potential difference, the temperature of the environment can be accurately calculated.

The nominal chemical composition of the positive electrode (KP) is: Ni:Cr≈90:10 The chemical composition of the negative electrode (KN) is: Ni:Si≈97:3

Specific applications:

Laboratory thermochemical reactions:

Type K thermocouple bare wire is commonly used in laboratories to monitor and control the temperature of chemical reactions. Whether in organic synthesis, catalytic reactions or other thermochemical reactions, K-type thermocouple bare wire can provide accurate temperature measurement, helping researchers understand the temperature changes during the reaction and optimize and control the reaction.

Laboratory Thermodynamics Research:

In thermodynamic research, K-type thermocouple bare wire is used to measure the temperature of the sample to obtain parameters such as heat capacity, thermal conductivity, and thermochemical reactions. By monitoring temperature changes, researchers can evaluate the thermal properties of different substances and study thermodynamic processes such as phase changes and thermal stability.

Laboratory materials research:

In the field of materials science and engineering, K-type thermocouple bare wire is used to measure the thermal conductivity, thermal expansion coefficient and phase change temperature of materials. This is crucial for the evaluation of thermal properties of materials, the study of phase transition behavior, and the control of temperature during heat treatment and processing of materials.

Laboratory environment monitoring:

K-type thermocouple bare wire can also be used for temperature monitoring of laboratory environments. The temperature of the laboratory environment is very important to the accuracy and repeatability of certain experiments and tests. By placing K-type thermocouple bare wires in key locations in the laboratory, such as constant temperature baths, incubators, or temperature control equipment, researchers can monitor temperature changes in real time to ensure the reliability of experimental results.

Advantage:

Type K thermocouple bare wire offers many advantages in laboratory applications. First, it has less impact on humidity and atmosphere, and is suitable for relatively harsh environmental conditions. Secondly, it has better linear response characteristics, making the measurement results more accurate and reliable. In addition, K-type thermocouple bare wire has a faster response speed and is suitable for experimental processes that require fast response.

It should be noted that K-type thermocouple bare wire may be affected by extreme high temperatures or oxidizing environments, so in special applications in the laboratory, protective measures may be required, such as the use of protective sleeves or coatings to extend its service life.

In short, K-type thermocouple bare wire is widely used in laboratories and can be used for temperature monitoring and control of laboratory thermochemical reactions, thermodynamic research, materials research, and temperature monitoring of laboratory environments. Its accurate temperature measurement capabilities and wide temperature range make it an indispensable tool during laboratory research and experiments.

Relevant specific parameters:

Temperature range: -200°C to 1,372°C (-328°F to 2,502°F) Thermoelectric potential output: approximately 39.4 µV (at standard temperature difference) Linear characteristics: has good linear characteristics Sensitivity: approximately 41 µV/°C

Code	Wire Component of the thermocouple		
	+Positive leg	- Negative Leg	
Ν	Ni-Cr-Si(NP)	Ni-Si-magnesium (NN)	
К	Ni-Cr(KP)	Ni-Al(Si) (KN)	
E	Ni-Cr(EP)	Cu-Ni (EN)	
J	Iron (JP)	Cu-Ni (JN)	
Т	Copper (TP)	Cu-Ni (TN)	
В	Platinum Rhodium-30%	Platinum Rhodium -6%	
R	Platinum Rhodium-13%	Platinum	

S	Platinum Rhodium -10%	Platinum

Standards:

ASTM	ANSI	IEC	DIN	BS	NF	JIS	GOST
(American Society for Testing and Materials) E 230	(American National Standard Institute) MC 96.1	(European Standard by the International Electrotechnical Commission 584)- 1/2/3	(Deutsche Industrie Normen) EN 60584 - 1/2	(British Standards) 4937.1041, EN 60584 - 1/2	(Norme Française) EN 60584 - 1/2 - NFC 42323 - NFC 42324	(Japanese Industrial Standards) C 1602 - C 1610	(Unification of the Russian Specifications) 3044

Working temperature:

in the

Diameter/mm	Long time Working temperature/°C	Short period Working temperature/°C	
0.2, 0.3	150	200	
0.5, 0.8	200	250	
1.0, 1.2	250	300	
1.6, 2.0	300	350	

Using Occastion of D	sing Occastion of Different Thermocouple					
Thermocouple Type		Working Atmosphere	Working Temperature			
Туре К	KP	Oxidizing	-200 to +1200°C			
	KN	Inert				
Туре N	NP	Oxidizing	-200 to +1200°C			
	NN	Oxidizing				
Туре Е	EP	Oxidizing	-200 to +900°C			
	EN	Oxidizing				
Туре Ј	JP	Oxidizing(use in high temp)) -40 to +750°C			
	JN	Reducing, Inert, Vacuum				
Туре Т	ТР	Oxidizing,Vacuum	-200 to +350°C			
	TN	Reducing, Vacuum				

contact us email:victory@dlx-alloy.com Oem service: Welcome customized size We are experience factory for OEM&ODM service

